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COMBE ROYAL.

IN one of the most favoured spots in South Devon, midway between Start Bay and Bigberry Bay, but some five miles inland, at the head of a broad and many-branched estuary which, passing Salcombe, opens to the sea, with Prawle Point on the east and Bolt Head on the west, stands the town of Kingsbridge, the surrounding country of which is known as the South Hams. The district is famous in the West Country for the beauty of its landscapes, its varied coast-line, and the numerous rivers which drain the water-shed of Dartmoor, giving to this part of South Devon its well-known fertility.

The railway communication to Kingsbridge is by a branch single line from South Brent, which is on the main Plymouth line of the Great Western Railway. The short line of about ten miles passes through some of the most beautiful scenery imaginable. It is in the midst of such attractive surroundings, and distant about one mile from Kingsbridge itself, that the estate known as Combe Royal is situated, and so sheltered from the north and east that the climate of

the estate itself is popularly described as almost semi-tropical. The present owner of the property is E. J. Bowring, Esq., who, however, is non-resident. For the past twenty years the house has been occupied by two ladies, Mrs. Eady-Borlase and Miss Emily Turner, to whom I wish to express my thanks for permission both to visit the gardens and grounds and to have the accompanying photographs taken by Messrs. Balley & Flower, of Fore Street, Kingsbridge. The place has many attractions, but it is not in the ordinary sense of the term a show-place. The present occupiers, however, readily grant the use of the grounds for local flower-shows and various charitable purposes for which it would be difficult to select a more delightful spot.

Esq., took an especial delight in forestry and horticulture; notat Combe Royal alone, but elsewhere it is easy to trace his influence as you observe in neighbouring estates the startling variety of trees and shrubs, such as are found in large numbers planted by his hand at Combe Royal.

The visitor may take a long walk in what is called the American garden, and his eye will rest on little else than American vegetation the whole way, and he will see in fine growth many things the sight of which would otherwise cost him a voyage across the Atlantic, or at the least a visit to Kew Gardens. No doubt many of the seedlings and saplings which are now in maturest beauty were imported from that place, for Mr. Luscombe was a distinguished member



FIG. 1.—VIEW OF THE MANSION, COMBE ROYAL.

With regard to the early history of the mansion or estate I was unable to obtain any very definite information. It is stated, however, that a portion of an old document, dated 1373, still exists, upon which "Roger Efford remits, releases, and for ever cries quits to Richard Chiceli of all his right and claim in Kingsbridge, Dodbrooke, and Come Royel." As the date is contemporaneous with that of Archbishop Chicheley of Canterbury, it would seem probable that the family of the Archbishop had some right in Combe Royal. The mansion has had some changes effected in it in modern times, being "enlarged and restored some years ago."

The name of Luscombe will be familiar to many in connection with this estate, the family having acquired it in 1722. The following paragraph, from an excellent little guide-book written by the Rev. W. T. Adey, will show how highly the Luscombe family was appreciated at the time of their occupation and how much the people of Kingsbridge valued the garden and grounds almost in their midst. "The late J. Luscombe,

of the Horticultural Society of London, and received from them the Banksian Medal for Oranges, Lemons, and Citrons, exhibited by him in 1827; and well he might, for the Citron trees have borne specimen fruit, and do still, 17, 18, and even 19 inches in circumference. Shaddocks, Lemons, Limes, and Oranges may all be seen in finest perfection. In 1850 specimens of such fruits were presented to her late Majesty, Queen Victoria, and elicited from her much admiration and surprise on account of their size and beanty."

After passing the entrance-lodge on the main road from Kingsbridge to Totnes, the carriage-drive turns to the right and runs nearly parallel to the high road; but between it and the drive is a high and broad bank thickly planted with trees and shrubs mixed with magnificent growths of Rhododendrons and Hydrangeas edged with Hypericum. On the left side the grounds slope to a considerable depth, forming a beautiful valley diversified with wood and water. The carriage-drive gradually dips down to the

extremity of this valley, where on a fine open space surrounded at the back and on either side by rising ground covered with a rich arboreous growth, the mansion is placed (fig. 1). Though situated in this valley, the place is 280 feet above the sea-level, and is screened by the hills both from the prevailing south-west winds as well as from the north and east.

ing Orange garden is on a raised terrace facing south, and at right angles with the front of the mansion. It consists of a long wall formed of light Tudor-shaped arches or recesses, each about 15 feet wide and of similar height, the recesses being about 1 foot deep. It is in these recesses that the plants are trained flat against the walls (see fig. 2). The bay or arch occupied by the old

uniformly grown plants of Retinospora obtusa var. aurea (see fig. 2). On the slope behind the Citrus wall, which is the lower part of the pleasure-ground, jotted about in positious amongst other shrubs, are some very fine bushes of Hydrangea, completely covered with flowers of the most intense blue, the probable cause of which has been so frequently discussed of late in the pages



FIG. 2.—COMBE ROYAL: THE ORANGE GARDEN.

THE ORANGE GARDEN!

Though Combe Royal has many attractions for the lover of trees and shrubs, its popularity lies in its successful culture of plants of the Citrus genus, the luxuriance and fruitfulness of which are most striking, and are said not to be equalled in England, when it is remembered that no protection is afforded them beyond the walls upon which they are trained and the use of recd blinds during the coldest winter nights.

One Seville Orange tree, from which I was informed large quantities of fruit are annually gathered, is traditionally stated to be 250 years old. This peculiar and interest-

Seville Orange referred to above had upon it, at the time of my visit, about 200 fruits of all sizes, from that of a pea to a full-grown yellow-skinned ripened Orange. I was informed by Mr. Horsman, the gardener, that all the varieties fruit abundantly, except the Shaddock, and that the fruits when ripe are regularly used in the house for culinary purposes. At the time of flowering the perfume emitted from these plants was described as being very powerful.

The broad gravel walk on the top of the terrace, from which this Orange-wall garden springs, is, on the opposite side or front, planted with a row of eighteen fine and

of the Gardeners' Chronicle, but which could only be accounted for at Combe Royal by the presence of iron in the soil.

lifere also in close contiguity were several big trees of red and white Camellias, which I was told flowered profusely every season. Near to these grows a very large Loquat, which, though blossoming freely, does not ripen its fruit. A little lower down, and outstanding by themselves, are two stately and perfectly-formed Plane-trees, and around use note the following, all of exceptionally fine proportions: Japan Allspice (Chimonanthus fragrans), Sciadopitys verticillata, Cryptomeria japonica, about 60 feet high

and full of cones; Embothrium coccineum, which flowers from May till quite late in the season.

Bamboos flourish luxuriantly everywhere; immense clumps of Arundinaria falcata, forming almost miniature jungles, grow on the elevated slope at the side of the house, as well as in the deep dell or American garden, where are many fine things, some of which were in flower or fruit at the time of my visit, amongst which the following may be mentioned: Halesia hispida, which was covered with masses of flower, but which, however, never fruits (the tree is about 20 feet high); Elæagnus latifolius is also a very fine and striking tree, from the silvery underside of its leaves; this plant never flowers. On the other hand, Pieris formosa, a very beautiful evergreen shrub, was covered with large bunches of berry-like fruits, and is perfectly hardy. This plant was figured in the Gardeners' Chronicle for April 30, 1881, N.S., vol. XV., p. 569. Another Ericaceous plant much in evidence was Gaultheria Shallon, which luxuriates to the height of about 2 feet. Magnolia conspicua was said to be a fine sight about Easter, when it is covered with blossom. Here were also trees of Sequoia gigantea, some 60 feet high, with stems about I feet 6 inches through at the base; the plants are, however, much injured in their shape by the too close proximity of some trees of Araucaria imbricata.

In this dell, on some rising ground, were pointed out to me some Eucalyptus-trees, now about 35 feet high, which were said to have been brought by Mr. Luscombe from Kew some twenty-eight or thirty years ago. Before leaving this delightful part of the grounds for a visit to the garden proper, my attention was directed to a view from the upper slope of the broad estuary which runs up to Kingsbridge from Salcombe, the view extending to the heights of Salcombe itself.

In the kitchen-garden there is nothing out of the ordinary way. It is much shut in between walls, and being on a very steep slope consists in fact of a series of terraces. On an espalier Apple-tree, however, I was much struck with such a vigorous growth of Misleto that the stock was completely hidden in the parasite, giving to it the appearance of a Misleto-bush which had been trimmed with a perfectly rounded head. The seeds were planted on the Apple-tree some years back, but the plant, I was told, never produces berries; further, I was informed that it was the only example of Misleto on the estate, and that the plant was seldom or never seen in the locality.

In the large conservatory attached to the house is a plant of Acacia dealbata, which, planted about ten years ago, has now spread over the whole roof, forming a complete shade, and covered with blossom each year about Christmas time.

The front of the mansion is partially covered with climbing plants; amongst those in flower at the time of my visit being Myrtles and Magnolias, both of them growing to a height of about 25 feet.

Though Combe Royal cannot be included amongst large estates where perfection of culture and the possession of horticultural or scientific rarities are aimed at, inasmuch as this is impossible with the smallness of the garden staff, Mr. Horsman, the gardener in charge, is to be congratulated not only

on inheriting a complete knowledge of the place from his father, who had charge before him, but also for his familiarity with and love for the trees and shrubs which are features of the estate. J. R. Jackson.

ODONTOGLOSSUM × VUYLSTEKEI V1VICANS.

The beautiful hybrid Odontoglessum shown in fig. 3 was exhibited by Baron Sir Henry Schroder before a meeting of the Reyal Horticultural Society on December 15 last, when the novelty was awarded a First-class Certificate. The flowers are large in size and of perfect form. The sepals and petals are broad and nearly equal to each other, their colour being canary-yellow, very heavily blotched with dark purplish-red. The lip is white, with one large brown blotch in the centre and some smaller ones on each side, and the margin is prettily crimped.

KEW NOTES.

IPOMÆA HORSFALLIÆ VAR. BRIGGSI.-This plant is certainly one of the finest winter-flowering climbers in cultivation, giving as it does a great profusion of flowers in November and December. In the Victoria Regia - house a fine old specimen is at the present time making a good display; the growths hang down from the roof in festoons 3 to 5 feet long, with almost every growth crowded with bright red flowers about 11 inch in diameter. Although the individual flewers only last one day, yet a good succession of bloom is maintained, owing to the manner in which the buds are developed upon the large dichotomous cymes. Plants are easily raised from either seeds or cuttings, and should be grewn in an intermediate-house or stove. Under such conditions large plants can be grewn in one season, and if planted in a border and trained up the roof will well repay the cultivator for the space occupied. The species I. Hers-

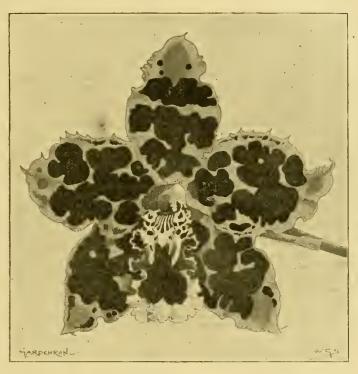


FIG. 3.—ODONTOGLOSSUM X VUYLSTEKEI VIVICANS.

THE ROSARY.

"LE LIVRE D'OR DES ROSES."

This is a French treatise in quarto, published in parts by Lucien Laveur, 13 Rue des Saints-Pères, Paris, and illustrated by sixty coloured plates. The text is provided by M. Paul Hariot, and comprises sections on classification, hybridisation, propagation, culture, and various other matters which will be of value to the amateur. The book is nicely got up, and will be an acceptable addition to the library of the rosarian.

"PERPETUAL" CRIMSON RAMBLER.

The Journal des Roses for November gives a coloured figure and a description of a Rose called Madame N. Levavasseur. It was obtained by crossing the Crimson Rambler with Gloire des Polyanthas. It is, very free-flowering, and continues to produce flowers till checked by the frosts of autumn. It is sent out by M. M. Levavasseur, of Orleans, and received a First-class Certificate from our National Rose Society in June, and from the Royal Herticultural Society in April of last year.

falliæ may be seen flowering in the Palm-house; it is a native of the West Indies.

EUPHORBIA (POINSETTIA) PULCHERRIMA VAR.

Flowering in the steve is a group of this seldom-seen variety. It certainly cannot claim rank with its more showy relative as a decorative plant, yet it is one which might be more commonly grown, its creamy-white bracts forming a pleasing contrast to the scarlet ones. Many cultivators make a practice of growing the species in a cool frame during the summer months, but it is best to grow the white form in an intermediate-house.

BEGONIA POLYANTHA, Hort.

In the Begonia-house may be seen several good specimens of this useful winter-flowering Begonia. The plants are 2 to 3 feet high, with the habit of the well-known B. fuchsioides, but having leaves 4 inches long and about 2 inches across; each plant is carrying a fine show of light-pink flowers about three - quarters of an inch in diameter. It is apparent to all who see these plants

that this variety is a very fine flowering one for winter decoration. Cuttings rooted in the spring and grown-on in a cool greenhouse through the summer, with plenty of feeding, may be grown into plants 3 to 4 feet high, and be had in flower at Christmas, with every branch producing a fine show of flowers. A native of Mexico.

ERANTHEMUM TUBERCULATUM, Hooker.

This delightful species is now flowering in the stove, and is probably the prettiest of the whole genus to which it helongs. The plant is of a shrubby nature, the branches very slender, the leaves small and ovate in shape; the flowers are axillary and generally solitary, pure white, linch to 1½ inch across, the corolla tube being 1½ to 2 inches in length. The flowers are freely produced, and last for a considerable length of time, making an elegant and very desirable plant. Neat little bushes can be grown from cuttings in twelve months. According to Nicholson's Dictionary, it was introduced from New Caledonia in 1863.

ACOKANTHERA SPECTABILIS, Don.

Trained up the roof of the Palm-house is a large example of this lovely plant, which is at the present date a mass of snow-white flowers, which are freely produced in large clusters in the axils of the leaves. They are very fragrant. Though the plant now in bloom is trained on the roof, it is not really a climber, and it is usually grown in bush form, to which mode of cultivation it is well adapted. After flowering, the growths should be cut down to a point below the flowers; the plants should then be encouraged to make plenty of shoots, which should be well-ripened, and under such treatment every shoot will afford a quantity of bloom. It is a native of Sonth Africa, and is also known in gardens as Toxicophlæa spectabilis.

LIVISTONA AUSTRALIS, Mart.

A noble specimen of this Palm is now in flower in the Palm-house. This plant has a stem about 35 feet in height, and $1\frac{1}{2}$ foot in diameter at the base, and has a head of leaves some 14 feet across; it is best seen from the gallery. The large branched spikes of flowers measure about 3 feet in length; the branches of the inflorescence are drooping, like the branches of the funeral Cypress; the flowers are creamy-white. The plant is carrying six of these large inflorescences, and forms a striking object, giving one a good idea of a Palm in its native state. W. H.

QRCHID NOTES AND GLEANINGS.

ORCHIDS AT HAREFIELD HALL.

Although the Orchids in Mr. Elijah Ashworth's collection at Wilmslow, Cheshire, do not seem to grow so rapidly or so vigorously as those in some other collections do, they remain sound and healthy, and there are many plants in the collection which were in the garden when Orchidgrowing on an extensive scale was commenced at Harefield. The fact is that the glass accommodation, extensive though it be, has been overcrowded, and the recent attempt to make space by a sale has not given much relief. Here, too, as in some other places, the encroachment of the homeraised seedlings, in the production of which Mr. Holbrook, the gardener, is becoming expert, presses more heavily on the general collection every year.

In the small block of houses joined on to the end by the corridor, in which Lælia anceps autumnalis, and similar subjects are suspended from the roof, some interesting subjects were recently noted by the writer. Many of these were in flower, some of the best hybrids having

Cypripedium insigne Harefield Hall variety as one of the parents. The largest and most distinct of these was C. × Fulshawense (C. Boxalli × C. insigne Harefield Hall), and which was remarked on when it obtained an Award of Merit at the Royal Horticultural Society, November 10. Several pretty C. × Haynaldo-Chamberlainium, and other hybrids of C. Chamberlainianum were also in bloom, including the pretty C. × Mrs. A. W. Sutton (C. niveum × C. hamberlainium). Other good hybrids were C. Charlesworthii x niveum, and C. callosum x C. insigne Harefield Hall; while of better known varieties in bloom were C. x vexillarium Rougieri, C. \times Niobe, C. \times Olenus varieties, C. \times Marshallianum, a good selection of the best forms of C. x Leeanum, C. x Arthurianum, and C. insigne, &c.

In the Odontoglossum houses were numbers of the much-coveted spotted O. crispum, the best of which is O. c. Ashworthianum, which was illustrated in the Gardeners' Chroniele, Feb. 15, 1896, p. 197, which has the greater part of its flowers of a rich claret-purple colour. Like some other Orchid gems, it does not appear to be a strong grower. Some forms of O. crispum were in bloom, and O. Halli, O. Uro-Skinneri album, O. Andersonianum, and some others, and with them Mesospinidium vulcanicum (Cochlioda); Sophronitis, Masdevallia tovarensis and other Masdevallias, including the somewhat showy M. angulata; some Maxillaria grandiflora, Lycastes, &c.

In the Cattleya houses C. labiata made a good display, together with a few of each of the other species flowering in autumn. In an intermediate-house a good specimen of the singular-looking, fringed-lipped Chondrorhyncha Chestertoni was in bloom; and the rare Trevoria Chloris had sent out a fine inflorescence, which failed, however, to expand its blooms. Other plants noted in bloom in the intermediate-houses were Dendrobium Phalænopsis, D. spectabile, D. formosum, and a few other Dendrobiums; Lælio-Cattleya × Decia alba, L.-C. × exoniensis, L.-C. × Tresederiana, L.-C. × elegans, Calanthe madagascariensis, Lycaste lasioglossa, Cattleya × fulvescens, varieties of Lælia pumila and L. anceps.

In another part of the garden the old ornamental house still contains the foliage and flowering stove plants for which it was designed, and the large Bananas, which bear good bunches of fruits regularly. From the roof hang Lælia anceps, &c. The adjoining Cypripedium-houses have a good show of varieties of C. insigne, C. Leeanum, C. × Ceres, C. Spicerianum, C. Charlesworthii, C. Curtisii, and some hybrids, the best of which is a fine C. Rothschildianum cross which resembles C. × Lord Derby at its best. Its flowers seem darker than in C. × Lord Derby, and if of the same parentage it is an improved form.

SOME FINE CYPRIPEDIUM INSIGNE PLANTS.

Calling at Homewood, Beckenham, where these useful winter-flowering plants have been grown with unusual success for a number of years, I was shown six plants in 9-inch pots with masses of foliage 3 feet through. The flowers were notstaked, but stood out naturally, giving each plant a circumference of 12 feet; one of the plants carried fiftyeight blooms. These plants have not been potted for eight or nine years; one plant has carried eighteen twin blooms; they are not quite so numerous this season. Mr. Crosswell feeds with weak farm-drainage, Clay's Fertiliser, soot-water and guano. Some useful plants for furnishing indoors are growing in $4\frac{1}{2}$ -inch pots, carrying nine strong blooms. Mark Webster, gr., Kelsey Park, Beckenham.

VANDA MARQUERITE MARON.

The Revue Horticole devotes an article and a coloured illustration to this hybrid Vanda, raised

by M. Maron from V. teres, fertilised by the pollen of V. suavis. The flowers of the hybrid are intermediate in character between those of the parent plants, but most nearly resemble those of V. suavis. Other hybrid Vandas mentioned are V. amæna × (cærulea × Roxburghii); V. Charlesworthii × (cærulea × Bensoni); V. confusa × (cærulescens × parviflora); and V. Moorei (Kimballiana × cærulea).

PROPOSED GARDENERS ASSOCIATION.

I HAVE been deeply intorested in reading your report of the meeting, held on the 15th inst., to discuss the desirability of forming an association, having for its object the protection and betterment of the bond-fide gardener. The subject is a large one, and much discussion and consideration are necessary before it can be placed on such a. satisfactory basis as will ensure success. Referring to control, I may at once say that, being an inveterate opponent of anything savouring of trades-unionism as at present interpreted, I, in accord with some of the speakers, deprecate any such idea. Nor do I think the subject comes within the province of the Royal Horticultural Society, the Council having duties sufficiently important already to occupy its time and talents. It appears to me to be totally outside the object in view, which is essentially a question for gardeners themselves, except in sofar as the Council may be induced to view the proposals with sympathy. One thing should, I think, be dominant at the outset—viz., the definition of a bond-fide gardener. The class is a large one, and may be divided into many degrees of varying importance and efficiency. The multifarious duties in a large establishment are such that no one man's life is sufficiently prolonged to allow of his becoming proficient in every department. There is one quality he should possess in a pre-eminent degree; he should be a competent leader of men. He may require his foremen for the various branches—the Orchids, stoves, fruit, greenhouses, ferneries, decorations, pleasuregrounds, kitchen-garden, woods and roads, &c. In such a case, provided he keeps a tight hold upon the reins, and has had good experience himself, and is endowed with tact, judgment, and good health, success is practically certain.

Coming to the subject of education, the matter becomes more difficult. Very much must depend upon the capacity, assiduity, and inclination of the individual. If he is of a studious turnof mind he will gain much useful and necessary knowledge by study and observation which will be conducive to his welfare in after life, for to become a competent gardener in the accepted sense of the term, like a fiddler, he must begin very young and give his whole attention to his work. Weeding walks, washing and crocking pots, learning the names of a few plants, &c., form by no means a bad start for the young gardener. I have in my mind's eye some who from such beginnings are now men of position. Of course, a knowledge of botany, the physiology of plants, chemistry, Latin, landscape work, is useful, and would render him morefit; but on the principle that a little knowledge is a dangerous thing, it would probably, in the majority of instances, be better for him to devotehis attention to his proper duties as cultivator ... We know that there are and have been in the past many successful cultivators with no pretence to education, as it is generally understood, nevertheless they have had the best-possible education for their purpose. This brings me to the subject of examinations. Such a man as I have described would entirely fail where the younger man with little or no practical experience to speak of would answer questions by rote and succeed; again, if answers in an examination have to be written in a given time from printed questions, such a man would again fail because he can neither write well nor quickly nor put his knowledge into proper or intelligible language.

Let it be distinctly understood that I am not against examinations; on the contrary, I am decidedly in favour of this test of fitness so long as they are conducted in such a manner as to ensure that the result shall be a true reflection of the knowledge and capabilities of the candidates; and in order to arrive at this, my view is, that the examinations should be mainly, if not wholly, oral. My own type of a good gardener is the man who, in addition to long experience in good places, possesses a good address, good business habits, competence in the management of men, and the knowledge how to deal fairly with those under his charge. There are worthless men, and there are employers unworthy to be served. Such an association as is proposed could do much to ascertain where these drawbacks to progress were to be found. The keeping of a register would no doubt induce many employers in quest of a competent gardener to apply to an association in which they could place confidence; whilst those gardeners in search of employment could be graded according to their merits. The best places are and have long been filled mainly by the recommendation of one employer to another, or by the recommendation of our more important nurserymen and seedsmen, whose interest it is to recommend good and competent and trustworthy men. advice to young men seeking to become head gardeners is to keep a clean character, to be civil to their superiors, assiduous in their duties. and solicitous to retain the friendship of those in good positions under whom they may have served.

The proposed association could not but result in benefiting the genuine and deserving gardener; but there are some tough problems to be solved. A word on the sentimental aspect of the subject. Are there any gardeners who can really be in earnest when it is suggested that they consider their designation of domestic servant infra dig.? Surely they would not be prepared to go to Parliament to seek an alteration! In any case, I do not think that knight of the waterpot, or any similar appellation, would be an improvement, or more euphonious; it would, on the contrary, he a eacophony; and such an innovation might well include other upper servants. We might, for example, have knight of the knife-and-fork and wine-cellar; lady of the comb-and-brush and acent-bottle, and so on ad infinitum. As the gardener's duties are principally for the house and in the house, I think the designation given to him by the Legislature-one for whom a tax is paid—is the correct one. After all it is the employers who should be approached if alteration were desirable, and should an employer think well to flatter his servant-" for be it remembered, he who serves is a servant"-by calling him his estate agent, steward, manager, or what not, that is his business. It will be difficult to replace the honourable titles of head gardener and good servant, for there are more pegs than there are holes, and then it follows that some must remain out. The difficulty is that there are too many square pegs in round holes. too many gardeners are so ambitious and anxious to have control that they profess to have the necessary knowledge to undertake all the duties indispensable on an estate, including gardens. farm, woods, roads, water-works, &c. The subject is so large, however, that it cannot be dealt with in the confines of a single letter; nevertheless, I wish the association, if formed, success in clearing the grain from the chaff. Charles Dennis.

NOTICES OF BOOKS.

"THE GARDEN DIARY AND CALENDAR OF NATURE." With gardening directions by Rose Kingsley, and preface by G. A. B. Dewar. Frontispiece by Mrs. Allingham. (London: George Allen, 156, Charing Cross Road.)

This is a charming little book with a page for garden and nature notes for every day in the year, headed by an apt quotation from the nature-loving poets. These extracts are from many writers, from Spenser to Wun. Morris (as to date), and chosen with due regard for the particular day for which each one is given. Dewar, in his preface, says that the blank pages are for recording such facts as "when we began to make the herbaceous border or pruned or pegged down the Roses, the day when that choicest of very early things, Mezereon, that comes before the Daffodil dares, scented the air; the last of the Gladieli and the first of the Pæonies-this with entries about the goldfinch's nest in the shrubbery, the leisurely red-admiral butterflies sailing among the Michaelmas Daisies, or the humming-bird hawk-moth whirring round the Fuchsia or annual Phlox." Miss Kingsley contributes a page of brief gardening notes for each month in the year, intended more as a reminder of work to be done than as minute directions concerning it. There is, further, a short history given of the names and special associations of each month.

THE HORTICULTURAL DIRECTORY AND YEAR-BOOK FOR 1904. (London: Journal of Horticulture and Home Farmer Office, 12, Mitre Court Chambers, Fleet Street, E.C.)

This is the forty-fifth annual issue of a handbook containing a calendar, postal rates, useful garden receipts, lists of instructors in horticulture appointed by the County Councils in the United Kingdom, Victorian Medallists, Royal Horticultural Society Certificates, London and Provincial Nurserymen, Seedsmen and Florists, Seats of the Nobility and Gentry, Gardeners and their Addresses, Botanical, Horticultural and Floral Societies, Gardeners' Associations, Metropolitan and other Parks and their Superintendents, &c. A great deal of useful information is here given in a short space, but a few slips may be pointed out. Mr. A. Pettigrew is still entered as gardener at Cardiff Castle. The address of the Secretary of the Gardeners' Orphan Fund is 30, Wellington Street, Covent Garden, not as printed at p. 470.

THE GARDEN ANNUAL, ALMANACK AND ADDRESS-BOOK FOR 1904.—Prepared under the direction of W. Robinson. (London: Gardening Office, 17, Furnival Street, Holborn, E.C.)

A publication of much value to all gardeners, amateur and professional, containing a calendar and notes on work for each month, and on the flowers, fruit and vegetables in season; as well as information of the same general character as in the Horticultural Directory above mentioned. Some revision is required at pp. 360, 361, 367 and 374, but we have so painful a sense of the difficulties in the preparation of such lists, that if we call attention to deficiencies it is with no desire to depreciate the value of the directories, of which we have daily experience, but only in order that the necessary corrections may be made in another edition.

"THE JOURNAL OF THE KEW GUILD."

Among horticultural periodicals there are few, if any, that can equal this for interest. Naturally limited to Kew and "Kewites," it affords a striking illustration of the enormous influence

for good exerted by Kew. Despite its limitations, it can be as heartily appreciated by those who have had ne official connection with Kew as by those fortunate enough to have received some part of their training there. The present part opens with a portrait of Mr. Latham, the late Curator of the Botanic Garden at Birmingham, and an account of his work at Kew and elsewhere. Then follow notes concerning the doings. of old Kew men, and items of information relating to Kew which will be eagerly perused by those who have now taken up work elsewhere. In 1902, we are told, the number of visitors was neted as 1,323,376, a diminution as compared with those of the p ceding year, no doubt due to a wet summer. The maximum number on any one day was 63,257 on March 31, the minimum 85 on February 3. Why the numbers for March should have been as high as 156,409 is probably due to the Easter holidays. In April, 1902, the numbers dropped to 95,408. In February and December the numbers visiting the gardens were at their lowest for the year, i.e., 19,502 and 19,569 respectively. For the ten years the average annual number of visitors is 1,355,503. An illustration of the new bridge over the Thames is given, together with some account of its opening by the King. Old Kewites will misa the high-vaulted arches of the old bridgea favourite subject for the brush of the late Walter Fitch. Pictural as it was, the bridge was worse than inconvenient, and its replacement by a wider structure with easier gradienta had become a necessity. In the meantime, the severe simplicity of the new bridge and its obvious suitability for its purpose are satisfactory features. But perhaps the most interesting part of the journal is constituted by the "notes from old Kewitea" scattered all over the world. It would be difficult to exaggerate these simple records of impressions and of work done or in progress in every quarter of the globe. We do not know whether the journal is on sale to other than members of the Guild, but it is so full of interest to gardeners in general that we should like to see it widely circulated. It is necessary to say that it is not an official publication, but managed exclusively by and on behalf of members of the Guild.

SMALL FRUITS AS CORDONS UNDER WIRE - NETTING PRO-TECTION.

THERE are many gardens, suburban and rural, where the culture of Strawberries, bushfruits and Raspberries has been abandoned, the reason being that birds are so numerous that even before the crop comes to maturity the blackbirds and thrushes, reinforced by a large army of smaller birds, get the major part of the produce. There is little doubt but they will do so, if the culture be on the old lines, on bushes, for even where nets are freely used (a most expensive plan) they must be sound and free from renta, which they seldom are, or "blackie" will find his way in to the tempting banquet. As birds are very early risers, they will get a good breakfast before even the early-rising gardener is about.

This happens year after year, the plundering feathered thieves taking the greater part of the crop, till at last the patience of the grower is exhausted and the fiat goes out, "Grub the bushes and dig-in the Strawberries, for it is useless to try to grow any here." But there is yet another plan to grow these indispensable fruits and to insure the safety of the crop when it is ripe, to explain which is the object of this article. It is called the cordon system, and by its use not only is the crop certain, but finer fruit and greater facilities of pruning the trees and gathering the produce are obtained than in the old-fashioned bush plan.

Gooseberries and Currants as single and multiple cordons on walls and wooden fences are frequent in gardens, but not every garden has walls that can be spared for these fruits; and even the wood fences are occupied with some sort of stone fruit, or with Apples or Pears; whereas good fruit can be taken from cordons of Gooseberries in the open, while the method secures complete immunity from the attacks of bird and other enemies at all seasons of development from the dormant bud to the fully ripened fruit. In many districts "Pickabud," as the handsome bullfinch is derisively called, helped by other finches, and of course by the ubiquitous sparrow and by most members of the tit tribe, make such havoc among the buds as to reduce the crop by at least one-half, while in severe winters there is hardly a fruit-bud left to develop. Greengage growers know this too well, as this fruit is particularly liable to attack.

Having selected a suitable spot of ground, proceed to set it out in dimensions suitable to the needs of the establishment by driving down four stout Larch poles with their points well creosoted and thus form a square or oblong enclosure. Between these, at about 5 feet apart, drive down Bamboo canes in a line with the four uprights. The height of the corner posts and intermediate canes should be at least 6 feet. Then stretch upon these uprights galvanised iron wire netting, with 3-inch mesh, leaving a space at the most convenient angle of the structure for a framed door, which cover in like manner with the netting. Next proceed to roof in the structure with the same wire netting, and when this is completed planting may be at once proceeded with. First plant at 8 inches apart on the four walls of the enclosure, single or double cordons of Gooseberries and Currants, which all the leading nurserymen keep in stock, and fasten these perpendicularly to the wire netting with two-ply tar twine, reserving a 2-feet path round the outside of the enclosure. Next plant double rows at right angles to the enclosing fence across the plot. Eight inches is enough space to allow between the trees of either Currants or Gooseberries, and a foot for Raspberries, but the number will of course depend on the area of the enclosure, but do not leave less space than 2 feet between the double rows to make pruning and gathering an easy task. Staking may now follow, using, as before, Bamboo-canes, because they are light, neat, and durable, though very rigid.

When all the planting is done, the canes cut of such length that they are at least 3 inches above the level of the sides, the points will project above the roofing netting, and they must now be bound with soft galvanised wire to the meshes of the roofing netting. This will not only prevent the roof from sagging or bending down by its own weight, but will make the whole structure firm. If this part of the work be done properly, strong winds, or indeed a heavy snowfall, will do no harm to it, but for further security let diagonal bars be fixed at the angles of the enclosure and roof, in the same way as the cross-stays of field gates.

This would be better done early in November, before the winter sets in, but pruning should be left till the end of February or the beginning of March. This operation may be done on the same principle as adopted for bush culture in the open, but the fruiting branch should be left shorter in the Gooseberry, and so finer fruit will be secured, because no buds need be left for the bullfinch or other bud-eating birds.

Of sorts there is ample choice, but if a good succession is secured this is of most moment, especially in small gardens. To start with, take the new May Duke, which is two to three weeks earlier than any other, for picking green for tarts, and is a thin-skinned red berry, fit for

dessert when ripe and of good flavour; of other reds there are Warrington and Whinham's Industry; yellow, Berry's Kent or Keepsake, and the old Yellow Rough and Golden Drop for late. But among the white kinds we find the finest flavour, White Swan, Early Whitesmith and Cheshire Lass; of green berries there is the old Early Green Gage and Veitch's Langley Green.

Those who aim to exhibit must fall back on the larger kinds, called Lancashire, which are, either from the weight of their large fruit or by nature, of a pendulous and spreading habit of growth, and admirably suited to the sort of culture here suggested. Judicionsly thinned and well manured, they will grow fine and heavy fruit that will rarely fail to secure a prize when on the exhibition table. A selection of the best of these may be found in any leading fruit-list, but as they are not often so fine in flavour as the smaller kinds, are not recommended to amateurs and small gardeners.

Raspberries are veryamenable to this method of culture, and the canes may be trained on trellises made of bamboo, in my opinion much preferable to wire, and almost as lasting. Strawberries also, but they are more cheaply protected by movable frames of deal covered with wire netting. These can be put on as soon as the fruit begins to colour, and retained till all is gathered; at the same time there is no objection to a few rows being planted along the sides of the Gooseberries and Currants. but do not let them be too near, and select small-foliaged kinds like Dr. Hogg or British Queen, and for late, Waterloo.

The various Blackberries are now well established in favour, and the hybrid kinds, as the Loganberry and the Mahdi, as well as the Japanese Wineberry, may be introduced under the wire structure, as birds are as fond of these as of the ordinary small fruits here indicated, and some are well worth the trouble and outlay. Experience, November 10, 1903.

The Week's Work.

THE FLOWER GARDEN.

By A. B. Wands, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Herbaceous Border. - If not already done this should be cleaned, all decayed stems and redressing of short decayed manure. All plants intended to be removed in the spring will have been labelled before they had died down. Everything in the border should be plainly labelled. Here we use deal labels measuring 14 inches by 2 inches; and the height to which Asters, Solidagos, &c., grow should be placed on them, so as to be easily distinguishable when replanting. These can be written on wet days, when the men cannot work outside. Deal stakes should be squared, and made ready for next season for staking them, as no part of the flower-garden requires more attention than a large border when the blooming period is getting past. At this season Asters, Solidagos, and Delphiniums may be planted in mild weather, Whenever possible herbaceous hardy perennials should be planted in good-sized clumps or masses, as the plants are then more effective than if dotted about singly, and also more easily dealt with. Where shrubberies exist at the back of the herbaceous border it is good practice to dig a trench of about 3 feet deep and 1 foot wide, as close to the shrubs as practicable, and fill in with one-half gas-lime and one-half soil in order to keep the roots out of the border. On heavy clayey soil trench-in plenty of lime and brick-rubble, and afford a good dressing of half-decayed manure. Double-flowered and French Anemones are still throwing up a few flowers, and the foliage keeps green and fresh. Ground that is intended to be planted with Hollyhocks should have some fresh lime afforded where the soil is heavy and wet (this is an excellent remedy for club-root). Young plants that are being wintered in cold frames should be cleansed of decayed leaves and be dusted with brown sulphur, which will keep them free from the rust. Old plants should have a few clean coal-ashes placed round the stems; it does not hurt them like long litter.

Lity of the Valley, Montbretias, Ixias, Pæonies, both Moutan and herbaceous, are benefited by good top-dressings of rough peat; if not peat, then moss-litter fresh from the stables; but I do not recommend the use of peat-moss, for when it gets dry great quantities of water are required to moisten it in the summer season, besides, it harbours insects during the winter. These plants are better for being planted in beds or bold masses so as to afford good effect.

Rock Garden.—Remove all tree leaves and rubbish which may have blown into the more tender or delicate plants, they having a tendency to set up decay in the hearts of the plants. Some woodashes placed among or round them will keep them dry and free from the various insects which infest them. Field mice often make havoc amongst alpines and rock plants, and means should be taken to trap or otherwise get rid of them. Aubrietia Dr. Mulus is still in flower here, and is a variety I would recommend gardeners to plant largely, for it is one of the best. Primula purpurea and P. cashmeriana, now throwing up their flower-spikes, should be afforded some slight protection in severe weather. The bronzy-tinted foliage of Tellima and the bright green of the Saxifrages, and the leaves of the beautifully marked hardy Cyclamens, make the rockery bright. Offsets and cuttings that are being wintered in cold frames will need attention, clearing away anything that is decaying, pressing down the soil, affording a sprinkling of woodashes amongst them, and applying fresh air on all favourable occasions. These small plants and cuttings should be correctly labelled, using the neat and durable Acme label.

THE ORCHID HOUSES.

By W. H. White, Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking.

Miltonia vexillaria.—It is owing, probably, to the mildness of the season that many plants of Miltonia vexillaria are found on which the young growths have made considerable progress, and which will soon commence to push forth a quantity of new roots. With this advanced state of growth, it will be advisable to repot those plants that require fresh material at the root; but before this operation is begun the grower should make sure that the plants are free from thrips or redspider. It is not easy to eradicate these pests with brush or sponge, nor is it advisable to make the attempt, the foliage being so tender as to be easily broken and disfigured. The best method is to dip or wash the growths in a solution of nicotine-soap, in the proportion of 2 ounces to a gallon of water, heating the water to about 90° F., afterwards laying the plants on their sides for several minutes, then rinsing the mixture off in tepid rain-water. This preparation is chiefly to cleanse the foliage of red-spider, while the well-known XL-All compound is an effective destroyer of thrips. M. vexillaria being a surface-rooting plant, it should have larger space in which the roots may ramble than is generally afforded. I put strong, healthy plants with about four or five young growths into 8-inch pots, and so on in proportion to the sizes of the plants. Shallow pans may also be used if considered preferable; but whichever be used, ample drainage is essential, using the Fern rhizomes which are taken from the peat to fill about one-half of the depth of the receptacle; over this place a thin layer of rough sphagnum-moss. Carefully spread the living roots over the drainage, and work in amongst them a mixture of one-fourth turfy peat, one-fourth leaf-soil, one-half chopped peat, one-fourth leaf-soil, one-half chopped sphagnum, and a small quantity of coarse silver-sand. Fill up to within half an inch of the rim with this compost, and then surface the whole with clean picked sphagnummoss, taking care to press it with moderate firmness up to the base of the young growths. Previous to repotting, the plants should be allowed to become moderately dry at the root; but when that operation is completed they should be well watered, afterwards affording just suffibe well watered, afterwards affording just suffi-cient moisture to keep the sphagnum in a growing condition. The distinct hybrid M. Bleuana, its

variety nebilior, and M. Phalænepsis will require similar attention; but M. vexillaria rubella, M. v. superba, and M. v. Leopoldi, being later flowering varieties, their young growths are not so ferward, therefore a month or six weeks hence will be soon enough to repot them. M. Endresii, formerly known as Odentoglossum Warscewczii, is now sending up its flower-spikes, and should not be disturbed by repotting. Plants of this section of Miltonias that have become unhealthy should be repotted into pots as small as it is possible to put them in, and with careful treatment they will in a short time commence to grow and make roots, and if satisfactory progress is made the plants will require to be placed in larger pots by the beginning of March. The temperature of the intermediate or Cattleya - house will suit these Miltonias, if a position be chosen for them where plenty of fresh air will reach them at all times.

Fern rhizomes should be thoroughly well dried or baked before using them for drainage purposes, because if used as pulled out fresh from the peat they are frequently productive of fungus in the compost and at the bottom of the pots, which is detrimental to the welfare of the plants. For mixing with the potting materials, I am now collecting quantities of fallen Oak leaves and laying them together in a large heap out-of-doors, placing coarse wire netting around the heap to prevent the leaves being blown about, and thin boards over the top to avoid their becoming too wet. To keep them sweet and always ready for use they should be frequently turned over with a fork; this will at the same time prevent fermentation.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Vines.—Vines forced with the ebject of procuring ripe Grapes in the months of April and May should consist of Black Hamburgh, Foster's Seedling, Madresfield Court, and Buckland Sweetwater, which will be found to give perfect satisfaction under one kind of treatment. The Vines in the early vinery having by this date reached the stage when the bunches may be perceived, too nunch moisture in the atmosphere should be guarded against, as being favourable to the production of tendrils instead of fruit. During the light hours of the day, when forcing should be carried on, take advantage of all the sunlight and warmth procurable in that way by keeping the lights closed; admitting air at this season, and for some time to come, being avoided. Be not too careful in regard to allowing the temperature to rise during the day, but avoid high night temperatures. A night temperature of 55° will be found sufficient, and with a rise during the day of 15°, 20°, or even 25°, good results will follow.

The Grape-room.—Preserving bunches of Grapes in bottles partly filled with water is a practice which may be commended, inasmuch as the Grapes can be kept in better condition in a sweet, dry, cool, airy room, where a temperature of about 45° is maintained than on the Vines. It is only necessary to examine them occasionally, and to remove decayed berries. Nothing is gained by allowing Grapes to hang on the Vines after this date; moreover, the Vines will be relieved from a severe tax on their energy. At Lockinge Grapes are not left hanging after the end of the month of November, and the best results have been reaped when all the bunches were bottled in October. When this is done, rest can be afforded the Vines, and few plants respond to good liberal treatment more readily than Vines.

Peaches and Nectarines.—These may be termed the most popular fruits which the British gardener is required to produce, and in the production of early supplies of fruit caution is a necessary qualification. High temperatures and a too close atmosphere at this season should be rigorously avoided. The middle of May may be considered sufficiently early to have ripe fruits of high quality, and even for that date a proper selection of varieties is of considerable importance. For that date Hale's Early Peach and Early Rivers Nectarine are very suitable varieties. The buds on the trees in the earliest house are about to burst, and before the blossoms expand let the

house be vaporised with XL-All for the destruction of aphis. By the neglect of this simple precaution much damage may result. With the continuance of the present mild weather only sufficient artificial heat should be employed as will keep the night temperature at 50°, with front and back ventilators sufficiently open as to cause a circulation; and by day to 65° with sunheat. Never allow the air to become very dry, but keep it moist by damping the paths and borders occasionally during the day. By the use of a camel's-hair pencil or a whisk of Pampas-grass the fertilisation of the flowers may be assured.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

House Cleaning.—Of late, almost every year seems to bring with it its own particular plant pest; and it is to-day, more than ever before, imperative that every effort should be made to give each plant-house a thorough cleansing at least ence a year. This operation is usually performed during the winter season, and on these occasions when weather conditions render outdoor work impossible. The glass, sash-bars, stages, &c., should be well scrubbed with soft seap of sufficient strength and warm water to make a good lather. will loosen all green scum, &c., and syringe with clean water be used to rinse down as the work of scrubbing proceeds, the glass and woodwork will be well cleansed. Afterwards it is advisable to well syringe the whole of the glass, stages, and walls of the compartment with paraffin and hot water, at the rate of a quarter of a pint of paraffin to three gallons of the unixture at the same time being kept well stirred with another syringe. The walls should then be lime-washed, to each pailful of wash half-a-pint of parassin being added. Before being returned to the house the plants should, if necessary, be afforded a thorough cleansing. or other material is used on the stages this should either be cleared away and replaced by fresh materials, or it should be thoroughly saturated with boiling-water, or some other strong course taken which may be depended upon to destroy the many insects which lurk therein.

Hyacinths.-With the approach of the new year the growth of these useful and showy bulbs will advance mere rapidly. No attempt should, however, be made to hurry the growth at this early stage. After the bulbs are removed from the plunging material they should be placed in a cool pit or frame where protection from frest can be afforded them, and lightly shaded for a few days until the blanched growth becomes green. At the end of a fortnight, if the pots are well filled with roots, a portion of the stock may be placed in warmth of 45° to 50°, placing the pots as near the roof-glass as possible. They should be brought forward gradually in successional batches, so as to allow time for them to develop their flower-spikes under comparatively cool conditions. Weak manurial aid should be applied freely when growth has become active, and care should be taken net to allow them to suffer lack of water at the root. Should it be necessary to postpone the flowering of a pertion of the bulbs to the latest possible date, the bulbs should be removed from the plunging material when sufficiently well rooted, and placed in a cold pit or frame and pretected from frost.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq , Ashwicke Hall, Marshfield, Chippenham.

Work in General.—At the beginning of another year let us take early measures to combat the gardener's natural foes while shelter for them is scant. Take advantage of fine days to rake out all edd corners and vacant spaces where slugs and other pests are likely to be found, and let the rubbish thus collected be taken to the refuse heap and burned. Give the ground thus cleared a dressing with lime, which has been slaked under cover and kept dry, at the rate of a peck to the square yard. This dressing is necessary after so much rain, as a close examination ten minutes afterwards of the surface of the ground will show; and it is much better to kill the pests now than to dig or trench

them into comfortable winter quarters, to rise again at their own convenience. Should the spring of 1904 be similar to that of 1903, every precaution will be necessary to save young crops from destruction.

Seed Drawers.—On wet days the seed drawers may be overhauled, and useless seeds thrown away, as they would otherwise afford breedingbeds for moths, &c. Make a list of seeds that will be required for future use, that they may be obtained from the seedsman in readiness for sewing at the proper time. In making out such a list do not include many nevelties, unless for trial purposes, but choose varieties which, having been well tried in the district in which you reside, may be relied upon to succeed. Take Peas for instance. In the middle of January, 1903, we put in several early varieties on a warm border, and the only one that afferded acrop was William the First. Soil and situation have so much to do with the success of early crops that it is only the man on the spot who is able to choose varieties that will be suitable. In regard to times for sowing, there is nothing to be gained by undue haste; better keep the seed in the bag than lose the crop by sowing too soon.

Seakale.—Get up sufficient roots for several weeks' supply before hard frost sets in. They will then be ready to take the place of those that are now in the forcing-house.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr. to LORD STRAFFORD, Wrotham Park, Barnet.

General Work.—If through pressure of other kinds of work the fruit garden proper has so far been neglected, I would strongly urge the gardener to push forward all tree and bush planting, the pruning and nailing of all sorts of wall fruit trees, excepting Apricots and Peaches, so that the work be finished by an early date, the trees thoroughly cleansed, the roots top-dressed, and the borders made tidy.

Morello Cherries.—These trees, if planted against walls having a northern aspect, should be amongst the first of the kinds to be taken in hand, so as to finish the work needed before the coldest weather sets in. But assuming that these trees have not as yet received attention, when pruning them let plenty of young fruiting wood be laid in, but avoid crowding the shoots, as this not only prevents the wood ripening but weakens the trees, and the fruit in consequence is rarely of large size. The Morelle bears also on spurs, but owing to heavy cropping these soon get exhausted; whereas when trained in the fan shape, and the young wood is laid-in like that of the Peach, the trees will fruit abundantly for many years in succession. Spur back to a couple of buds all weak shoots, and those not required for filling spaces bare of shoots; and lay in at intervals young, medium-sized, well-ripened shoots at a distance of from 4 to 6 inches apart. that all old shreds and ties that pinch the bark be replaced with new ones, allowing ample room for the shoots to increase in girth. should, if not well balanced, be removed from the wall and the branches regulated. In doing this, first fasten the main branches at equal angles and distances apart, and then fill in with the younger shoots; but do not make use of too many nails, only just sufficient to keep the branches in their respective positions. When drawing strong wood to places required use-either thin withes er tarred twine (strong), placing a piece of cloth beneath it to save the bark from injury. In the case of well-formed trees and where much nailing and training have to be done, there is no need to take the whole of the branches from the wall annually, it usually sufficing to make an examination of the shreds and ties, loosening them if there is danger of the bark being injured. When the nailing of the trees is finished, thoroughly wash them with a mixture of soft-soap and paraffin, or moderately strong soap-suds. Should a heavy top dressing be required, remove a part of the top soil, and then apply a moderately heavy dressing of bone-meal, pricking in this with a four-tined digging-fork, and affording a covering of loam and wood ashes, and mulching with short dung.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be Welltran on one bids only of the Papez, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does no undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

JAN. 5 Royal Horticultural Society's Committees. TUESDAY.

SALES FOR THE WEEK.

SALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT—
Hardy Border Plants and Bulhs, Azaleas, Roses, &c., at 67 and 68, Cheapside, E.C., by Protheroe and Morris at 12

WEDNESDAY, JANUARY 6—
At Steveos' Rooms at 12 30, Roses, Azaleas, Rhododendrons, Gladioli. Hardy Plants, &c. — Palms, Azaleas, Rhododendrons, Perennials, Herbaceous Plants, &c., at 67 and 68, Cheapside, E.C., hy Protheroe and Morris, at 12 At 5 o'clock, consignment of Japanese Liliums, Tuberoses, Lily of the Valley, &c., at 67 and 68, Cheapside, E.C., by Protheroe and Morris.

FRIDAY NEXT—
Imported and Established Orchids at 67 and 68.

RIDAY NEXT—
Imported and Established Orchids at 67 and 68,
Cheapside, E.C., by Protheroe & Morris, at 12 30,
(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —36.5°. ACTUAL TEMPERATURES :

PROVINCES.—Dec 30 (6 P.M.): Max. 35°; Mln. 30°,
Dec 31 (noon); Dull, frosty.
PROVINCES.—Dec 30 (6 P.M.): Max. 36°, Ireland;
Min. 32°, South Coast.

THE review of a past year must 1903. always be of a mixed character. There is always matter for regret; there is always something to look back upon with satisfaction and gratitude. Bad even as the "environment" has been in 1903, it might have been worse, or our powers of adaptation might have been less effective.

As to the weather and the crops, the first subjects of interest to cultivators, the year has established a "record," as the phrase goes. We used to look back upon 1879 as the worst within living memory; but 1903, so far as damaging frosts in spring, excessive rainfall, and relative absence of sunlight are concerned, must be written down as worse even than that very dreary year 1879. Never since we began our annual record of the fruit crops in every county of the British Islands some forty years ago have we had to record so complete a failure. And the failure was not merely local, it was universal-here less, there greater, but, on the whole, everywhere disastrons. As with fruits, so with seeds, in almost all quarters we hear of deficient quantity and inferior quality.

Potatos were wofully diseased, though happily some progress has been made in raising disease - resisting varieties. This relative failure of our own home-grown supplies should surely form a subject of the gravest concern, when the expediency of imposing duties on colonial or foreign produce is under consideration. But there seems to be a pretty general consensus of opinion that whatever alterations be made in our fiscal system, necessary articles of food and raw materials shall not be taxed. This, however, is a matter for the future and need not detain us in our retrospect of the past. No casual observer who saw the wonderful collection of fruit and vegetables at Chiswick in the autumn would have supposed that there was anything to complain of, but to experts, fine as the display was, there were indications, especially among the fruits, that the quality was not up to the ordinary standard. Flower shows and fruit shows, valuable as they are as object-lessons, are, as in the case we have alluded to, misleading to the general public, who do not see the failures, and are apt to judge of the whole from a part.

We have mentioned first in order the Chiswick Show, but in sequence of time it came almost last, being but little in advance of the Chrysanthemum shows. For sentimental reasons, in view of the approaching abandonment of the historic garden, Chiswick has a right to the foremost place in the estimation of gardeners. This feeling was emphasised also by the great social gathering of gardeners, which took place at the same time, and which, owing to the zeal of Mr. A. Dean and his sympathetic committee, proved so great a success. If there were nothing else to signalise 1903, the gardeners' dinner would have marked it out distinctly from ordinary years.

The great Ghent Quinquennial in April was as large and important as ever, perhaps more so. In accordance with the spirit of the times, the scientific element was more than usually prominent; and if we are to advance beyond our forefathers, and meet new contingencies as they arise, we must take to heart the exhortations of the Count DE KER-CHOVE and imitate his practice. Unfortunately, the weather at Ghent was atrocious; but at least it afforded an illustration of the power the gardener has of dealing with adverse conditions.

Of the other great shows of the year, that at the Temple, that at Holland House, and that at Shrewsbury, all we need say now is that they were all up to average. The Temple Rose Show, owing to the untoward weather, was less good than usual; but that held at Glasgow a few days later was an unequivocal success.

The question as to how best to celebrate the centenary of the Royal Horticultural Society, which occurs this present year, was much debated in former years, and after repeated discussions it was, as will be remembered, decided in 1902 by overwhelming majorities to secure a proper home and exhibition hall for the Society. During the past year the work of building such a home has been in progress. No one doubted the necessity for a garden also, and many were disposed to put the claims of the garden in the first rank. This appeared the less desirable as the lease of Chiswick had several years to run, and it seemed the better policy to complete the offices and hall before launching out into expenditure on a new garden at a distance from London. Such was the condition of affairs when the horticultural world was startled by the offer to the Society, by Sir Thomas Hanbury, of the famous wild garden and its surrounding acres at Wisley, near Weybridge, formerly the property of that keen horticulturist, the late Mr. GEORGE WILSON.

This munificent offering of course at once altered the conditions, and there is no longer any question how the Centenary is to be celebrated, for at the beginning of its second period of a hundred years the Society finds itself virtually in possession of a home, a hall, and a garden, in addition to the Lindley Library-a remnant from the famous 1866 exhibition. The income of the Society is larger than it ever was, but it is avowedly precarious, whilst all these possessions necessitate outlay for completion and upkeep.

It is most earnestly to be desired that the offices, hall, and provision for the library may be completed, and the Society freed from financial obligation before serious outlay is made at Wisley. Circumstances have rather retarded the flow of subscriptions towards the erection of the hall, but the generosity of Baron Schroeder and his associates, and the munificence of Sir Thomas Hanbury, must surely induce the rank and file to do their duty in the matter. There was a large outcry for the hall; let those who advocated its erection come forward and complete it. There was a protest among those who favoured the garden scheme; thanks to Sir Thomas HANBURY they have seen the fulfilment of their wishes. Now it is for them to do their part, and round off the celebration of the Centenary in the most effectual manner by. launching the Society into an unruffled sea so far as finance goes.

One of the greatest needs of horticulture at the present time is the establishment, under competent direction, of a research laboratory. The Royal Botanic Society has set an example by establishing such a department in the Regent's Park, and we trust the experimental garden at Wisley will not be suffered to remain long without such an adjunct. In addition to the requirements of pure science, which are attended to elsewhere, the requirements of commercial horticulture are constantly becoming more urgent. Time was when horticulture was a luxury for the well-to-do, a matter of practice and experience only. It is so still; but it has become a huge commercial industry as well, and the capitalists who have invested their money and are utilising their brains in commercial gardening have a right to be benefited by the results of scientific research, and not only by exhibitions, of which it may be doubted whether the value is in due proportion to the cost.

The practical value of the Mendelian hypothesis in hybridisation experiments, the use of ether for forcing purposes, the employment of electric light in the dull season, the need for better means of prevention against insect-attacks and fungus pests in Potatos, Grapes, Tomatos, Cucumbers, and other crops—all these are points which are of the greatest concern to the grower, and they are points, some of which at least could be elucidated at little proportional cost in a properly equipped scientific experiment station.

The Sale of Poisons Bill, the Bill introduced to check corrupt practices in trade, may be passed over with the mere mention; for, although much discussed during the past year, little or no practical result has yet been arrived at, but no doubt substantial progress in these matters will shortly be made.

The Gardening Charities have fulfilled their beneficent mission as well as circumstances permit. They are well managed. but their powers for good are limited by those who might control the circumstances mentioned to a larger extent than they do. It is pitiful to see each year the applications of deserving candidates necessarily passed over.

During the year that has passed we have lost from our ranks many a good man and true. Of such were Barron, of Chiswick, and Smith, of Mentmore, McKenzie and PETTIGREW, ADLAM, of Johannesburg, and others whose names are in our obituary list. The veteran meteorologist, JAMES GLAISHER, for years acted as our referee in matters relating to the weather, and furnished us with weekly records. The great philosophical thinker, HERBERT SPENCER, was at one time an occasional contributor; and in HERMANN WENDLAND, of Hanover, we lost a friend of long standing and an acknowledged expert in Palms and other tropical plants. loss of Crozy, of Canna fame, causes a break in the ranks of original experimenters.
Of the "new plants" of the year we pro-

Of the "new plants" of the year we propose to speak in subsequent issues. The advances made in the past year enable us to look forward with hope and confidence to

the New Year just dawning.

OLDENBERGIA ARBUSCULA.—THE hills near Grahamstown in South Africa are or were rich in plants of exceptional interest, and two of the most striking of these are the big-flowered Protea cynaroides and the remarkable woody Composite here illustrated (fig. 4). The flowering of the latter for the first time at Kew was noted in September last (see p. 178). From the altitude at which it is found on the Grahamstown hills the Oldenbergia will probably prove hardy in the warmer parts of this country, such as South Cornwall. The late Miss North made two pictures of dt, which are to be seen in the collection of her paintings at Kew, and in her Recollections she mentions it in a description of a railway journey from Port Elizabeth to Grahamstown:—

"The railway took me through the Adda Bush, a flat, swampy locality, full of Spekboom trees (Portulacaria afra), which are said to tempt the elephants down close to civilisation, and herds of them are still found there. Some 20 miles of dense tangle prevents mankind from interfering with the poor beasts, and the climate suits them better than it does their enemies. It was a great relief to begin ascending, and the road became very steep and wonderfully made. The views got wider and wider, over hare hills covered with coarse yellow grass sprinkled with pink Watsonias, with green trees only in the cracks, of which the Aloes, Euphorbias. and Aralias [?] tower above the rest, some of the Aloes splitting into branches like the Doum Palm or Dracena, with slender curved stems. At the top of the pass we came to groups of the Oldenbergia, a most striking shrub which grows only on these hills, and on the very tops of them; its stalks and young leaves are of the purest white velvet, the older leaves lined with the same, but the upper sides resemble the leaves of the great Magnolia. The flowers are like Artichoke Howers, purple, with white calyx, stalks and buds, growing in a noble bunch. The whole bush is under 6 feet high." W. W., Kew.

ROYAL HORTICULTURAL SOCIETY.—The first meeting of the Committees of the Royal Horticultural Society in 1904 will be held as usual in the Drill Hall, Buckingham Gate, Westminster, on Tuesday, January 5. An election of new Fellows will take place at 3 o'clock. To prevent misunderstanding, it may be mentioned that the Committees of 1903 do not vacate office until the date of the annual meeting, 1904; and, in like manner, all Fellows' tickets of 1903 are available until the end of January, 1904.

— At a general meeting of the Royal Horticultural Society held on Tuesday, December 15, seventy-two new Fellows were elected, making a total of 1,412 elected since the beginning of the year 1903.

HORTICULTURAL CLUB.—The next House Dinner of the Club will be held on Tuesday, January 5, at 6 P.M., at the Hotel Windsor. Mr. George Gordon, V.M.H., has kindly promised to read a paper, entitled "The Experimental Garden of the Future."

MR. LEO GORDON GODSEFF, son of Mr. JOSEPH GODSEFF, manager to Messrs. SANDER & Sons, St. Albans, has been appointed by the

in the gardens of the late Baron Ferdinand Rothschild, at Waddesdon Manor, and in the nurseries of Messrs. Backhouse & Sons, of York. Wishing to learn Continental methods, he went to the Continent, and passed two and a half years with M. Cochet, at Suisnes, Seine et Marne, France. From thence he went to Germany with Messrs. Haage & Schmidt, then back to France with Messrs. Crousse et Fils, Chatenay. During these years he not only obtained exceptional experience in gardening, but also attained fluency in the French and German languages. Returning to England,



FIG. 4.—OLDENBERGIA ARBUSCULA, FLOWERS PURPLE, ROYAL GARDENS, KEW.

Liverpool Corporation head gardener of the Calderstones Estate, Allerton, Liverpool, where he has already commenced his duties. His success should encourage other young gardeners to work, for in these open competitions for public posts nothing but sterling merit tells. In this case Mr. Goddeff secured the appointment out of about one hundred applicants. The Calderstones Estate, a beautiful property of about 100 acres, with mansion, gardens, and planthouses, formerly belonged to Mr. McIver, the head of the great shipping firm, and a little over a years ago the Liverpool Corporation purchased it for £43,000, with the object of turning it into a public park. Mr. L. G. Goddeff began his gardening career in Messrs. Sander & Sons' nursery, and afterwards gained much experience

after a spell at the Royal Gardens, Kew, he was appointed head gardener to A. K. Bulley, Esq., Mackwell Brow, Ness, Neston, Cheshire, who is the possessor of a remarkable garden, rich in hardy plants, bulbs, and trees, and one which the proprietor generously throws opens to the public; so that during his three years' tenure of office there Mr. Godseff has learnt much which will be of value in the management of a public garden. That his service at Ness has been satisfactory the recommendation which Mr. A. K. Bulley gave to the Liverpool Corporation proves: a passage in it runs, "Briefly, I think if you travelled the length and breadth of the land you would fail to get anyone more admirably fitted for the position. I look on him more as a friend than an employé."

M. DANIEL.—The Academy of Sciences has recognised the importance of the labours of M. Daniel, Professor at the Faculty of Sciences at Rennes, by awarding him the Philippeaux Prize for physiology, heretofore always bestowed upon an animal physiologist.

DISTINCTIONS TO HORTICULTURISTS.—Among recent promotions in the order of the Mérite Agricole, we find the names of M. Aug. Nonin, and M. R. Salomon, among others less well known on this side of the Channel.

THE RIVIERA AND ITALY.—The Brighton Railway Company is publishing a tempting prospectus of circular tickets from London and back along the French and Italian coast line from Marseilles to Genoa vià Newhaven, Dieppe, and Paris, the entire trip to cost but £10 for sixty days' first-class travelling. The booklet sent out shows pictures of some of the most beautiful spots along this route, and mentions recent improvements in the train service and the new turbine steamer Brighton.

A CHRISTMAS GIFT. — If it be a timely act at Christmas to help hospitals by means of donations of money—and it is so—it must be at the least as praiseworthy an act to contribute towards the preservation of health, and this has just been done by Mr. Elliman, a solicitor of Slough, who has just offered to the Urban Council at Slough 26 acres of land, with horticultural adornments, to be used as a recreation ground. The land is situated centrally and is admirably suited for the purpose, besides being of great money value. In addition to the land, the donor proposes to spend £5,000 in laying out the ground, and also intends to invest some £10,000 to endow it. This is no new action on the part of Mr. Elliman, who has already given many bequests to Slough.

CHERRIES IN NATAL.—In the early days of November samples of Cherries in baskets were placed on the market in Pietermaritsburg, the white variety being Elton, and the black Bedford Early. So unusual an occurrence led to inquiries as to the place of origin, which was soon found to be the nursery of the Trappist Fathers at Centvery, Donk Vlie, where great attention has been paid to the cultivation of home-raised standards and German bushes. The whims of the fruit have been carefully studied by the Fathers, and they expect soon to be able to send out thoroughly trustworthy plants, situation and cultivation being of course carefully copied by intending growers.

THE CRYSTAL PALACE CHRISTMAS TREE.

The giant Christmas trec which is such a source of great pleasure to the thousands of youngsters who visit the Crystal Palace during the holidays, has again been presented by Mr. J. Colman, of Gatton Park. The tree has been placed in a new position in the south nave, and is an imposing addition to the many other good things provided for the Christmas fare at Sydenham.

FRENCH CHRYSANTHEMUMS. - M. ERNEST COUTANT, Chrysanthémiste, Douai, sends us the following list of first-class novelties selected out of a thousand varieties. Each has received a First-class Certificate, and from 90 to 100 per cent. points:-Aigle d'Or, Mr. Francis Engler, Mme. Marie Miller, M. Japonais, Poupoule, Souvenir du Président Brisse, Pourpoint, Souvenir de Mme. Buron, Albert Maumené, Professeur Tillier, Amateur Marchand, Mme. Jules Gruel, Mdlle. Marie Chantrier, Vallée d'Ordessa, Daïmio, Mousmé, Tokio, Yézo, Alexis Dessarts, Artilleur Dessarts, Joseph de Laurens, Mme. Jne. Réaud, Alliance, Préfet Boncourt, Amateur, Conseil, Comtesse de Grailly, Chrysanthémiste Montigny, Femina, Anna Debono, Mme. R. Oberthur, Marquise Visconti-Venosta, Maurice Rivoire, Roi d'Italie, Soleil d'Or, Souvenir de Victorine Calvat, Sparklets.

IMPORTS OF FRENCH HORTICULTURAL PRODUCTS.—The Jardin for November 20 comments upon the importance of the horticultural trade with Great Britain, and of the importance of continuing and improving friendly relations with our country. Statistics show that the exports from France to Great Britain in 1902 included 33,000,000 of Strawberries, Cherries, Plums, Pears, Gooseberries, Almonds, Apricots, Peaches, Grapes, fresh Walnuts, and Chestnuts; and 28,000,000 of fresh, salted, dried, and preserved vegetables, including more than 15,000,000 of Potatos, 8,000,000 of flowers, 2,000,000 of greenhouse plants, Onions, and flower seeds.

THE COSMICAL FUNCTION OF THE GREEN PLANT.—Prof. TIMIRIAZEFF, in his Croonian lecture, thus spoke of the work done at Kew:—

"When a botanist on a tour in the Botanical Garden of Geneva stops to admire the row of marble busts of famous botanists born in Geneva, Senebler in the foreground, he may feel sure that he stands at the very cradle of the physiological research of the nineteenth century, just as in our days, if he would see the place from which will surely spring the physiological movement of the nascent century, he must hend bis steps to another botanical garden much nearer to us, and salute in the Jodrel Laboratory the starting point of quite a new departure on the way first trodden by Senebier and Saussure.

It was the prism which more than two centuries ago revealed the inner nature of the sunbeam. It is the prism again which continues in our President's, In Sir Norman Lockyer's and other able hands to unravel the mysteries of the origin of this sunbeam, and I am confident that it will still be the prism which will some day fully disclose the ultimate fate of this sunbeam on this our earth, 'its transmutation juto bodies.'

this our earth, 'its transmutation into bodies.'

Thus we arrive at the final conclusion that in Newton's book of Opticks we not only find the first and broadest statement of our problem in its actual state, but likewise the surest means towards its probable solution in the future. Little did Jonathan Swift suspect, when writing his envenomed satire on the Royal Society, that that which he took to be the vagarles of a madman was prophetic of Newton's immortal genius."

The full lecture is reported in the Proceedings of the Royal Society, December 19, 1903.

BRITISH FRUIT CULTURE.-The President of the Board of Agriculture and Fisheries has appointed a Departmental Committee to inquire into and report upon the present position of fruitculture in Great Britain, and to consider whether any further measures can with advantage be taken for its promotion and encouragement. The Committee is constituted as follows:-Mr. A. G. Boscawen, M.P. (Chairman); Mr. C. W. RADCLIFFE COOKE, Mr. J. M. HODGE, Colonel CHARLES W. LONG, M.P.; Mr. GEORGE MONRO, Mr. P. SPENCER PICKERING, M.A., F.R.S.; Dr. W. Somerville (an Assistant Sccretary of the Board of Agriculture and Fisheries); Mr. EDWIN VINSON, and the Rev. W. WILKS, M.A. (Secretary of the Royal Horticultural Society). Mr. ERNEST GARNSEY, of the Board of Agriculture and Fisheries, will act as Secretary to the Committee.

EXHIBITIONS AND CHARITY: AN EXAMPLE.—The Chesterfield Chrysanthemum Society, though it has not met with unusual financial prosperity during the past season, has nevertheless decided to present ten guineas to the Gardeners' Royal Benevolent Institution, £15 to the Royal Gardeners' Orphan Fund, and £10 to the Chesterfield Hospital.

ASSOCIATION OF AMERICAN AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.—The objects of the proposed association are to study the laws of heredity, to devise better methods of breeding plants and animals, to bring about cooperation in breeding, testing and increasing the use of improved animals and plants, and to better develop the work of registry associations and competitive shows of animals and plants, and in general to perfect the knowledge of breeding and to aid in the better organisation of the business of plant and animal breeding. It was suggested

that the proposed association be divided into two sections, a Plant section and an Animal section; and that the president, vice-president, secretary, treasurer, also the presidents and secretaries of the two sections, constitute an executive committee, and that a meeting be held annually. The appointment of numerous committees was suggested to bring about co-operation among biologists, horticulturists, agriculturists, and live-stock specialists, in the study of problems in heredity in relation to breeding, and among plant and animal breeders to improve the systems of herd books, score cards used in judging, methods of conducting competitive shows, and to encourage the breeding of animals and plants. by institutions, co-operative organisations, and private parties. The programme at St. Louis, December 29, 30, will provide general sessions for perfecting an organisation and for the discussion of topics of interest alike to animal breeders, plant breeders, and biologists, and sessions of the-Plant section and of the Animal section. The effort will be to secure papers from prominent animal breeders, plant breeders, zoologists, and botanists, blocking out the problems pressing for solution in the advancement of plant and animal improvement and to bring about a better understanding of the biology and the business of breeding. Correspondence is solicited from those interested. (Committee: W. M. Hays (Chairman), Thos. F. Huut, H. J. Webber, L. H. Bailey, and C. F. Curtiss). W. M. Hays, University Farm, St. Anthony Park, Minn., U.S.A.

NEW ENGLAND ASSOCIATION OF PARK. SUPERINTENDENTS .- The park superintendents of New England have formed themselves into anassociation, designed to bring the different menibers into communication so that mutual benefit may accrue as regards their work. The association publishes a bulletin, which is circulated. among the members, all of whom are invited tocontribute papers or notes to it detailing their experience and opinions in the various technical matters under discussion. A recent bulletin deals with the question of street-planting, and the park superintendents of different districts inquire for and supply information bearing upon. their respective localities and circumstances. Many trees are suggested as suitable for streetplanting, and their advantages are discussed; also the proper way to start and maintain them in position. Such a circular as the one before ns should be of great use in suggesting how toperform intelligently operations too often rendered ineffective by carelessness or ignorance.

M. ANDRÉ.—The friends of the eminent landscape gardener, who is also the editor of the Revue Horticole, will deeply sympathise with him in the grief occasioned by the sudden death of Madame André on December 5 last.

LANE'S PRINCE ALBERT APPLE is the subject of a coloured illustration and description in the Bulletins d'Arboriculture, &c., of Ghent. It was exhibited by Messrs. Lane of Berkhampstead in 1857, and has long been recognised here as an excellent Apple, of which a description is given in Hogo's Fruit Manual, as well as a figure in our columns, September 17, 1892, p. 333.

ITALIAN AGRICULTURE.—We are favoured with the prospectus of the Scuola Superiored'Agricultura di Portici, illustrated with numerous cuts, showing the laboratories, dairies, breeds of cattle and other matters relating to the School, showing how well equipped it is. Lists of the professors and students are also given.

CUTTING DOWN TREES BY ELECTRICITY.—Successful experiments are reported from France with regard to the felling of trees by electricity. According to a recent issue of Le Jardin, invarious forests the plan has been tried of using a platinum wire heated to a white heat by an

electric current instead of a saw. By this meaus the tree is severed more easily and rapidly than by the older methods; no sawdust is made, and the slight charring produced by the burning wire preserves the wood. The new principle is said to be eight times as speedy as when a saw is used.

LONICERA.—In the fourteenth annual Report of the Missouri Botanical Garden, St. Louis (1903), is a valuable monograph, by Mr. A. Rehder, of the Arnold Arboretum, on the genus Lonicera. One-hundred-and-fifty-seven species are enumerated, with full bibliographical details, synonyms, localities, &c. Numerous hybrids are also described. Many are crosses from L. tatarica. These hybrids, we are told, fruit as profusely as the species, and seedlings show almost invariably a reversion to L. tatarica. This is a very valuable monograph which will be indispensable to all students of the genus.

POTATO £160 PER POUND, £358,400 PER TON .- Messrs. E. W. King & Co., seed growers, Coggeshall, Essex, inform us that they recently purchased a few pounds of Findlay's latest Potato, the Eldorado, at the high price of £150 per pound, and of which they have sold some at £160 per pound, or at the rate of £358,400 per ton. This is probably the highest price ever paid for Potatos. The raiser, Mr. Findlay, does not intend to offer this Potato until the spring of 1905, and then his price will be £3 3s. per pound; the few pounds there are about the country are from a few samples Mr. FINDLAY sent to two Potato growers last spring for trial. The Potato has proved itself to be a great disease resister, prolific, and of very fine quality. Messrs. E. W. KING & Co. further tell us that they were booking orders for 1905 at 50s, per pound, but owing to the demand they had to increase the price to 55s., and now to 60s. per pound, and in all probability this Potato will be £5 per pound in the spring of 1905.

NATIONAL POTATO SOCIETY .- A large and enthusiastic meeting was held at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, S.W., on Wednesday last. It was summoned by Mr. W. P. WRIGHT, and presided over by Mr. A. D. HALL, of Rothamsted. A large number of letters expressing sympathy was read. and a very long and complex resolution was proposed by Mr. W. P. WRIGHT, the full terms of which will be given in another issue. This was seconded by Mr. A. DEAN, and supported by other speakers. As a result it was resolved that the Society be established, that a provisional committee be appointed to hold office for a year, and that Mr. WRIGHT act as secretary. We take it that the general principle is estabdished, but that no one is pledged to the details as set forth in the multiform resolution, as these will have to be more fully considered at subsequent meetings. It was suggested that a series of trials of different varieties be carried out in different counties, and that more care be exercised in details of cultivation and storage, so as to eheck the so-called deterioration of varieties, and to prevent the access of disease. necessity for a more perfect system of classification of varieties was emphasised by various cultivote of thanks to the Chairman, gave a very vivid account of the disease as it first appeared in Lincolnshire in 1845, and pointed out that these Potatos which had the mest robust habit, firmest stems, and shiny-looking foliage, were then, as now, the varieties least liable to attack. Nothing was said about the extravagant prices paid for certain varieties; indeed, the meeting was pervaded with a sound, business-like spirit, which augurs well for the success of the Society. Lord ROSEBERY is to be asked to become the President.

PUBLICATIONS RECEIVED.—Carters' Practical Gardener, and List of Tested Seeds for the Garden, 1901 (James Carter & Co., High Holborn). This, as its name implies, is a publication that contains useful gardening instructions as well as illustrated lists of vegetables and flowers to be grown from seed and otherwise. The directions are thoroughly to be trusted, and are clearly given. The coloured illustrations are sure to find favour, and many of the black-and-white reproductions are truly pietures. The representations of plant diseases (Finger-and-Toe, Asparagus-beetle, &c.), give an additional value to a useful publication.—Sutton & Sons' Amateur's Guide to Horticulture for 1904 (Sutton & Sous, Reading). The newest issue of this Guide contains additional and excellent illustrations of some of the best vegetables and flowers grown. Photography and colour-printing are employed in the coloured plates with good results. The cultural notes are plain and concise, and the whole volume is quite up to the high standard of those of previous years, and amateurs and professionals alike will welcome tt.

A FINE TREE OF ARBUTUS UNEDO.

A PHOTOGRAPH of a fine specimen of this ornamental tree was kindly sent by Mr. R. W. Richards, of the Priory, Usk, Monmouthshire,

they are most wanted. I cannot say that this is the experience of all growers, but several that I have met with have referred to the earliness of what should have been the latest varieties; and niveum, which is essentially a December variety, has been coming into market for several weeks. Euphorbias (Poinsettias) appear to be rather earlier than usual this season. It is one of those plants of which it is difficult to alter the natural season of flowering. There may be a little variation; it is rarely we see much of them before the middle of November, but there were some well-finished heads of bracts to be seen the first week in November. The latest time that I have known these to be kept over to has been the second week in February. These were the variety plenissima, which is naturally later than the ordinary form of pulcherrima. The earliest variety is kermesina, which is of a lighter shade of colour and the bracts are broad but not lobed. It is not often that distinctive names are given, but there are several various shades obtained by crossing the white variety with the

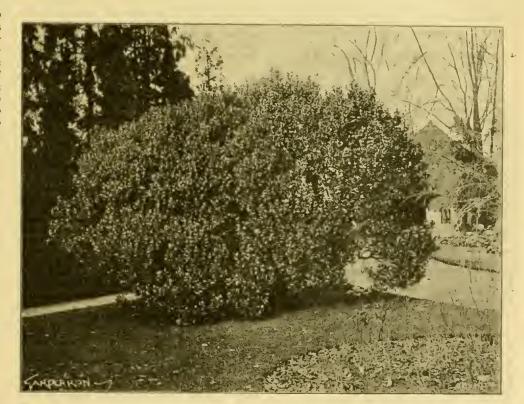


FIG. 5.—ARBUTUS UNEDO, AT THE PRIORY, USK, MONMOUTH.

and accompanying the photograph the following note:—"I send you herewith a photo. of a very compact (and for an inland county) large Arbutus unedo growing in our grounds. The tree was seriously injured by hard frost about seven years ago, and we feared it was ruined, but since then it has made wonderful growth, and this last summer has especially suited it."

MARKET NOTES.

CHRYSANTHEMUMS.

The past season has been a most difficult one for all growers, and more particularly those who want to time plants to be in flower at any particular date. Chrysanthemums have given some trouble. The early varieties were later than usual; now it is found that the late varieties which should have come in for the Christmas and New Year's trade are much earlier; and it has been difficult to keep them over until the time when

red. With a little care in fertilising, seed may be had, and it will germinate freely, and flower the following winter. A. H.

COVENT GARDEN FLOWER MARKET.

The supplies for Christmas trade were in most instances equal to the demand, and there was a very good business done, and a general advance in prices noted, especially in cut flowers. When trade buyers have to pay from 8s. to 10s. per dozen for blooms of Lilium longiflorum, and nearly as much for Richardias, it does not give them a chance of making a very big profit from the retail customers. Good Roses made high prices. Carnations were much in demand, and were among the few flowers that were cleared out early in the morning. Bright colours in Chrysanthemums were making much higher prices than white; and growers would do well to look after the late crimson-coloured varieties, deep bronzes, and other bright shades, but which generally begin to get scarce in December. English forced

Lilac has been good, but Mr. Drost seems to be the only grower who flowers it really well. Lily of the Valley made higher prices than usual. In fact, most of the choicer material was disposed of at good prices.

Flowering plants in pots sold at good prices. Azaleas, well flowered, were plentiful. Genistas were fairly good. Euphorbias were good and sold at satisfactory prices. Cyclamens, Cinerarias, Hyacinths, Daffodils, Richardias fetched high prices, but they did not sell freely. Tulips are now mostly grown in small boxes close together, and can be used for "making up" pots or for cutting, and the yellow, white and red varieties were plentiful, especially the last. Flowering plants were more in demand than Palms, Ferns and other foliage plants. The supply of small Ferns was enormous. In a chat with one grower I learned that he had been sending up three vanloads at a time; this represents over 300 dozen plants, and sometimes he has had as many as 500 dozen for one market. There are many other growers who send in large quantities. It has often occurred that they have run short about the time that the bulbs come in, but it does not seem likely to occur this season. A. H.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents)

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Referring to the note by your correspondent "R. D." on the above subject, with which I was very much interested, I must say that it is deplorable to receive so many applications for votes from apparently very necessitous persons, many of whom must be some long time before they succeed in getting on to the funds. It is a great pity indeed that more cannot be done in the way of money for this noble Institution. Having been invited to act as a steward for the last dinner, I wrote to most of my influential neighbours, and I was greatly grieved not even to receive a reply out of a score, "save one." It is, to say the least, disheartening; even a reply would have been something; and although there has been a great deal of "begging" this year, 2s. 6d. or 5s. would not be missed by any one of those referred to. It seems there are those who think that if they cannot give largely they must not give at all. F. S. J.

— I was very pleased to read the remarks of "R. D." in reference to this Institution for gardeners. I am grieved to hear of the lack of support "R. D." received from gardeners. As an old gardener and supporter of the Institution, I do most earnestly appeal to young gardeners to do something in aid of this most decoration observing absorption of the support of the deserving charity. My own experience dates from the year 1862. I was foreman at 16s, per week, and the head-gardener brought the claims of the Institution before me. I might have said I could not afford it, for it is not difficult to spend 16s. a week on necessary articles; there is much left for charity, I admit, but I subscribed my guinea a year from that date. After acting for some time as head-gardener I brought the claims of the Institution before my employer, and he thought a guinea a year was too much for me to pay, so he gave £10 10s. donation for himself and £10 10s. for me. I therefore urge upon and 210 los, for me. I therefore lings upon gardeners who are in constant employment to help in this good cause. I know how greatly money is needed; I served on the Committee thirty years ago, and now know a good deal of the workings of the Institution, and of other similar institutions, and can safely say that no charitable institution known to me is more economically worked; and it is all done to aid gardeners in their old age, if they happen to be in distress. Not far from where I live a gardener's widow is receiving support from the funds; her husband received the pension until he died, and I know how much it was appreciated by him, and he felt on his death-bed the happiness of knowing that his widow would be provided for as long as she lived. I have been a sup-

porter of the society for forty years, and am truly thankful that I have not needed to make any claim upon its funds; but it is a great comfort to me to feel that I have been the means of helping other gardeners not so fortunate as I have been. Our life in this world cannot be long, even the youngest must go. I well remember a most pathetic appeal from the Treasurer at the annual festival. He said, "We brought nothing into this world, and it is certain we can take nothing out." We are thankful for the large number of large-hearted gardeners who not only spare subscriptions out of their own sometimes too scanty incomes, but bring the claims of the Institution before their employers and others who can afford to give. It is sad to read of the large number of candidates at the annual elections—I may say increasing numbers who are disappointed. There are thousands of gardeners who can afford to give who refrain from doing so, and who by a little self-denial would satisfy their conscience; for a gardener cannot be easy in his mind when he knows that many of his brethren are in distress and wanting help, and refrains from holding out a helping hand to them. An Old Gardener.

In a recent issue of the Gardeners' Chronicle, p. 427, a correspondent, "R. D.," appeals to gardeners and to others interested in gardening for support of this gardening charity. I should like support of this gardening charity. I should like to give "R. D." a brief outline of what has been done in the neighbourhood of Reading since 1900. An auxiliary was formed at Reading through the kindness of that well-known firm, Messrs. Sutton & Sons, who called a meeting of gardeners, and a large committee was formed, which is called the Berkshire, Reading and District Auxiliary of the Gardeners' Royal Benevolent Institution. It comprises the whole county of Berkshire, and a radius of 20 miles round Reading. I was elected on that large representative committee, which numbers about fifty. I made up my mind to work, and to do all I possibly could to get in subscriptions to belo my need bother condenses. subscriptions to help my poor brother-gardeners in distress. In those four years I collected £40 14s. 6d., and I intend to keep on as long as I am able. This sum I have paid into the Reading Auxiliary, and indirectly it goes to the Gardeners Royal Benevolent Institution. I am also an annual subscriber of £1 ls. I should like to impress on those gardeners who are taking good wages and are not subscribers to do something, if it be ever so little. It is astonishing what can be done with tact and perseverance. We have in Wargrave village a gardeners' association called the Wargrave and District Gardeners' Association. tion. On November 19, 1902, we had a Chrysanthemum, Fruit and Vegetable Show, and it was a success. No prizes were given, and all worked with a will, for we all knew what we were worked with a will, for we are know what we were working for. It was simply a work of love. The takings were £11 19s, and it was all sent to the Treasurer of the Gardeners' Royal Benevolent Institution. That was, I think, very good for a small village. This year, on November 18, 1903, we had a similar show, and the takings were £15 13s., which we sent to the Gardeners' Orphan Fund. What I would say to all the gardeners' associations in the United Kingdom is, "Go thou and do likewise." William Pope, The Willows, Wargrave, Berks.

with some interest the remarks of your correspondent, Mr. F. Streeter, on the above subject, will you kindly permit me to state in reply that I cut a perfectly finished fruit of the variety Sutton's Ringleader, weighing about 5 lb., on December 5, it being the last fruit of a perfectly finished crop of the above variety, from which, in addition to Sutton's Hero of Lockinge, I have been cutting fruits since the second week in November, all of which were pronounced to be excellent, both in colour and flavour? And may I be permitted to add that in June last I cut a Ringleader weighing 9 lb. 8 oz. from a plant carrying three fruits, the smallest of which weighed upwards of 7 lb.? I mention this as I consider Sutton's Ringleader one of the best Melons in cultivation. Arthur Read, Gr., Onslow Hall, Shrewsbury.

CHRISTMAS GRAPES.—Whilst it is always interesting to know what prices English-grown Grapes will obtain in the market, it is always

more so to learn at what prices they are retailed to the consumer in the shops. I have been looking at the samples seen in the best shops here in Kingston, Surrey, and have noted very bad samples of Gros Colmar offered at 8d. and 10d. per lb. These must have been badly grown, the bunches being small, berries the same, and very red in colour. I should not care to purchase themat even lower prices. On the other hand fairly well-finished Alicantes of good dark colour were priced at 1s. 9d. to 2s. per lb. That shows that cheap as Grapes relatively may be, a good sample will secure a good price, and, after all, bad for table as may be the cheap ones, they are better at 8d. and 10d. than are the Spanish Grapes sovery plentiful at 6d. per lb. When, as sometimes, we hear serious wails raised over low Grape prices, we may take it for granted that they denot reflect credit on the grower or the British, Grape trade. A. D.

MELTON CONSTABLE GRAPE.— "E. M.'s" knowledge of this Grape seems to be limited to-hearsay. My experience is that of a member of the Fruit Committee, who has both seen and tasted the Grape at the Drill Hall two or three times, when presented both as cut and as hanging on a pot-vine. The bunches were small, the berries of Black Hamburgh size, quite black, and of exceedingly pleasant flavour. In that condition the Grape was greatly liked; but the large-berried bunches had quite red berries; and the bunches shown later were equally red, and somuch like Gros Colmar that no one could discernthe difference. If this new Grape colours so-casily, how was it these large-berried bunches shown were so badly coloured? If these bunches were not of the real Grape, then is some explanation needful. If they were, then it is absurd to-write of its readiness to put on colour. A. D

count althann's Gage. — As there seems to be a very wide range in the spelling of the name of this red Gage Plum recently introduced into this country, I have written to Mr. L. Späth, of Berlin, who is kind enough to reply as follows: "Althann's Reineclaude was obtained from a stone of the Green Gage by Mr. Prochaska, gardener to the Count Michael Joseph Althann, at Swoyschitz, in Bohemia. The correct spelling is therefore Althann's Reineclaude." I do not know that I need have called attention to thismatter, as the name is correctly entered in the last edition of The Fruit Manual "Count Althann's Gage;" but having looked into five catalogues (our own included) and found every one of them incorrectly spelt, I thought I might mention it in order that some kind of uniformity may be arrived at. Personally I dislike the German style of writing "Reineclaude" as one word, and much prefer Dr. Hogg's translation; but it is obvious that we must have it either one or the other; a mixture like Comte Althann's Gagewill not do. A. H. Pearson.

ANTHURIUM SCHERZERIANUM WARDI.—Theremarks by Mr. Marshall in reference to this plant in a recent issue are very interesting. I did not know the history of it; but I knew that it was an imported plant, and not a seedling raised by Mr. Ward, therefore I did not introduce it into the few remarks I made about my old friend. The editor, presuming that as it wasnamed Wardi it must have been raised by him, inserted it as something worthy of notice. I had not forgotten that excellent cultivator, Mr. Thomas Baines; I knew him well. I have judged his plants, and frequently acted as co-judge with him. I may safely say, as a cultivator of stove and greenhouse plants, he has never been surpassed. Mr. Marshall will remember the competition wherein all the exhibitors had to start with plants of the same age and size; they were sealed by the soal of the Royal Horticultural Society, after being purchased in the nursery; but Mr. Baines had no faith in plants he did not propagate, and requested permission to take cuttings from his plants. Whether this was done I do not know; but Mr. Baines was easily first in the competition. But the two famous plantsmen did not often meet in competition. Mr. Baines had given up exhibiting hefore Mr. Ward was at his best, and I was thinking of his culture of Odontoglossums (O. crispum espe-

cially) and other cool-house Orchids, as well as Heaths and New Holland plants. He used to grow and flower yearly a splendid plant of Oncidium macranthum. The plant was tied on to the cleft of a log cut from an Apple-tree, and hung up close to the glass-roof in the coolest end of the cool-house. Odontoglossum Uro-Skinneri, O. Hallii, and O. triumphans were splendidly grewn. The Cape Heaths at the Poplars were admired by everybody. No fewer than seventy-three species and varieties of the summer-flowering Cape Heaths were grown; a large, well-ventilated span-roofed house being set apart for their culture. Where could such a collection be found now? And if we had them, the men who had the art and patience to cultivate them as they were then cultivated are perhaps not now to be found. Jas. Douglas.

HONEY POISON.—Although I have frequently noticed remarks concerning the occasionally poisonous nature of honey gathered by bees from poisonous plants, I have never come across a reference to the undoubted fact that honey of any kind exercises a toxic effect upon some constitutions. In this particular connection I myself am so susceptible, that when visiting friends l am obliged to enquire whether honey is present in any confections which might possibly contain it, since on more than one eccasion I have suffered seriously by an oversight. As a child 1 had more than one attack of honey sickness, which, being remembered, induced me to refrain from touching honey for many years; but after twenty years or more, being with some friends in the country, a plate of fresh honeycomb and honey was produced of so tempting a nature that I tasted a spoonful, thinking that probably I had grown out of the susceptibility. No sooner, however, had I swallowed it than an intense feeling of nausea was followed by violent vomiting, and for fully a fortnight I suffered internittently in the same way with a violent burning pain. Some years later visiting some German pain. Some years later visiting some German friends I partook of some German gingerbread, and shortly afterwards was attacked in a similar but milder way, when on enquiry I learned that the so-called gingerbread was really honighrot or honeybread. Twice since then I have suffered similar symptoms from taking liqueurs in which however I can only assume, though I do not doubt, the presence of honey as an ingredient. I find also, on mentioning this susceptibility, that I am by no means alone in it, a lady friend, not a bleed relation, suffers precisely in the same way, and several other friends have known of like cases. This heing so, I think the matter should be better ventilated than it is, since the illness induced is by no means slight, and might even be dangerous, while at the same time altogether unaccountable where, as in the liqueur and the henigbrot cases, the honey is taken unwittingly. Furthermore, the sufferer may not even be aware of his susceptibility, and impute the ailment to a wrong source. The fact, too, that quite casual references to my cwn case have elicited confirmatory evidence in at least half-a-dozen instances, proves that the susceptibility cannot be rare. Chas. T. Druery, F.L.S., V.M.H.

APPLE CROPS IN GARDEN AND ORCHARD.—What a contrast there may be from an orchard sheltered from the north and east by a helt of trees, and a garden sheltered from the north and west by the same, and less than 200 yards apart! In 1902 cur orchard here, which contains a lot of old, gnarled, mossy trees, bore a splendid crop of fruit, while in our kitchen-garden we had very few. The orchard contains mostly old varieties that are unknown to me, and these flowered at the same time as the trees in the kitchen-garden, which contains mostly newer varieties. At the time of flowering we had a long apell of east winds, which utterly destroyed all fruits in the kitchen-garden, but spared the orchard. Now last season, when the trees were in flower, we had a spell of cold winds from the north, and very severe from the west; from these two points we are very well sheltered. Now, I am pleased to say, we have had an extra good crop in the kitchen-garden, but not one Apple in the orchard. Doubtless this was owing to the trees in the kitchen-garden having borne no fruit the preceding year, and the heads being well thinned-

out, the buds were harder and stronger than in the orchard; but to all outward appearance they flowered at much about the same time, so that it must be put down to the shelter that is afforded the trees. J. F. M., Barnet.

FICUS PARCELLI.

In this country we are accustomed to view Ficus Parcelli as a decorative greenheuse plant having prettily decorative leaves, but in South Africa it is a noble and ornamental tree for the pleasure-grounds, as is shown by the illustration at fig. 6. For the photograph we are obliged to our correspondent, Mr. C. E. Butters, of Prince Alfred's Park, Port Elizabeth, Cape Colony, who states that the tree is a very fine specimen, about

conditions mentioned by Mr. Coleby sirke me as being exactly such as to maintain the power of germination for a very long time—i.e., absence of stimulating moisture or warmtb. I have no doubt that the Fern arose from dormant spores. It is remarkable that only one kind of Fern germinated, though we must assume that other Fern-spores were present in the old Dicksonia stem." It was suggested, however, that the Dicksonia stem might have been previously utilised for growing only the Gymnogramma.

Ash wood with Grubs.—Specimens were received from Mr. G GREGORY, Croydon, with live grubs two years after the tree had been cut down. The wood outwardly showed no signs, but on being sawo asunder both dead and living grubs were frequently found. Mr. SAUNDERS contributed the following observations: "The insects found in the Ash timber are bestles belonging to the family of Longicorns, and to the genus Clytus; but not being an English species, but probably American,"



Fig. 6.—Ficus parcelli, growing at fort elizabeth, south africa.

25 feet high, and that the leaves become beautifully coloured towards autumn. It is sheltered from the worst winds, which are so productive of injury to South African gardens.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

DECEMBER 15 -A D. MICHAEL, Esq , in the Chair.

Violets diseased.—Mr. Worsley showed specimens which Dr. Cooke pronounced to be attacked by Urocystls viole, recently figured in the Journal of the Royal Horticultural Society, "Pests of the Flower Garden," plate i., fig. 19.

Longevity of Fern spores—A communication was received from Mr. H. Coleby, Wargrave, describing an instance of a piece of a stem of a Dicksonia, possibly twenty years old, on which, when broken off and kept moist, seedlings of Gymnog anima aurea began to appear. It was suggested that the spores of the latter had lain dormant for that length of time

Mr. DRUERY contributed the following note: "I have raised Ferns from spores seven to eight years old. The

have not yet been able to obtain the specific name. The grubs of these beetles are sometimes very long-lived, and they remain for years in wood where their presence is quite unsuspected. A specimen of Longicorn beetle has been known to emerge from furniture, the wood of which was felled twenty-eight years previously. It is now supposed that the grubs which take such a long time in undergoing their metamorphoses have been hatched from eggs which were laid in a tree which had just been felled, or was cut down shortly afterwards, so that the grub was soon obliged to feed on very dry wood, from which it obtained but little nourishment."

Albinism in Shirley Poppies—A communication was received from Mr. J Biddood, of which the following is a brief abstract. It will appear in full in the Journal of the Royal Horticultural Society. He would recognise four forms of albinism in flowers—viz., incomplete, complete, partial, and local. After giving illustrations of the first three from Orchids, the last was taken from Popples. The original plant of the Shirley Poppies had a white edging to the petals. It was evident, therefore, that this plant had a teodency towards albinism. The black blotch has disappeared from all Mr. Wilks' stock, heing replaced by white. Other growers have experienced reversion to the black blotch. This is caused by a very strong solution of a dark red pigment

contained in the epidermal cells on each surface of the petal, the usual cause of black being dark red overlying green, as on the leaves of Arum maculatum. The colour in the outer portion of the petals was also in the epidermal cells. On applying micro - chemical tests the behaviour of the colours of the two regions in question was very different. Strong sulphuric acid changed the black blotch to pink, brick-red, and orange; the outer part the same, but passed on to yellow, finally disappearing. Iodine in potassium iodide changed the blotch to port wine colour; the outer part slowly faded. Solution of caustic potash changed the blotch to a deep blue, then faded out; the outer part to greenish yellow, then faded out. Neither of the pigments shows the typical reactions of the cyanic series, and still less of the xanthic.

Supertuberation in Potatos.-The following communication was received from Mr. F. C. Davinson, Wickham Bishops, Essex :- "M. Bernard propounded the theory, in Rev. Gen. de Bot., that tuberisation was due to the irritation set up by a furgus, and he had found that in the Potato there was a relation between the date of infection of the soil and the date of tuberisation. I would suggest a practical application of this theory.' Referring to Dr. B. Dyer's and Mr. Shrivell's paper on "Manuring Market Garden Crops" (Journal of the Royal Horticultural Society, xxvii., p. 995), he observes:—"That whereas such crops as Cabbages may be grown as well with artificial manure as with dung, indeed, it would seem better and far more economically; yet this does not hold true of root crops, especially of Potatos. For instance, in the early varieties the average crop for some years was-from 50 loads of dung, 7 tons 7 cwt.; from 25 loads, 5 tons 14 cwt.; from (no dung) phosphates and 4 cwt. of nitrate of soda, 3 tons 6 cwt.; and from the same, with potash, 4 tons 10 cwt. The gap here, though potash fills it up a little, is most striking. If dung be favourable to bacteria they may infest the soil and promote tuberisation. If this conjecture prove to be a fact, it might have a very great influence on the methods of cultivating root crops." Mr. Worsley thought it important to have the desiccated weight given, as the additional moisture in dung manuring would assist to swell the tubers. Mr. BAKER sa'd that Potato crops showed the greatest weight when planted in ground when manured with dung in a previous season for Cabbage crops.

HULL AND DISTRICT HORTICUL-TURAL ASSOCIATION.

DECEMBER 15 - At the fourth meeting of the winter session, Mr. J. Donoghuc, of Bardon Hill, Headingley, session, Mr. J. Donoghuc, of Bardon Hill, Headingley, Leeds, read a paper on the "History and Culture of the Amaryllis (Hippeastrum)." In the absence of Mr. J. P. Leadhetter, of Tranby Crofi, the chair was occupied by Mr. G. Tattersall. The essayist dwelt primarily on the history of the Amaryllis, and explained its real name and the authorities for it. Much interest was evoked by Mr. Donoghue's reading an extract from a correspondent's letter to the Gardeners' Chronicts of 1841, in which the writer advocated repotting the plants when in full growth. Naturally Mr. Donoghue disagreed with this method, as also did the subsequent speakers. The cultural details given were worthy of the greatest consideration, and if carried out prudeotly and minutely the results would prove highly gratifying. A discussion followed, and it was clearly shown that the essay was appreciated. A hearty vote of thanks was accorded Mr. Donoghue, and a hope expressed that he would at a not distant date favour the members with another visit. We Roules. the members with another visit. If m. Rowles.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

DECEMBER 18. - A fine collection of plants was brought together at this meeting, and, as at the previous one, Cypripediums were in strong force.

previous one, Cypripediums were in strong force.

A. Warburton, Esq., Haslingden, exhibited a fine hybrid, viz., Cypripedium × Archimedes, which received a First-class Certificate. The parentage of this cross was stated to be C. insigne Harefield Hall var. × C. × nitens var. magnifica. In habit it is intermediate, and the parentage fairly well marked.

E. ROOERSON, Esq., Didshury, obtained a Silver Emediate for a group of plants, Cypripedium × bingleyense var. Hilda obtaining an Award of Merit.

WALTER LAVERTON, Esq., Victoria Park, Manchester, was awarded a Brouze Medal for a group of miscellaneous plants, and an Award of Merit for Cypripedium.

laneous plants, and an Award of Merit for Cypripedium

X Evelyn Ames.
G. W. Law-Schoffeld, Esq., Rawtenstall, exhibited
Cypripedium x Rossendalense, the parents of which
are unknown. It was given an Award of Merit.
Messrs. Charlesworth & Co., nurserymen, Brad-

ford, staged a very fice group of plants to which a

Silver-gilt Medal was awarded. Cypripedium × Thalia was voted an Award of Merit. The parents of this variety are C. insigne var. Chantini × C. × Baron Schroder. A plant of Odontoglossum crispum var. xanthotes was noted in the same group, and obtained much admiration. much admiration.

R. Le DOUX, Esq., West Derby, exhibited a peculiar and distinct form of Odontoglossum crispum, called Marefieldense, its peculiarity consisting of the possession of what are apparently three lips; this is a constant feature of the plant, and adds some distinctness to an otherwise ordinary form (Award of Merit).

Mr. W. OWEN, Hartford, exhibited a collection of varieties of Cypripedium insigne (Vote of Thanks).

Messrs. A. J. KEELING & SONS, Bingley, Yorkshire, obtained an Award of Merit for Cypripedium Leeanum Keeling's var. (Vote of Thanks for group).

Mr. J. Robson, Altrincham, exhibited a few good

Cypripedes.

JOHN COWAN & Co., Ltd., Gateacre, exhibited a fine plant of Cypripedium insigne var. MacNabiana, for which an Award of Merit was voted.

W. E. BUDGETT, Esq., Bristol, was awarded a Silver Medal for a group of Cypripediums, and C. insigne var. gigantea and C. x Mrs. Cary Batten received Awards

Mr. D. McLeon, Chorlton, exhibited a few good plants of hybrid Cypripediums, for which he was awarded a Vote of Thanks. P. W.

LEE, BLACKHEATH, LEWISHAM, & WEST KENT HORTICULTURAL.

DECEMBER 18. - The General Committee of this Society met on the above date, when it was arranged to hold the show for 1904 on July 6 and 7. After the usual busicess, Mr. J. Pearce, of Belmont Hill, Lewisnsual business, Mr. J. Pearce, of Belmont Hill, Lewisham, gave an interesting lecture on "Horticultural Exhibitions." The lecturer said that all Horticultural Societies did a good work amongst professional and amateur and cottage gardeners, but in these days of manifold attractions, the shows laboured under the disadvantage of the public being drawn away from their local shows, and he said that it was a well-known fact that very few Societies, such as Blackheath, which is one of the oldest in this peichburghood are supis one of the oldest in this neighbourhood, are supported as they should be, considering the good that they do in their several districts. II. J. H.

READING AND DISTRICT ROSE.

DECEMBER 18 .- The first annual meeting of this Society was held in the Mayor's Parlour, Town Hall, Reading, on the above date. The President of the Society, Mrs. Benyon, Englefield House, occupying the chair, and a goodly number of resarians were present. Mr. W. L. Walker, the hon, tecretary and treasurer, presented a satisfactory report and financial statement, the latter showing a balance in hand of £11. Mrs. Benyon was unanimously elected President, and the committee appointed is a strong one, as it contains the committee appointed is a strong one, as it contains the names of such well known rosarians as Mr. J. T. Strange, Aldermaston; the Revs. F. Page Roberts, Allan Cheales, and C. S. Turner; with Messrs. R. C. Mount, Rigg, Dunlop, Ashby, &c. It was agreed to hold a show in 1901, July 13 being the date named, to take place in that part of the Abbey ruins in which the Southern Section of the National Rose Society held such a successful arbithiting in 1804.

NATIONAL AURICULA AND PRIMULA.

DECEMBER 19.-The supporters of this Society held their general meeting at the Horticultural Club Hotel, Windsor, on the above date, when Mr. J. Douglas presided over a good attendance.

Mr. T. E. Henwood, the Hon. Secretary and Treasurer, presented the Annual Report, which set forth the fact that the Society is in a satisfactory position, the fact that the Society is in a satisfactory position, there being an appreciable gain of new members during 1993, bringing the total up to 91. The show held in April, 1993, was one of the most extensive as well as the best held for many years, and nearly the whole of the prizes offered in the schedule and in the majority of cases to exhibits of excellent quality were taken, and especially was this true of the show Auriculas—they were both numerous and particularly good. The Alpines were also of fine quality and Auriculas—they were both numerous and particularly good. The Alpines were also of fine quality and striking in appearance. The other forms of Primula were somewhat sparingly shown, though there are a number of beautiful types well worthy of cultivation. The coloured Primroses and Polyanthus were not so numerous as usual, the weather having injuriously affected them.

Some interesting additions are made to the schedule of prizes. Mr. William Smith, Bishops Stortford, an enthusiastic cultivator of the show Auricula, by way of bringing into the Society exhibition recruits, offers five prizes in each of two classes, and the competition is open only to those who have never won a prize at an exhibition of the Society. These classes are for a pair

of show Auriculas, and for a single specimen. Douglas offers four Medals of the Royal Horticultural Society, viz., a large Silver Medal for the exhibitor who Society, viz., a large Silver Medal for the exhibitor who gains the greatest number of points in the larger classes, and a medal of the same value for the highest number of points in the smaller classes; also a Silver and a Bronze Medal for seedlings raised from the seed of Alpine varieties Mr. Douglas so generously gives to members of the Society, provided that the seedlings are considered worthy of awards. A member who does not wish his name mentioned offers four prizes for single specimen plants of fancy Polyanthus, and the same for a specimen single Primrose. The class in the schedule for six grey-edged show Auriculas is withdrawn. The report alludes to the death of Mr. William Beale, a young and very successful exhibitor, whose loss is deplored. Mr. J. Douglas continues his liberal offer of a packet of seed of the best exhibition varieties of the alpine Auricula, if those members who apply for it will sow the seed and cultivate the plants. The thanks of the Society are given to Mr. Douglas for his generous support, to Miss Willmott and Mr. W. Smith for special prizes, to the Horticultural Club, the Council of the Royal Horticultural Society, and other supporters.

prizes, to the Horticultural Club, the Council of the Royal Horticultural Society, and other supporters. The financial position is satisfactory.

Sir Jehn T. D. Llewelyn, Bart., was re elected President, and the eight vice-presidents were also reelected; also the committee, with Mr. James Douglas as chairman. One change only was made—the substitution of the name of Mr. C. Blick for that of Mr. H. J. Heading, who retires. Mr. T. E. Henwood was relected by the secretary and treasurer.

elected hon, secretary and treasurer.

NATIONAL CARNATION AND PICOTEE.

(SOUTHERN SECTION.

DECEMBER 19.-The annual general meeting of the members of this Society took place at the Horticultural Club on the above date, this being the twenty-seventh annual meeting. There was a large attendance of members, Mr. E. Colby Sharpin presiding.

members, Mr. E. Colby Sharpin presiding.

The Annual Report, read by the Secretary, Mr. T. E. Henwood, showed that up to the present time the progress of the Society was very gratifying. There had been a slight falling off in the number of members during 1903, the number on the hooks at the present time being 317. The general depression throughout the country had, no doubt, something to do with this. It was with unfeigned regret the Committee had to announce that the President, Mr. Martin R. Smith, can no longer continue to distribute seeds of Carnations, owing to the large increase of

Mr. Martin R. Smith, can no longer continue to distribute seeds of Carnations, owing to the large increase of members; the labour involved in doing so is too heavy. The exhibition in 1903 was held at the Drill Hall, Buckingham Gate, by permission of the Royal Horticultural Society, and was generally admitted to be a very good one indeed; the exhibits were numerous, and the quality of the flowers excellent. The Cup given by the President in the first division was won by Mr. F. A. Wellesley, but the donor of the Curran bim given by the President in the first division was won by Mr. F. A. Wellesley, but the donor of the Cup ran him very close for the coveted honour of possessing it. Great credit is due to Mr. Wellesley, especially as this is the first time Mr. M. R. Smtth has failed to secure the Cup. In the second division the winner of the Cup was Mr. W. Spencer, with a wide margin of points in his favour; Mr. Spencer is all the more deserving of congratulation as this was his first essay as an exhibitor in Division III. The winner of the President's Cup in Division III. The winner of the President's Cup in Division III. Was Mr. R. C. Cartwright; and that of the Cup in Division IV., Mr. E. J. Wootten.

The financial statement submitted by the Treasurer

The financial statement submitted by the Treasurer was of a satisfactory nature, there being a balance in hand of £116 88 10d. The outgoing officers and Committee were re-slected, Mr. T. E. Henwood continuing as Secretary and Treasurer. The schedule of prizes remains as last year, with the addition of two new classes in Division IV., for single blooms, one for fancies, and one for Y.G. Picotees. It was also decided to conflue the competition in Division IV. to amateurs only. The financial statement submitted by the Treasurer only.

READING & DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSO-CIATION.

AT the last fortnightly meeting of the above Association, Mr. F. BRIGRT, gr., Whiteknights, Reading, dealt in a practical manner with the cultivation of the Fuchsia. Mr. Bright is well known as a competent cultivator of this plant, and these, standing from 8 to 10 feet high, prove a leading feature at the Reading horticultural shows. A discussion followed the reading of the paper. The varieties recommended for growing into specimens were.—Dark colours, Charming, Elegans, Brilliant, Masterpiece, Clipper, Wlitshlre Giant; light colours—Western Beauty, Miss Balfour, White Queen, Jubilee Queen, Mrs. Bright, Grand Duchess. The only exhibit was a collection of variegated Kales, from Mr. J. Gibson, gr., Danesfield, Mariow.

Obituary.

JOHN MACFARLANE.—The sudden death of this highly-respected gardener occurred on the night of December 17, in his seventy-seventh year. He was born at Crail, Fifeshire, and for the last thirty-one years acted as gardener to Mrs. Curling, Breoklands, near Welshpool. He was interred in Guilsfield churchyard, December 22, leaving two daughters and one son to mourn his loss. J. L., Powis Castle Gardens.

JOSEPH FITT.-The death occurred, on December 21, after a long and painful illness, of Mr. Joseph H. Fitt. He was for the long term of fifty-three years head gardener at The Frythe House, near Welwyn, owned by C. W. Wilshere, Esq., by whom and his family Mr. Fitt was held in high esteem. He was a good all-round gardener, and noted for his knowledge of trees, shrubs, and hardy plants, including Ferns; evidence of this is conspicuous at The Frythe. Mrs. Fitt survives him, as also a large family, all the members of which are grown up, including three sons who are head gardeners. Joseph, during his father's illness, has been managing the work at The Frythe; while Arthur and Robert fill good situations in Sussex.

The late Mr. Fitt for many years was a member of the Floral Committee of the Royal Horticultural Society. As a judge at flower-shows his services were also often in request. In this way he rendered services to the Royal Horticultural Society and at many local shows. Mr. Fitt was a good example to many gardeners for his support to two institutions, from which less fortunate members of his fraternity benefit. For many years he was a subscriber to the Gardeners' Royal Benevolent Institution and to the Orphan Fund.

ENQUIRIES.

MOTOR LAWN-MOWER. - Would Mr. Lamb kindly say whether the mower he has found so satisfactory has been worked by a trained mechanic, or by a gardener, and whether he thinks any practical man would soon learn how to use it, if taught at first? E. S. R.

Passiflora W. H. Mort.-A correspondent, "W. M.," would be glad if some reader of this note would kindly inform him whence he could procure the plant named above.

TRADE NOTICES.

JOHN ATRINS & Co.—The above-named company has been registered with a capital of £16,000, in £1 shares, for the purpose of acquiring as a going concern and carrying on the business as a going concern and carrying on the business of seed merchants and agricultural implements now carried on by John Atkins & Co. and Joseph Wolfe, in the city and counties of Cork and Kerry, under the style of John Atkins & Co. The first directors are John Atkins, merchant, Dumanway, Co. Cork, and Joseph Wolfe, Douglas Road, Cork. Registered office: 6, Camden Quay, Cork. The signatories to the articles are:—

7 14hina 1 G 1	Shares.
J. Atkins, merchant, Cork	1
J. Wolfe, merchant, Cork	1
Elizabeth Wolfe, married woman, Cork	1
W. Wolfe, merchant, Ichull	1
R. Wolfe, merchant, Ballydehob	1
J. B. Atkins, merchant, Dumanway	1
W. H. Atkins, merchant, Cork	I

MILL HILL VINEYARD, LIMITED.—This company has been registered with a capital of £5,000, in twenty-five preference shares of £100 each and 250 shares of £10 each. The object is to adopt an agreement with P. E. Kay, and carry on the business of fruit and flower growers, nurserymen, rearlest cardeners, seedement surveyers, valuers market gardeners, seedsmen, surveyors, valuers of property, farmers, fruit and vegetable preservers, &c. No initial public issue. The first directors (to number not less than three nor more than seven) are P. E. Kay (managing

director), R. James, and A. J. Monro. Remuneration as fixed by the company. Regioffice: Claigmar, Church End, Finchley, N

We are informed by Messrs. Hugh Low & Co., of the Royal Nurseries, Bush Hill Park, Enfield, that Mr. Cornelius Barnard, who has been with them for a great many years, and recently employed as wholesale traveller, is leaving their service at this season.

NEW INVENTIONS.

A WHITE-WASHING MACHINE.

In the Gardeners' Chronicle for Sept. 6, 1902, p. 183, we illustrated a machine for applying white-wash to walls, &c., manufactured by Messrs. Wallach Bros., 57, Gracechurch Street, London. The same firm has recently invented another machine (see fig. 7) for the same and other purposes. Like that already illustrated, this one is constructed on the compressed - air principle. Messrs. Wallach describe it as being composed of heavy galvauised iron, and the pumping apparatus is made of solid brass, which will not corrode from the use of any liquids. It also has an agitator, which keeps the liquid in motion while working the machine. It is said that one man can pump and spray with this machine at



FIG. 7.—A NEW WHITE-WASHING AND SPRAYING MACHINE.

the same time, and 100 to 125 lb. pressure can be easily carried. It can be used for whitewashing, painting, spraying of fruit-trees, and many other disinfecting works. The capacity of the tank is equal to 7 gallons of liquid, and the capacity of the machine is equal to the work of five men with brushes in the same time.

MARKETS.

COVENT GARDEN, December 31.

COVENT GARDEN, December 31.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. En.]

PLANTS IN POTS &C . AVEDAGE WHOLESALE PRICES

LEMITO IN LOTO, COLL MI	ENNOE WHOLESALE I NICES.
s.d. s.d.	s.d. s.d.
Adiantums, doz. 4 0-8 0	Ficus elastica, per
Aralias, per doz. 40-80	dozen 9024 n
Arbor Vitæ, doz. 9 0-18 0	Genistas, per doz. 10 0-12 0
Aspidistras, doz. 18 0-36 0	Hyacintas,Roman
Aucubas, per doz. $4 \oplus 8 \oplus$	(48-pots), dcz. 8 0-9 0
Azaleas, each 26-50	_ Dutch. p. doz. 12 0-15 0
Begonia, per doz. 8 0-18 0	Lycopodiums, per
— Gloire de Lur-	_dozen 30-40
raine, per doz. 8 0-24 0	Marguerites, per
Callas, per dozen 12 0-18 0	dozen 6 0-12 (
Chrysanthemum,	Orange-trees, each 3 6-10 6
per dozen 4 0-12 0	Palms, var., each 3 0-20 0
Coleuses, per doz. 4 0- 5 0	Poinsettlas, doz. 8 0-12 0
Crocus, per box 10 —	Primulas, per doz. 2 0-4 0
Crotons, per doz. 12 0-24 0	Pteris tremula,
Cyclamens, doz. 9 0-12 0	dozen 4 0- 8 0
Cyperus, per doz. 30-40	- Wimsetti, per
Daffodils, per doz. 8 0- 9 0	dozen 4 0-8 0
Dracænas, variety,	major, dozen 4 0- 6 0
_dozen 12 0-48 0	Solanums, dozen 4 0- 6 0
Ericas, per dozen 8 0-12 0	Tulips, red, doz.
Euonymus, vars.,	roots 10 -
per duzen 4 0- 6 0	— yellow, dozen
Fernsin var., doz. 4 (-30 0	roots 16 -

CUT FLOWERS, &c.: AVE	RAGE WHOLESALE PRICES.
8.d. 8 d.	s.ds.d.
Azaleas, per doz. 4 0-6 0	Orchids: Odonto-
Bouvardias, per	glossums, per
bunch 0 4-0 6	dozen blooms 2 6-4 0
Callas, per dozen. 5 0- 6 0	- Cypripedium
Camellias, box 20-30	insigne, per
Carnations, buch. 0 6-3 0	dozen 20-30
Chrysanthemums,	Pelargoniums,
doz. bunches 90-180	zonal, dozen
- specimen	bunches 6 0-8 0
blooms, doz. 16-30	- white, dozen
Daffodils, bunch 10-13	bunches 40 -
Eucharis, per doz. 30-40	- double scarlet,
Ferns, Asparagus,	doz hunches 12 0-15 0
per bunch 10-26	Poinsettlas, per
- French, per	bunch 0 10-1 0
doz. bunches 03 04	Roman Hyacinths,
- Maldenhair,	per bunch 0 9-10
doz. bunches 4 0 6 0	Roses, Mermet,
Freesia, per dnz. 2 0- 2 6 Gardenias, box 1 0- 5 0	per bunch 3 0- 6 0 - white, bunch 1 6- 2 6
Lilac (French),	- French, per
per bunch 3 6- 4 0	
	Smilax, per doz.
florum, per	trails 10-16
bunch 10 60	Tuberoses, strong,
Lily of the Valley,	per bunch 1 0- 1 6
p. doz. bunches 10 0-12 0	- per dozen 0 6- 0 9
Marguerites, yel-	Tulips, Red, per
Marguerites, yel- low, doz bunch. 1 0 2 0	bunch 06 -
Mimosa, bunch 1 0- 1 6	- various, per
Narcissus, dozen	bunch 0 6- 1 6
bunches 3 6- 5 0	Violets, doz. bun. 10-16
— Solcil d'Or, p.	- Parma, per
dozen 5 0- 6 0	buuch 3 0- 4 0

VEGETABLES: AVERAGE WHOLESALE PRICES.

s.d. s.d.		s.d. s.d.
	Mushrooms(house	
36	per lb	0.6-0.9
		50-56
1.3-1.6		40-16
	- nicklers, per	
0.10	sieve	3 0- 5 0
		5 0- 5 6
		1 6- 2 0
2 11 1 3		10 -
1 6 -		20-26
1 0- 2 0		0 0-130 11
10 10		10 0 11 0
	Der Cwb	12 0-14 0
20-36		0 0 1 4
		0 9-1 0
20-40		1 0- 1 3
		0 6-1 0
8 0-12 0		
0.8-1.0	punnets	21 0-24 0
8 0 - 10 0	Shallots, lb	$0.1\frac{1}{2}$ -0.2
16 -	Spinach, p. bush.	3 3- 3 6
03 -		
		20-36
1 0-1 6		
		1.6 - 2.0
10-16		1 6- 2 6
	Watercress, per	
10 -		0.6-0.8
- '	dozon banenes	
	3 6 — 1 3- 1 6 0 10 — 4 6- 5 6 1 6 1 9 1 6- 2 0 1 3- 1 9 2 0- 3 6 2 0- 2 6 2 0- 4 0 0 8- 1 0 8 8 0-12 0 0 8- 1 0 8 8 0-10 0 1 6 — 0 3 —	3 6 Mushrooms(house per lb Omions, per case Omions, per doz bunches Omions, per doz Omions, canary Deeps Omions, per doz. Omions, per case. O

FRUIT: AVERAGE V	VHOLESALE PRICES.	
s.d. s.d.		s.d. s.c
Apples, home-	Grapes, Muscats,	
grown, cookers,	B., per lb	2 0- 2
per bushel 3 0- 5 0	Canon Hall,	
barrel 12 0 22 0	A, per lb.	3 0- 5
- American, in	- B., per 1b.	1 6- 2
cases 6 0 12 0	- Gros Colmar,	
Bananas, bunch. 8 0-12 0	A., per lb	1 6- 2
- loose, dozen 1 0- 1 6	B, per lb	0 10-1
Chestnuts, bag 17 0 -	Lemons, per case	12 0 —
Cobnuts, per lb. 0 62-0 7	Oranges, per case	4 0-14
Cranberries, per	Pears, per case	9 0-10
case 10 6 -	- stewing 1	00 -
Grapes, Alicante,	Pines, each	2 0- 4 (
per lb 1 0- 1 6	Walnuts, Gre-	
- in barrel 12 0-18 0	noble, bag	5 0 -
- Muscats, A., 1b, 4 0- 6 0		

REMARKS.—Cape Iruits, Apricots and Peaches expected on Monday next. The Pines now on sale srevery fine. Custard Apples, 3s. to 8s. per dozen; Grapo Fruits, 8s. to 10s. per case; Stachys, 4d. per 1b; Cardoons, 1s. 3d each; home-grown Wellington Apples, 12s. to 13s. per bushel; Cherry Plums, from Argettine, 4s. to 8s. per 10\frac{3}{2} lb net case; Florida Oranges, 9s. to 12s. per case; Mandarln, Jamaica, 7s per case of 64 (fine).

POTATOS.

Hoine-grown, 80s. to 110s. per ton; foreign, 75s. to 110s. do.; Dunbars, 120s. do. John Bath, 32 & 34, Wellington Street, Covent Garden.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending December 26, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the in the quotations. The Official Weekly Return:-

De	Description.		19	ms.	1903,		Difference.			
Wheat Barley Oats			•••	8. 21 24 16	10 1	\$ 26 22 15	d. 5	+ -	8. 1 1 1	d. 7 8 2.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Herticultural Society's Gardens at Chiswick, London, for the period Dec. 20 to Dec. 26, 1903. Height ahove sea-level 24 feet.

1903.	WIND.		MPE F TH				TUR	MPE: EOF Lat9	URE ON	
EB 26.	Į.	At9	A. M.	DAY.	Night.	RAINFALL.	t deep.	t deep.	deep.	TEMPERATURE GRASS.
DECEMBER TO DECEMBER	DIRECTION	Dry Bulb.	Wet Bulb,	Hlghest.	Lowest.	P	At 1-foot deep.	At 2-feet deep.	At 4-feet deep	LOWEST
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Remarks.-The weather has again been dull and very dark

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather threughout the British Islands, for the week ending Dec. 26, is furnished from the Meteorological Office:—

"The weather during this week was extremely dull in all hut the western districts. Very little rain was experienced, however, except in the most western and north-western districts, and even there the amount was small except locally at some Irish and Scotch stations.

"The temperature was a little above the meau except in Ireland, S., where that value was only just equalled. The highest of the maxima were recorded either on the The highest of the maxima were recorded either on the 21st or 22od, when the thermometer rese to 57° in Scotland, N. 56° in England, N.W., and Ireland, S., and to 50° or above in all other diatricts except England, E. The lewest of the minima, which were generally registered on Friday or Saturday, ranged from 18° in Scotland, E., 22° in Scotland, N., and 23° in Ireland, S., to 34° in England, E., and 36° in the Channel Island. "The rainfall was less than the mean in all districts. Over the greater part of England the fall was very

Over the greater part of England the fall was very slight.

slight.

"The bright sunshine was just equal to the normal amount in Ireland and the western districts of Eagland, but ever Great Britain as a whole there was scarcely any. England, E., and the Midland Counties were entirely without bright sunshine; England, N. E., had less than 1 per cent. of the pessible amount, while in England, S., there was just 1 per cent. In Ireland, S., there was 20 per cent., in Ireland, N., and England, S.W., 17 and 16 per cent, respectively, and in Scotland, N., 13 per cent., the last quoted value being 3 per cent. N., 13 per cent., the last quoted value being 3 per cent. above the normal."

THE WEATHER IN WEST HERTS.

Another absolutely sunless week .- During the past fortnight the day temperatures have been nearly all below the average, while the nights, on the other hand, were, with but two exceptions, unseasonably warm, the exposed thermometer on no night registering more than of 5° frest. At 2 feet deep the ground is still of about seasonable warmth, but at 1 feet deep is 2° colder than the average. Light falls of rain, hail or sleet occurred on all but two days of the week, but the amounts deposited proved insignificant. Small quantities of rain-water still continue to come through the hare soil percolation gauge, but no measurable quantity has now come through the gauge on which short grass is growlng for more than a week. Throughout the last fourteen days no sunshine at all has been recorded. This is the longest period of sunless weather experlenced during the eighteen years over which my records at Berkhamsted extend. Light easterly airs and calms have again prevailed. This proved another very damp week, the amount of moisture in the air at three e'cleck in the afternoon being on an average 5 per cent, in excess of the mean for the end of December. E. M., Berkhamsted, December 29, 1903.

ANSWERS TO CORRESPONDENTS.

Address: W. Brooks. Geo. Frederick Strawson, T. A. "Strawsoniser," 71A, Queen Victoria 71A, Queen Victoria Street, E.C.

ASPARAGUS: J. L. W. You should find little difficulty in successfully raising seedling plants of Asparagus, providing you are in a position to afford the soil which is suitable and a site that slopes very gently to the south, which site that slopes very gently to the south, which is exposed to full sunshine, but is protected from the prevailing winds. The soil should be sandy and well drained, the very worst being that of a stiff, retentive nature and resting on a wet or clayey subsoil. The seeds must be fresh, and should be sown as early in spring as fresh, and should be sown as early in spring as the state of the ground will permit, say the middle of March, in drills not more than 2 inches deep and 12 inches apart from each other. Sow the seeds thinly, it being difficult to thin out the young plants and obtain the same amount of growth in the first season if they come up too thickly. Unless the ground is fairly free from the seeds of weeds, there will be trouble with these before the Asparagus be trouble with these before the Asparagus seeds have germinated, but if the lines are kept and the weeds removed as soon as they are well through, it will be possible to give the Asparagus plants opportunities for growing quickly. If the soil of the seed-bed is not moderately rich, a little chemical manure containing kainit and sulphate of ammonia may be put in the drills after the seeds are sown, or if growth be slow during the first summer a slight dressing of nitrate of soda will be useful. the March following the plants will be in ondition for removal to a permanent planta-tion. The site should be similar to that described above, and the soil a rich sandy or friable leam. If there is not perfect natural drainage, artificial drainage becomes impera-tive. In cold districts, or in cases where the soil is heavy, it is usual to plant in beds raised above the level and beging allows between above the level and having alleys between them. In more favourable circumstances this is not necessary, and the year-old plants may be put into rows 3 feet apart, and each root 18 inches from the other. The best Asparagus 18 inches from the other. The best Asparagus is afforded only by plants that have ample space for the development of their roots. Some of the best growers who have stiff soil to contend with place each plant upon a separate hillock, and prefer this method to that of beds with intervening alleys. Future work will consist in keeping the ground clear of weeds, affording a little support to the growths until they are not down in anything a description. they are cut down in autumn, and supplying suitable manures, which will vary in character and quantity according to local conditions. On all soils that are not heavy, or unusually wet or cold, a mulching with rich dung in mid-winter will do good. Good varieties are Connover's Colossal and the Argenteuil Early and Late Giants. For further information you might consult 'The Book of Asparagus, by Charles Ilott, published by John Lane.

Books: Cape Reader. You should obtain How to Lay-Out a Garden, by Kemp; new edition, published by Bradbury, Agnew & Co., Ltd., Bouverie Street, Fleet Street, E.C.—A. D. B. The Complete Measurer, by Richard Horton; published by Lockwood & Co., 7, Stationers' Hall Court. If out of print, try the second-hand book-shops, or at the Bazaar Office, Drury Lane.—T. We think that Wall and Water Gardens, by Gertrude Jekyll, will most likely suit your requirements. It is published by George Newnes, Ltd., Southampton Street, Covent Garden. Covent Garden.

CHRYSANTHEMUMS: Constant Reader. Try Messrs. Boehmer, Nos. 5 and 28, Bluff, Yokohama, a firm long established in Japan.

COAL-TAR AS A DRESSING FOR VINES WHEN Leafless: J. V. Take 2 quarts of dried clay and $\frac{1}{2}$ pint of coal-tar; put them into a vessel, after reducing the clay to powder, and mix them together intimately, finally add as much hot water as will make 2 gallons, and stir well together; if too thin, add more clay.

EARLY GRAPES: J. H. P. Besides those mentioned in your note, you may include Duke of Buccleuch, Royal Muscadine, and Madresfield Court.

GARDEN WALLS OF BRICK-WORK, AND OF CEMENT AND BREEZE: A. P. If cheapness of construction be the first consideration choose the cement and breeze wall, but it will have to be furnished with perpendicular wires to which to fasten the fruit-trees; and when everything must be secured by ties more labour has to be expended on the trees in so doing, perhaps to the extent of one-quarter more in point of time. As a set-off to this, ties do not harbour insects as do shreds, the surface of the wall does not suffer, and the whole has a neater appearance. A wall built of red porous bricks is more retentive of sun-heat, hastens flowering and ripening; and because it is retentive of heat, is a better protection against spring frosts than is a wall built of cement and breeze, hesides having a more pleasant colour. It may be wired or not. If built on a good broad footing, and afforded 14-inch pilasters 30 feet apart, and a good stone or fire-brick coping, the courses pointed at intervals of twenty years, such a wall will stand for two or three centuries. Cement walls, on the contrary, are apt to warp, settle, or crack, and give a lot of bother as time goes on.

GRAPES A NON-SUCCESS: J. Brown, Malton. fault seems to us to be due to the bad condition of the soil of the border, which is a matter yen should give attention to forthwith. riety being Gros Colmar, the Vines should be afforded heat from early in March to early in June, and then for about six weeks in September and October, that is till the fruit is quite ripe. In a wet year like the present the border, if partly outside, should be shielded from the late rains by means of sheet-iron or wood shutters.

LAWN-MOWER DRIVEN BY ELECTRICITY: C.D. H. The maker of the machine figured in the Gardeners' Chronicle of March 28, 1896, is Mr. W. J. Stephenson-Peach, M.I.M.E., of Askew Hill, Burton-on-Trent.

LILY OF THE VALLEY: C. N. A. We cannot say definitely what is the cause of the crowns failing to flower satisfactorily. Being "re-tarded" crowns they may have been subjected to too great a degree of cold, or they may not have matured perfectly before subjection to the retarding process. The water-pipes were the retarding process. The water-pipes were painted with lamp-black and oil a considerable painted with lamp-back and off a considerable time since, and we should think there have been no fumes from these to injure plants in December. It is very important that in the forcing of retarded crowns very little fire-heat be employed; and if your temperature had been 5° lower, it would have been better. The season being now somewhat advanced, you will soon be able to obtain hetter results from crowns lifted from the open than from those which have been retarded.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number. — C. S. B. Cattleya labiata, value five to ten shillings, according to size. The Pelargonium is a very good one, but not better than others.

PECULIAR SPIDER: E. Bland. A species of Epëira, infected with a peculiar grey scurf-like disease, which has completely covered its body.

Skeletonising Leaves: C. C. Immerse them in water till the thin parts decay; then remove these carefully with a soft brush, and dry under pressure.

SWEET-SCENTED TREE-CARNATIONS: names will very probably be afforded in the promised article on "Winter-flowering Carna-tions at Sandringham."

VINES PLANTED IN A VINERY IN FEBRUARY LAST: E. Stone. Cut them back to the top of the front (upright) lights. It would not be prudent to take even one bunch this year, should the Vine throw any, which is improbable.

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VEITCH, H. J., F.L.S.
WEATHERS, P., Manchester.
WHITE, R. B., Arddarroch.
WHITE, W. H., gr., Sir T. Lawrence.
YOUNG, W. H., Clare Lawn Gardene,
E. Sheen.

PRACTICAL GARDENING:—
BAIN, W., Burford, Lodge, Gardene.

E. Sheen.

PRACTICAL GARDENING:—
BAIN, W., Burford Lodge Gardens,
BARR, Peter.

BROTHERSTON, R. P., Tynninghame
Gardens, Prestonkirk
BUNYARD, T
CLAYTON, H. J., Grimston Park
COOK, W. A., Shirley House Gardens,
Croydon.

COOK, T. H., gr. to H. M. the King at
Sandringham.

PRACTICAL GARDENING:—

COOMBER,T.,The Hendre, Monmouth.
CULVERWELL, W., gr., late of
Thorpe Perrow.

DAVIDSON, R., gr., Culford Hall.
DAY, Galloway House, Garliestown.
DEAN, A., Kingston.
DIVERS, W. H., Belvoir Castle Gdns.
DOUGLAS, J., Great Bookham.
FIELDER. C. R., North Mynums
Park Gardens.
FLEMING, J., Wexham Park, Slough.
HACKET, W., Kew.
HARROW, R. L., Edinburgh Botanic
Gardens.
HERRIN, C., East Finchley.
HUDSON, J., Gunnersbury House,
Acton.
HUCHES, I., Wantworth, Weath and HERRIN, C., East Finchley.
HUDSON, J., Gunnersbury House,
Acton.
HUGHES, J., Wentworth Woodhouse
Gardens, Rotherham.
IRVING, W., Kew.
JONES, C. II., Oue Hall Gardens,
Burgess Hill.
KIRK, A., Norwood Gardens, Allos.
LEACH, W. C., Albury Park Gardens.
MACHATTIE, J. W., Edinburgh.
MACKINLAY, Geo., Wrest Park Gardens, Ampthill.
MALLETT, G. B., Colchester.
MARTIN, H. T., Stoneleigh Abbey
Gardens, Kenilworth.
McLEOD, J. F., Dover House Gardens, Rochampton.
MAYNE, J., Bicton Gdos., Devonshire.
MELVILLE, D., Dunrobin Gardens.
MILES, G. T., late of Wycombe Abbey
Grdns
MOLYNEUX, E.
MOORE, F. W., Royal Botanic Garden,
Glasnevin.
ODELL, J. W., Stanmore.
PENTLAND, J., Ashwicke Gdns., Glos.
PETTIGREW, A., the late, Cardiff
Castle Grdns.
POWELL, D. C., Powderham Castle.
PRINSEP, H. C., Uckfield.
RAFFILL, C. P., Kew.
RICHARDSON, A. D., Edinburgh.
ROBER RS, D., gr., Prestwold Hall.
SIMPSON, C., Newby Gardens, Yorks.
SIMPSON, C., Park Place Gardens,
Henley.
TALLACK, J. C., gr., Shipley Hall.
THOMAS, O., late of Royal Gardens.
Frogmore.
TOWNSEND, W. J., Wokingham.
TURTON, T., gr., Shierborne Castle.

THOMAS, O., late of Royal Gardens. Frogmore.
TOWNSEND, W. J., Wokingham.
TURTON, T., gr., Sherborne Castle.
WADDS, A. B., Paddockhurst Grdns.,
Sussex.
WADDS, B., Birdsall, Yorks.
WALDIS, J., Woore, Staffs.
WARD, A., Godinton Grdns., Ashford.
WARD, H. W., Rayleigh, Essex.
WATSON, W., Chrator, Royal Grdns.,
Kew.

WATSON, W., Cinaco, Kew.
Kew.
WEBSTER, C., Gordon Castle Gardens.
WHITTON, J., Glasgow.
WHYTOCK, J., gr., Dalkeith.
WYTHES, G., Sion House Gardens.
And many others.

ROSES:—
CANT, B., Colchester.
CANT, F., Colchester.
D'OMBRAIN, Rev. H. H., Westwell.

CANT, F., Colchester.

D'OMBRAIN, Rev. H. H., Westweb.
Kent.

HOLE, R., Very Rev. Dean, Rochester.

MAWLEY. E., Berkhamsted.

MOUNT, G., Canterbury.

ORPEN, G., Colchester.

PAGE ROBERTS, Rev., StrathfieldPAUL, G., Cheshunt.
PAUL, W., Waltham Cross
PEMBERTON, Rev. J. H., Romford.

SOUPERT & NOTTING, Luxemburg.

SPEAR, C. E.

VIVIAND MOREL Lyons.

WILLIAMSON, Rev. D., Kirkmaiden

VEGETABLE PHYSIOLOGY, &c.:—

BATESON, W., Cambridge.

BONAVIA, Dr. E., Worthing.

BOULGER, Prof. G. F.

DE VRIES, Prof. Hugo, Amsterdam.

FOSTER, Sir Michael, Cambridge.

GREEN, Prof. Reynolds, F.R.S.

HENSLOW, Rev. Prof.

PERCIVAL, Prof.

SCOTT, Dr., Kew.

SOLMS, Count, Strasburg.

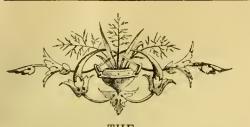
TRUFFAUT, G., Versailles.

WALLACE, Alrred, Dr.

WEISS, Dr., Manchester.

"WORSDELL, W. C.

ZACHARIAS, Professor, Hamburgh.



ardeners' Chronicle

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NOVELTIES OF 1903. ORCHIDS.

THE hybridist still maintains the supremacy, and the novelties to be recorded are mainly of home production. Spotted forms of Odontoglossum crispum have advanced in favour, and fine forms of Cypripedium insigne and of hybrid Cypripediums, and other hybrid Orchids, have formed the bulk of the most favoured Orchids shown at the Royal Horticultural Society's meetings, and of which the certificated plants may be taken to indicate the pest plants of the year. Some few stand out prominently in each section, and in that most important class, the blotched forms of Odontoglossum crispum Cooksoniæ of Norman C. Cookson, Esq., stands decidedly first, a position it will in all probability retain for a ong time. Next comes the O. crispum Persimmon of H. T. Pitt, Esq., a very pleasing flower, which caused quite a stir among Orchidists when it appeared.

The most remarkable new species of Orchid of the past year is the Angræcum Rothschildianum, from Lake Victoria, of the Hon. Walter Rothschild; and beyond that very few new and pretty species of Orchids have been reported.

Sir H. Schroder, Bart. (gr., Mr. Ballantine), whose wonderful collection of Orchids at The Dell, Egham, contains many beautiful plants, and especially Odontoglossums, unapproached by the novelties, has during the year shown many remarkable specimens, the best of those selected for awards being Odontoglossum × Vuylstekei vivicans, a grandly-coloured hybrid, shown at the last meeting of the year; and O. crispum Truffautianum, Lælio-Cattleya × Bletchleyensis Ruby King, Cattleya × Gautheriana, and other good novelties appeared at The Dell.

Sir Trevor Lawrence, Bart., Burford (gr., Mr. W. H. White), is credited with the fine Lælio-Cattleya × Gottoiana regalis, Dendrobium × Wiganiæ xanthocheilum, which, now perfected, received a First-class Certificate; Masdevallia × Veitchiano-Wageneri, which with other hybrids were raised at Burford; and of "botanical" species Bulbophyllum suavissimum, Polystachya Buchanani viridis and Cælogyne fuscescens.

Captain G. L. Holford, Westonbirt (gr., Mr. H. Alexander), has been one of the best exhibitors of the year, his collections showing the perfection of cultivation throughout. Of the many good things shown by him and selected for awards were Odontoglossum x Loochristyense Lord Howick, O. × Adrianæ Lady Wantage, Lalio-Cattleya x Cassiope Westonbirt var., Cymbidium x eburneo-Lowianum concolor, the yellow Dendrobium x Ophir and Cypripedium × Leeanum Staffordianum. As an indication of the good cultivation of Captain Holford's Orchids, it may be recalled that his Orchid-grower, Mr. Alexander, showed on May 5, and received a Cultural Commendation for an Odontoglossum crispum with 129 flowers, and a still finer plant of O. luteo-purpureum was shown by him.

Norman C. Cookson, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman), has a brave show of novelties to his credit, including the phenomenal Odontoglossum crispum Cooksoniæ before alluded to, the very fine O. c. Grairianum, O. c. Mariæ, O. c. Harold, Phaius × Clive, P. × Harold, P. × Chapmani, and the still finer P. × Chapmani superbus; Dendrobium × Venus grandiflorum, Cypripedium insigne Sanderæ, Oakwood seedling, and C. × Leeanum Clinkaberryanum, the award for which was also given to Sir Henry Schroder and O. O. Wrigley, Esq.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr., Mr. W. H. Young), has for his best Cattleya × Whitei magnifica, Lælio-Cattleya × Canhamiana Rex, and Cymbidium × Wiganianum.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), with a keen eye for the best of the showy species obtainable, and a refined taste for pretty and singular species of Orchids, always stands in the front rank for sterling novelties. His best new plant of the past year, Odontoglossum crispum Persimmon, and O. c. alpha, O. cirrosum Pitt's variety, and Cypripedium Mrs. Pitt, are all showy and distinct flowers. His "botanicals" were Bulbophyllum occultum, Megaclinium Imschootianum, Trigonidium spatulatum, and Oncidium triquetrum; none of them new to science, but all rare.

· Other noteworthy novelties of 1903 credited to our leading amateurs are Cypripedium × Minnie, and C. × Ville de Paris; and the showy Lælio-Cattleya × Wellsiana of Francis

Wellesley, Esq., Westfield (gr., Mr. Hopkins); the fine yellow hybrid Odontoglossum x Waltoniense and O. cordatum aureum of W. Thompson, Esq., Walton Grange (gr., Mr. Stevens); the new and showy Odontoglossum × Bradshawiæ, and the gorgeously tinted Lælio-Cattleya × Haroldiana John Bradshaw of J. Bradshaw, Esq., Southgate (gr., Mr. G. G. Whitelegge); the fine Cypripedium × J. Wilson Potter, and Cattleya × Pittiana J. Wilson Potter of J. Wilson Potter, Esq., Croydon (gr., Mr. W. H. Young); the very remarkable Phaio-Cymbidium x Chardwarense of G. F. Moore, Esq., Bourton-on-the-Water; Cattleya × Warscewiczii White Queen, shown by W. P. Burkinshaw, Esq., Hessle, Hull; Dendrobium × Wiganiæ album, and the handsome yellow and purple D. x Thwaitesia of R. G. Thwaites, Esq. Beyond these, Cypripedium × Ultor, a very fine hybrid of C. Sanderianum, raised by Reginald Young, Esq. (gr., Mr. Poyntz), whose other fine Cypripedium × Minos, Young's variety, also secured an award when shown by R. Briggs-Bury, Esq.; Cymbidium × Lowgrinum of R. J. Measures, Esq.; Odontoglossum triumphans Crawshayanum, and O. x Wattianum Crawshayanum of De B. Crawshay, Esq. (gr., Mr. Stables), and some pretty hybrid Dendrobiums of Mrs. Haywood (gr., Mr. C. J. Salter), should be mentioned.

NURSERYMEN.

On the commercial side the records indicate that Messrs. Sander & Sons, of St. Albans, take the lead. Their superb groups at the Temple and at Holland House were among the best of the year. The fine spotted Odontoglossums and other new plants in their group at the Temple were not entered for awards; but at Holland House the novelties were submitted to the Orchid Committee, and a good number of First-class Certificates and Awards of Merit were secured. Of the best were Odontoglossum × Wilckeanum Rex, O. × ardentissimum Fascinator, O. × Rolfeæ majesticum, Lælio-Cattleya × Bletchleyensis Illuminator, the richest in colour and best of its class (now in Sir Henry Schroder's collection); L.-C. × Martinetii Flambeau, and L.-C. × M. ochracea; the neatly-formed and richly-coloured Cattleya × Roehrsiana, the pretty C. × exquisita, Cypripedium × Hindeanum, and C. × Empress Alexandra; the violet-lipped Zygopetalum × Sanderi; and of very rare and pretty small species, Walnewa pulchella and Cirrhæa Warreana. Of white Cattleyas, C. Mossiæ Alexandræ was good enough to secure a First-class Certificate.

Messrs. Charlesworth & Co., Heaton, Bradford, received awards for Lælio-Cattleya × Dora magnifica, Cattleya × Enid magnifica, C. × Fascinator nobilior, and C. × F. splendens; Brasso-Cattleya × striata, Odontoglossum crispum The Kaiser, the remarkable and delicately tinted Cypripedium × Queen of Italy, and Zygopetalum crinitum cœruleum.

Messrs. Jas. Veitch & Sons, Chelsea, to whose early efforts in hybridising many of our finest hybrids are due, have to their credit as novelties Cattleya × Atlanta superba, Lælio-Cattleya × Norba superba, Epi-Cattleya × matutina, and Lælio-Cattleya × Wrigleyi.

Messrs. Stanley, Ashton & Co., Southgate, produced good things in Lælia × Iona Southgate variety, and Cattleya × Tanker-

villiæ.

Messrs. J. & A. A. McBean secured awards for the finely-spotted Odontoglossum crispum Grace Ruby, and the florallyperfect O. c. Diana.

Messrs. Hugh Low & Co. for the greenand-white Odontoglossum Rossii Low's var., and the crimson Dendrobium glomeratum, introduced by Messrs. Veitch some years ago; and various other Orchidists produced novelties of merit.

CONTINENTAL EXHIBITS.

M. Chas. Vuylsteke, of Loochristry, Ghent, one of the best known and most successful Continental Orchid growers and hybridists. who has wrought wonders in the genus Odontoglossum, comes first; his best things which seeured awards in England being the finely-spotted Odontoglossum × ardentissi-

developed and shown and sold in England, the proceeds to be handed to the Royal Horticultural Society for the New Hall Fund. This is Zygopetalum × Roeblingianum, of C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. (gr., Mr. Clinkaberry), one of the most beautiful novelties of the year, and which secured a First-class Certificate and brought the Hall Fund an increment of fifty guineas.

The following new or rare Orchids have been illustrated in the *Gardeners' Chronicle* in 1903:—

Angræcum Rothschildianum, August 22, p. 131. Bouquet of Transvaal Orchids, March 21, p. 179. Calanthes (hybrid) at Oakwood, Supp., June 27. Cattleya × Pittiana J. Wilson Potter, September 12, p. 189.

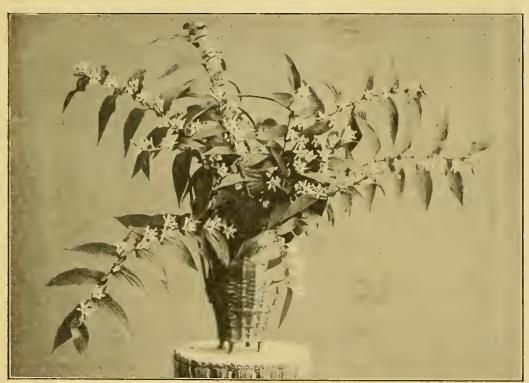


FIG. 8.—TRICYRTIS HIRTA (JAPONICA).

mum exquisitum, O. × a. concinnum superbum, O. × Wilkeanum venerandum, O. × Vuylstekei exquisitum, and O. × Harryanoerispum ridens.

M. A. A. Peeters, Brussels, created admiration at Holland House with the fine white Cattleya Warneri alba, and also secured awards for the white C. × Hardyana albens, C. × Fabia Mary de Wavrin, C. × F. W. Wigan Peeter's var., Cattleya × St. Gilles, and Lælio-Cattleya × Wrigleyana.

M. Jules Hye de Crom, Ghent, secured an award for Odontoglossum × ardentissimum numosum; M. Draps - Dom, Laeken, for Vanda tricolor tenebrosa; Mr. Chas. Maron, Brunoy, France, for the remarkable Vanda × Marguerite Maron; and M. Otto Beyrodt, Berlin, for the pretty Odontoglossum × Adrianæ Swoboda.

From the United States of America there is one exhibit to be recorded, worthy not only for its own merit, but for the kind motive which prompted its raiser to have it

Cypripedium glaucophyllum, Supp., Dec. 12.
Cypripedium × Hindeanum, January 24, p. 53.
Cypripedium japonicum, June 6, p. 355.
Cypripedium × J. Wilson Potter, Feb. 7, p. 83.
Habenaria carnea (specimen), Nov. 7, p. 323.
Lælia × Helen, December 19, p. 417.
Leptolælia ×, January 24, p. 50.
Odontoglossum × Bradshawiæ, Feb. 7, p. 82.
Odontoglossum crispum Cooksoniæ, February 14, 109.

Odontoglossum crispum Grace Ruby, March 14, p. 165.

Odontoglossum crispum Grairianum, June 27,

Odontoglossum crispum Persimmen, May 2, p. 275.

Odontoglossum crispum Sanderæ, June 27, p. 416

* Odontoglossum crispum Sibyl, July 18, p. 37. Odontoglossum × Waltonieuse, Jan. 24, p. 51. Phaius Humbloti hybrids, June 27, p. 411. Phaius ×, group of, at Oakwood, Supp., June 27. Renanthera Storici (specimen), Nov. 21, p. 346.

TRICYRTIS HIRTA.*

The species of this Colchicaceous genus are, according to Baker, but six in number. The species, of which we give a figure, is distinguished by its deeply cordate, stem-clasping leaves, which, like the stem, are covered with soft spreading hairs. The stem is 2 to 3 feet high, with a terminal raceme of six to eight flowers. The perianth is about an inch in length, bluish-grey with purple spots. Franchet and Savatier say the plant is widely distributed, and very variable in the foliage and in the arrangement of the flowers. They also say that the ovary is glabrous; whilst in T. hirta, which they treat as distinct, the ovary is bristly. Mr. Baker, however, in his most recent monograph, considers the two as specifically identical. Messrs. Boehmer & Co., of Yokohama, who furnish us with the photograph, tell us that the plant flowers in Japan in October, and that it is common in woods and shady places in the mountains. In this country it is occasionally grown in the cool greenhouse, but is not so commonly met with as might be expected from its elegant and distinct appearance. Mr. Unger (Boehmer & Co.) expresses the opinion that it would be hardy in this country if a little protection were accorded it. Indeed, unless our recollection is at fault, we think we have seen it. on the rockwork at Kew (see fig. 8).

WINTER-FLOWERING CARNA-TIONS AT SANDRINGHAM.

In response to the Editor's request, I will explain the chief details in the system of cultivation afforded the variety Winter Cheer and other tree Carnations, at Sandringham, the results of which were described by your correspondent on p. 406. As far as Winter Cheer is concerned no "special culture" beyond a strict attention to details is necessary to produce from cuttings rooted in January plants capable of bearing fifty flowers during the following winter months.

PROPAGATION.

The first cuttings are put in about the middle of December, but early January cuttings make equally good plants. Four strong-growing shoots, with or without a heel and about 4 or 5 inches in length, are inserted around the sides of 3-inch pots, in a compost consisting of 2 parts loam, 1 part leaf-mould, and 1 part sharp sand. To every barrow-load of this compost we add a 2-inch potful of Veltha powder, and a 10-inch potful of fine ash from burnt garden refuse. The loam and leaf-mould at this and subsequent pottings should be sterilised, and the Veltha is added to prevent fungoid diseases. The pots are thickly surfaced with sand, a little of which is forced into the holes made by the dibble, upon which the base of the cuttings should rest. Plunge the pots up to the rims in a bed of moist cocoa-nut fibre, in a propagating pit having a bottom heat of 65°, and an atmosphere of the same temperature. Afford water when the cuttings have been put in, and no more will be necessary until they have made roots. Shade them from bright sunshine, and wipe the moisture from the inside of the lights of the propagating pit each morning and afternoon. Should excessive vapour rise in the pit, afford a little ventilation until it is dispelled, and thus prevent damping. In three weeks' time most of the cuttings should be rooted, when the pots may be stood upon the surface of the hed, and by degrees the lights may be tilted and the young plantlets inured to the general atmosphere of the house. After a few days in this position they should be removed to a stage close up the roofglass, in a house having a night temperature of

* Tricyrtis hirta.—Hook. in Bot Mag., t. 5355; Baker in Journ. Linn. Soc., xvii., 464 (1879); T. japonica Miquel, Franchet & Savatier, Enum Plant. Japon., vol. ii. (1879), p. 74.

55°, and 60° to 65° by day. Syringe the young plants freely twice each day in bright weather, and maintain the atmosphere moist.

POTTING.

The first potting may then take place, using clean, well-drained 21-inch and 3-inch pots. The compost may consist of two parts best loam, pnt through a 1 inch riddle, one part leaf-mould, and one part of equal portions of coarse sand and fine old mortar-rubble. To every barrow-load of this add a 5-inch potful of soot, a 7-inch potful of bone-meal, and a 3-inch potful of fungicide. Keep the plants in the same house and temperatures, shading them from bright sunshine until established, when they may be afforded air upon every favourable opportunity. The next shift will be into 4-inch and 5-inch pots, using a similar compost to that described already, except that the loam may be chopped roughly. At the beginning of the month of May, if all has gone well, the plants will be ready for their final potting into 6-inch and 7-inch pots. Use the same potting compost, with the addition of a 5-inch potful of Bentley's Carnation manure to each barrow-load of compost. After this potting, our plants are placed upon a base of fine gravel in a low spanroofed pit, where they are gradually deprived of all artificial heat, and by the beginning of July the lights are entirely removed, cultivation being continued in the open. The plants having been well established, the excessive rainfall of the past summer seemed thoroughly to agree with them, as the strong dark-green foliage indicated. The plants remained in such a position until the beginning of September, when they were removed to the houses for the winter. By that time they should be throwing up their flower-stems, it being important to have them at this stage, when an early winter supply of flowers is desired. Until colder weather sets in they are afforded all the ventilation possible, and later on a temperature of 50° is maintained.

STOPPING AND DISHUDDING.

When the young plants have attained a height of 6 inches, and while in their 2½ or 3-inch pots, they should each have the point cleanly removed, by which means shoots are induced to form in the axils of the leaves below. These in their turn must be similarly treated, when they have grown to a suitable size. Beyond this no precise rule can be laid down for stopping, as everything depends upon the progress of the plants, and not a little upon the variety, but, generally speaking, no stopping should take place after the first week in July if the plants are to flower in early winter, or ten days later for a successive batch.

WATERING, FEEDING, AND STAKING.

As a matter of course, watering must be intel-Rigently carried out at all times, but after each potting great care should be taken that the plants be not afforded too much, as this would cause the soil to become sour and sodden, which may result in the plants damping at the collar. Although less water is required in the winter, the pots being full of roots the plants must not be permitted to suffer from want of moisture, otherwise deformed and shrivelled flowers will result. The Carnation being a gross feeder, I look upon the careful use of stimulants as one of the principal items in its successful culture. In many cases the food is not afforded until the plants have become in a starving condition and unable to assimilate the rich food suddenly supplied. As soon as the roots are well around the sides of the floweringnots, commence with applications of weak farmyard liquid manure and soot-water twice a week, and as the plants gain in vigour increase the strength of the manure. The best artificial stimulant I have tried is Bentley's Carnationmanure, and in addition to the foregoing manures

this should be supplied every ten days from the first week in July until the flowers commence to open. In wet weather the manure may be pricked into the surface-soil at the rate of about $\frac{1}{4}$ of an oz. to each plant, allowing the rain to wash it down to the roots. In fine weather it may be dissolved, at about the same rate, and watered in. Soot-water alone should be given after the flowers begin to open, stronger manures causing them to damp and lose colour.

The flower-stems should be neatly secured to a central stake, each stem being slung loosely and not all tied together in a bundle. Green painted spiral wire stakes are excellent when used one or more to each plant, being neat and durable.

DISEASES AND INSECT PESTS.

The most troublesome insect pests are green and black fly, but these need not prove destructive if preventative measures are taken to combat them. When the plants are in a pit or house, plants of Winter Cheer, Duchess of Devonshire, Mrs. L. de Rothschild, or Flora Hill. The following are a few excellent, strong-growing and free-flowering varieties in their respective shades of colour, and may be depended upon to afford a good and continuous show of flowers.

Shades of Scarlet.—A. de Rothschild, America, Wm. Robinson, G. H. Crane, Yuletide, Triumphans, and Winter Cheer.

White.—Mrs. S. J. Brooks, Norway, Mrs. Moore, Virginalis, Miss Mary Godfrey, and Flora Hill.

Crimson Shades.— Lord Kitchener, Generals French, Buller, and Gomez, Mrs. H. J. Jones, Uriah Pike, and Governor Roosevelt.

Pink Shades. — Hon. A. Fellowes, Lady de Ramsay, Ethel Croker, Lady Carlisle, Mrs. T. W. Lawson, Marquis, Melba, Floriana, Pride of the Market, and Duchess of Devonshire.

Rose.—Halton Rose, Rose Queen, Winter Green and Mrs. Leo. de Rotbschild. T. H. Cook.

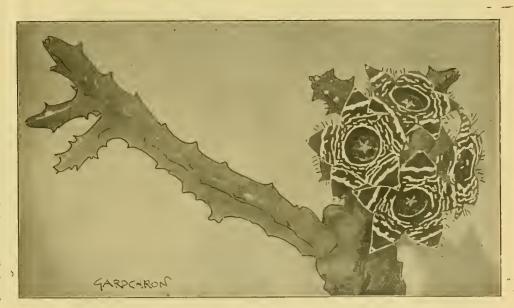


FIG. 9.—CARALLUMA CRENULATA, FROM SIR THOMAS HANBURY'S GARDEN AT LA MORTOLA.

nothing is more effectual than vaporising with XL-All directly the first sign of fly is observed; but if growing in the open, spray them once every few days with diluted quassia-extract. dipping in this liquid any plants badly affected, or that have the aphides concealed in the points of the shoots where spraying cannot reach them. Do not disfigure the foliage by using tobacco or other powders.

Of diseases the Carnation-rust (Helminthosporium echinulatum) is the most dreaded, but it seldom affects strong, well-grown plants to any great extent. Sulphide of potassium dissolved at the rate of 1 oz. to 3 galls. of water, and sprayed at intervals of a few days over the diseased parts, is a good remedy. Isolate affected plants, as the disease spores quickly contaminate others that are in the least weakly. Upon no account propagate from such plants, it being more profitable to burn them, and make a clean and fresh start. A preparation called "Carvita" as well as "Veltha" Emulsion, are excellent remedies for all fungoid diseases of the Carnation, if applied according to directions sent out with each.

SELECT VARIETIES.

Many of the recent introductions are great mprovements on old varieties, but among the latter it is hard to find one that will give the grower greater satisfaction than well-grown

CARALLUMA CRENULATA, WALLICH.

LAST May I received from Calcutta, through Mr. David Prain, a few plants of Caralluma crenulata which had been collected on the Shan plateau in Burmah. The tiny plants had not suffered much from the long journey, and soon started to grow when I planted them, together with other Stapelias, under the shelter of a big rock in a warm and sunny place. Now we have had the pleasure to see it in flower, and I presume for the first time in a European garden. The stems are diffusely and irregularly branched, from 2 to 6 inches long, and 1 to 3 of an inch large, tetragonal, furrowed between the angles. The margins are sinuate dentate, the teeth about of an inch apart, patent, with a little deltoid leaflet at the top.

There were nine flowers in a terminal umbel, with short subulate bracts. The pedicels were of of an inch long, somewhat thickened above. Sepals is of an inch, deltoid, acute. Corolla campanulate-rotate, nearly an inch in diameter, with short deltoid-ovate lobes, yellow, but nearly completely covered with dark brown-red spots and lines, especially in the bottom of the corolla and at the top of the lobes. The margins of the lobes fimbriated, with clavate purplish hairs from the base to the middle, the rest of the flower totally glabrous (see fig. 9).

The inner segments of the corona are linear, obtuse, incumbent on the anthers and shorter than these; on their base they are united with the outer corona. This latter is cup-shaped with five lobes, each with two small recurved subulate teeth, one to the right and to the left of the inner segment.

This little Caralluma belongs to the group with terminal umbellate flowers out of the subgenus Boucerosia (K. Sch. in Engler and Prantl. Nat. Pfinln.), together with Caralluma campanulata,

PRIMULA FORBESI.

On December 2, 1893, we illustrated this beautiful annual species from a plant grown in the gardens of Sir Trevor Lawrence, Burford, Dorking. Our present illustration (fig. 10) has been reproduced from a photograph taken in the gardens at Trinity College, Dublin, where Mr. Burbidge cultivates it very successfully. The species was found in Yunnan, China, by the Abbé Delavay, and has pale lilac flowers arranged in whorls, the



FIG. 10.—PRIMULA FORBESI IN TRINITY COLLEGE BOTANIC GARDEN, DUBLIN.

(Photograph by G. E. Low, Esq.)

umbellata, diffusa, lasiantha, retrospiticus, &c., which occur from tropical East Africa to South Arabia, to India, Burmah and Ceylon. The fimbriation of the margins of the corolla lobes is very characteristic in this species.

The colour and shape of the flowers are very pretty and the scent is not at all disagreeable. I hope to be able to propagate the species, as it makes subterraneous shoots which soon make roots and help to increase the plants. This species has only been figured in Wallich's Plant As. Rar, T. t. 7, therefore a photograph will prove to be of interest to all lovers of Stapeliæ. Alwin Berger, La Mortola, Italy.

flowers in the lower whorls being expanded simultaneously with those in the upper. It is a desirable plant for the rockery, and was shown in flower amongst the alpine plants from Messrs. T. S. Ware, Ltd., at the Drill Hall on Tuesday last, see p. 30.

COTTON IN THE W. INDIES.—About a thousand bushels of Cotton-seed, says the Agricultural News (Barbados), were distributed to various persons in the West Indies in September last. "Sea Island" Cotton of fine long staple is the variety most in favour.

KEW NOTES.

FOUR NEW AFRICAN PLANTS.

KEMPFERIA ROSEA.—This plant is related to what used to be cultivated as Cienkowskia Kirkii, one of the most attractive of the Kæmpferias, which was introduced to Kew from the coast opposite Zanzibar, thirty years ago. I am informed by Mr. Mahon that K. rosea is plentiful in open forest in the Shiré Highlands, where he always looked upon it as K. Kirkii, from which, however, it is quite distinct, K. rosea being certainly the more beautiful plant. It has a short fleshy rootstock and numerous thick string-like roots; the leaves are about 18 inches long, half their length being narrowed to a petiole, and the other half a bright green plaited blade with an acute point and 4 inches wide; the scape is 18 inches high and bears six flowers which open one at a time, and are over two inches across, their colour being a brilliant rose-red with a conspicuous eye-like blotch of orange at the throat. There is a nice batch of plants of it now showing flower in a stove at Kew; they were received a short time ago from Mr. McClounie, of the Scientific Department, Zomba, British Central Africa. A third species, viz., K. æthiopica, which appears to be common in the same region and which has still larger flowers of a bright redpurple colour, has not yet been introduced. Some years ago Messrs. Sander & Sons distributed, under the name of K. Ethelæ, and said to have been imported from Natal, a Kæmpferia with large handsome flowers described as "a lovely flesh-rose, shaded with lilac, violet, and crimson, the labellum bearing a broad yellow crest." I never saw this plant in flower, but it may have been K. æthiopica.

IPOMŒA MAHONI.

There are very few Ipomœas of shrubby habit, and those that we know are chiefly Mexican. But two years ago Mr. John Mahon, when in charge of the Botanic station in the Uganda Protectorate, sent to Kew seeds of an Ipomœa which he had found at a high altitude and which he recommended as a good garden plant, as it formed a large woody shrub of pleasing habit with clusters of large purple and white flowers. A small plant raised from these seeds flowered at Kew in the spring of 1903, and as it proved to be new Mr. Wright named it 1. Mahoni (See Gardeners' Chronicle, vol. xxxiii, 1903, p. 257). It was then only a few inches high, but it has since grown to a height of 3 feet, the branches clothed with oblong green leaves 2 to 4 inches long, and bearing terminal clusters of as many as a dozen flowers and buds. The plants were at their best in mid-December, when they were most attractive, the flowers being as large as those of I. Batatas and coloured bright red-purple and grey-white. Two of the Mexican "Tree Ipomeas," viz., I. arborescens and I. Wolcottiana, are in cultivation at Kew, but neither has as yet flowered. These two are said to form trees 30 feet high (see Garden & Forest, 1894, p. 363), whereas I. Mahoni, according to Mr. Mahon, grows about 12 feet high, and as it grew at an altitude of 7000 feet it. should thrive in temperate conditions.

PLECTRANTHUS CHIRADZULENSIS.

A pretty blue winter-flowering plant for the greenhouse, of recent introduction from British Central Africa, has the misfortune to bear the above name, in consequence of its having been found on the summit of Mount Chiradzulu in that country. It has been in bloom for about a month in the Cape-house at Kew, and whilst it is not so showy as Coleus thyrsoideus, it has an elegance in its loose panicles and a charm in the colour of its flowers that entitle it to favour. The largest plant at Kew is 3 feet high, with slender branches, opposite-stalked toothed green leaves not unlike those of the common Nettle, and terminal

loose panicles 6 inches long and wide, of longlipped, light-blue flowers. The leaves have a strong agreeable odour of ripe Apples. It was sent to Kew by means of seeds in 1898 by Mr. John Mahon.

PLECTRANTHUS CRASSUS.

This is a new species lately described from plants in flower at Kew, and which were raised from seeds sent by Mr. McClounie, of Zomba. It forms a stout, herbaceous shrub, and Mr. Mahon says it is used in British Central Africa for garden fences, as it soon grows into a thick, wall-like mass. The whole plant is covered with

very much deeper in colour than the type. There are also a few plants of L. Gouldiana flowering, the shape and colour of the flower suggesting that it might be a natural hybrid between L. ancaps and L. autumnalis. L. albida and the variety bella with the piuk lip are also flowering. Several varieties of the very pretty and distinct L. rubescens (peduncularis) are worthy of notice, the shape of the flowers being very much like Bletia hyacinthina.

Calanthe microglossa is a distinct evergreen species from Sumatra, having white sepals and petals and a yellow lip. Bulbophyllum auricomum, although belonging to the section of sepals and petals are pure white, the lip being orange-yellow colour and brown; the diameter of the flower about 2 inches. The leaves are very narrow, and 12 to 18 inches long.

Epidendrums are well represented just now, amongst which is a small plant of the charming E. Endresii, which is not seen often although it flowered in the country in 1883. E. Wallisii is another fine species now in full flower; E. tovarense and E. chioneum have their creamywhite flowers at the apex of the stems. E. (Barkeria) Skinneri has borne a profusion of flowers for the past six weeks and is still good. Miltonia Clowesii is a distinct species, with

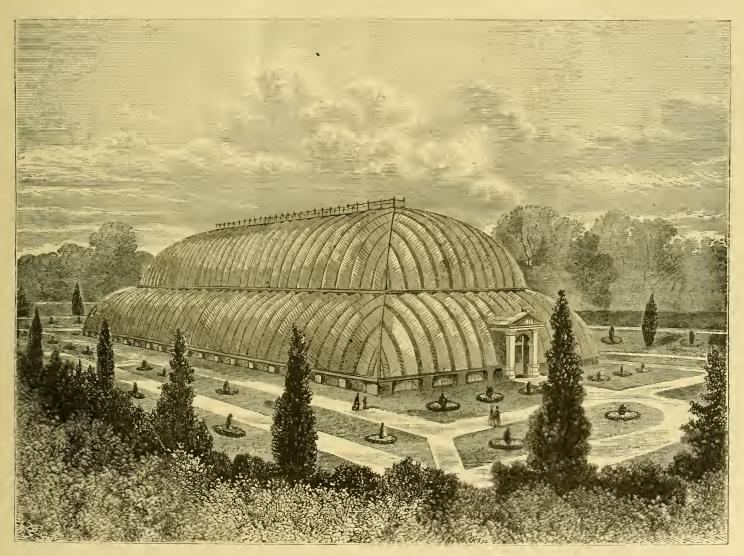


FIG. 11.—THE GREAT CONSERVATORY AT CHATSWORTH,

The Residence of the Duke of Devonshire, visited by their Majesties the King and Queen during the present week. (See p. 26)

velvety hairs; the leaves, which have short petioles, are ovate, 3 to 6 inches long, the margins regularly crenate, the upper surface rich velvet-like green, the under side grey, with very closely reticulating prominent nerves. The flowers are borne on stout, erect terminal panicles a foot or more long, sometimes shoully branched at the base; they are purple-blue, and in effect not unlike the Meadow Sage. The plant is likely to be useful in subtropical gardening. W. W., Kew.

ORCHIDS IN FLOWER.

Lælia anceps and L. autumnalis are making a fine display. A fine specimen of the former species is carrying fifteen good spikes of flowers; amongst the latter species are several varieties Bulbophyllums having deciduous leaves, is a pretty plant when in flower, and it flowers freely. The inflorescence droops slightly, and is about 6 to 8 inches long; the flowers are white and very fragrant.

Amongst the Odontoglossums is a good spike of O. triumphans about $3\frac{1}{2}$ feet long and carrying over thirty flowers. O. pardinum is a nice species with a dense, erect inflorescence, forming quite a pyramid of chocolate and yellow-coloured flowers 18 inches high. O. aspirhinum is another pretty species, and one not commonly grown. There is a very good variety of O. maculatum in flower, and a spike of O. Andersonianum. Ceelogyne graminifolia is represented by a specimen in a 10-inch pan carrying thirty-six spikes of flowers with three to six flowers on each; the

golden-yellow-coloured flowers about 2 inchesacross, barred with chocolate colour. It is much more vigorous than most of the species. Oncidium macranthum is now in full beauty, as also is O. suave, a much less known species than the former; the spike is about 2 feet long and very slender; the flowers scattered, and about ½ inch in diameter, light-brown blotched with yellow. A charming little specimen of O. ornithorhynchum. in a 5-inch pot is carrying eighteen spikes of its delicate pink-coloured flowers. Tainia penangiana, an Orchid not much cultivated, is now freely flowering; the erect spike of yellowish flowers 18 inches high are produced from the pseudo-bulbs made in the previous year; it flowers when the plant is denuded of foliage. Several species of the much-neglected genus Masdevallia are making a good display, especially M. ignea with its bright orange-red-coloured flowers. M. tovarensis, probably the favourite of the genus, is also flowering freely. Other Orchids in flower and not generally grown, are Platyclinis cucumerina, P. glnmacea and P. rufa; Stetis tristyla, with rather insignificant flowers, but a very interesting Orchid nevertheless; Restrepia striata, with its numerous boat-shaped flowers striped with red and bright yellow; Listrostachys hamata, a charming Orchid, with rather large, white, almost stellate flowers produced in axillary spikes; L. pellucida, having pendulous spikes about 9 inches long, with flowers 3 of an inch in diameter, creamy-white, slightly fringed, somewhat fleshy and pellucid; Cryptostylis arachnites, an interesting Orchid, having a rosette of green leaves about 6 inches long, the peduncle arising from the centre carrying about a dozen flowers, the sepals and petals of which are very narrow and of a greenish colour; the lip is densely blotched with ruby-red, and instead of being anterior, as in the majority of Orchids, it is posterior, giving the flower an inverted appearance, due to the non-twisting of the ovary, which occurs in nearly all Orchids. Many species, varieties and hybrid Cypripediums are making a good show, amongst which may be noted C. Laynoldianum, C. Fitchianum, C. Appletonianum and C. Deedmanianum. W. H.

MARKET NOTES.

CUCUMBER CULTURE.

WHILE some growers are preparing for the planting of the new year crops, others are content to leave the houses just as the old crops were taken out. Now, whether Cucumbers or Tomatos were the last crop, no time should be lost before washing and scrubbing, not only the woodwork, but also the glass in each house. walls should be thoroughly disinfected, for which purpose there is nothing better than a coat of hot slaked lime with a good dash of sulphur in it. As a disinfectant in house washing, I still adhere to the old-fashioned, ever-ready hot water, soft soap and paraffin. This is cheap and most effective. Care should be exercised in so disposing of the old soil that it does not come in contact with compost to be used during the present season. Stephen Castle.

COVENT GARDEN MARKET.

Thips in boxes were very plentiful, Proserpine, Chrysolora, La Reine, Cottage Maid, Scarlet Van Tholl, and Thomas Moore being the chief sorts. Roman Hyacinths and Lily of the Valley are also in pots. Begonia Gloire de Lorraine and the Turnford Hall variety were looking fresh, and seemed to stand the cold weather fairly well. There is more trade now for small Ferns, as they are used extensively with the Tulips, Hyacinths, and other bulbs. The trade for larger Ferns and Palms was very dull. In cnt flowers trade was better, and for most fresh material high prices were being made. I say "fresh," for there appeared to be a good deal of rough and stale stock, especially in Chrysanthemums, though there were some good flowers.

High prices were asked for Lily of the Valley. Lilium lancifolium was good, and L. longiflorum not quite so plentiful. Callas were good; Eucharis are still plentiful. Good Roses are now scarce, also best English Carnations. Narcissus obvallaris is making a good price.

The French Market presented a very deserted appearance, Violets being alone plentiful. Paper-white Narcissus was making 20s. per pad. Safrano Roses are not quite so plentiful. Scarlet Anemones were in the market last week, but the cold weather seems to have stopped them.

In the Fruit Market all supplies were very plentiful, and trade rather quiet. Most of the samples of Gros Colmar Grapes were very poorly coloured. The St. Michael Pines were good and cheap. Apples were particularly abundant, and most of the samples seen were of good quality. English consumers have the advantage when our own crop is short, for then we get imports more than sufficient to make up for the shortage. A. H., January 2.

The Week's Work.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Mint.—Those who struck cuttings in boxes during August will now be reaping their reward in a supply of fresh growths. Keep such in a temperature of 50°, and afford plenty of air on favourable occasions and sufficient water to keep the plants growing. Take up healthy roots from the reserve garden and lay them in boxes containing a moderately rich compost, covering the roots about three-quarters of an inch with equal parts sifted sandy loam and ashes to ward off slugs. Place them in a sheltered spot free from frost for introducing into heat as required.

Preparing ground for crops.-After affording the dressing of lime advised last week, take every opportunity in frosty weather, when the ground is hard, to wheel on manure to every vacant plot in the garden where it will be required, commencing with that part which will be dug or trenched first. The quantity of manure necessary will depend upon the nature of the crop that will follow and upon the condition of the soil. Manure that is already well decayed is often preferred to that fresh from the farm, yet for soil on a dry or gravelly bottom t fresher the manure the better; for if it afforded in quantity, and is covered rather deeply with soil, it will retain the moisture longer than manure of a more solid nature. If, in addition to such manure, a mulching be applied afterwards at the proper time, the crops may be expected to mature evenly in the event of dry weather. It is in gardens that are not fitted up with every convenience to help Nature, when she is not in the mood to help herself, that long manure, dug or trenched in now, will be in that state of decay for retaining moisture when most required. The sooner all vacant ground is turned-up roughly, that the frost and air may have more influence upon it, the better. If digging is to be done well, it requires to be looked after. When the digger does his work with his legs in such a position that a wheelbarrow might pass between them, depend upon it he is only turning up a few inches of the surface. He should stand up to the spade, arrive it in to the treads, lever down the handle, lift the spadeful, and with a jerk turn the bottom soil to the surface.

Peas.—Where there is no convenience indoors or in frames for a crop of Peas, it will be necessary to use pits. Select a sheltered spot that slopes to the south, and measure out the dimensions required. Then dig out the soil in the centre and place it round the edges, making it firm. Raise these banks to a height of 16 inches at the back, and slope them to about 8 inches at the front. Cover the area confined by these walls with ashes. The next thing to do will be to get pieces of fibrous turf 16 inches long, 6 inches wide, and 4 inches deep. Lay these on slates, placing the grassy side underneath. Then cut a groove up the centre of the earthy side of the turf with a trowel, sow the Peas in this groove and cover them in the usual way. When this has been done, lift the slates and turves, and place them in the pits; cover the pits with wooden shutters or galvanised iron sheets, to shelter from rain or snow, and provide an additional cover with mats or straw to protect from frost. These means will suffice until the Peas are through the soil, after which time they will need light and air. Although an old plan,

the one just described will enable you to produce an early crop of Peas without incurring the risks that are attached to sowing in the open. A few reliable early varieties may be sown now.

Forcing.—See that the supplies of Asparagus, Seakale, Rhubarb, and salads are kept up by introducing fresh batches into heat when needful.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Figs.—Pot trees that are intended to ripen fruits in April should be started into growth, affording them a gentle bottom-heat. Whether the heat be derived from a bed of leaves or from hot water, it should be kept at about 65° to 70°. The atmospheric temperatures should be 50° at night and 60° to 65° by day; but when growth has advanced a little the temperature at night may be increased gradually to 60°. Successional trees in borders should now be subjected to any degree of pruning that may be necessary, and the house and trees will need to be cleansed thoroughly with soft-soap and water. The system of training practised here is as nearly natural as is possible in a glasshouse with a leanto roof. It consists in arranging the main branches at a distance of about 4 feet from the glass, and allowing all fruit-bearing wood to be perpendicular. By this system the wood ripens well, being subjected to a greater degree of light. We gathered our last dish of fruits last week from a tree of the variety Brown Turkey, trained upon this system.

Strawberries.—Where early fruit is expected from plants placed under glass in November, the beginner need not be discouraged if he finds that upon the plants opening their flowers about one-half of them are useless. For plants in flower maintain a circulation of warm dry air, and do not afford too much water to the roots. About noon each day go over the plants with a camel's-hair brush to distribute the pollen. Make the most of bright sunshine by allowing the temperature to rise by its means, closing the house early in the afternoon. Should the weather b come cold, a night temperature of 50° to 55° will be sufficient. Introduce another batch of plants for succession, placing them near to the glass, and affording them a temperature at night of 50°, which by day may be increased by sun-heat to 60°. Remove all decayed or damaged leaves, clean the pots, and examine the drainage for worms. Press the plants and roots firmly in the pots, but do not remove any of the surface soil, which ought to be a mass of root-fibres. If there is sufficient space, top-dress the plants with fine loam and a pinch of artificial manure.

Melons.—To produce plants for ripening fruits in May, sow seeds at once in 3 inch pots, which should be three parts filled with good friable loam, in a warm, moderately dry condition. Insert one seed in the centre of each pot. A satisfactory practice adopted here in raising early Melon plants is to plunge the pots in movable evaporating pans filled with Cocoanut fibre or fine soil, and placed on the pipes near to the glass.

THE FLOWER GARDEN.

By A. B. WADDS, Gardener to Sir W. D. PEARSON, Bart., Paddocknurst, Sussex.

Wild Garden.—If it is intended to make a "wild" garden, select a piece of ground and clear away the underwood; then trench and manure the land. Do not clear away too much at once, or a bare appearance would be the result and let in cold winds, but leave a few shrubs to provide shelter and appearance. All bulbs will have been planted out by this date in the grass or in other positions. If they have been planted in the grass, cut off the old tufts of strong-growing grasses before the bulbs appear above the surface, and do not again cut the grass until they have died down. Bulbs should be planted in masses for effect in about 500 of a sort—Aconites, Snowdrops, Narcissus, and any that have done blooming from the houses; they will give a little bloom for a few seasons, and help to cover the bare ground with their foliage. Where Camellias will thrive, they should be afforded a large pro-

portion of peat or leaf-mould and road-scrapings, especially if the ground is of a heavy nature. the Camellias irregularly at distances of 12 to 14 feet apart. Cydonia japonica and its varieties, Daphne Mezereum and D. M. alba, Azaleas, Prunus sinensis and P. triloba, and Andromeda japonics, all require rough peat or leaf-mould. Clumps may be planted of hardy Fuchsias, Forsythia suspensa, Clethra alnifolia (very sweetscented), Staphylea colchica Kerria Any sur-plus canes of Wineberry, Raspberry, Blackterry, from the kitchen-garden may be grouped together. If these are permitted to grow wild they will soon furnish the wild-garden and make it bright. A few rustic chairs should be placed in secluded spots, reached by winding paths made of rough stones laid flat and irregularly. The sides of some of these paths may be planted with Ligustrum elegantissimum, and a few tall standards should be put at the back of the chair. Between the shrubs plant Anemones, Rhododendrons Early Gem and Præcox, Lily of the Valley, Moss Roses, &c. Violets, or any Violas left from the autumn planting in the flower-garden, can be planted between the stones. Where there are sloping banks, a rustic chair can be let into the bank so as not to be seen from the main path, and planted up at the back with Brambles, variegated or green Hollies, and Veronica Traversii. One of the prettiest walks here is planted with Cytisus [every other one being a standard] variety; the colours are very bright, and last a long time. In the background are Foxgloves.

Dahlias.—If these have been stored away in a shed and covered with coal ashes, look over them and cut away any decaying tubers, then dust a little slacked lime over them. Frost must also be excluded from them by covering them with dry Fern or similar material.

Aquatics should have 12 to 18 inches of water over the crown of the plants. If the water is covered with ice break it each day.

Roses.—Severe weather having set in, a little dry bracken may be placed over the Tea varieties. The variety Mme. Lumbard afforded us flower-buds on Christmas day. See that standard Roses do not rub against the supports.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Morello Cherries.—For mossy trees apply quicklime to the branches, when in a short space of time the moss will have disappeared.

Orchard-trees .- It is seldom these trees continue to be fruitful if left entirely to themselves. It is best to look over such trees annually, and thin out the branches according to the degree necessary. If the trees have been neglected for a long time do not thin them severely at one time, but reduce the heads gradually, taking out some of the branches each season until they are in a condition that light and air may circulate easily amongst the branches. When thinning out the branches remove first all those which cross and interlace each other, using a pruning-saw for the purpose, and smoothing the edges with a keen-edged knife. After this, scrape the moss from the thick stems and the bole of the trees with a piece of iron hoop or scraper made for the purpose, then dust over the whole some fresh lime, or syringe the trees with a solution of caustic soda and potash at the rate of $\frac{1}{2}$ lb. of caustic soda, and $\frac{1}{2}$ lb. of crude potash in 5 or 6 gallons of water at a temperature of 100°. As a rule, however, a heavy dressing of good lime will be sufficient to cleanse the trees, and it should be applied during dull, foggy weather, when the branches are damp. Another good plan is to mix lime with water to the thickness of paint, and syringe the trees all over with this. Do not neglect the roots, but remember that manure-water from the farmyard will always be helpful to orchard trees, especially those on light shallow land, no matter when it is applied. Young trees that produce good crops of fruit annually may be afforded a heavy top-dressing of manure before they become stunted in growth. Look over the heads annually and keep the centres open. Leading shoots should be shortened, according to

their strength and length, to about 15 inches of the previous season's growth. Any side-shoots not required may be spurred back to within two buds from the base,

Gooseberries.—Prune and dress the bushes, remembering that it is on the young wood that the best and most abundant fruits are produced. Do not hesitate to thin the heads freely; crowded bushes produce small berries only. Evenly-balanced, well-thinned Gooseberry bushes, when heavily laden with fruit, will assume a pendulous habit, and the centre of each being partly open, the crop can be more conveniently gathered. When pruning, reserve any young growths that may be required to fill gaps, shorten slightly those long and weak, and spur back to two buds the side growths; then remove the prunings and scrape a few inches of the top soil from under the bushes, replacing same with good loam and manure. Dust the branches over with soot and lime, and repeat this at intervals. Applications of manure-water during winter will be beneficial.

THE ORCHID HOUSES.

By W. H. While, Orchid Grower to Sir Trevor Lawrence, Bart., Burford, Dorking

Oncidiums. - The distinct O. Lanceanum has always been considered a difficult one to grow well, and large, healthy specimens are rarely seen. It is difficult to keep the leaves free from spot, and when once infected with the the plants seldom recover good health. During the past six or eight weeks the plants at Burford have been kept rather dry at the roots, and in a temperature averaging about 60° day and night; the hygrometer has shown the atmoconditions to be from 4 to 6° below saturation-point, and at present there is no spot. Growth has commenced, and new roots are pushing from the base of the young leaf; if therefore a plant requires more rooting-space it should be afforded at once. O. hæmatocheilum grows in the same native habitat as the above species, and requires similar treatment. O. carthaginense, O. splendidum, O. pumilum, and O. luridum will also thrive under the same conditions. Pot the plants in a compost consisting of three parts leaf-soil to one of peat, adding a little finely-chopped sphagnum - mosa. Press the compost rather firmly down among the roots and nearly up to the rim of the pot, surfacing the whole with fresh green moss. Afford but little water until the roots are re-established and the leaves well advanced; a slight increase may then be allowed, but at no season must the compost be saturated. Place them in a light position in the warmest house, and if it be naturally damp do not syringe between the pots at present. Plants of O. Caven-dishianum that have spikes of flowers now opening should be in the plant-stove or East Indian house, but when the flowers fade, remove them to the intermediate-house. O. pulvinatum is now at rest in the intermediate-house, and is rather dry at the root, but will be repotted when growth has recommenced. The pretty O. phymatocheilum is a species well adapted for table decoration. Little water has been afforded it for several weeks past, but more generous treatment is now called for. Re-pot or top-dress the plants if necessary, and place them in a warm corner of the Cattleya or intermediate house.

Such Brazillian Oncidiums as O. Forbesii, O. crispum, O. prætextum, O. varicosum, and its variety Rogersii, that have recently passed out of flower, should be suspended or stood upon a shelf near to the roof glass of the Odontoglossumhouse, and be sparingly watered at present. Having sustained for several weeks past gigantic, many-flowered spikes, these plants will be in a more or less shrivelled condition, but it is a mistake to deluge them with water at the root, with the idea of assisting them to regain their former plump condition. It is better practice to sprinkle the pseudo-bulbs and leaves occasionally, using a fine rose watering-can for the purpose, or the fine patent sprayer now so much in use.

Cypripediums.—C. purpuratum, C. Arthurianum, C. Spicerianum, C. Albertianum, C. Creon, C. Leeanum, C. Niobe, C. Actæus, C. Hera, C. Prospero, C. Sallierii-Hyeanum, C. vexıllarium, C. Charlesworthii, C. insigne, and its many distinct

varieties, including C. i. Sanderæ, C. i. Sanderianum, C. i. punctatum violaceum, C. i. Maulei, C. i. Harefield Hall, &c., are of comparatively easy culture, and have recently made a good show of flowers. The majority of those enumerated have now passed their flowering season, and should, if the plants have become pot-bound, be given more root-room. Strong, healthy plants may be placed into pots two sizes larger than those they are growing in, using a compost of fibrous peat, good fibrous yellow loam, leaf-soil, and sphagnum moss, in equal proportions, which should be mixed thoroughly together. Place a few pieces of crocks or fern rhizomes in the bottom of the pots for drainage, and pot the plants in the same manner as an ordinary stove or greenhouse plant. All the above species and hybrids require a plentiful supply of water at all times, especially when well rooted and in full growth; a shady part of the intermediatehouse will suit them admirably throughout the year.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Buans, North Mymms Park, Hatfield, Hertfordshire.

Propagating-house.—Bottom-heat is necessary for the successful propagation of many plants, especially during the winter and early spring. Where the bottom-heat in the propagating-house is derived from hot-water-pipes, which is the case in most gardens, the material used for plunging the pots into ouly will need attention. Cocoanut-fibre is the best material for the purpose, and being inexpensive, should not be left in the propagating-frame so long as to become rotten. In view, therefore, of the approach of the propagating season, clear out the old material, thoroughly cleanse the frame, and replace with fresh fibre. Where the bottom-heat is not supplied by means of hot-water-pipes, it will shortly be necessary to collect fermenting materials for making up a hotbed, which, if properly prepared, will be effective for a considerable time. If dry Oak or Beech-leaves and fresh stable-manure, in the proportion of two parts leaves to one part manure, be well mixed together and turned frequently to allow the bulk of the ammonia to escape, it will be in a suitable condition, and may then be wheeled into the house and made up into a hotbed. The hotbed should be in readiness by the end of the present month.

Euphorbia (Poinsettia) pulcherrima and E. jacquiniæflora.—As the bracts of E. pulcherrima fall, and the plants become useless for decorative purposes, water should be gradually withheld, ultimately allowing the soil to become quite dry. In cases where pot-room is required, the plants will take no harm, when dormant, if the pots are laid on their sides under the stage in any house where a temperature of from 45° to 55° is maintained. E. jacquiniæflora, when resting, does not require to be quite so dry at the root as the Poinsettia, and should therefore be afforded an occasional watering. As the plants pass out of flower they may be cut back sufficiently to remove the old flowering growths, and then be placed to rest in a temperature of from 55° to 60°.

Caladiums, Achimenes, Tydxas, &c.—Tubers and corms of these, if stored under stages and in other places not immediately under the eye, should be examined occasionally, and their condition noted, for should they be subjected to drip from the stage, or other moisture, the corms will decay, or be started prematurely into growth.

Hippeastrums. — Old bulbs of Hippeastrums should be quite dry and at rest at this season, and may be wintered quite safely in a house or pit having a temperature of from 40° to 45°. Unflowered seedlings should be kept growing in a temperature of 60° to 65°, and a moist atmosphere. By keeping the young plants in a growing condition the bulbs will the sooner be in a condition to flower, and any worthless varieties can then be thrown out. Hippeastrums require liberal cultivation. Young seedlings should be shifted into larger pots as soon as the pots havo become filled with roots, but a 6-inch pot is sufficiently large for a bulb to flower in for the first time.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Cetters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London, Communications should be WRITTEN ON ONE SIDE ONLY OF THE FAREA, sent as early in the treek as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers. — Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JAN. 9 Scottish Horticultural Associa-

TUESDAY, JAN. 12 Scottish Horticultural Association. Annual Meeting in Edinburgh.

SATURDAY, JAN. 16 - German Gardeners' Club Meet.

BALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT—
Hardy Border Plante and Bulbs, Azaleas, Roses, &c., at 67 and 68, Cheapside, E.C., by Protheroe and Morris, at 12,
WEDNESDAY, JANUARY 13—
Photography of the Photography of the Processing Processing

Palms, Piants, Azaleas, Rhododeudrons, Roses, Perennials, &c. at 67 aod 68, Cheapside, E.C., by Protheroe & Morris, at 12—Roses, Lilacs, Fruittrees, Japanese Liliums, &c., at Stevens' Rooms, at 12.30.

FRIDAY NEXT—
Consignment of Orchids from Columbia, and others, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(Por further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced irom observations of Forty-three Years at Chiewick - 36.6.

ACTUAL TEMPERATURES :-

TOAL TEMPERATURES :
LONDON.—Jan. 6 (6 P.M.); Max. 11'; Min. 35°.

Jan. 7 (noon) Mild, dull.

PROVINCES.—Jan. 6 (6 P.M.); Max. 50'. off Land's

End; Mln. 25', Yorkshire Coast.

DURING the last season much National attention was given to matters Society. relating to Potatos. From all parts of the country reports of immense crops and still more immense prices have found their way into the daily Press, while the correspondence in the Horticultural papers has proved that expert interest in the matter was keen. These and many other things concurred to suggest that a Society devoted exclusively to the Potato was desirable. Mr. W. P. WRIGHT, therefore, set inquiries on foot to ascertain the state of feeling in the country, and the replies he received were so encouraging that he decided to eall a meeting to discuss the whole affair.

With a view to secure the presence and cooperation of members of the County Councils this was held on Wednesday, December 30, at the Hotel Windsor. The Chair was taken by Mr. A. D. Hall, Rothamsted, and there were between fifty and sixty persons present.

In opening the proceedings, of which we gave a summary in our last issue, the Chairman referred briefly to the many points of interest in connection with the culture of the Potato as well as to its value as a food. He thought that a society such as the one it was proposed to institute could not fail to be of the utmost benefit to every one in the

country. It might be made the means of distributing information upon this the most important of all our vegetable crops to the small and to the large grower, not only on the cropping properties of the several varieties, but also on the cooking qualities and the adaptability of certain sorts to particular soils and climates. The difficulty which always presented itself to those who were desirous of furnishing useful information was to reach the proper people, and the speaker was of the opinion that a society of this nature would aid materially through its members and the local committees it was proposed to establish in attaining this end. The Chairman adverted to the difficulties he had constantly experienced during the time that he was making certain experiments with Potatos in securing the precise material that was necessary, and thought that had a Potato Society been then established it would have been in a position to render him invaluable assistance. Mr. Hall persistently kept to the fore his sympathy with the movement, and concluded by requesting Mr. W. P. WRIGHT to bring forward his resolution.

At the outset Mr. Wright enlarged at some length upon the importance of the Potato erop of this country, and called attention to the fact that our imports of tubers during the past season approximated in value to £2,000,000, and evidently considered that, with accurate knowledge on various points, much of this enormous sum might have been kept at home. He held in his hand a thick bundle of letters, from which he proceeded, after his introductory remarks, to make some extracts. These breathed a uniform spirit of encouragement, and contained promises of support.

Having proved to the satisfaction of all present that he had the support of growers from all quarters of the United Kingdom, Mr. Wright proceeded to move what may be considered one of the most comprehensive resolutions that has ever been placed before a meeting.

It embodied the reasons why the Society should be formed, propositions for the establishment of central, local, and commercial Committees, the nomination of officers, and a suggested code of rules. Of this resolution, of which we were last week unable to give the text, as our pages were in the press at the time, we now give full details:—

"That this meeting is of opinion that in view of the national importance of the Potato as a food crop, the dangers which assail it from various diseases, the urgent want of diseaseresisting varieties of high-cropping qualities and good flavour, the necessity for a system of classification, the desirability of establishing trial stations in various parts of the country, and the educational value of exhibitions, it is desirable to form a National Potato Society. And the meeting agrees that such Society be hereby formed.

"And the meeting further agrees that with a view to immediate action the following gentlemen be appointed a Committee:—Mr. A. D. Hall, Rothamsted, Chairman; Mr. G. Gordon, V.M.H., Kew, Vice-Chairman; Dr. Maxwell T. Masters; Professor Percival, Reading; and Messrs. Edwin Beckett, Aldenham; R. Lewis Castle, Ridgmont; E. T. Cook, Chiswick; A. Dean, Kingston-on-Thames; M. J. R. Dunstau, Wye; and Charles Foster, Reading.

"And the meeting further agrees that the following gentlemen be appointed Secretaries or

Joint-Secretaries of Provincial Trial Sub-Committees, to be formed on their recommendation, with seats and votes on the Central Committee ·-Messrs. G. Barry, Northumberland; A. Dean, Surrey; H. Dunkin, Warwickshire; J. Ettle, Somersetshire; W. Goaring, Sussex; W. A. Howman, Gloucestershire; S. Heaton, Oxfordshire; E. Hobday, Cambridgeshire; David Houston, Dublin; C. Ilott, Cornwall; P. Mann, Bucking-hamshire; A. J. Manning, Herefordshire; J. Newsham, Hampshire; W. Neild, Cheshire; Thos. Redington, Yorkshire; J. B. Riding, Kent; Robert Cock, Staffordshire; T. Sharp, Wiltshire; Smith, Midland Agricultural Institute; J. Udale, Worcestershire; C. Wakely, Essex; J. H. Walker, Northants and Rutlandshire; J. Weathers, Middlesex; and Horace J. Wright, Kent.

"And the meeting further agrees that the following gentlemen, growers of Potatos for sale or dealers in Potatos, be appointed a Sub-Committee for the purpose of advising the Central Committee on all commercial questions connected with Potatos:—Messrs. W. J. Atkinson, Spalding; T. J. Blaydes, Epworth; G. Bunyard, Maidstone; C. W. Breadmore, Winchester; H. Cannell, Swanley; W. Cuthbertson (Dobbie & Co.), Rothesay; E. J. Deal (W. W. Johnson & Son, Ltd.), Boston; Robert Fenn, Sulhamstead; — Marsh (Fidler & Son), Reading; A. Findlay, Markinch; John Green (Hobbies, Ltd.), Dereham; Ed. Owen Greeoing (One-and-All), London; W. L. Malden, Ham; George Massey, Spalding; E. Miles, Leicester; and P. M. Miller, Worcester Park.

"And the meeting further agrees that the Earl of ROSEBERY, K.G., be requested to become President; failing him, a president to be selected by the Committee.

"And the meeting further agrees that a number of patrons be elected, at a minimum subscription of one guinea per annum.

"And the meeting further agrees that, in order to encourage cottagers to become members, the minimum subscription for active members shall be 2s. 6d. per annum."

"And the meeting further agrees that the following shall be the rules governing the Society"

These rules, which we do not reproduce, are ten in number, and have the respective titles: Title of the Society, Objects of the Society, Membership, Privileges of Members, Officers and their Election, the Committee, Annual General Meeting, Alteration of Rules.

Mr. ALEXANDER DEAN seconded the resolution. This great authority upon Potatos said that before being called upon to second the resolution, he had no knowledge of what it contained, but he was so convinced of the necessity of establishing a society of the nature suggested that he was pleased to be able to give it his entire support. He referred to one or two cultural matters and considered that the Society would be able to distribute much valuable information. Mr. THOMAS REDINGTON, Yorkshire College, Leeds; Mr. G. MASSEY, Spalding, and Dr. M. T. MASTERS, all supported the resolution, which, upon being put to the vote, was carried without a single dissentient.

Mr. George Gordon proposed, and Mr. C. Wakeley seconded, and it was carried unanimously, that Mr. Walter P. Wright,

be appointed Secretary.

Thus one more "special Society" is added to the list. Evidently the growers think that a good case has been made out for its establishment. If the purely commercial element is not allowed disproportionate importance, nor too much stress laid on exhibitions as such, then there is a wide field

of usefulness open to the Society in the way of selection of appropriate varieties, in the prevention of disease, and in the precautions to be taken against the spread of disease which are now often so carelessly ignored.

CHRYSANTHEMUMS AT MOOR HALL, HAR-LOW, ESSEX. — The supplementary illustration to our present issue is reproduced from a photograph of Chrysanthemums grown for the production of exhibition blooms in the gardens of JOHN BALFOUR, Esq., Moor Hall, Harlow, Essex. The photograph was taken on November 2, 1903. Mr. and Mrs. Balfour, who purchased their Moor Hall estate just over four years ago, take a keen interest in Chrysanthemums, and are fond of first-class blooms, which are used for decorative purposes in the dwelling-house. The gardener, Mr. JEFFERIES, seen in the photograph, commenced his career as an exhibitor of Chrysanthemums three years ago, at the National Chrysanthemum Society's November show in the Royal Aquarium. He won the 1st prize for twenty-four Japanese flowers, distinct; the 2nd prize for twelve Japanese varieties, distinct; and two 1st prizes for single vases of six flowers. In 1900 he won two first prizes, and last November at the Crystal Palace Show he gained a 3rd prize for forty-eight Japanese flowers, distinct; the 2nd prize in Mr. Godfrey's special class for ten vases of his seedlings, three blooms in each vase; and the 1st prize for a vase of six flowers of the variety J. R. Upton, which were among the best ever staged of this variety at a National Chrysanthemum show; also the 1st prize for twenty-four Japanese flowers distinct, this being the special prize of five guineas given by the President, Mr. C. E. SHEA. About 400 plants are grown at Moor Hall, including those trained as bushes. The plants are freely shown to visitors on the Saturday and Sunday, when the flowers are at their best, and some hundreds of people in the locality appreciate this kindness of Mr. and Mrs. BALFOUR.

THE ROYAL HORTICULTURAL SOCIETY. -The Committee meetings held on January 5 are reported in another column. The exhibition in the Drill Hall was large for the time of year, bright, and interesting. Orchids were in fair proportion, Messrs. Bunyard's apples remarkably well kept, Chrysanthemums made a brave show, and Mr. Russell's display of small ornamental shrubs amply worth notice. Colour was supplied by groups of Justicia coccinea (pink), J. chrystostephana (yellow), Moschosma riparium (white), Coleus thyrsoideus (blue). Groups of these plants were shown by Messrs. Veitch and by Messrs. Cannell. Mr. Ware, Feltham, had a large and varied group of alpine plants, arranged according to their genera. Although not in flower, this group was especially instructive from the manner in which it was arranged, and rich in Saxifrages, Sedums, Sempervivums, hardy Cacti, and similar plants. Messrs. Cutbush had a similar but smaller group, in which some of the spring Irises-I. histrioides, 1. sophemensis, and others-gave promise that spring is not very

THE NEW HALL is progressing satisfactorily. The roof is in course of construction. The building is plain, and though much cannot be said in favour of its appearance it hardly deserves the severe criticisms passed on it, whilst so far as utility is concerned it appears satisfactory. There is urgent need of funds to complete the building.

CHISWICK is practically abandoned, and a substantial sum for the surrender of the lease is anticipated, but not yet obtained. Most of the dabourers are already dismissed. Arrangements are being made at Wisley for the reception of the students.

PLANT AND ANIMAL BREEDING.-A meeting was called at St. Louis, Missouri, on December 29 and 30, 1903, by the American Association of Agricultural Colleges and Experiment Stations to organise a Plant and Animal Breeders' Asso-

The following is a list of papers and addresses that were promised:

Dr. Davin G. Faiachild, U. S. Department of Agri-

culture, "Plant and Animal Introduction."
Prof. N. E. HANSEN, South Dakota Agricultural
College, "Breeding Hardy Northwestern Fruits."

Dr. CYRIL G. HOPKINS, University of Illinois, "Experiments in Corn Breeding.

Dean C. F. Curiss, Iowa Agricultural College, "Experiments in Animal Breeding" Prof. HUGO DE VRIES, University of Amsterdam, Holland, "Investigation into the Heredity of Sporting Varieties."

Dr. CHARLES D. Woons, University of Mainc, "Experiments in Breeding Chickens.'

Prof. Andrew Boss, University of Minnesota, "Mea-euring the Breeding Value of Parents."

Prof. F. B. Mumford, Missouri Experiment Station,
"The Significance of the Birth Weight in Animal Breeding.

Dr. H. J. Webber, U. S. Department of Agriculture, "Plant Breeding in the U. S. Department of Agriculture"; "Cell Studies in Relation to Breeding."

Dr. W. T. Swingle, U. S. Department of Agriculture, "Dr. W. T. Swingle, U. S. Department of Agriculture, "Dr. W. T. Swingle, U. S. Department of Agriculture, "Department of Agriculture,"

"Relation of Life History Studies to Plant Breeding."
Mr. C. S. SCOFIELD, U. S. Department of Agriculture, Description Forms and Score Cards as Helps to

Brecders. Prof. JOHN A. CRAIG. Texas Agricultural College.

"Work of the Judge at Animal Shows."

Mr. H. H. Ghoff, Simcoe, Ontario, "Breeding from Tame versus Wild Species."

Prof. W. J. SPILLMAN, U. S. Department of Agricul-are, "Statistical Results in Breeding."

Prof. W. M. HAYS, University of Minnesota, "Distributing Valuable New Varieties and Breeds."

Prof. E. DAVENPOAT, University of Illinois, "Teaching

Thremmatology."

Prof. R. A. EMEASON, University of Nebraska,

Mr. J. D. Funk, Bloomington, Illinois, "Commercial

Corn Breeding.

Dr. C. B. DAVENPORT, Chicago University, "Inheritance of the Effects of Training"; "Studies in Inheritance in Mice.

Dean J. H. SHEPPARD, N. D. Agricultural College, "Breeding for and on the Range." Dr. WM. SAUNDERS, Canadian Experiment Farm,

'Wheat Breeding in Canada: Its Objects and

Prof. M. A. CARLETON, U. S. Department of Agriculare, "Notes on Wheat Hybrids of the Third Genera-

Prof. H. F. ROBERTS, Kansas Agricultural College, "Breeding Soy Beans."

Other Papers expected to be sent in or to be delivered in person, and persons expected to take part in the discussion :-

Prof. R. L. BENNETT, Texas Experimental Station, Cotton Breeding."
Dr. C. E. SAUNDEAS, Dominion Experiment Farms,

"Some Observations on Heredity in Wheat."
Supt. GEO. McKerrow, Sussex, Wis., "Sheep

Breeding."
Dr. O. F. COOK, U. S. Department of Agriculture,

"Application of the Theory of Evolution to Breeding."
Mr. W. A. Obton, U. S. Department of Agriculture,

"Breeding Plants for Resistance to Disease."
Mr. J. B. NORTON, U. S. Department of Agricul
"Mendel's Law in Relation to Practical Breeding." W. M. Hays, St. Anthony Park, Minn., Chairman

of the Organising Committee.

"THE BOTANICAL MAGAZINE."—The January number opens with a coloured figure and description of Cymbidium rhodocheilum, Rolfe, tab. 7932 and 7933. This curious orchid is a native of Madasgascar and always grows on masses of Fern, Platycerium, itself growing as an epiphyte upon a tall tree, Albizzia fastigiata. Mr. Hemsley tells us that "all the species of Phacellaria, a small genus of shrubby parasites belonging to the Santalaceæ, are parasitic on different species of the equally parasitic genus Loranthus." We seem here to have a state of things analogous to double grafting as practised in fruit-trees. The Cymbidium above-mentioned flowered at Kew in May, and has elongate spindle-shaped pseudo-bulbs, linear leaves 2 to 3 feet long, and stalked erect racemes of numerous green flowers, with a lip bearing scarlet blotches. Each flower is about

4 inches in diameter. The sepals are oblong, green, spreading; the petals ascending, green, with numerous purplish spots. The lip has two spreading lobes of a deep pink colour with a central yellow blotch also spotted.

Prostanthera denticulata, R. Brown, t. 7934.--A shrubby Australian Labiate, suitable for greenhouse culture, with small linear leaves and racemes of small purplish flowers. Temperatehouse, Kew.

Arethusa sinensis, Rolfo, t. 7935.-A Chinese terrestrial Orchid, with broadly-ovate plicate leaves, and stalked racemes of sub-cylindric tubular flowers, the segments cream-coloured edged with pink. Kew.

Passiflora vitifolia, Humboldt, Bonpland, and Kunth, t. 7936.—A very handsome species introduced under various names, and although very beautiful yet rarely met with. It has deeply three-lobed leaves, and large brilliant scarlet flowers. Kew. It would be convenient if the names of the plants and some scale of magnitude were given on the plates as well as in the text.

THE GARDENERS' ROYAL BENEVOLENT IN-STITUTION. - The sixty-fifth annual general meeting of the members and subscribers of this Institution will be held at the Covent Garden Hotel, Southampton Street, Strand, London, W.C. (adjoining Covent Garden Market), on Thursday, January 21, 1904, at 3 P.M., for the purpose of receiving the report of the Committee and the accounts of the Institution (as audited) for the year 1903; electing officers for the year 1904; and for the election of twelve pensioners on the funds. The chair will be taken by HARRY J. VEITCH, Esq., Treasurer and Chairman of Committee, at 3 o'clock. The Poll will open at 3.15 o'elock and elose at 4.30 o'elock precisely, after which hour no voting-papers can be received. The voting-papers have all been issued. Any subscriber entitled to vote and not having received a proxy should communicate with the Secretary, at 175, Victoria Street, Westminster. The annual Friendly Supper will take place afterwards in the same Hotel, when the chair will be taken at 6 P.M. by LEONARD SUTTON, Esq., of

THE IMPORTATION OF POTATOS .- At the inauguration of the Potato Society, referred to in another column, whilst reference was made to the enormous importations from the Continent, the fact that a very large supply is derived in early spring from our own Channel Islands was overlooked. A good deal was said about the necessity for raising disease-resisting varieties, and no doubt that is a matter of great importance. Very little, if anything, was said about those hygienic precautions which are so necessary to prevent the access of disease or check its spread. The most culpable carelessness still exists in the disposal of diseased tubers and rotting haulm. Spraying two or three times in the course of the season is a good investment, but the destruction by fire of diseased tubers and foliage is even better.

THE FRUIT COMMISSION. - Some of our correspondents express surprise that we, and other organs of the Horticultural Press, have not expressed ourselves with enthusiasm over the appointment of this Commission. So far as we are concerned, there are various reasons for this. In the first place, we were allowed to remain in ignorance of the proposed [Commission, and to get what modiculu of information we possess from the daily papers. Some experience, moreover, of Commissions leads us to doubt whether much good comes from them. We hope it may be otherwise in this case. Some of our correspondents also point out that the eider-making interest is too prominent, and that the real fruitgrowing industry is not adequately represented. Some assert that if there is sufficient financial

inducement there will be no lack of growers, whilst others see in our existing land-laws a great obstacle to the formation of small holdings on which the growers could plant for their own benefit and not for that of posterity. A great gardener is said to have expressed the opinion that the only means of reducing the present overcrowding among gardeners is to enable many of them to become the possessors of small holdings on which to exercise their skill and labour in a profitable manner. Whether small holdings are suitable for commercial fruit growing on a large scale is a point, we think, open to much doubt.

NOTES FROM LA MORTOLA. - Sir THOMAS HANBURY writes:-"Fortunately we have had no cold weather up till now, although the temperature is rather low, owing to so many rainy days. Roses were very abundant during December. Carnations and Mignonette are covered every night and are doing well; and of Narcissi, the common purs white form (N. Tazetta papyraceus) is just beginning to open. The number of different species of plants now in flower at La Mortola is certainly not inferior to that of other years. Of those published in former years at this time in the Gardeners' Chronicle, all are flowering again, with a few trifling exceptions. Of monocotyledonous plants two fine specimens of Agave Scolymus, a form with rather thin but large leaves and strong brown spines, deserve special notice. Aloe Schweinfurthii is finer than in former years. It is generally in flower at Christmas - time. There is certainly no other specimen like this in any other garden, and it will remain so, as it never produces seeds nor offshoots. Aloe pendens and rubroviolacea, which have been figured lately in the Botanical Magazine, are earlier this year than before. Besides these, Aloe Peacockii, A. ciliaris, A. socotrana, and A. arborescens, are beginning to open their first flowers. Of Palms, Archontophænix Cunninghami has a spadix with male flowers only. A male Phonix macrocarpa (Hort.), is also flowering. The principal trees now in flower are Eucalyptus Globulus and E. sideroxylon, Banksia marcescens and B. integrifolia, Schinus molle, Oreopanax Epremesnilianum, dactyliforme and Thibauti, three fine Araliaceous plants, Casimiroa edulis of the Rutaceons family, with fruits resembling Oranges, but with palmate leaves, from Mexico. Most of the Acacias are not yet out, but A. Farnesiana and A. subcœrulea have been flowering since October. Of our numerous climbers Bignonia buccinatoria, with its large, trumpet-shaped corollas, has been a long time in flower. It never fruits on the Riviera, but it does so in Sicily. Tacsonia van Volxemi, Passiflora racemosa, Hexacentris coccinea, Cobæa scandens, Tecoma capensis, Solanum jasminoides may be seen during the greater part of the year. The little climber Manettia bicolor from South Brazil, with its bright scarlet flowers, is very pretty. The shrubs in flower now are too numerous to be mentioned here. There are several Grevilleas and Hakeas, Dodonæas, &c., from Australia, shrubby Salvias, Daturas, Streptosolen, Cantua, Montanoa, Cassias, Tagetes, &c., from Mexico and South America; Loiseleuria coccinea, a Polemoniaceous plant, from Mexico and Dermatobotrys Sandersi from Natal, are flowering for the first time here. Succulents do not seem to like the continual wet of this last month. Cotyledon macrantha shows everywhere its terra-cotta-coloured buds; C. fulgida and retusa, and several others of the Echeveria section are in flower. Sempervivum arboreum has just formed its pyramidal inflorescence. Bryophyllum crenatum from Madagascar is always out at Christmas; here it assumes a brighter colour than in the North. Mesembryanthemum stellatum is quite a gem; its comparatively large crimson flowers cover the whole plant when it opens in the sun. The plant is so small that it can easily be covered with a hand. Several Stapelias are still in bloom—for instance, S. grandiflora, variegata, mutabilis, discolor, &c.; Huernia Penzigii and H. aspera, and a curious hybrid between these two; Caralluma maroccana, europæa and Simonis. T. Hanbury, La Mortola, January 1, 1904."

COCOANUT BUTTER !- It having appeared to some concerned in the manufacture of margarine that the available stocks of raw material were becoming somewhat circumscribed, considering the demand for the finished article, an enquiry was made, and Cocoanut-oil was sent to the laboratory; success was reported, barring the odour. As with many other subjects, the chemist was equal to the occasion; the disagreeable ingredient has been removed, and the vegetation of every warm clime is at the service of the margarine manipulator, who, we have been told, operates in Belgium and Holland. The principal supplies of the raw material come from London and Marseilles. In connection with this matter it may not be out of place to note that, according to a report just recently published, the acreage under Cocoanut Palms in the Solomon group has increased one-third within the past three years.

CHATSWORTH.—In connection with the Royal visit we reproduce from our Chatsworth Supplement, published some years since, an illustration of the great conservatory (see fig. 11, p. 21), designed by the late Sir Joseph Panton, and which furnished the model for the great Exhibition of 1851 in Hyde Park, afterwards removed to Sydenham. The Chatsworth conservatory is about 300 feet in length, 145 feet in breadth, and 65 feet in height, covering 1 acre of ground, and is planted with Palms, Musas, and other tropical plants. The Emperor fountain is a simple jet, rising to a height of 296 feet. (See fig. 12, p. 27.)

COLONIAL NOTES.

PINEAPPLES IN SINGAPORE. — A recently-published report of the Straits Settlements states that in Singapore the Pineapple industry continues to prosper; the area planted with Pines being still further extended. Notwithstanding this, the price of the fruit has risen. Some 426,000 cases of the fruit were sent to Europe and America during the year—an increase of 25,000 cases.

TEA IN CENTRAL AFRICAN PROTECTORATE. -Mr. McClounie, an official of the Government, writes, under recent date, that the progress made by the Tea plants during the past year shows that there is little difficulty in the successful cultivation of the plant on the deep black soils of Zomba. The question of success is therefore not one of cultivation, but depends on rainfall. It is only a very limited area of the Protectorate that has a suitable rainfall—that is, approaching 110 inches annually with an altitude of 3,000 feet above sea-level, and an annual normal rainfall of 50 inches, such as Zomba obtains, and also the greater part of South Uganda. It is only from such districts as south-east Ulange and northwest Nyasaland that Tea may ever be expected to become a successful commercial product. The altitude of the latter district is from 1,500 feet to 2,500 feet, and obtains an annual normal rainfall of 76 inches.

WEST AUSTRALIA.—The report of the Government botanist, Mr. ALEX. MORRISON, mentions the fact that an excursion for the study and collection of the native flora was made in September and October to the Stirling Range in the south of the state. The district is an arid one, but nevertheless a large number of specimens was collected, the detailed study of which has been

deferred owing to the pressure of routine work, which might be done by trained assistants. Western Australia is the only Australasian statethat has not had its botany worked out in detail, although its large area and peculiar flora render it peculiarly favourable for the study of problemsin the biology of plants that have a direct bearing on the growth of the plants cultivated in their vicinity.

RUBBER PLANTING IN THE FAR EAST .- It isstated in the India Rubber World, of November 1, that an estimate has recently been made by the publishers of the Tropical Agriculturist of the extent of Rubber planting in Ceylon. The total area planted in Rubber trees (chiefly Hevea) isestimated at 11,630 acres. The number of treeson this area is believed to be from 3,500,000 to 4,000,000; but it is difficult to obtain an exact estimate on this point, because the distance at which the trees are planted varies, and alsobecause more than half the area mentioned is alsoplanted in Tea. The Tropical Agriculturist alsoestimates that there are about 3,000,000 Rubber trees in the Straits Settlements (including the Federated Malay Straits) covering some 16,600 acres. Of these trees probably a third are five years old or over. The Agricultural News.

HYBRIDISATION OF PINE-APPLES. - Before reaching that part of the garden [Hope Garden.. Jamaica] where the pinery beds are located. Mr. FAWCETT treated us to a most impressive sight-that of witnessing the progress which is being made in the experimental hybridisation of Pines. The superior qualities of the Ripley varieties as to flavour, and the excellent qualities. of the Smooth Cayenne as to large size and weight, good keeping, and ability to bear long. transport, gave rise to the idea that if the two varieties could be crossed, the hybrid product. would most likely partake of the mixed qualities of both parents. At Hope, during the present year, it is gratifying to observe that these operatious are on a scale at least large enough to deserve, if not, indeed, to command, success. That this delicate operation has been skilfully performed at Hope is shown by the abundance of the seed obtained and the large number of seedling. plants procured. I estimated that there are this. year hetween 1,500 and 2,000 seedling plants thus cross-fertilised, and known as Cayenne × Ripley, growing in the nurseries at Hope; so that there is surely a hopeful chance of more than one superior variety being evolved. Cited in the "Agricultural News," Dec. 19, 1903.

COLONIAL PUBLICATIONS RECEIVED.—The Australian Garden and Field (Agelaide and Melbourne), the official journal of the Royal Horticultural Society and the Horticultural Improvement Society of Victoria, and the Victorian Gardeners' Association. Devoted to agriculture, horticulture, and viticulture. A useful publication.—Indian Planting and Gardening (Calculta). Editor and proprietor, H. St. John Jackson, F.L.S. A. journal dearing with Tea, Coffee, Indigo, Economic Products, and Gardening. This advocates scienlificas apposed to rule of thumb and traditional methods of horticulture, and is full of valuable information concerning the products above-named.—Agricultural Bulletin of the Straits and Federated Malay States. October. Contents: Cotton, the Mosquito Plant (Ocimum viride); notes on Rubber from different districts, an Abnormal Cocoanut &c.—The Agricultural Journal of the Cape of Good Hope December. Contents: Rural Cape Colony (Houstraied), New Oak-tree Pest, the Great Drought, &c.—Proce-dings and Journal of the Agricultural and Horticultural Society of India. Con-aius a description and plate of Cassia nodosa.—Bulletin of Miscellaneous Information, Rotanical Department, Trinidad. October. Contents: Management of Lawns, Mango and Lime, Collear robusta, Marina settgera, Fruit Trade, &c.—Hest Indian Butletin, vol. iv., No. 3. This number is entirely devoted to the Cot on Industry in the West Indics.—Jamaica Board of Agriculture: Report on Manurial. Experiments during 1902. These experiments were made with Sugar-cane, Banana, Pineapple, Coffee, and Tobicco. The report is turni-hed by H. H. Cousius, M. A.—The Journal of Agriculture; Receat Field Experiments, Commercial Horticulture in Victoria. November. Contents: Need for Sill Investigations, by S. W. Wallace, Omecon of Agriculture; Receat Field Experiments, Commercial Horticulture in Victoria. &c.—The Queens and Agricultural Journal. November. Contents a useful article on Eosilage, and much other matter connected with crops and stock. The Opter for a disastrous.

drought.—Appendix to the Report of the Minister of Agriculture (Ottawa), Experimental Farms Reports, 1902. This contains the reports of the Director, Wm. Saunders, the Agriculturist and the Horticulturist:—"Notwithstanding severe frost on May 9 the season, on the whole, was satisfactory, and good progress was made in the work of this division." Notes are also furnished by the Chemist, the Entomologist and Botanist, and the Poultry Manager.

HOME ECORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

TAILBY'S NEW HYBRIO LILY.—In a recent issue there is mention made of Tailby's new hybrid 'Lily' and as the statement there made is mis-

ground until the tops are killed down by frost, then cleaned and stored as Potatos until planting time again. There is a great future for Calla Mrs. Roosevelt, as it is adapted to so many decorative purposes, as single specimens in pots or tubs, large masses in park or garden, for border culture, or indeed any form of summer decorative work, where a minimum of storage room in winter is available. Curiously enough, this plant comes true from seed; these are sown outdoors in May as one would sow garden Peas, and they germinate at once, flowering the third or fourth year. We have tubers of this Calla that could not be potted in 8-inch pots owing to their large size; in shape and method of increase they exactly resemble Caladium tubers. J. Tailby & Son, Wellesley, Mass.

dils are beiog raised all over England, and, in fact, all over the world. In the Christmas number of a New Zealand paper, four new seedlings are figured, and look promising. My impression is that all the "i's" and the "iis" will have to be abandoned as sectional names, and the varieties so called to go into the magni, medii, and parvi classification, with perhaps one or two additional classes. The Royal Horticultural Society's Narcissus Committee should decide in an arbitrary way to which class a variety belongs, as is done by the Dahlia Committee in the case of the Cactus Dahlias. The honour to the raiser could not and need not be overlooked. The method of the old florists was to write the name, followed in brackets by the



FIG. 12.—THE EMPEROR FOUNTAIN, DISPLAYED BEFORE THE KING AND QUEEN AT CHATSWORTH ON MONDAY LAST. (SEE P. 26.)

deading, it is desirable to correct the same as soon as possible before it becomes a matter of record. As a matter of fact, the plant noted is not a Lily, but a cross-bred Calla, the result of crossing the common Calla or Richardia albo-maculata with the fine C. Elliottiana. The result being as to colour of blooms exactly intermediate, that is to say, a beautiful lemon yellow with the characteristic deep brown base to the flowers. In vigor the new variety exceeds all expectations in that it exceeds the common R. æthiopica in growth, vigorous plants bleoming with the first leaves, these being beautifully spotted in both parents, and attaining a height of 3 to 4 feet during the season. It should also be said that the plant is no mere bardy than a Potato; the tubers, in fact, are treated exactly as Potatos in their culture. Being planted out in settled, warm weather here in May, they are left in the

NARCISSUS NAMES.—I read the article in a recent issue by Rev. G. H. Engelheart, and am very glad he has taken up the question of the classificatiou of Daffodils. With his remarks I am entirely in agreement, and think that the simpler the classification the better. Professor Hillhouse at Birmingham suggested that a separate class (the flat-crowned sorts) should be called Engelhearti, in honour of the immense improvement that gentleman has made in this flower. Personally, I do not think it is necessary, for as long as the Narcissus is grown, so long will Engelheart's name be known. If this system is to be continued, it would only be fair to make Graaffii include all the white trumpets, and Wavereui all the giant trumpets. Now there are the green crown varieties which have been already raised at two separate places; they could claim insertion in a new class. Seedling Daffo-

raiser's name. I am sure all Daffodil growers are greatly indebted to such men as Barr, Burbidge, Horsfield, Backhouse and others; and that it is in no other spirit than that of simplifying the classification that the omission of "i" and the "ii," &c., is suggested. John Pope.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—In the face of the melancholy fact that the voting-paper for the next annual election to the above Institution on the 21st inst. contains the names of fifty-three candidates, of which number only twelve can be elected, it is incumbent upon all who take an interest in so excellent a charity to open up as far as possible new channels by which increased means may flow into the treasury. There are about the country a large number of gardeners' societies, the members of which meet weekly or less often; and it seems

to me there is thus effered opportunities for the collection of small sums, say, one penny per week from each member. So far, I am not aware that these societies have rendered assistance in this direction as bodies, though individual members may have done so. In the course of the next few days I shall be addressing two such societies, and it is my intention to make an appeal for weekly contributions. Members of the Committee of the Institution and others who reside in or near London are occasionally invited as lecturers, and thus have an opportunity of setting forth not only the objects of the Institution, but also the means by which increased support might be obtained. I think, also, that if leaflets were prepared having on one side, in a condensed but clear form, some account of the objects of the Society and its work, and on the other side a subscription-form, with an intimation that small sums are acceptable, and such leaflets distributed at our large provincial flewer-shows, some increased support would be forthcoming. It would not, I think, be difficult to organise a small band of gardeners, having hearts touched by deep sympathy with the objects of the Institution, who would be willing to under-take such a work. What is required are labourers in the vineyard of charity. R. D.

RIPE MELONS IN DECEMBER.—I was recently in the gardens at Petworth Park, and was surprised to find a batch of winter Melons. Mr. Pull, the gardener, had cut the first fruits that morning (December 24) to send into the house. The variety grown is Petworth Park Green-flesh, and the fruits weigh on an average 2½ to 3 lb. each; they are evenly netted and of a grand flavour. Mr. Pull told me that he grows the variety early and late. F. J. Foster.

— I have had the variety Duchess of York produce ripe fruits in December and January; but the usual colour and flavour were absent. It is a white-fleshed Melon with golden-coloured exterior. I cannot understand how your correspondent, A. Read, could obtain colour or flavour as he would in May or June. Melons not only want heat, but sunshine [or electric light. Ed. . Before writing as "A. Read" did, he should send a fruit to the Editor, that its flavour might be tested. J. S. A. K.

REMARKABLE PLANTS OF CYPRIPEDIUM INSIGNE.—In reference to Mr. Webster's note on p. 4, I saw the same plants two years ago. They are certainly unusual examples of cultural skill, but they are of the old type. I doubt if anyone could get such fine plants of first-class varieties, or whether they would stand the amount of feeding that Mr. Crosswell gives his plants. Mr. Chapman, when lecturing to the Beckenham Horticultural Society, strongly condemned the feeding for Cypripediums. I should be glad to know the kind of potting compost Mr. Crosswell uses. G. Stratford, Totteridge, Hove.

WINTER-FLOWERING CARNATIONS.—Having read with interest the notes that have appeared in the Gardeners' Chronicle upon Tree-Carnations, may I ask Mr. Knellar, of Penrhyn, to kindly explain his method of obtaining such a large quantity of flowers of that useful Carnation Mrs. Leopold de Rothschild at such a dull season of the year? We cultivate a few hundred plants of that variety, but I am sorry to say they do not open their flowers satisfactorily during December and January. A. W. [See Mr. Cook's article on p. 18. Ed.]

MOTOR LAWN - MOWER. — In answer to "E. S. R.'s" enquiry on p. 15, I beg to state that the motor lawn-mower was worked by a gardener after having had two days' training under a motor engineer who came with it. He had worked a steam lawn-mower for about three years previously, but had not had anything to do with a motor. I think that any practical man would soon learn how to use it. O. L.

THE RAINFALL IN COUNTY KILKENNY DURING 1903.—We had '01 or more of rain on 232 days, the driest months of the year being April with 1'09 inch and November with 1'34 inch, the latter month, taking the season into account, being the nicest month of the year. In March we had rain on twenty-seven days, with a total

of 7.02 inches; and in October rain on twentyseven days, with a total of 5.03 inches. As I write (on January 4) we have had already this year nearly 1½ inch of rain:—

			Total depth.				Total depth.
190)3.		Ins.	1903			Ias.
January			6.81	August			5.57
Februar			2 95	September			3 69
March			7.02	October			5 03
April		***	1 09	November			1.34
May			2.86	December			4.49
June			4 02				
July			5 79	Total for year 50 66			

Our totals for the six years previous are as follows:—

			Ias.			Ios.
1897	***		44.0	1900	 	40 11
1898		•••	33 43	1901	 	33 64
1899	***	•••	36.82	1902	 	41 07

J. G. Weston, gr. to Lord Duncannon, Bessborough, Co. Kitkenny.

A NATIONAL GARDENERS' ASSOCIATION.—
It was with great interest that I followed various proposals, especially those put forward by Mr. Divers, for a National Gardeners' Association, but by the information I obtained from your issue of December 19, regarding their meeting, I for one must say that I am off. To begin with, a lady-gardener puts forth the claims of her sex. Now the first question I would put to her would be, "Madam, do you consider yourself qualified to use a No. 4 spade?" I italicise the word "use" because we all well know that there are two ways of using a spade. If the champion of the fair sex can do what is asked of her, I say by all means give her the rights she is entitled to. Mr. McIndee says he found it difficult in the North to obtain young men, as the pay did not tempt them. Does he mean Scotland? If so the sooner he gives an explanation of the words "did not tempt them" the better. We Scotchmen need no tempting, and so far as the profession is concerned, we are not afraid of our honour. Norman says he would like to see young men compelled to spend time in learning farming, forestry, and general work. If we try to keep labourers out of our trade, what right have we to become Jacks-of-all-trades? Mr. Willard says a very wise thing when he asserts he would like to see gardeners doing all in their power to raise themselves. Mr. Fielder speaks the right-down honest truth when he says head gardeners are often too liberal with their recommendations. Any attempt at an examination other than in pure practical work is all very good in its way, but the man who can show good work with hands and brains is the gardener that I would encourage; and I think that others will agree with me. J. C. S., Dupplin, N.B.

The world seems never to be tired of running after novelties, and good gardeners are not exempt from craze-mongering. I, for one, should be deeply grieved to possess the knowledge that any association was established which would take away the sole prerogative of a wise and responsible head gardener, that is, his ability to judge of the fitness of any of his assistants, as to their character, practical knowledge, qualifications, and aptitude for the proper management of the neverceasing duties involved in new and higher appointments. Head gardeners and their assistants who do not see their way so clearly as they ought to do, should at least be a little more charitable in thought towards both employer and employed, the one in the up-keep of his establishment, and his humble and solitary gardener, who may besides his legitimate duties have to milk a cow or attend to a horse and trap; but so long as the lonely disciple of Adam performs his duties cheerfully and with that spirit of attention to duty which the humblest situation claims, that individual should not be denied the good wishes which are often bestowed on higher and sometimes less unworthy workers. Again, with regard to those fallen sons of the profession, from my own sad experience I may with all truth say that it has been generally through some inherent fault of their own that they are under the necessity of earning a precarious livelihood as "jobbing gardeners." Young gardeners would do well to remember that they are not mechanics, who, if they he but skilful workmen, can get employment without any character at all; the gardener is, as it were, direct from Eden [!],

and has a name and a character to uphold. If he fails to do that, then he cannot claim the distinctive title of being a true gardener. A. M.

distinctive title of being a true gardener. A. M. I notice in your issue of Dec. 19, 1903, the references to the proposed Gardeners' Association. For many years this subject has occupied my attention, and in connection with the comprehensive scheme of a "Home for Horticulture" which I formulated and published plans of some years ago, the needs of the under-gardener were duly considered. The [present] project does not appear to include under-gardeners, but, if I understand it properly, principally aims at more intimate intercourse between head-gardeners and employers; it is also too local. My conception is that of a great organisation with its contral control department at some convenient spot in the Metropolis, say the new hall in Vincent Square, and provincial offices in various parts of the country, and in Scotland and Ireland, which would be in close touch with it. The branch provincial offices being widely spread, country gardeners will in all parts easily communicate with them, and thus, united by their common interests, a bond of brotherhood will be established. To some this proposal may appear Utopian and incapable of accomplishment, but with united action, under the direction of a gentleman of position, influence, and business ability, who-might be induced to control the acting executive, difficulties would soon vanish and an amalgamation of horticulturists be founded. Suppose now the Royal Horticultural Society or other great representative body should resolve upon the accomplishment of this scheme, probably the first step would be the election of a general secretary, competent to deal with every question involved. Having secured such an official, the general council would probably mark out the country in districts or circuits, in each of which a thoroughly representative gardener would be appointed to act in the interests of the association and its members. This local secretary or agent woulds acquaint gardeners and others in the neighbourhood with the general intentions of the society,. and the special advantages it would provide. It may be thought that a long time must pass before this scheme could take form, but the more difficult the task, the stronger the start which should at once be made to evercome it in order to better the prospects and widen the opportunities of the gardening fraternity generally. No doubt the committee who propose to move in this direction are using every effort in their powerthis direction are using every enorth their power to further the undertaking, but their hands require strengthening, which would be effected by the co-operation of a representative body of thoroughly practical business men. More helpers are needed and capital for initiatory outlays absolutely necessary. How are these to be provided? The former will probably follow a systematic and the properties of the factor in the horizontal trunk. matic publication of the facts in the horticulturals papers, and I think the latter may be found if periodical sales of work, Rose fetes, concerts, and other pleasant and fashionable reunions be organized not only in towns in England and Wales, but also in Scotland and Ireland. Very much has been accomplished in this way by ladies in aid of Very much has charities of various kinds. It is not for charity that this movement has originated, but with the object of improving the social conditions of gardeners. and others and of helping them in times of need, and also for the betterment of those whose circumstances appeal to their sympathies, and why not the establishment of old-age pensions also? I have known instances of the most gratifying character, and well remember a highly successful Rose fête at the Mansion House during Sir David Rose fete at the Mansion House during Sir David Evans' year of office. The fête was a brilliantaffair, opened by the late Duchess of Teck, and attended by a a bevy of titled ladies, several of whom had stalls. Under the patronage of the nobility and gentry, such enjoyable reunionsmight frequently be held with great advantage. Ladies who are enthusiastic in their admiration of the heautiful will remarker the under gentless that the partial will remark the under gentless that the partial will remark the partial will be the partial w the beautiful, will remember the under-gar-deners whose labour does so much to produce it. Respecting the organization of the Association, supposing all the members of the Royal Horti-cultural and other kindred Societies were appealed to on behalf of this undertaking, and asked to allow their names to be enrolled as patrons, a nominal subscription of 5s. per annum might be mentioned; and in connection with the

sales of work already referred to, there might be one at which the 5s. would be returnable, if desired, as part payment for goods purchased, and a membership might be established at an annual payment of 2s. 6d. Again, it might be possible to have a picture gallery on the official premises where new works could be exhibited and offered for sale from time to time, and also, if a suitable structure were available, perhaps an auxiliary gallery to the Royal Academy might where pictures refused be instituted, Academy might be hung. As is well known, many very good paintings are rejected by these recognised official combinations. In this saloon, thus temporarily stocked with Roses and other flowers, the upper parts of the walls might be adorned with good pictures, and with the aid of professional music would blend with the other beauties displayed, and prove a delightful tout ensemble. The trades, particularly those interested in horticultural produce and distribution, might be solicited to allow donation boxes to be on their counters or other convenient places. I hope the correspondence and interchange of ideas now appearing in your columns will lead to this desirable consummation—the establishment of a National Gardeners' Association on a good financial basis. The few thoughts embodied herein are merely offered as suggestions. James L. Wood, F.R.H.S., Wood Green.

[We have received so many letters upon this subject that, in future, it will only be possible to insert such as are very brief and to the point, and which suggest some matter not discussed hitherto. Ed.]

NOTICES OF BOOKS.

LA THÉORIE DES CAPACITÉS FONCTIONNELLES
ET SES CONSÉQUENCES EN AGRICULTURE.
(The Theory of Functional Capacity and its
Results in Agriculture.) Studies in Applied
Vegetable Anatomy and Physiology. By
Lucien Daniel, Professor of Applied Botany
at the University of Rennes.*

THIS is one of those excellent treatises of the author containing the results of his experiences in applying an adequate knowledge of botanical anatomy and physiology to the common everyday practical work of horticulture. All gardening practices, however simple, e.g., the growing of Mustard-and-Cress or Cabbages, require, in order to be successful, a certain amount of scientific knowledge, although this latter is often unconsciously inherited or otherwise transmitted. The florist or kitchen gardener may boast his independence of, and sheer contempt for, this scientific knowledge; while all the time he is (consciously or unconsciously) possessing and using it. Few indeed are the intelligent men, especially in this country, who are able to keep a fully conscious eye and mind directed to both the scientific and practical aspects of horticulture. How much more might be accomplished than is accomplished if a wider and a deeper scientific knowledge could be mingled with our hackneyed and rule-of-thumb operations in the garden!

The general nutrition of a plant depends on the due proportion between root-action and leafaction in the living plant, in other words on the proper distribution of the sap between the roots and the foliar organs, the two chief factors herein concerned being (1) the total absorption from the external surrounding, or what our author terms the "functional capacity of absorption," denoted by the formula ca; and (2) the total consumption at the points where the sap is used up, or the "functional capacity of consumption," cv.

When the plant is in complete equilibrium as regards its general nutrition, the relation $\frac{cv}{ca} = 1$ is obtained, i.e., the condition in which consumption and absorption are equal. But under the influence of natural or artificial variations in the external circumstances, or in the respective dimensions of the acrial or subterranean apparatus of the plant, this equilibrium may become upset.

The absence of equilibrium in the nutrition, $\frac{c}{ca} > 1$, or the condition in which the acrial consumption is greater than the (usually) subterranean absorption, will correspond to growth in a dry or poor soil; the absence of equilibrium, $\frac{c}{ca} < 1$, or the condition in which the absorption is greater than the consumption, will correspond to growth in a moist or rich soil.

In the first case, seeing that the leaves and young shoots are the chief organs concerned in the consumption of the sap, and the roots are those occupied in its absorption, it is evident that the activity of the former overrides that of the latter-i.e., that the leaves consume more than the roots absorb. So that, in order to restore the balance transpiration must be reduced by diminishing the leaf-surface of the plant, and absorption enhanced by increasing the production of roots; and this latter will probably result in some measure from the former. In the second of our two cases the reverse process must take place. If the limits of desiccation or inanition on the one hand, and of watery repletion or indigestion on the other, be passed, the plant must die. It is invariably found that slightly accentuated changes in the media in which the plants grow induce a partial diminution in their normal resistance to parasites. A drier medium is favourable to the action of animal parasites; a moister medium contributes to the more rapid development of vegetable parasites, especially those of a cryptogamic nature.

The absolute value of the "functional capacity" of a given plant—i.e., the capacity of its leaves, &c., to assimilate, or of its roots to absorb, is shown especially in trees under cultivation, in the relative thickness of the wood formed at the moment under consideration, in the relative diameter of the vessels, and the thickness of the cell-membranes.

The boughs, branches, and buds, e.g., of a Peartree, possess functional capacities depending on the rapidity of arrival of the sap and the number of vessels engaged in conveying this latter, these two factors themselves bearing a definite relation (1) to the successive angles which the organ (branch or bud) makes with the vertical; (2) to the facilities afforded for the performance of its vegetative functions.

Hence arises a distinction between the form and structure of woody and of fruiting branches, as also the possibility of creating transitions between the two by inducing a rational variation in their functional capacities. The fruiting branch, with its smaller draught of sap, is distinguished from the woody branch by a diminution in its woody conducting tissues, and by an increase in its cellular or spongy tissues and starch-productoin. For example, if a transverse section be taken below the level of insertion of, say, three branches or twigs whose functional capacities are of a very different nature (e.g., vigorous and vegetative, or weak and fruit-bearing), the hard woody tissue will often be found to be divided up into islands, the respective dimensions of which are proportional to the functional capacity of the organs (twigs) to which they correspond and below which they occur.

This is proof of the correctness of the theory of functional capacity, which can also be experimentally verified by means of various horticultural practices based either on an increase or diminution in the absolute value of the normal points at which a draught on sap is effected (as in forcing, and the various methods of training branches, &c.), or on variations in their number (different kinds of rationally performed mutilations, &c.).

When an inequality in the work of the members (leaves, &c.), going on at the surface of an organ is artificially provoked (as in one-sided illumination, local wounding of the cortex, unilateral

suppression of the roots, buds and leaves, &c), or if the work of a lateral is transformed into that of a terminal member (as in various methods of pruning and grafting, &c.), the phenomenon of "dorsiventrality" appears, which is faithfully registered in the formation of the secondary wood of the plant or organ concerned.

Another phenomenon to be noticed is the following: If a sudden decrease or increase in the functional capacity of an organ be brought about by cutting or breaking the latter during the period of active growth, this will be registered in the annual zone of secondary wood by the formation of as many zones of harder or softer wood as there have been successive fractures or loppings.

(To be continued.)

MISSOURI BOTANICAL GARDEN.

The fourteenth annual Report (1902) has been recently published, and furnishes an encouraging record of progress. The present volume contains a monograph of the Honeysuckles (Lonicera), by Mr. Rehder, elsewhere alluded to, and a supplementary catalogue of the Sturtevant pre-Linnean Library. The term "pre-Linnean" is extended to include Miss Amherst's History of Gardening in England, probably on account of the bibliographical details it contains. The Report was, of course, issued before the fire which recently caused so much destruction to the houses.

"THE HEATHER IN LOVE, LYRIC, AND LAY."

When at the first glance of this book we saw that it emanated from the land of the almighty dollar, we were somewhat surprised, so different is it, in the style in which it is written, from what we are accustomed to in American books, whilst the sentiment is equally strange as coming from so severely practical a people. A little further examination showed that, though written, printed, and published in America, the book is to all intents and purposes Scotch. The editor of the Florist's Exchange, who is the author of this book, may be, for aught we know, a naturalised American, but for all that he is a perfervid Scot. To him may fitly be applied Horace's statement: "Calum non animum mutant qui trans mare currunt." He may in crossing the Atlantic have changed his environment, but his heart is in the Highlands still. He speaks of himself as an expatriated Scotsman and as a happy exile; and that is so in part no doubt, but nobody but a Scot could have written this book. Of course, Scotland has no monopoly of the Heather; there is happily plenty of it on our Surrey commons, close to London, and scarcely an English, Welsh, or Irish county is without it. In America, however, it is very rare. It occurs in Newfoundland, and we well remember the sensation produced when the plant was discovered in Massachusetts. "What next!" writes Asa Gray to Engelmann. "A young gardener has found a locality for Calluna vulgaris, covering almost an acre, within twenty - five miles of Boston; a case to add to Scolopendrium, Marsilia, &c., but most of all striking and unexpected. It grows in low ground and has every appearance of being indigenous." Mr. Wallace's enthusiasm has led him to examine every corner, as it were, of literature in search of information relating to the Heather. He has dug down to the roots of the plant itself to ascertain whether the statement is true that the roots are associated with a fungus without whose co-operation (symbiosis) it will not thrive. But the statement is not confirmed, and remains open for enquiry. He has examined the thatch of the Scottish cottages, he describes the beds of Heather and the couches whereon the sportsmen rest; besoms and scrubbing brushes, dyes, medicines, forage, beverages, peat, and we know not what beside are included in the inventory of things useful furnished by

^{*} Imprimerie Fr. Simon, successeur de A. Le Roy, Rennes, France, 1902 Price 20 francs.

the Heather. As to Heather-lore and Heatherlays the author waxes enthusiastic; and well he may, for many of the lays will be new to our

readers and are most touching.

The book is a delightful one to those born north of the Tweed, but no Southron into whose hands it may fall will allow them to have a monopoly of it. It is well illustrated, and is published by the De la Mare Publishing Company, of New York.

HOOKER'S "ICONES PLANTARUM."

The last part of this publication, dated November 1903, has lately reached us. It is chiefly of botanical interest, but contains several articles of economic importance, such, for instance, as the illustration and description of Landolphia Kirkii, tah. 2755; an Apocynad yielding india-rubher, of which Sir William Thiselton-Dyer thus speaks: "The development of the important india-rubber trade of East Africa was entirely due to the energy and sagacity of Sir John Kirk. As early as 1868 he sent specimens of the present species and rubber made from it to Kew. This is collected in a way which is perhaps unique in any rubher-ylelding plant. Some of the milk from a wound is allowed to coagulate. The pellet so obtained is applied to a fresh cut, and being turned with a rotary motion, the exuding milk is drawn off like silk from a cocoon. . . Sir John Kirk long endeavoured to induce the natives to collect the rubber. Everyone was engaged in the slave trade, and the experiment in consequence failed. But it eventually created a new trade for all those classes whose means of subsistence came to an eud with its suppression."

Landolphia Petersiana, tab. 2756, also furnishes a rubber of inferior quality, which does not coagulate spontaneously but by the agency of heat. Carolinella cordifolia, tab. 2775, is a pretty new Primulad from the mountains of Yunnan. Bambusa Oldhami, a Formosan species, is in cultivation in S. California. Two or three Bignoniads, such as Xylophragma pratense, and Paragonia pyramidata Sprague are worthy of cultivation.

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 5 .- The first meeting of the Committees in 1904 took place on Tuesday last in the Drill Hall, Buckingham Gate, Westmioster. There was a moderate display of exhibits that filled the body of the Hall, but the sides of the building were not furnished as they are generally, though on one side there were stands were shown samples of "Junofloris," a liquid for adding to water with a view to prescrying cut flowers; "Beetlecute," a powder for destroying beetles; and "Floral aids," which are stands for arranging flowers.

There were few noveltles before the Committees, but the FLORAL COMMITTEE recommended an Award of Merit for Moschosma riparium, which has been shown on some previous occasions.

The Orchin Committee recommended four Botanical Certificates.

An excellent collection of Apples was shown by Messrs. GEO. BUNYARD & Co., of Maidstone. There appeared to be fewer visitors to the Hall than usual.

In the alternoon there were fifty-two candidates elected to the Society's Fellowship, which is certainly a good commencement for the new year. The exchange of New Year's wishes was the principal topic of conversation.

Floral Committee.

Present: W Marshall, Esq., Chairman; and Messrs. C. T. Druery, H. B. May, R. Dean, Jno. Green, A. Perry, G. Reuthe, C. J. Salter, R. W. Wallace, R. C. Notcutt, H J. Jones, C. E. Shea, W. P. Thomson, E. H. Jenkins, W. J. James, C. Blick, George Paul, W. Howe, Charles Dixon, Geo. Gordon, Jas. Walker, and H. J. Cutbush.

Messre. Jas. Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, exhibited several good flowering species in excellent condition. First may be menthoused Moschosma riparium (fig. 13), which received an Award of Merit, the plants being dwarf, and bearing

abundant panicles of white flowers; Coleus thyrsoideus (fig. in Gard Chron., Jan. 19, 1901), Jacobinia (Justicia) coccinea, an effective red-flowered variety; Peristrophe speciosa, and Jacobinia chrysostephana (fig. in Gard, Chron, July 13, 1872), a valuable winter-flowering plant with orange coloured flowers. It blooms best in a temperature of 55° to 60° (Silver Banksian Medal).

Mr. JNO. RUSSELL, Richmond Nurseries, Surrey, exhibited a very large group of evergreen plants in pots, suitable for planting in beds for the winter, or for furnishing window-boxes, &c. There were many choice and variegated varieties of Ivy, Euonymus, Eleagnus pictus aureus, Ligustrums, Eurya latifolia, Garrya elliptica, &c. Such plants as Aucuba japonica, Skimmias, &c., were abundantly covered with berries, and all the plants were perfect little specimens (Silver Flora Medal).

Messrs. W. Cutbush & Sons, Highgate, London, had pretty though small exhibit of alpine and other hardy plants. In the centre was a group of stronglyflowered plants of Tussilago fragrans, the perfume being very noticeable; double-flowered Primroses, Sternbergia Fischeriana, Iris histrio and I. histrioides, Daphne Blagayana, D. Mezereum alba, Sarracenias, &c, backed by a few shrubs, including Skimmia japonica. Messrs. Curbush had also a very pretty exhibit of flowers of winter-flowering Carnations, including the varieties Mrs. S. J. Brooks (white), Sir Hector McDonald (white ground flaked with pink), W. H. Cutbush (crimson), Lady Smith (salmon-pink), &c. (Silver Banksian Medal).

Messrs. H. CANNELL & Sons, Swanley, Kent, exhibited a group of plants in which the following useful flowering greenhouse plants were used to good effect, Coleus thyrsoideus, Moschosma riparium, and small well-flowered plants of Begonia Gloire de Lorraine, which were placed along the front of the group. Three plants of a rich starlet-flowered Canna, named Jean Tissot, brightened the centre. Messrs. Cannell showed also flowers of their strain of Primula sinensis, of which the following varieties were some of the best-Swanley Giant (rosy-red) White Swan, Swanley Purple, 11. Cannell (crimson), Duchess of Fife (pale mauve), Cannell's White, Avalanche (white), &c. (Silver Banksian Medal).

Messrs THOS. WARE, LTD., Feltham, exhibited a group of alpine plants, comprising many of the most useful of this interesting class of plants. The Succulent section, Crassulas, Sedums, Sempervivums, also the genus Tnymus were presented in numerous species. Rock-roses, which later will furnish a pleasing effect with their pretty flowers; the tiny Draba, and other alpine Crucilers. Phloxes, Pinks, Primulas, St. John Worts, and hardy Cyclamen were all represented. The interesting little Polygala chamæbuxus was in flower. Mecanopsis nepalensis was very striking with its silky adpressed leaves. Saxifrages were numerous. many of them giving signs of pushing forth their flowering spikes. That interesting little plant Primula Forbesi (see fig. 10, p. 20) was shown in flower on its long slender peduncles. This would be pleasing to find anywhere at this season of the year. Its beautiful mauvecoloured petals must brighten the rockeries and alpine gardens wherever it has been planted (Silver Flora

Messrs, Hugh Low & Co., Bush Hill Park Nurseries, London, N., exhibited a group of Cyclamens in flower, the plants bearing good flowers of the florist type, and others of the "Papilio" section.

Oce-half of one of one of the long tables was furnished with a collection of cut Chrysanthemum flowers shown by Lady Plowden, Aston Rowant House, Tetworth, Oxon. This exhibit was a good representation of most of the the late-flowering varieties, including Mrs. H. Weeks (white), King of Plumes (yellow), Glorious (red and bronze colour), Harold Wells (lemon colour), Mrs. Bantry (large single white), François Pilan (rich yellow), W. H. Lincoln (yellow), L. Canning (white), &c. an unusually large display to come from a private garden after the commencement of the year (Silver Flora Medal).

Mr. J. G. Lowe, Shrewley Nursery, Warwick, exhibited plants of a rosy-red-flowered Japanese or decorative Chrysanthemum, the flowers about 4 inches across. similar in form to those of Framfield Pink and rather deeper in colour.

Chrysanthemum Harry Whateley was shown by Mr. WHATELEY, of Keoilworth, who had numerous flowers. This variety is a sport from niveum, and was given an Award of Merit on January 13, 1903. The flowers are white like the type, but the florets are much forked and this gives an appearance of fimbriation to the flowers.

Mr. DUNCAN, of Mint's Feet Nurseries, Kendal, exhibited another late-flowering Chrysanthemum named Mrs. A. Duncan, colour greenish-white; and Messrs. H. CANNELL & Sons, Swanley, showed the White Bonaffon, which has flowers of a good substance, and in whiteness almost or quite as pure as Elaine.

Mr. F. W. MOORE, of the Botanic Gardens at Glasnevin, Ireland, exhibited a spike of flowers of Lachenalia tricolor superba, a very fine form with large, boldly-coloured flowers.

Bryophyllum crenatum was shown by Messrs. H. CANNELL & Sons. This Crassulaceous plant was about t feet high, with leaves about an inch across, and terminal cymes of brownish-red flowers, less conspicuous than those of B. calycinum. These stove-flowering plants are interesting because young plants develop from the notches in the leaves, some of which could be seen on the specimens shown.

AWARD OF MERIT.

Moschosma riparium (see fig. 13, p. 31).-A labiate shrub from South Africa, having hairy stems, stalked, ovate cordate, crenate leaves, and very numerous small cream or white-coloured flowers in erect panicles. Specimens in pots, exhibited by Messrs. Jas. Veitch & Sons, and Messrs. H. Cannell & Sons, proved that the plant is exceedingly useful for decorating the greenhouse ln the dullest winter months. It must not be grown in too high a temperature, or the plants become leggy, but if cultivated so as to develop sturdy, dwarf plants, it is evidently a first-rate garden plant.

Orchid Committee.

Present: Harry J. Veitch, Esq (in the chair), and Messrs. Jas. O'Brien (Hen. Scc.), De B. Crawshay, R. B. White, H. Ballantine, W. Cobb, H. T. Pitt, A. A. McBean, F. W. Ashton, J. W. Odell, E. Hill, W. Boxall, W. H. Young, W. H. White, J. W. Potter, H. Little, J. G. Fowler, J. Douglas, W. A. Bilney, H. A. Tracy, and F. Wellesley.

There was a much smaller show of Orchids than at the last two meetiogs, but Cypripediums still predominated.

Messrs. Jas. Veitch & Sons, Chelsea, were awarded a Silver Flora Medal for a group, principally of hybrids, the newest of which was Sophro-Cattleya × Saxa (S. grandiflora × C. Trianæ), a pretty dwarf variety with pink flowers and rose front to the labellum. The group also included some fine forms of Cypripedium × Euryades, C. × Prospero, C. × Niobe, and C. × Baron Schroder. Also Læ'lo-cattleya × Clonia, L.-C. × Epicasta, L.-C. × Coronis, L.-C. × Cappii, L.-C. × Bryan, L.-C. × Pallas, Lelia × Icarius, L. × Mrs. Gratrix, Catlleya × Miranda, Masdevallia × Imogen, and Epidendrum × Endresio-Wallisii.

Messrs. Sander & Sons, St. Albans, were voted a Silver Flora Medal for a very good group, in the centre of which were three plants of Cypripedium insigne McNabianum, a very fine dark variety of excellent shape. With them were the new C. x Masterso-villosum, a large flower, yellowish tinged with purple; C. \times robustum, forms of C × Euryades, C. × Annie Measures, C. x aureum, Maxillaria elegantula, Cymbidium Tracyanum, a finely flowered Aogreecum sesqui pedale, and a fine specimen of Gomeza planifolia.

Messrs. Charlesworth & Co., Heaton, Bradford, secured a Silver Flora Medal for a group containing the showy Cypripedium imes Dora Crawshaw (bellatulum x Charles worthii mosaicum), much like C. bellatulum in form but white beautifully tinted with rose: C. x Enid (Spicerianum x bellatulum), C. x Hera Lucienianum, C. xaureum, C. insigne Dorothy, Odontoglossum crispum, O. x Hallio-crispum, O. x loochristiense, Lælio-Cattleya × Violetta, several of the showy L.-C. x Charlesworthii, and the pretty Lælio-Cattleya x Andromeda (L. flava x C. aurea), light yellow with a reddish-rose-tinted lip.

C. J. LUCAS, Esq. Warnham Court, Horsham (gr., Mr. Duncan), showed a good collection of cut spikes of Calanthe × Veitchii, C. × Sandhurstiana, C. × Regina, C. × Bryan, C. × Wm. Murray; and various Cypripediums arranged with Maidenhair Fern (Silver Banksian Medal).

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr., Mr. Hopkins), showed the finely-coloured Cypripedium × rubescens Raujitsinhji, which had previously secured an Award of Merit; C. × Ilera Charlesworthii, and C. x Celeus superbum, both good; and Lælia autumnalis Westfield variety, a very large dark rose flower with white base to the llp.

II. T. Pitt, Esq, Rosslyn, Stamford Hill (gr., Mr. Thurgood), showed Cypripedium insigne Monkholme variety, like C. i. Sanderæ, but with some small blackish dots on the dorsal sepal; C. i. Rosslyn variety; a light-coloured flower of the C. i. Bohnhoftianum class, and $C. \times gigas$ Rosslyn variety.

H. Whateley, Esq., Kenilworth, showed Cypripedium \times Varney, and C. \times Amy Robsart, the last a very prettily-marked flower.

Messrs. Stanley, Ashton & Co., Southgate, showed Miltonia × Cogniauxiæ Stanleyl, a natural hybrid between M. Regnelii and M. spectabilis Moreliana, with flowers nearest to the former in shape, but of the purple colour of Moreliana.

Mrs. Harwood, Woodhatch, Reigate (gr., Mr. C. J. Salter), showed Cypripedium × Mrs. Haywood (× T. B. Haywood × Charlesworthii), a very dark-coloured and distinct bybrid, showing strong indications of C. Drurii, which was one of the parents of C. x T. B. Haywood; slso C. x Hitchinsie maculata.

Messrs. Hugh Low & Co., Enfield, showed fine plants of Cypripedium x Minos, Low's variety: also

C. insigne Sanderianum and C. callosum Sanderae.

Awards.

BOTANICAL CERTIFICATES.

Maxillaria macrura, irom F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin. $-\Lambda$ rare species allied to M. longissima, with purple tinted flowers having long, narrow segments, the upper one arching forward, and yellowish lip veined with red-brown. Syn. M. longlsepala, Lindenia, vi., p. 19; and Gardeners' Chronicle, July 26, 1890, p. 94.

Maxillaria cucullata, Irom F. W. Moore, Esq., Glasnevin .- Flowers an inch across, brownish with chocolate-coloured lip.

Bulbophyllum micropetalum, from F. W. MOORE, Esq., Glasnevin.-Flowers in slender racemes, the sepals (which are the showlest part of the flower) green with purple stripes.

Epidendrum Cooperianum, from F. W. Moore, Esq., Glasnevin .- Flowers in dense racemes, the prominent large, bright rose-coloured labellums rendering it very attractive. An old Brazilian species of great merit, and one of the finest of its class.

Fruit and Vegetable Committee.

Present: George Bunyard, E.q., in the Chair; and Messrs. H. Eslings, W. Bates, S. Mortimer, A. Dean, Ed. Beckett, H. J. Wright, H. Markham, Geo. Kelf O. Thomas, G. Reynolds, F. Q. Lane, J. Willard, G. T. Miles, George Norman, A. H. Pearson and J. Jaques.

Upwards of three dozen ripe fruits of Tomato Winter Beauty were shown by Sir W. D. PEARSON, Bart., Paddockhurst, Worth, Sussex (gr., Mr. A. B. Wadds).
Mr. J. Willard, Holly Lodge Gardens, Highgate,

exhibited good fruits of the two excellent varieties of Pear Easter Beurré and Bergamotte Esperen.

Mr. GEO. SCHNEIDER, 17, Ifield Road, Fulham Road, London, S.W., exhibited fruits of Pomme de Flandres and Pomme de Flandres blanche, two varieties of

culinary Apples not common in this country.

Messrs. George Bunyard & Co., Royal Nurseries, Maidstone, made an exhibit of 100 dishes of Apples, that were quite wonderful, seeing the excessively bad fruit season through which we have passed. Many varicties were so fresh in appearance they might have been gathered but recently. The following varieties wese amongst those that were most prominently good: -Allington Pippin, Lane's Prince Albert, Emperor Alexander, Baumann's Winter Reinette, Gascoyne's Scarlet Seedling, Bismarck, Sandringham, Hormead's Pearmain, May Queen, Golden Spire, Stirling Castle. Peasgood's Nonsuch, the highly-coloured Calville Rouge Précoce, and others. There were several varieties of Pears, as Easter Beurré, Josephine de Malines, Beurré Rance, &c. (Silver gilt Knightian Medal).

Some very well-coloured bunches of Black Alicante Grape were shown by W. Shuter, Esq., 22, Belsize Grove, Hampstead (gr., Mr. T. Armstrong). They were prettily surrounded by growths of Myrsiphyllum asparagoides, and backed by decorative plants. was a creditable exhibit, especially remembering that the garden is situate within three miles from Charing Cross (Silver Banksian Medal).

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

THE annual meeting was held recently in the Central Lecture Hall, Westmoreland Street, Dublin. report of the past year showed a total deficit of £294 138. To remedy this the Council proposed that two shows only be definitely arranged for 1904, namely, the spring show and the autumn show; that the spring show he



FIG. 13.-MOSCHOSMA RIPARIUM: FLOWERS WHITE OR PALE. Obtained an Award of Merit on Tuesday last. (See p. 30.)

extended to two days, and a floral sale be incorporated with it; that promenade concerts be held on both nights of the show, and that an outside Committee be formed to secure assistance. Mr. Ramsay, in seconding the report, said that the Dublin public and not the Council were responsible for the unfavourable condition of affairs shown in the report.

GARDENERS' DEBATING SOCIETIES.

BECKENHAM HORTICULTURAL. — On Friday, January 1, Mr. John Gregory, by the aid of some beautiful lantern-slides illustrating the subject, "Wall and Water Gardens," provided an interesting and instructive evening. Illustrations of ancient ruins, towers, broken arches, &c., before planting, and at various short periods after, showed how quickly they could be transformed. Water gardening in all phases, from growing the smaller Water-Lilies, &c., in a half paraffin cask to the beauty of reflection with light and shade in a large lake, provided some lovely effects.

BRISTOL GARDENERS' MUTUAL IMPROVEMENT.—DECEMBER 30.—This Society held its usual meeting on the above date, when Mr. Clarke, representing the Bath Association, gave a lecture on "Rock Plants." He carefully explained how to form a rock-garden, dealing with the proper soils, aspects, &c.; plants most suited for planting in crevices, niches, ravines, &c. Several members of the Bath brethren accompanied Mr. Clarke, and they received a warm welcome from their Briatol friends.

HULL HORTICULTURAL .- At a meeting on December 29, Mr. Gaut, from the Agricultural College, Leeds, delivered a lecture on the subject of potting plants, soils, and watering. In his opening remarks, Mr. Gaut said he did not come to teach the members how to pot a plant, but simply to introduce to their notice some of the general principles underlying the practice. The lecturer dwelt at some length on the three principal parts of a potting-soil, viz., peat, loam. and leaf-soil. Peat was, he explained, deficient in potash, but used in a compost, acted largely in the acration of the mass. The loam was valuable principally for its fibre, and in order to possess a large amount of this it should be cut from an old pasture in the autumn and stacked, so that much of the vegetable growth might be stifled before it was required for use in the spring. The fibre being the essential part of the loam, it should not be allowed to remain stacked sufficiently long to destroy this. Leaf-soil was largely used in potting-soils, not only on account of its nitrogenous value, but also on account of its capacity for retaining moleture. The lecturer, proceeding, strongly emphasised the acration of the soil as a sine qua non in plant culture, and this, he explained, could only be effected by good drainage in combination with an intelligently mixed compost. On the subject of watering, the advice was to study the structure of the plant, and to act in accordance with a knowledge of the plant in its native habitat. W. R.

Obituary.

GEORGE PRIOR.—Mr. Harry Turner informs me of the death of this aged gardener, who he thinks must have been one of the oldest in the profession—not far short of ninety-five or ninety-six years of age—and who died on the 29th ult. He had been a gardener all his life, though never occupying a position of any note, but during his career he must have had very varied experiences. He died at Norwood after being laid up for two years; but up to that time he had been in possession of his faculties in spite of growing infirmities. R. D.

W. HORNE.—We regret to hear of the death, on Saturday last, of Mr. W. Horne, senior, of the firm of W. Horne & Sons, Nurserymen and Fruit Tree cultivators, at Perry Hill, Cliffe, near Rochester. Deceased was 54 years of age.

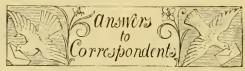
J. C. Fidler.—Mr. J. C. Fidler, head of the firm of Messrs. Fidler & Sons, Seed and Potato Merchants, Friar Street, Reading, died, on the 26th ult., from pneumonia.

THE LATE JAMES SMITH, OF HOPETOUN.—So recently as December 5 we published a short account of the retirement of Mr. James Smith, of Hopetoun House Gardens, Linlithgowshire. It is now our sorrowful duty to record his death, which took place at Hillview, Maryfield Place, Bonnyrigg, N.B., on December 27. After what was said of Mr. Smith in the issue referred to, it is unnecessary to recapitulate the story of his career, or to say anything about the respect and esteem in which he was held. Many will grieve to know of his death, and many will sympathise with Mrs. Smith in the bercavement she has sustained. His remains were interred in Abercorn Churchyard on December 30.

JOHN FINDLEY.—Mr. John Findley, gardener to Mrs. Heywood-Jones, Badsworth Hall, Yorks, when returning from Pontefract on December 29 last, lost his life through an accident. The coachman, from an unknown cause, suddenly lost control of the pony, which came into collision with a vehicle it was passing, throwing both riders out; one escaped, but Mr. Findley almost instantaneously died. Mr. Findley was well known throughout the North of England as a thoroughly good gardener, a successful exhibitor, and he was oftentimes called upon to adjudicate at exhibitions. We can ill spare such a faithful and valued friend. T. R. C.

ENQUIRY.

Narcissus nutans.—Can anyone say what this plant is? At an exhibition in 1837 it was awarded a special prize. J. P.



** EDITOR AND PUBLISHER.—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the Editor. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

Asparagus Beds: A. N. We should not be inclined to put leaves on the beds to a depth of 2 feet, and then a covering of manure over this, from an idea that such treatment would hasten the crop by three weeks. Instead of this, we would advise you to afford the beds a heavy dressing with good manure; and, if you want early Asparagus, lift some of the roots and plant them in frames.

BEGONIAS: E. J. There is no means of satisfying yourself with certainty. The deeper the colour of the flesh of the tubers the less likely will they be to produce white flowers, but the variety of shades cannot be determined, and the rule itself is by no means absolute. Cultivators find that it is necessary to label the colours whilst the plants are in flower, and you must wait until you can do this in your own instance.

BOOKS: M. & S. The Botanical Magazine is published by Lovell, Reeve & Co., Henrietta Street, Covent Garden. The monthly parts are 3s. 6d. each, or 42s. for annual subscription.—
J. C. H. The book you mention is in French Paul's Rose Garden, 10th edition (Simpkin, Marshall & Co.), is more suitable for you.

Callas: E. J. P. We observe the disfigurement you mention, but there is no evidence to lead

us to determine the cause. If it develops further, or there are more marked examples, be good enough to send us specimens.

CARNATION: N. D. P. The plant sent is in a bad condition from eelworms and fungous disease. It will be better to burn such and obtain a fresh stock.

Double-flowered Calla: T. P. Many thanks; but we have seen very many specimens just as double as that you send.

FREESIAS: Round Oak. The comparative failure is doubtless due to the dull season in 1903, when the bulbs were unable to perfectly mature; but Freesias take a rest in some seasons, even in their native habitat. We expect those under cultivation to flower every year, and they will not always do this.

Head Gardener's Expenses for Removal:

A. B. Unless there was an agreement made at the time of your engagement we do not think your employer is bound to pay your expenses in returning from Ireland to England, although he engaged you from England, and you are leaving your master's service at his instance. It is, however, a matter in which your employer should be willing to assist you from motives of common fairness, if, as we suppose, you have endeavoured to do your duty loyally and well whilst in his employ.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—Ignoramus. 1, Nephrodium (Aspidium) molle; 2, Adiantum capillus-Veneris; 3, Ruellia Portellæ; 4, probably Begonia fuchsioides; 5, Dictyogramma japonica variegata; 6, Polypodium aureum.—L. E. Veltheimia viridifolia (see below).—V. I. 1, Lachenalia aurea; 2, Lachenalia tricolor; 3, Ornithogalum lacteum.—A. R. A. 1, Gomeza planifolia; 2, Lycaste Deppei.—W.S. C. P. Not a Crinuu, but Hippeastrum aulicum, more often called Amaryllis aulica in gardens.—J. H. The flower seems to be an imperfectly developed Lælia purpurata. The imperfection is caused by its flowering out of season.—F. A., Epsom. Ruseus racemosus (Alexandrian Laurel).

Palm: N. D. P. This is a case of "found dead."
We are quite unable to say from such a specimen what the cause may have been, whether drought at the roots, drip, or the use of strong insecticides, or cold.

Pelargonium: Zonal. If you require but one truss of flowers you should keep the plant to one stem only, and afford good cultivation, pinching out the flower-stems as they appear until some time in June, timing as well as you can do so the one you leave to develop, so that it will reach perfection at the necessary date. In the other case it is very different, and by stopping the shoots frequently you must endeavour to obtain the plants as bushy as possible, for the more shoots each plant develops, the greater number of flowers there will be eventually. For both purposes it is necessary that you should start with modern, large-flowering varieties, which you may select from a grower's catalogue.

Roor: S. R. C. The root is more probably that of Bryonia dioica, which may have been mistaken for a Convolvulus when growing.

VELTHEIMIA VIRIDIFOLIA: L. E. This is a well-known S. African bulbous plant. It grows well in a greenhouse or conservatory if potted in sandy loam. During the summer the plant may be placed in the open air, under a shady wall, or in a frame. The species requires a rest, and water should be withheld from the roots for a time after it has completed its growth.

COMMUNICATIONS RECEIVED.—A. W.—D. R. W.—J. S.—
Sir T. H.—C. P. R.—W. S. M., Bombay—W. J. T.—S. C.
—M. & S.—J. R. J.—W. E. G.—P. M. T.—H. Gillett—
G. S. Ashley—Secretary, Hahliax Horticultural Society
—J. W.—Abinger Gardeners' Society—C. H.—J. T.—
F. M.—E. M.—J. G. W.—Borderer—T. S.—Mealy Bug—
Ed. Tangye—C. P. Ratiill—S. C.—E. C.—G. P.—J. Ambrose—Rev. D. R. W.—T. Edwards—N. Sioclair—E. H.
—Ponica—G. S.—R. D.—J. Snell—J. D. G.—H. W. W.—
M. B., Holland—W. H., S.—R. G.—F. B.—X. L.—M.
MeN.—J. S., County Tyrone.



From a photograph by William Truswell, taken in November. HOUSE OF JAPANESE CHRYSANTHEMUMS IN THE GARDENS OF JOHN BALFOUR, ESQ., MOOR HALL, HARLOW, ESSEX.





Gardeners' Chronicle

No. 890.—SATURDAY, January 16, 1904.

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PUERILITIES OF HORTICULTURE.

THERE are some practices in horticulture, and more especially among a certain class of exhibitors, that to the philosophical student must seem not only trivial but puerile. Such, one may at once say, are the "collaring" and "dressing" of flowers intended for exhibition. Such artificiality, strange to note, is not only tolerated among judging committees, but seemingly encouraged! One even finds at the ends of great catalogues of eminent nurserymen announcements of boxes of flower - dressing tools, including ivory tweezers, &c.

Competitors for prizes, certificates, &c.,

evidently think that these artificial methods of showing flowers are quite legitimate to take the eye of the judges or the public. The judge may well know that it is a show sort of thing that is exhibited, but the public may in most cases be quite ignorant that there is such a practice as dressing Carnations, Chrysanthemums, &c.

To see a grown-up man taking his tweezers out of his pocket and plucking out a petal here and twisting or smoothing another there in the Carnations he is exhibiting, recalls the days of one's childhood, when to make-believe was quite a natural feature of one's developing brain.

If such artificiality in exhibiting flowers be allowed, why not go a little further and get up boxes complete with paints and brushes for touching up the colours of flowers where Nature has, in the opinion of the exhibitor, made some mistake? Such an appliance would appear just as legitimate as the one for plucking out petals and smoothing them in Carnations, Chrysanthemums, &c. The unfortunate Carnations, besides dressed, must have a white paper collar on, over which their petals are flattened, and made to look symmetrical and as ridiculous as the exhibitor can make them. Prettiness to the eye of exhibits is surely not the only thing to be striven for, otherwise artificial flowers can be made most beautiful. It is the trouble and the skill of producing the real and not the "faked" articles that are commendable.

Once upon a time, in the Wingfield Park of Lucknow, there was a fashion of making large elongated beds in various patterns made out of broken glass and broken stones of various colours, with here and there rows of plants and some Rose bushes in the middle. A more puerile innovation could hardly have been conceived.

Carpet-pattern beds, which required an enormous amount of trouble and labour to make and keep up, have fortunately gone out of fashion; the consciousness of their puerility may have helped their extinction, although I believe here and there one may still see an occasional specimen.

This is what the Standard of October 29 says of them under the heading of "Garden Notes":-" Elaborate carpet-pattern beds in our gardens to-day remind us too much of the framed wool 'samplers' of our grandmothers, which once proudly adorned their living-rooms. We have outgrown both these features of indoor and outdoor decorations."

But presumably the same writer, under the same heading of the same paper of November 19, with reference to the Chrysanthemum show at the Crystal Palace says:-"An exhibitor must 'dress' his beauties for the exhibition stage as skilfully as a great actress dresses for her triumphal performances. In some varieties the dressing of the florets is a work of art (!) Florets which are hopelessly misplaced must be removed; those which are twisted must be put into position with the tweezers, or carefully drawn out before the flowers come before the eyes of the judges. It is not all natural beauty unadorned which we behold with such delight at the great show; art plays its part, and he who would win honours in the show-ring must give himself time to do all things well." This perhaps would mean that the art of "faking" should be brought into play to produce a false impression on the judges [No] and on the public.

All these artificialities are unhealthy features in floral exhibitions. The true art consists in transforming a flower and perfecting it by selection and cross-breeding to force it to produce a flower that does not need either tailoring or "faking" to correct some defect that the florist may not like. Defects should be bred out. But this may take a long time, and may require a great deal of trouble; but the honour would be correspondingly great.

It is hoped that some day exhibitors may come to see how ridiculous the collaring

and dressing of Carnations and Pansies and similar puerilities are, and must appear to Continental growers of these pretty things. E. Bonavia, M.D. [Happily the tricks mentioned by our correspondent, together with other exhibition abominations, are gradually but surely being abandoned. ED.]

ORCHID NOTES AND GLEANINGS.

VANDA CŒRULEA.

Many fail to grow this beautiful Orchid satisfactorily, but we are very successful with it here, as the enclosed photograph will show. When well grown, it is undoubtedly one of our finest Orchids. The plant was a small one with eight leaves when we bought it in 1895. At the present time it is 4 feet 4 inches high from base of plant, 4 feet 8 inches across from tip to tip of flower-spikes. It possesses fifty-two leaves and one young growth at the base of the plant with ten leaves, and has five flower-spikes, two with thirteen, two with twelve, and one with ten flowers-sixty flowers in all. A. Taylor, Brougham, Penrith, Cumberland. [A magnificent specimen. We regret that we are unable to reproduce the photograph, having previously given many illustrations of the plant. Ep.]

EPIDENDRUM VIRIDIPURPUREUM.

A fine inflorescence of an Epidendrum with elongated leafy stems and terminal nodding racemes of rather conspicuous flowers, with green sepals and petals and greenish labellum tinged with dark-purple, is sent by Mr. Geo. Matthews, gr. to Lord Auckland, Kitley, Plymouth, who states that the plant was received from Jamaica two years ago.

It agrees with E. viridipurpureum, Hooker, in Botanical Magazine, t. 3666, the botanical standing of which is rather intricate. Lindley, in Folia Orchidacea, places E. viridipurpureum as a variety of E. fuscatum, with which he also iden-tifies E. anceps, Jacq. The Index Kewensis gives priority to E. anceps, and refers E. fuscatum and E. viridipurpureum to it. Looking up the references, too, brings complications with varieties of E. nutans, and seems to indicate that the author was well advised in making E. viridipurpureum a species.

Lord Auckland's plant is well grown, and one of the best forms of the very variable section to which it belongs, and shows wider differences to the species cited than does the plant which has been illustrated.

EPIDENDRUM PANICULATUM.

An inflorescence of this graceful, tall-growing Epidendrum is sent by Mr. J. W. Odell, gr. to Mrs. Brightwen, The Grove, Stanmore. species varies so much in the form and colour of its flowers as to lead one to suppose that all the varieties cannot belong to the same species. The form of the flowers, however, is the same, the chief difference being in the colour, the prettiest variety having dense heads of rose-pink flowers with white labellums. Mr. Odell's plant has a branched inflorescence, with whitish sepals and petals tinged with brown, and a white labellum. These tall-growing Epidendrums are graceful plants even when not in flower.

VANDA KIMBALLIANA.

The terminal portion of a very long spike of exceptionally large and beautifully-formed flowers is sent by Eustace F. Clark, Esq., Chamouix, Teignmouth, who states that the plant, which has been in his collection ten years, but has never flowered with him before, although it has grown in a most satisfactory manner, is about 3 feet in height. The sepals and petals are white slightly flushed with rose, the showy front lobe of the lip bright rose-purple, the side lobes yellowish,

streaked with dotted brownish lines. It often happens that when this pretty Burmese Vanda is grown on the staging in Orchid-houses that it grows on but fails to bloom, but when suspended in a similar situation to that given to Lælia anceps (as in Captain Holford's garden) it blooms

regularly and freely.

That Vanda Kimballiana is not a delicate plant is shown by Mr. Clark's experience of the plant under notice, which, during the exceptionally cold weather of January and February, 1895, was in a very low temperature for some time, the thermometer in the house in which the plant was for several nights ranging between 39° and 34° Fahr., and on one occasion a minimum of 33° was recorded. Although anything approaching such a low temperature could not be recommended for this pretty Burmese Vanda, the incident plainly indicates that the plant does not require the high temperature given it in most collections during winter, and that the cause of its failure and of the failure of many other Vandas, Aërides, Saccolabiums, &c., may be traced to too much heat during their inactive period.

NEW OR NOTEWORTHY PLANTS.

OPUNTIAS.

THREE new Opuntias, named by the late Dr. Weber, which were never published, ought now. after his lamented death, to be brought before the public, to prevent his names from becoming nomina nuda.

OPUNTIA BERGERIANA, Weber, spec. nov. (fig. 14).

This species is very common in cultivation in the gardens of the Riviera, especially in Bordighera, where Mr. L. Winter has the finest plants of it. It is very showy, and often completely covered with its fiery flowers and deep-red berries. It stands next to Opuntia nigricans, from which, however, it is quite distinct.

Dr. Weber had this plant for a long time under his consideration. He named it in a letter to mo

on November 14, 1902.

This species forms a tall shrub of 5 to 10 feet. Joints in well-grown plants 9 inches long and 4½ inches broad, obovate or oblong-ovate, fleshy, bright green. Areolæ about 1½ inch apart, roundish, with short grey down and yellowish glochids. Spines vary in number and size, one or more over 1 inch long, spreading, at first yellowish, when old greyish.

Flowers at the top of the joints very numerous. Ovary 1½ inch long and 1 inch broad, obovate, brilliant green; areolæ slightly elevated, distant, roundish, with numerous straw-coloured glochids. Outer leaves of the perianth fleshy, carinate and mucronate, greenish red. Inner leaves spatulate at the base, much constricted, rounded at the top and mucronate, over

an inch long, deep, bright red.

Bottom of the perianth conically excavated for about 4 lines. Filaments very numerous, 8 to 9 lines long, violet-rose. Anthers linear, yellowish. Style overtopping the anthers, above the base clavate, whitish, with six green ereot stigmata.

Fruit 1½ inch long, and nearly as broad, obovate, truncate, with a conical excavation at the top. Pulp and juice dark red. Seeds nearly orbicular with a narrow brownish border.

OPUNTIA HANBURYANA, Weber, spec. nov. (fig. 15).

This Opuntia is not common in the gardens of the Riviera. It is very distinct through its habit, the long-spreading spines and the small ovary and fruit. It was named by Dr. Weber in his letter of September 23, 1901.

A shrub of 3 to 5 feet, of a straggling growth. Joints variable in size, the largest 11 inches long and scarcely 4 inches broad, lanceolate-oblong,

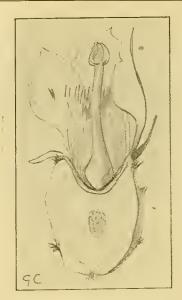


FIG. 14.-OPUNTIA BERGERIANA.

bright green. Areolæ numerous, about $\frac{3}{4}$ of an inch apart, round, with black down when old, and short glochids. Spines several, large and spreading, somewhat compressed and twisted,

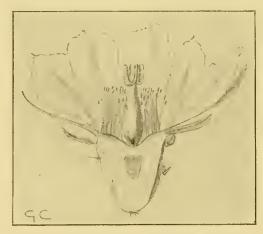


FIG. 15.-OPUNTIA HANBURYANA, Weber.

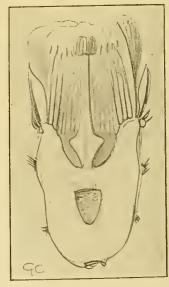


FIG. 16 .- OPUNTIA SCHUMANNI, Weber.

amber-coloured, the centre one upright, the longest $1\frac{1}{4}$ inch long.

Ovary small, \(\frac{1}{4} \) of an inch long, obconical, with little elevated areolæ. Outer leaves of the

perianth deltoid, the following broader, the innermost obovate, obtuse, mucronate, canary colonred. Bottom of the flower little excavated. Stamens numerous yellow, half as long as the petals. Style clavate at the base, whitish, with five greenish-white stigmata.

Fruit roundish, yellowish-red, 11 inch long; pulp greenish, juice watery; seeds thick, roundish, with a narrow margin, nearly 3 lines.

broad.

OPUNTIA SCHUMANNI, Weber, spec. nov. (fig. 16).

This plant, with its upright petals, is intermediate between Opuntia and Nopalea, which, however, has longer stamens and style; it is near to Opuntia nigricans, under which namethis garden received it in 1899 from Mr. Winter in Bordighera. Dr. Weber named it in a letter

to me, September 23, 1901.

A shrub growing 4 to 5 feet in height. Joints 12 inches long, about 5 inches broad, and nearly of an inch thick, obovate, oblong, on the margins somewhat sinuate, slightly glaucous, with about twelve areolæ on each side. These are about-2 inches apart, slightly elevated, elliptical, with grey down and with short brown glochids. Spines several, blackish-brown with a brighter point, slightly compressed and twisted, the centre one being the longest, upright, 11 to 2 inches long, the next two to three spines 1 to 14 inch long. curved above their base and spreading; besides these there are six to nine shorter setulose spines. Flowers terminal and lateral, 2} inches long. Ovary obovate oblong, 11 inch long and 1 inch broad, bright green, with distant, slightly elevated areolæ with numerous glochids. Outer periantb leaves deltoid fleshy, inner ones nearly quite upright and little expanded, obovate-spatulate, yellowish turning into a dull red. Bottom of the perianth conically excavated. Stamens numerous, greenish at the base, reddish above, three-quarters of the length of the perianth; anthers whitish. Style at the base suddenly thickened, white, with seven green stigmata.

Fruit obovate, truncate, with a flat excavation at the top; brown-red. Pulp and juice scarlet-red. Seeds nearly round, with a narrow reddish

border. Alwin Berger, La Mortola.

KEW NOTES.

DEDALACANTHUS MACROPHYLLUS, T. Anders .--This Acanthaceous plant ranks amongst the very finest members of an order that is very rich in beautiful flowering subjects. Its horticultural value is such that it should be grown by all who have conservatories. In the Begonia-house at. Kew there are now about a dozen specimens in full beauty. Growing in 6-inch pots, the plants are 2 feet 6 inches high, and 1½ foot across; the leaves are elliptic-lanceolate, 3 to 5 inches long, and 2 to 3 inches broad; every growth terminates in a large panicle of light blue flowers, the lower lobe of the corolla being violet-blue. The panicles are from 1 foot to 11 foot in length; the individual flowers about 3/4 inch across, having a tube 1½ inch long. At the base of each flower is a. greenish-white bract, which gives to the plants a striking appearance even before the blooms are developed. The flowers expand from the base of the panicle upwards, and afford a succession of flowers lasting from six weeks to two months. The culture is as simple as that given a Fuchsia. Take cuttings from the old plants about March or April, and root them in a brisk bottom-heat; then remove them into an intermediate temperature, where they may be potted and repotted, and remain until they have become established in the flowering pots. Very little stopping of the shoots is necessary, as the plant is naturally bushy in habit. Throughout the summer the plants succeed well in the temperature of a greenhouse, and should be syringed in bright weather, and

supplied with some kind of manure. In October turn the plants to an intermediate temperature, where they will soon begin to develop their flower-spikes; when in flower a rather dry atmosphere suits them best. The species is a native of Burma, and was figured in the Botanical Magazine, t. 6686. W. H.

BOOK NOTICE.

LA THÉORIE DES CAPACITÉS FONCTIONNELLES ET SES CONSÉQUENCES EN AGRICULTURE. (The Theory of Functional Capacity and its Results in Agriculture.) Studies in Applied Vegetable Anatomy and Physiology. By Lucien Daniel, Professor of Applied Botany at the University of Rennes.*

(Concluded from p. 29.)

The author's theory of "functional capacities" is not only capable of explaining the variations in the form and structure of the isolated individual plant, but also a number of phenomena which are to be observed in grafting, i.e., in plants which are caused to live associated together by the will of the grafter.

Now, amongst the effects of the grafting process we have to distinguish those resulting from cicatrisation or healing of the wound, and those proceeding from the fundamental relationships existing between the functional capabilities peculiar to the grafted plants (stock and scion).

The author points out that the scar of cicatrisation causes a fatal change in the conduction of the sap, because of the fact that cellular tissue becomes intercalated between the conducting tissues of the stock and the scion, and because the conducting tissues which eventually unite these two latter are comparatively few in number and more or less contorted. The sap passing along them will, therefore, be modified both in quantity and quality. This is, for the scion, equivalent to existence in a drier and poorer medium than the normal. This was demonstrated by grafting the black Belgian Haricot Bean, which is a dwarf form, on that of Soissons, of taller habit and greater functional capacity; in this case the development of the scion is always more insignificant than that of a normal ungrafted control-specimen, this being due to the fact that the tissues of stock and scion unite with difficulty.

With regard to the second of the two effects of grafting above-mentioned, we have to distinguish between (1) the grafting of a plant of greater functional capacity upon a plant possessing this latter in a less degree, i.e., the case represented by $\frac{cv}{ca} > 1$; (2) the grafting of a plant of smaller upon a plant of greater functional capacity, i.e., the case represented by $\frac{cv}{ca} < 1$.

case represented by $\frac{c \cdot v}{c \cdot a} < 1$.

In the first case, to the effect produced by the primary inequality in the respective functional capacities is added that of the scar of cicatrisation, so that the two work harmoniously together towards producing the condition of existence in a medium drier or poorer than the normal. A striking example of this state of things is afforded by grafting the Forget-me-Not (Myosotis palustris) upon the Heliotrope. The functional capacity of the former is very high, i.e., it has need, as its specific name indicates, of a large amount of water; the stock plant, on the contrary, as the hard wood constituting its conducting-system reveals to us, lives in a dry soil, and hence cannot furnish the necessary water to the scion, which, therefore, rapidly blackens and perishes. But if the limit of desiccation causing death be not attained, the variations characteristic of growth in a dry or poor soil will be exhibited, such as diminution in size, modifications in the period and character of flowering, hastening of sexual maturity, improvement in the fruit and tubers. increase in hardness of the tissues, decrease in the resistance offered to parasites, shortening of life, &c.

In the second case it is clear that the effects resulting from the scar and from the difference in the functional capacities of stock and scion are in disharmony. The former may override the latter, as in the case of the Haricot Beans mentioned above. A good example of this is seen in the case of the Deadly Night-shade grafted on the giant Tobacco-plant; although the latter possesses a much greater functional capacity, i.e., greater absorptive power, than the former, the scion grows into a dwarfed and almost stem-less specimen, due to the fact that the affinities of the two plants are not sufficiently close to admit of a proper union of their tissues, hence defective cicatrisation and osmosis result. Yet the Belladonna "takes" easily on the Egg-plant or Tomato. But should the graft "take" well the reverse will be the case, and stock and scion will therefore inevitably be situated in the equivalent of a moist rich medium, and will continue to live if the limit of watery repletion is not passed. An example of this is afforded by the grafting of the French Vine upon an American variety, the other conditions of soil and climate being suitable, Under these conditions the variations characteristic of growth in a moist, rich soil will be shown, e.g., increase in size, changes in the mode of flowering, retardation of sexual maturity, lessening of the quality of fruit, increase of liability to cryptogamic diseases, diminution in the amount of stereome or woody tissue, and roundingoff of the prominences in angular stems, &c. Many interesting examples of these are given.

It must be understood, of course, that the intensity of the effects resulting from these two inverse cases of variation will vary with the character of the scar of cicatrisation and the primary value of the functional capacities of the plants concerned, as also with the conditions of the external medium of soil and air. The latter have naturally a more pronounced effect upon the grafted than upon the normal plant.

The author shows besides that the resultant of the effects brought about by the scar of cicatrisation and the functional capacities of the grafted plants will vary with the age of the plant (senility or youth), the kind of medium in which it has lived (health, bringing-up), as also with the hereditary functional capacity of the organ which is chosen as stock or scion (adaptation to the function of forming reserves, natural etiolation, geotropism, adaptation to wood or fruit production, &c.

All these data have a special practical interest as furnishing the gardener with the opportunity of making a rational choice of stocks and scions by resting that choice upon a measurable scientific basis. And, what is of great importance, they afford the opportunity of foreseeing the modifications in the habit, &c., induced by the process of grafting between plants the characters of which are known, and of treating the same in a rational manner, viz., by combining systems of pruning and manure-outlay, while bearing in mind the value of the relationship $\frac{cv}{ca}$ in the particular medium under consideration.

The evil effects of a grafting operation in which the absolute value of the relationship $\frac{cv}{ca} < 1$ is exaggerated can be modified by employing the process of mixed grafting; if, e.g., it happens that the consumption of sap is greater than its absorption, one method of increasing the latter is that of allowing adventitious roots to develop on the scion, which then is enabled to receive crude sap along two distinct avenues; as in the case of old Apple-trees when the adventitious roots of the scions were observed to penetrate the decomposition of the scions were observed to penetrate the

posed wood of the stock and to exist then as if in solid earth.

Another method consists in inserting one and the same scion on two or more different stocks. If. on the other hand, it happens that the absorption is greater than the consumption, the methods of restoring this disturbance in the equilibrium of nutrition will be the inverse of the preceding. The following experiment is forcible in this connection: Vernonia præalta was grafted on seedlings of Xanthium macrocarpum; when the ordinary method was employed, viz., by radically suppressing all the supplementary shoots sent up by the stock, the scions inevitably died, but when, on the contrary, these supplementary shoots of the stock were maintained, i.e., when the process of mixed grafting was employed, the scions "took." In this case the small degree of consumption by the scion caused by inefficient union of the two plants is supplemented by that of the shoots from the stock, hence equilibrium is restored, and aqueous repletion of the stock, causing the death of the scion, prevented.

Another method consists in "multiple grafting," where several scions of the same varieties or of varieties of different species are inserted on the same stock. In this case each scion will be subjected to the conditions peculiar to its relationship $\frac{cv}{ca}$ and to a variation with regard to the way in which its fellow-scions comport themselves in relation to ca, i.e., to the stock charged with providing the nutrition common to all. Experimentation shows that it is the scion exhibiting a relationship $\frac{ev}{ca}$ equal or approaching to unity which ends by gaining the upper hand and annihilating the rest. On one of three equal shoots of Anthemis frutescens were grafted three equal scions taken from three plants differing more or less as to their functional capacities: Tanacetum Balsamita, Leucanthemum, and Artemisia Absinthium.

From the commencement it was found that Tanacetum "took" better than Leucanthemum, while Artemisia Absinthium was the worst in this respect. Owing to the discrepancy in the union and in the functional capacities of the three scions, the sap from the common stock was distributed proportionally to the respective values of the new areas of consumption. The aforesaid discrepancy will continue to increase until the life of the scions of Leucanthemum and Artemisia will at length be equivalent to that in a soil becoming ever drier and drier, resulting finally in complete desiccation. The Tanacetum, on the other hand, will grow healthily ahead.

The above is an interesting practical case, and has important bearings.

In conclusion, the author states that "the theory of sap-draining areas (points d'appel) and of functional capacities can alone explain the

effects of the various operations performed in agriculture (pruning, grafting, &c.), and of deducing in a rational manner practical appli-

cations therefrom."

"It explains, besides, quite as easily the variations in structure observed in normal plants as a result of the variations produced by the external medium during the performance of their functions."

Besides numerous figures in the text, there are twenty plates containing photographs of transverse and other sections of stems, showing how the effects of operations and other variations from the normal life-history of the plant or plants concerned are registered accurately in the structure of the wood. W. C. W.

MR. MAYCOCK, who is leaving Luton Hoo Gardens, Bedfordshire, has been presented with an address and a silver teapot by the employés in Luton Hoo Gardens, accompanied by their good wishes

^{*} Imprimerie Fr. Simon, successeur de A. Le Roy, Rennes, France, 1902. Price 20 francs.

A CURE FOR CHLOROSIS.

Chlorosis is very common in the Vine and in fruit trees, particularly in those grown upon very calcareous soils. Full-grown trees and young seedlings in nurseries alike succumb to it. It usually appears in spring, say at the beginning of May, when the foliage is not fully developed. Leaves affected with it hegin gradually to turn yellow, their growth is arrested, the edges become brown, turn up, wither, and finally fall off. The growth of the stems, runners, shoots, and the

phate) is introduced into the soil. With the solution of these salts the leaves were sprayed, and in the autumn cuttings and stems were smeared with it also. But all these efforts gave only partial results, as the cure was not always secured, as I myself had very often proof. But if some means could be found to introduce iron directly into the trees, independently of the roots, which are unable to absorb the requisite amount of iron owing to the large percentage of lime in the soil, or on account of their weakened condition, then the needed



FIG. 17.—CHLOROSIS IN APPLES.

- A. Portion of one-half of the tree affected with Chlorosis and Apple-blight.
- B. Portion taken from the other half of the same tree six weeks after the introduction of the iron-salts.

development of the fruit is also soon arrested. The branches droop, wither, and in a short time they die. There are many causes teuding to develop chlorosis in plants; but in Southern countries (France, Caucasus, Crimea) we are inclined to ascribe it chiefly to the large percentage of lime in the soils, hindering the plants from absorbing the necessary amount of iron. This opinion may be fully verified by the following means. It is a well-established fact that chlorosis in plants is due to the lack of iron, and for the purpose of cure a certain amount of green vitriol (iron sul-

amount of iron may be secured and a cure guaranteed. The possibility of this is illustrated by the following facts:—In order to restore the trees to health, I bored from one to four holes in the trunk of the tree, I to $1\frac{1}{2}$ cent. in diameter, and deep enough to put 4 to 12 grammes of green vitriol (sulphate of iron). These holes were smeared over with cement. These little wounds readily heal towards the autumn. The ascending sap carries up with it the iron in solution to the tips of the leaves, and the trees begin to improve wonderfully; the bright greeu colour soon appears, and in size and any

other relation it is difficult to distinguish them from those not affected. Other salts of iron (such as the phosphate and chlorate) do not affect the cure so readily. Spring (May) months are the most appropriate time for this operation. By this method I have effected a permament cure on many hundreds of trees of different varieties, not excepting coniferous or evergreen trees. deforming anthracnose of the Grape-Vine rapidly disappears under the influence of sulphate of iron, the leaves acquiring their normal size and colour. In other experiments of this internal method of nourishing the plants, not directly through the roots, by means of various combinations of salts, dry or in solution (using for this purpose a small and very simple apparatus), I succeeded in increasing their size and improving their colour, thus effecting a cure * (see figs. 17, 18). S. Mokrzecki, Simferopol, Crimea, Russia, Government Entomologist of the Natural History Museum.

MARKET NOTES.

TOMATO-SEED SOWING.

No time should be lost in making preparations for sowing Tomato-seeds. Use clean new loam and plenty of sand, especially around the seeds. Do not use dirty pots, and have the house cleaned before starting. Let the soil be in the house for a few days, that it may be warmed, then put it into the pots and afford water, and defer sowing the seeds until the following morning. Sow the seeds thinly. Tomatos will grow under almost all conditions, but to obtain best results good culture must be afforded. Stephen Castle.

COVENT GARDEN MARKET, JANUARY 9.

The market presents a very dull appearance. The supplies are not large, many of the stands remaining empty since Christmas. In pot plants, Cyclamen are more plentiful, and some are very good; the best, in 48-sized pots, have been making from 15s. to 18s. per dozen. There are still some Chrysanthemums in pots; some are rather poor. The yellows are the best. Solanums are still coming in, but in many of them the foliage is not very good. Poinsettias are lasting out longer than usual; some good dwarf plants with broad heads of bracts were seen. There are still plenty of good Erica hyemalis and some E. gracilis. Marguerites are not quite so plentiful. Begonia Gloire de Lorraine and some very fine plants of the Turnford Hall variety were seen. Genistas are very good, but there seems little trade for them at present.

Azaleas, chiefly Deutsche Perle: a good many of these were left on the stands at closing time. There are some good Rhododendrons coming in. Callas in pots are plentiful, and there is little trade for them. Hyacinths, these mostly with three in a pot, are now good. There are also plenty of good Tulips in small boxes. Roman Hyacinths are also brought in boxes, about a dozen bulbs in each box. There are not so many Ferns in now, but more than enough for all demands; the smaller Ferns are more in demand just now, and some sorts are beginning torun a little short. Ficus elastica, which at one time sold so well, seems to have almost gone out of demand. Aralia Sieboldi sell rather better,

^{*} See my works on "The Internal Application of Remedies of Plants" (illustrated), "Ueber innere Therapie der Pflanzen"; "Zeitschrift für Pflanzenkrankheiten," "The Description of the Disease in Plants"; and also "Ueber eine neue Methode die Biume zö nähren, und zu Neilen"; "Travaux de la Société Impériale des Naturalistes de St. Pétersbourg, Comptes Rendues de Séances, Janvier, 1903"; "No. 1 of the New Method of Nourishment of Plants and their Cure"; "Transactions of the Imperial Society of Naturalists in St. Petersburg"; "Report of the Séances in January, 1903, No. 1"

but these do not make a high price. Palms go very slowly, and prices are much lower, such as would formerly make 18s. and upwards now move slowly at 12s. per dozen. A. H.

VEGETABLES.

DISEASE-PROOF POTATOS.

I am rather tired of the term "disease-resisting" as applied to any variety of Potato now, because the expression has been in use so many years in relation to a multitude of varieties, yet somehow we find ourselves no forwarder. It might have been imagined that we had now some absolute paragons in new varieties when it is realised that prices (at least some are told in the general Press) have been paid for them that entirely out-Herod Herod in costliness. A few days since I was favoured with a letter from the editor of a prominent American paper asking for information as to these greatly boomed varieties, they having read of them on the other side of the Atlantic. How disappointing is it to learn that, call the new variety by what designation you may, the weakness of Potato nature still remains! A Kentish grower told me a few days since of the severe attacks of disease which had resulted to his costly novelty, and the same report comes from many other directions. Even whilst we are being constantly told by bold advertisement that such an one is disease-resisting, growers, having no primary objects to serve, tell us otherwise, and that it is no more disease-resisting than any other that has been put into commerce so described for the past thirty years. Very likely it may be said in apology, "Look what a wet, cold season we had last year." Just so; but if a wet, cold season is the weak link in the chain. and just there the chain snaps, of what use are all the other links? There are plenty of fine varieties of Potatos in commerce that in ordinary warm seasons give no disease; but where is the variety, new or old, that exhibits no disease whatever in a cold, wet season such as last year was? What we want is not uncertain, unreliable disease-resisters, but "disease-proof" Potatos. If anyone can give us those they will indeed deserve well of their country. I should like to see Government offering a premium of £100 to anyone who should raise a variety that proved to be, over five years of trials, in diverse parts of the kingdom, impartially conducted, absolutely disease-proof. Perhaps the new Potato Society can help to that end. A. D.

NOVELTIES OF 1903.

(Continued from p. 18.)

Although "trade" is reported to have been bad even in horticultural circles, those engaged in it have displayed unusual activity in the production or introduction of new plants, the home-made article, the work of the hybridist's skill, largely predominating. Nevertheless there is evidence in the fine plants introduced by Messrs. Jas. Veitch & Sons from China and other parts, that many of them are likely to prove quite hardy in the British Isles. many fine new plants with which Messrs. Sander & Sons have enriched our plant-houses, which were so well shown at Ghent and at the Temple and Holland House, show that enterprising nurserymen have not abandoned their researches in distant climes for new plants.

In private gardens but few new species have appeared, but in the Rt. Hon. Lord Rothschild's gardens the fine crimson Gloriosa Rothschildiana makes a red-letter event in that rare class of showy warm-house trailing or climbing plants.

Most of the best novelties, where material has been procurable, have been illustrated in the Gardeners' Chronicle, and therefore if the references given in the appended list of illustrated plants be referred to, full information of them can be obtained.

STOVE AND GREENHOUSE PLANTS.

Among these the Hippeastrums, or Amaryllis, as they are usually called in gardens, seem to have come more generally into culture with a view to improvement, Messrs. James Veitch & Sons, Captain Holford, Messrs. R. P. Kee & Sons, Lord Rothschild, and others having worked on them successfully. Of the best new ones of the year are Hippeastrum Black Prince, from Captain Holford; H. Fair Lady and H. Julius, from Messrs. Veitch; and a

Other noteworthy, new, or re-introduced plants which have received Awards in this class during the year are the Nymphæa gigantea Hudsoni, and Lowrya campanulata of Leopold de Rothschild, Esq. (gr. Mr. J. Hudson); the Pinguieula caudata superba, and Kniphofia longicollis of J. T. Bennett-Poe, Esq. (gr. Mr. Downes); Kalanchoe Felthamensis and K. kewensis, from Messrs. Veitch; Lachenalia Ruth Lane from F. W. Moore, Esq., Glasnevin; Caladium Mossamedes from Messrs. Wm. Bull & Sons, and various novelties.

FERNS

In decorative Ferns, as might be expected from the large quantities grown by him, Mr. H. B. May, of Edmonton, takes the lead, having secured awards for Nephrolepis Mayii, N. Piersoni, N. cordifolia crisputa congesta, Adiantum scutum

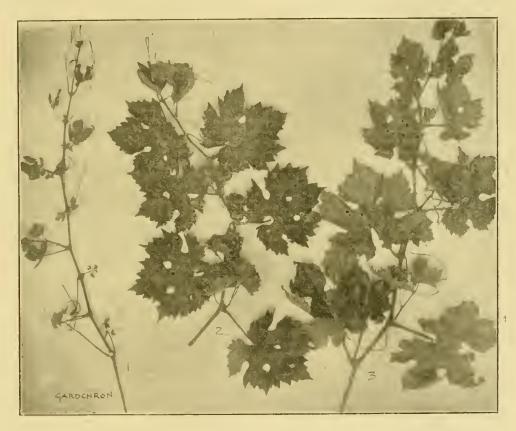


FIG. 18.—CHLOROSIS IN GRAPE-VINE.

- Branch of Grape-Vine strongly affected with Chlorosis and Anthracnose. (The plant was under my personal control.)
- 2. A branch of Grage-Vine after the treatment.
- 3. A Grape-Vine Branch affected with Chlorosis. (See p. 36.)

splendid pure white form and a variety named Exquisite, shown by Messrs. R. P. Ker & Sons in their Gold Medal group at the Ghent Quinquennial.

Messrs. Sander & Sons, at the same great show, exhibited in their first prize group of new plants - Dracæna Broomfieldi superba, Selaginella Watsoniana, Polypodium Knightiæ, Alpinia Sanderæ, Heliconia Edwardus Rex, Phrynium Micholitzii, Drymophlæus Mooreanus, Dracæna Kewensis, Bilbergia Forgetiana, Pandanus Wavrinianus, Linospadix Leopoldi, Retinospora Sanderi (of gardens), Alocasia Wavriniana, Ficus pandurata, Asparagus myrioeladus, A. Sprengeri variegata, Dracæna Victoriæ, Pteris Maissonieri, Fourcroya Watsoniana, and other novelties, most of which have also been exhibited here, and many illustrated in the Gardeners' Chronicle; one of the finest flowering plants for greenhouse or out-door decoration in summer being the floriferous magenta rose-coloured Nicotiana Sanderæ.

ramosum, and Pteris metallica, all excellent novelties. Messrs. Sander & Sons showed one of the most beautiful new Ferns in Polypodium. Knightiæ, and Messrs. J. Hill & Sons, of Lower Edmonton, a graceful plant in Nephrolepis Fosteri.

BEGONIAS.

Messrs. Veitch & Sons continue to improve their useful decorative winter-flowering strain; Messrs. Sander & Sons have produced good novelties in handsome foliaged kinds, and the tuberous-rooted section have been recruited. Of the best of those certificated were B. Mrs. W. P. Neal, blush-white; B. Mrs. Portman Dalton, rose; B. Mrs. Moger, carmine-rose; B. Sir Thos. Lipton, bright red—all fine doubles from Messrs. Blackmore & Langdon, Twerton Nurseries, near Bath, the same firm also securing an award for the glowing orange-scarlet B. Countess of Warwick.

Messrs. R. B. Davis, Yeovil, were successful with B. Gipsy Girl, B. W. Sparshott, and others;

Messrs. J. Laine & Co. with B. The Queen and B. Lady Howe; and the quality of each section has been improved by other raisers, although the excellence of the old forms renders it difficult to show great difference in the novelties.

CHRYSANTHEMUMS.

These useful autumn and winter flowers, which nothing in the whole range of floriculture could replace, have been augmented by many new and good varieties. Among the best of those certificated were F. S. Vallis, Miss E. Helding, W. A. Etherington, Kitty Bourne, Mrs. J. Dunn, Dorothy Pywell, Allman's Yellow, The Champion, Edith Davy, Harry Whateley, Ruby Martin, J. H. Spilsbury, Lady Cranston, Maude du Cros, Miss A. Dighton, Jessie Dean, Mrs. Barnard Hankey, Mrs. J. P. Bryce, Pink Beauty, C. W. Pascoe, Pink Pet, Polly and Souvenir de William Clibran. Opinions differ as to their relative merits, but all are good, and some will be standard varieties in their classes.

DAHLIAS.

Among these the "Cactus" varieties are decidedly and justly the favourites. Of the best are Miss F. M. Stredwick, white with lemon centre; Mrs. H. L. Broussen, bronze-buff; George Gordon, yellow and bronze, of Mr. J. Stredwick St. Leonards-on-Sea; Dainty, mauve and prim rose; Spotless Queen, white; and Sweet Nell, mauve with light centre, of Messrs. Hobbies, Dereham; and Spitfire, scarlet, and Amos Perry, crimson and red, of Messrs. Dobbie & Co., Rothesay. Two good Pompons were San Toy and Queen of Whites, of Mr. Chas. Turner. Darkness, a chocolate-maroon-coloured single, of Messrs. J. Cheal & Sons, was a marked improvement; as also was the single-flowered Rosebank Scarlet of Mr. Ed. Mayney.

HARDY AND HALF-HARDY PLANTS.

Of these, the introductions of Messrs. James Veitch & Sons are the most remarkable. Of proved and certificated nevelties introduced by this firm are Vitis Thomseni, V. sinensis, V. armata, V. flexuosa Wilsoni, and V. megaphylla; Rehmannia angulata, Jasminum primulinum, and Senecio tanguticus.

THE NARCISSUS.

No class of flowers is better worthy of the florist's care than the Narcissus, and it is one of the few flowers which the florist, in his struggles for large size and shewy colours, cannot render coarse or anything but beautiful. The Narcissus Committee of the Royal Horticultural Seciety is now a recognised authority, and exhibits from all parts come before them. During the past year fine exhibits came from the Rev. G. H. ENGLE-HEART, Dinton, Wilts, who is the champion worker in their development; from Miss WILLMOTT, of Warley Place, who seems to grow the plants inte even greater beauty than do the raisers; from Mrs. Backhouse, of Sutton Court, Hereford; Miss CURRY, Lismore, Ireland; Messrs. BARR & Sons, Covent Garden; Messrs. Vettch; Messrs. Hogg & Robertson, Dublin; Mr. W. B. Hartland, Cork; Messrs. Bath, Wisbech; Messrs. Pope, King's Norton; Mr. REUTHE, Keston, and others; and the leading exhibitors have secured awards for nevelties, among the best of which were Red Disc, Lady Gore-Booth, and Symmetry, from the Rev. G. H. ENGLEHEART. Miss WILLMOTT also gained awards for The Moonstone, Lilian, Rev. Chas. Digby, Count Visconti, Countess Visconti, Valeria, Occident, and Astrardente, all raised by the Rev. G. H. ENGLEHEART; also Viscountess Falmouth and Adour. Mrs. Backhouse received awards for Zingara, Firelight, and Mohican. Messrs. BARR & Sons, Covent Garden, for Cleopatra, Mrs. Geo. Barr, and Janet Image; and Messrs. Pope for King's Norton.

(To be concluded)

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Pears.—Probably the finest and best-flavoured Pears are these produced from trained trees on walls or hearded fences; but excellent fruits may be cultivated on espalier, pyramidal, or bush trees, provided the roots are in a suitable soil and are near to the surface. Old, worn-out trees, that rarely, if ever, produce good fruits, should be grabbed up, and, after preparing the ground, plant healthy young trees of good and useful varieties, selected with a view of maintaining a long supply of fruits. For covering a wall space quickly and for fruiting early, plant cordon trees, and train them either in an upright or oblique walls or boarded fences; but excellent fruits may and train them either in an upright or oblique direction, at distances of about 18 inches apart. The border for these should be about 5 feet wide. Trench the soil and thoroughly break up the subsoil to a good depth, and substitute for the staple as much good loam (in which fruit-trees have not yet grown) as is practicable, mixing with this a good sprinkling of bones, wood-ash and old mortarrubble, &c. In preparing the stations for the roots of the trees, open a shallow trench about 2 feet in width, tread the bottom moderately firm, then slightly loosen the top with a four-tined fork previous to resting the roots on the soil. All the damaged roots should be cut smoothly over. I always cut on the upper side of the main roots to encourage the fresh feeders. to a good depth, and substitute for the staple as of the main roots to encourage the fresh feeders, &c., as near to the surface as possible. Spread the roots out evenly over the border, and sprinkle some fine, moderately dry soil amongst them. Then give the tree a slight shake and cover up, making the soil firm about the roets, which will complete the work for the time being, except that the trees should be tied loosely to the wall, that the ties may allow the trees to sink with the soil. Good varieties include Marie Louise, Doyenné du Comice, Triomphe de Vienne, Pitmaston Duchess, Durendeau, Emile de Heyst, Beurré Bosc, Beurré Superfin, Glou Morceau, Josephine de Malines, Olivier de Serres, Passe Crasanne, and Duchesse de Bordeaux.

Pruning.—A good portion of this work is done in summer by preserving suitable shoots for different purposes, and cutting and pinching young wood that is not required. Pruning at this season will consist in cutting back to within a couple of buds all side growths, and removing or thinning out old snags, so as to encourage plenty of strong fruit-buds nearer to the main branches. This work may be extended over a few seasons in preference to severely pruning a tree at one time. In cases of aged trees some cultivators remove old branches entirely and successfully train young wood to fill their places, while others encourage young shoots along the lower tiers of branches at a foot apart and train them vertically, removing other branches to give the young wood more room, as may be needed. All trees when they have been pruned should be afforded a top dressing with a suitable compost after as much of the eld soil has been removed as can be done without causing injury to the roots. If, in cases of large trees, the roots have got down into the cold subsoil, root pruning may still be carried out, but only half of the roots of a particular tree should be so treated this season, the other half may be done early in autumn.

THE FLOWER GARDEN.

By A. B. Wanns, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

The Wild Garden.—On the slepes of banks and under trees where the ground is unfurnished, plant Hypericums, Periwinkles (Vinca) and Ivies. Other spots can be made bright with Foxgloves, Honesty, Primroses, and Forget-Merout (Myosotis palustris). When these have become established they will seed and cover the ground each year. Plant groups of Lilacs, Syringas, Ribes rubrum, and standard Laburnums; and for obtaining coloured foliage in autumn, Scarlet Oaks, Acer variegatum and Arubrum, Prunus Pissardi, Cornus florida, Viburnum Opulus, Liquidambar styraciflus. In a sheltered place, where the wind will not be felt

much, Chamerops excelsa may be added. A cool spot in partial shade may be made interesting by planting it with a collection of Heaths. The ground must be well trenched for these, adding plenty of sandy peat and leaf-mould. Place a few rough, large, moss-covered stones amongst the plants, partly covering the stones with earth. Some of the Heaths may be planted against these. One plant of each variety should have a label attached to it, with the name of the species and variety written thereon. In the wild garden may be planted any surplus shrubs, if these are crowded in the flower garden, and any hardy plants from the forcing-house when these have been hardened sufficiently. Stumps of trees that have been cut down to within 12 feet of the ground may be covered with creepers, planting Ivy and Clematis Jackmani together, and restrict ing the Ivy until the Clematis gets established. Aristolocha Sipho, Clematis viticella rubra, variegated Ivy, Passiflera cœrulea (requires protectien in severe weather), climbing Roses (Dorothy Perkins, The Garland, Leuchtstern, Pelyantha grandiflera, Crimson Rambler) and Wild Hops may be used for the same and similar purposes. A summer-house should be erected and afterwards covered with Clematis vitalba (Old Man's Beard or Traveller's Joy). A stream of water is necessary to complete this garden, and preferably one that has shaped its own course. If there is such an one it will have washed its way down and left the sides bare, but this can be remedied by building dams of stiff clay and boulders; and the water thus made secure may be planted with Water-Lilies; but a look-out must be kept for water-rats, which are very destructive to the bulbs. Plant the sides of the stream with Willows, Sambucus, Dogwoed, Primulas, Iris, Trollius europæus, Polygonum sachalinense, &c. Have rustic bridges planted sachalinense, &c. Have rustic bridges planted with creeping and climbing species, and de net make the paths less than 5 feet wide. Use broken sandstone, which gets quite hard and have a bright, clean appearance. Where the banks are loose some logs of wood about 7 feet long may be laid roughly at the side, and planted with Ivy. These will hold the bank up and screen it. Old stumps of trees put up in round heaps in a few bad places may be planted with Honeysuckle or Ground Ivy. Plant a few Conifers. Conifers.

Bedding Violas that were struck in a cold frame in the autumn will require to be pinched new previous to planting them next month. By that time they will produce off-sets and make nice plants to fill up gaps in the beds that were planted last autumn. Stir the surface soil of these with a stick, and remove all green moss and decayed leaves. Plants put out in the autumn should be pressed into the earth and afferded a good dressing of wood-ashes.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Chrysanthemums.—Continue to put in cuttings of these as fast as good suckers can be obtained, rejecting those cuttings which proceed from the stem above the surface of the soil, or only using them as a last resource. Where many plants are grown, it is seldom that the whole of the cuttings are inserted on the same date, and therefore they will become rooted at different times. In order to prevent the earliest cuttings from becoming drawn, remove them from the close frame as soon as they have made roots, and this allows the frame to be kept close for the benefit of the later cuttings.

Tree or Winter-flowering Carnations.—Tree-Carnations may be prepagated at any time throughout the year, but for the purpose of affording flowers during the winter and early spring menths the cuttings should be taken during January and February, and provided that suitable cuttings are obtainable the earlier the better. The best cuttings are made from the young and quickly-grewn side-shoots, which are produced on plants that have been in flower. If these shoots be pulled off the plants when about 3 inches in length they will be ready for insertion into pots with little further preparation, but longer shoots should be shortened to about that length to

ensure that the base of the cutting he not too woody. Insert the cuttings round the sides of small pots, which have been previously filled with a compost consisting of three-parts leam, one part leaf-soil, and a liberal allowance of silversand. Such cuttings will strike readily if they can be accommodated with a hand-light or frame, on the stage of a house having a night temperature of 55° to 60°. The pots should be plunged to the rims in cocanut-fibre or ashes, and, if the soil and plunging material be then given a thorough watering through a fine rose, the cuttings will require but little if any more water until they have made roots. The plunging of the pots is important, as by that means an even and moist condition of the soil is maintained. When the cuttings have rooted, which should he in from three to four weeks, gradually admit air to the frame for a few days to harden them, after which the cuttings may be taken out and afforded a position as near to the light as possible in the same house, or in another having the same tem-As soon as sufficient roots have been perature. made, pot the cuttings singly into small 60-sized pots, using a little more leaf-mould in the compost than in that recommended for rooting the cuttings.

Nerines.—The most important point in the culture of Nerines is to afford them all the light possible. Keep them throughout the winter and early spring months on a shelf near to the roof-glass in a house where a night temperature of 45° or 50° is maintained. While the plants are making their growth an occasional watering with weak liquid-manure is beneficial, especially if the plants were not repotted in the autumn. Repotting, when necessary, should be done at the end of July, before the flower-spikes begin to show. When the bulbs begin to lose their foliage, lessen the water supply gradually, and at the beginning of May place the plants in a cold frame and expose them to full sunlight, the soil being allowed to remain quite dry until the flower-spikes begin to appear, at the end of the summer.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Trenching.—Before commencing to trench a piece of land, consider the nature of the soil. No harm can be done if it is open in character, and capable of being easily worked, but years of labour may result from the trenching in one year of stiff clay. On such aoil the top spit is usually workable, and should be kept at the top. In starting to take out the first trench upon such soil, wheel the top spit to the end at which you will finish, after which turn over the bottom to the depth required, mixing in ashes, roadscrapings, and manner as the work proceeds. When starting to take out the second trench, turn the top spit on to the bottom of the first trench, which has been prepared, then turn up the bottom as before, and so on, until the work is finished. This will be found to answer better than turning unworkable clay to the surface. Before coming to this neighbourhood I always thought, when trenching, of the father's advice to his sons to dig for the buried treasure, but experience has taught another lesson.

Peas and Beans.—Keep a sharp look-out over November-sown Beans and Peas for slugs, and if any be found apply a good dressing of soot, after which spread about ½ an inch of dry ashes, sawdust, or dry sandy soil along the lines, working it well between the plants and to at least 6 inches on either side. Finely sifted ashes from anthracite coal we find an excellent harrier to slugs.

Forcing.—Where hot-heds have been got ready and the heat has declined to 70°, sow seeds of early Carrots, Radishes, Cauliflower, Onions and Leeks, also a few seeds of Tomatos. The quantity of each will depend upon the demands that are likely to arise, and upon the conveniences at hand for growing all to perfection without overcrowding.

Potato-tubers in heaps should be looked over frequently, and the most forward placed in boxes on their ends, the sprouts upwards, exposing them to the light in a position where frost is not likely to reach them. Plant tubers of Sharpe's Victor on mild hot-beda or in pots,

Mushrooms.—If any of the beds are showing signs of exhaustion, a watering with tepid liquid-manure obtained from cow-dung and a little salt will probably excite a considerable quantity of dormant spawn into growth. Beds that are quite spent should be turned out, and new ones made in their place. Protect beds out-of-doors with sufficient covering to ward off frost and snow. Collect droppings as they are turned from the stables, and spread them out on the floor of a shed until a few days before they are required. They should then be thrown in a heap and turned over several times before being placed in the bed.

Celery.—If this is not already protected from rain and frost, let it be afforded such protection at once.

Asparagus.—If roots will be required from the open beds for forcing, cover the ground over them with long litter, to prevent the soil from being frozen hard, which would make the operation of lifting the roots very difficult.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Vines intended to afford ripe Grapes in June should be started at once. In order to obtain compact well finished bunches with good berries, prune the canes on the "close spur" system. In the case of Vines with well ripened wood that have had adequate rest, it will not be necessary to dress the wounds with "styptic." We never make use of this at all. Strip all the loose bark from the Vines, but make no attempt to scrape them. The bark is Nature's protection from atrong sunshine, and a means by which moisture is retained upon the Vines. Wash the canes thoroughly with soft-soap and water, and treat the woodwork and glass in the house similarly. We employ no mixture for the painting of the rods, its use being unnatural and unsightly. If mealy-bug is at all troublesome, all holes are closed by the use of Gishurst Compound. Do not afford water to the borders until the Vines are in active growth, or unless the soil greatly needs moisture. Damp the house and rods occasionally, but remember that an excess of moisture will tend to encourage weak growth. The temperature by artificial means should range from 50° to 55°, and it may rise 10° or 15° more from sunheat.

Raising Young Vines from Eyes.—The present is a suitable time to do this. Select the varieties and choose good plump buds, cutting the wood about 1 inch in length with the bud in the centre. Take out a small slice of the wood from the side opposite the bud, and place the piecea singly on the flat side in 3 inch pots, which should be three-parts filled with light loam, with a little bed of sand for the eye to rest in. Plunge the pots in a temperature of from 80° to 85°, and afford water as may be necessary.

Peaches and Nectarines.—Start the second early house to produce ripe fruits in June. It will only be necessary to employ fire-heat to maintain a day temperature of 50° to 55°, with sufficient ventilation to cause a circulation of air, and allowing an advance of 10° from sun-heat, with additional ventilation. Until the flower-buds are well advanced, a night temperature of 40° to 45° will be sufficient, and it may be then raised gradually to 50°. Syringe the trees each morning in bright weather until the buds are upon the point of bursting, then cease to syringe the trees overhead, and damp the borders and paths only. The water-pipes should always have a little warnth in them, and there should be a slight circulation of air in the house. Suitable varieties for ripening in June are Stirling Castle Peach, and Lord Napier Nectarine.

Cucumbers.—In raising young plants we adopt the same practice for bottom heat as advised for Melons in a previous Calendar, sowing the seeds in 3-inch pots in a compost of two parts light friable loam and one part leaf-mould. Fill the pots half full with the compost and put one seed in each pot, covering it with fine moist soil that no water may be required until the seeds have germinated. A little top-dressing may be afforded them subsequently. Keep the young plants near to the glass, which should be covered at night.

THE ORCHID HOUSES.

By W. H. While, Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking

Lælias.—There are now some plants of the well-known Lælia anceps in bloom, including such distinct varieties as L. a. Barkeriana, L. a. Protheroeana, L. a. Leeana, L. a. Veitchii, L. a. alba, L. a. Dawsoni, L. a. Percivaliana, L. a. Schroderæ, L. a. Hillii, L. a. Williamsi, L. a. Schroderæ, L. a. Hillii, L. a. Williamsi, L. a. Stella, L. a. Sanderiana, L. a. Chamberlainiana, &c. Orchid cultivators have held for a long time past that to grow these Mexican Lælias thoroughly well the plants require a great amount of sunlight; but notwithstanding the great deficiency of sunshine during the past year, the plants at Burford have made better progress and are blooming more profusely than for several seasons past. While the plants are in flower, and until growth has recommenced, keep the temperature of the house at about 55° hy night, and the atmosphere comparatively dry. Let the hot-water pipes be made moderately warm, so that fresh air may he admitted through the lower ventilators in proportion to the condition of the weather out-of-doors; and whilst taking care that the pseudo-hulbs do not shrivel, do not afford much water to the roots. When the flowering stage is past, examine each plant for scale insects, and otherwise thoroughly cleanse them. L. autumnalis, L. albida, and L. purpuracea, coming from higher elevations than L. anceps, are perfectly safe if suspended in the cool-house while they are at rest. The distinct L. rubescens (L. acuminata or L. peduncularis) is a good "basket" plant for cultivation in the warmest house; it has now passed out of flower, and should be placed with L. anceps.

Vandas.—V. Amesiana, a lovely Orchid, now in bloom, may also be stood in the cool, dry atmosphere of the Mexican-house, and if no water be afforded the plant the fragrant flowers will last along time in good condition. Such tall and stately-growing plants as Vanda suavis, V. tricolor, and their varieties, thrive well in the ordinary temperature of a Cattleya-house. Place them together at one end of the house, and as the planta are in full growth and rooting freely afford them a little extra water, and keep the stages, &c., constantly moist.

Deciduous Calanthes of the vestita section require a thorough rest after they have done flowering, and should be placed on a dry stage or shelf well up to the roof-glass of the plant-stove or warmest house. Previous to removal to their resting quarters thoroughly cleanse each plant from white and brown scale insects which commonly infest them. Do not afford water to the roots while the plants are dormant. Calanthes of the Regnieri section, as C. Regnieri, C. Sanderiana, and C. Stevensi, are now opening their flowers-Gradually decrease the supply of water, so that when all the flowers are unfolded it may be discontinued. When in flower the long arching spikes of these Calanthes show to the best advantage if the plants are stood upon the ground and interspersed with Palms, Cyperus, and Ferns.

Sophronitis violacea. — Among dwarf-growing Orchids that bloom at this season Sophronitis violacea stands out prominently, and when a healthy plant is seen, as we have it here, with about forty violet-magenta flowers open, it is a pretty object. Block treatment suits its requirements admirably. Select a nice smooth piece of Apple-wood, take off the bark, and previous to fastening the plant on the block dry or bake the wood thoroughly well. Suspend the hlock in a horizontal position in a shady part of the Cattleya or Intermediate-house, and keep it moist at all times, even when the Sophronitis is at rest.

Odontoglossum coronarium.—In the cool-house plants of Odontoglossum coronarium miniatum are now sending up their flower-spikes, and should receive copious root waterings until the flowers open.

FRUIT FROM AUSTRALIA.—The Manager of the "Orient" R.M. Steamship Company has sent us particulars of the amount of Apples it is expected will be sent us from Australia between the dates February 13 and May 7. The estimate includes 200,749 cases from Hobart, 34,900 from Melbourne, and 28,450 from Adelaide—making a total of 264,099 cases.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants naming, should be addressed to EDITOR. 41, Wellington Street, Covent Garden, London. Communications should be WEITTEN ON ONE SIDE ONLY OF THE PAPEE, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself re-sponsible for any opinions expressed by his correspondents.

Illustrations .- The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JAN. 16-German Gardeners' Club Meet.

Gardeners' Roy. Benev. Inst. Annual Meeting and Election of Pensioners at Covent Gar-den Hotel at 3 P.M. Brighton Horticultural So-THURSDAY, JAN. 21 Brighton

ciety Meet.
Linnean Society Meet.

JAN. 22 1 Royal Botanical Society, General Meeting. FRIDAY.

SALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT— Border Plants and Perennials, Azaleas, Roses, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris,

at 12
WEDNESDAY, JANUARY 20—
At 12.30 at Stevens's Rooms, 500 cases Japanese
Lilies—At 1.30 at Stevens', Roses, Fruit Trees,
Azaleas, Gladioli, Begonias. &c.,—Azaleas, Rhododendrons, Palms, Plants, Roses, Liliums, Herbaceous Plants. &c., at 67 and 68. Cheapside, E.C., by
Protheroe & Morris, at 12.—1 706 cases Liliums from
Japan. Pearl Tuheroses, Palm Seeds, &c., at 67 and
68. Cheapside, E.C., by Protheroe & Morris, at 3.

FRIDAY NEXT—

Imported and Established Orchids at 67 and 68,
Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensulng week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

London.—Jan. 13 (8 p.m.): Max. 55°; Min. 44°.

Jan. 14 (noon): Showery, windy, mlld.

Provinces.—Jan. 13 (6 p.m.): Max. 48°. South Coast
of England; Min. 40°, West Coast of
Scotland.

THE near approach of the "The annual meeting, which is to be Gardeners' held at the Covent Garden Benevolent." Hotel, Southampton Street, Covent Garden, on the 21st inst., has been heralded, as it usually is, by the receipt of numerous letters concerning the Institution. For the most part these are of an encouraging and laudatory character. In others objections are raised. For the most part these objections are based on misconceptions, and all are, we believe, capable of explanation.

We will give the first place to the following letter from Mr. HARRY J. VEITCH, than whom no one is more interested in the Institution, no one has done, and is doing, more for its welfare. It is not only his active sympathy with the objects of the Society, but it is specially his business capacity which gives him a claim to be heard. When a working Committee is headed by such a man with the assistance of such colleagues, and the aid of such a Secretary as Mr. INGRAM, it is certain that the wishes of the subscribers and the requirements of the candidates will be as thoroughly well considered as they can be, and as a matter of fact we know that they are. Here is Mr. VEITCH's letter:-

"I have read with much pleasure the correspondence which has taken place in the recent issues of the Gardeners' Chronicle, and it is ex-

ceedingly gratifying to find how much interest is being shown in the affairs of the Institution. Whilst I feel very thankful for the help the Institution is at present able to give to more than 200 pensioners, of whom eighty-eight are the widows of gardeners, much more could be done had we more means at our disposal. Having, at the request of the Committee, consented to take the Chair at the Annual Festival Dinner on Tuesday, June 28 next, I venture to ask all who have the well-being of the Institution at heart, and who are desirous of assisting their less fortunate brethren, to help to make the Festival the most successful which has ever yet been held, both by contributing what they can themselves and by soliciting donations from all lovers of gardening with whom they may be acquainted.

"If any who are willing to assist me in this will kindly communicate with the Secretary, Mr. G. J. INGRAM, at 175, Victoria Street, Westminster, S.W., or with me at 34, Redcliffe Gardens, S.W., either of us will be very pleased to furnish all desired information and also to forward collecting cards.

" HARRY J. VEITCH,

"Treasurer and Chairman of Committee."

We earnestly trust Mr. VEITCH's appeal will be as well responded to as it ought to be. The applications for relief unfortunately are out of proportion to the means of alleviation. This disproportion was becoming more and more accentuated, so that in order to check the progress of a condition of affairs which could only end in the future in a serious curtailment of the benefits of the Society, some changes in the rules had to be made last year. These changes were the result of long and anxious consideration, and they were accepted at the annual meeting without a dissentient vote.

To show how matters stand, we may say that at the next election there are about fifty-three candidates (the exact numbers are immaterial for our present purpose). Of these fifty-three, thirty-one, including seventeen who were unsuccessful at the last election, have subscribed for fifteen years and upwards; thirteen have subscribed for a shorter period than fifteen years, and eleven have not subscribed at all. Now it might reasonably be expected that the thirty-one who have subscribed for fifteen years should take precedence over those who have not subscribed at all, and that they should be elected at once on to the pension list. Alas for reasonable expectations! There are but twelve vacancies. If the objectors would furnish the means to secure the election of those who are now, perforce, left to await the chances of another election. how happy the Committee would feel! In the meanwhile the Committee do what they can to equalise matters. They investigate each case brought before them. They, of their own initiative, credit each accepted candidate with a number of votes, proportionate to the length of his subscription, so that old subscribers, if they cannot all be placed on the pension immediately, have a great advantage in the future over those who have not subscribed at all. For instance, a man who has subscribed forty years would be credited with 100 votes for each year that he has subscribed, amounting in the aggregate to 4,000 votes, a number which would ensure his election without further effort.

One of our correspondents complains that at the last election half the successful candidates had not subscribed to the fund. If this had been true the fault would have lain with the subscribers, not with the Committee; but it is not true. We are informed that of the fifteen elected ten had been subscribers and five had not. Again, we are told that some of the unsuccessful candidates last year had been subscribers for twenty years, and thought, other things being equal, they would certainly have been placed on the pension list-a not unreasonable expectation; but what could be done when the number of candidates over sixtyfive years of age, and who had subscribed fifteen years, was twenty-three, and there were only fifteen vacancies?

Again it is suggested for the consideration of the Committee that the age limit of potential candidates should be raised, and that the amount given annually by the Institution should be proportionate to the income of the candidate. Thus, if one man has thirty-five pounds a year, he ought to be able to claim fifteen pounds; whilst another with forty pounds per annum should only be allotted ten pounds from the Insti-tution, and so on. We have not tested the accuracy of these figures, which is a matter for the accountants to advise upon; we merely cite them to show what some gardeners are thinking.

Of the method of voting, with all its unnecessary trouble and expense to candidates and their friends, and the inconvenience to the subscribers, we have often spoken, but always to find ourselves in a minority. Nevertheless, we are still so struck by the cumbrousness of the present system that we again suggest that the Committee, who already are responsible for so much, and who, as we have said, already allot a proportionate number of votes to each candidate according to the length of the period during which they have been subscribers, should go a little further, accept a little more responsibility, and themselves recommend to the subscribers the candidates for the pension according to the number of vacancies or the means at disposal. The names of the candidates recommended for election might be submitted to a general meeting, by whom the list could be accepted or amended by the voters at their discretion. All that would be then necessary would be for the Committee to prohibit canvassing for votes; to circulate a list, first, of all the eligible applicants; and, secondly, of those whose claims appear to the Committee to be most urgent, leaving it to the individual subscribers to accept the names proposed to them, or to give their votes to others, as they might think fit. This is a detail that may be left for future consideration. What is urgent is that the gardeners of the country should support their own Institution more freely than they do, and exert themselves to the utmost to reduce that saddening disproportion between the number of applicants and the means of satisfying them. Annual subscriptions should be very largely increased, whilst from those prevented by circumstances from subscribing regularly, donations of any amount, large or small, to those two excellent auxiliaries, the Victorian Era Fund, for the benefit of unsuccessful candidates at each election who have previously been subscribers to the Institute, and the Good Samaritan Fund, for the immediate aid of others in need and distress, would be most acceptable.

Gardeners are so isolated that they do not realise to the full extent either the necessities of their less fortunate brethren, or the efforts that are made by the Committee of the Gardeners' Benevolent to afford relief. But in these days of postal orders the facilities for the transmission of even small amounts are greatly enhanced. Let us all see to it that our Benevolent Societies profit accordingly.

DEDICATIONS.—Following the practice of the Botanical Magazine, it has become customary to dedicate the annual or half-yearly volumes of garden periodicals to some distinguished craftsman or scientist. Thus the current volume of the Garden is dedicated to Dr. Alfred Wallace, who has a charming experimental garden at Parkstone; whilst Le Jardin pays a similar compliment to M. Nanot, of Chrysanthemum fame.

MR. CHAMBERLAIN'S COMMISSION.—Among the members of this Commission we find the names of Mr. J. W. Dennis, of W. Dennis & Sons, of Covent Garden, one of the largest firms handling market-garden produce, Potatos, and fruit.

A GARDENER'S CALLING.—It is most unusual for us to have to record the death, by suicido, of any one engaged in horticultural work. With all its alleged disadvantages, a gardener's calling is one that affords infinite interest, and in most cases tends to keep the mind and body healthful and happy. It is therefore with the greatest regret we publish the cases of suicide related on another page. In both instances the deaths were due to mental depression.

THE ROYAL GARDENERS' ORPHAN FUND.— Sir TREVOR LAWRENCE, Bart., K.C.V.O., President of the Royal Horticultural Society, has kindly consented to preside at the next annual Festival Dinner of this Fund, which will take place at the Hotel Cecil on Tuesday, May 17.

The Secretary announces the receipt of £23s. from the office of the Gardeners' Chronicle. This sum represents the amount deposited in the collecting-box in our office for six months, together with various small donations made on account of services rendered by us to gardeners and others for which no payment was expected.

LINNEAN SOCIETY OF LONDON.—An evening ameeting will be held on Thursday, January 21, at 8 P.M., when the following papers will be read:
—(1) "An Account of a Plankton Expedition to the Bay of Biscay in H.M.S. Research, in 1900," by Dr. G. HERBERT FOWLEE, F.Z.S.; (2) "The Crustacea obtained by Dr. G. H. FOWLER in the Biscayan Plankton," by Rev. T. R. R. STEBEING, F.R.S., Secretary of the Linnean Society.

THE GRAPE MELTON CONSTABLE. — On another page appear two letters respecting this new Grape, upon which there has been some correspondence in previous issues. As the matters under debate cannot be settled until another season it will be better to discontinue the correspondence. Those who are anxious to test the variety may soon do so in their own gardens.

THE RAINFALL IN 1903.—In last week's issue we published particulars of the excessive rainfall of last year in County Kilkenny; and we shall shortly give details of the year's weather at Rothamsted, where observations are made of a very complete nature. Our valued correspondent Mr. Mawley has also kept our readers informed in regard to the weather experienced in West Hertfordshire. If our columns were elastic we should have pleasure in publishing similar details very kindly supplied by a large number of correspondents whose

contributions are still upon our table, but of which under present circumstances we cannot avail ourselves fully. Among these the following totals may be noted: From the Royal Gardens, Windsor, by Mr. T. EDWARDS, total for the year = 36:31 inches, as against 22:07 inches in 1902; from the gardens at Hampton Manor, by Mr. Neil Sinclair, = 33.07 inches; from D'Abernon Chase Gardens, Leatherhead, by Mr. J. B. Lowe, 42 47 inches; from Norbury Park Gardens, Dorking, by Mr. G. Kent, 52:58 inches, as against 24.04 inches in 1902. Mr. VERT, gardener at Audley End, near Saffron Walden, has sent us a table in which the monthly rainfall during a period of thirty-seven years is given. The average for those years is 23.99\frac{1}{3} inches, but the fall in 1903 was equal to 3484 inches. In the well-remembered dreary year of 1879 it was 28.5 inches; and in 1872 it was 34.4 inches. In 1903, therefore, the amount was greater than in any of the thirty-seven years.

—— It appears from Nature that the greatest fall, 67 inches, in the year, was at Valentia, S.W. Ireland; then comes Stornoway, 62 inches. The smallest falls were in East England—Yarmouth, 248 inches. In London 38 inches fell, more than half as much again as usual. At Greenwich 35.5 inches fell, 11 more than the average; and there were 184 rainy days.

NATURE-STUDY.—The Bath and West of England and Southern Counties Society propose to hold a Nature-Study Exhibition in connection with their agricultural show at Swansea in May next.

KEW SEED LIST.—We have received from the Royal Botanic Gardens, Kew, Appendix I. (1904) of the Bulletin of Miscellancous Information, which is a select list of seeds of hardy herbaceous plants, and of trees and shrubs, which for the most part ripened at Kew during the year 1903, and are available for exchange.

LA MORTOLA SEED LIST.—We acknowledge the receipt of a list of seeds collected during the year 1903 in the garden at La Mortola, Ventimiglia, Italy.

FORESTRY.—"F. R. S.," writing in the Times, says that for those who wish to profit from treeplanting there is "no tree worth a minute's consideration excepting the common Larch." Is this not a too "sweeping statement"? The Larch is no doubt excellent, but it is subject to disease. The Japanese Larch (L. leptolepis) is well spoken of. The Douglas Fir certainly deserves more extended trial. Thuya plicata (gigantea) should also not be overlooked. Abies Nordmanniana, Cupressus Lawsoniana, Abies brachyphylla and Thuyopsis borealis should certainly not be condemned off-hand. The writer in the Times is speaking of the South of England particularly, and has in view the production of wood suitable for the builder. The Larch has had the start of the species we have mentioned, but we suspect that experience will prove that some of them are equal to or even better than the Larch.

New Propagating Department in Hyde Park. — A new range of glasshouses for propagating, &c., in Hyde Park, having become necessary, it has been decided to transfer the present one in Kensington Gardens to a more open and central position in Hyde Park. For this purpose about three acres of ground have been selected near the old leaf yard, and enclosed by a mound of suitable size for shelter and privacy, which will be planted with groups of shrubs, trees, &c. Accommodation will be found for three fine ranges of pits for propagating, growing on, and hardening bedding and other plants, while other houses will furnish space for wintering Palms, Bamboos, Musas, and other plants used in suh-tropical bedding in summer.

Enclosures sheltered by wind-screens for hardening plants and for raising and increasing stock will also be included. The saving of cartage in the summer bedding time will be very appreciable, a distance of over two miles being saved in the journey to Park Lane alone, while the fine open situation, together with every modern convenience, will make this new growing establishment a distinct acquisition to the welfare of the various parks and open spaces supplied from it. The whole has been designed and is being carried out under the direction of the new superintendent, Mr. C. Jordan.

DOBBIE'S MEMORANDUM BOOK AND POCKET GUIDE TO GARDENINO is a convenient and useful pocket-book, with calendar. A page is given to each month, three-parts being reserved for the making of notes, and one-third is printed matter explaining very briefly the current work in the garden. There are also short notes upon the cultivation of flowers and fruit-trees, and at the end a number of blank pages for entering notes. It is published by Messrs. Dobbie & Co., Rothesay, price 1s.

WEBSTER'S "FORESTER'S POCKET DIARY," published by RIDER & SON, 164, Aldersgate Street, London, is a very handy and serviceable little book. A monthly calendar of operations precedes a variety of notes, of which the forester is likely to appreciate the value. A list of foresters is appended, and the whole forms one of the most compact and convenient of similar annual publications.

My Garden Diary for 1904.—This is a handy little publication sent out by Messrs. Sutton & Sons, of Reading, giving in wonderfully small space an epitome of the year's work in the garden. Various notes concerning the calendar are also included, and there is space for daily memoranda. The booklet has a pretty coloured cover and a frontispiece.

South African Flowering Plants.—Prof. Henslow has just published a small volume relating to the manners and customs of certain representative plants of the Cape Colony, and the way in which the plants are constructed so as to be able to adapt themselves to the conditions under which they grow. Messrs. Lonomans are the publishers of the book, to which we shall take an early opportunity of referring at greater length.

PERPETUAL MALMAISON CARNATIONS.—M. GRIGNAN, in the Revue Horticole, makes mention of two varieties, named Chatillon and Mme. Bixio. They were, with others, raised by IM. Nonin, of Chatillon-sous-Bagneux, Paris, by the use of pollen from Malmaison varieties on flowers belonging to the tige de fer or stiff-stemmed section. The crosses retain the size of flower and vigour of the Malmaison, combined with the property of flowering at any season, by means of pinching and appropriate cultivation.

SPARTIUM JUNCEUM. — In this and some other species characteristic of dry climates, the leaves are small and soon fall, while the rind of the shoots remains green. It is generally assumed that the leaves in these plants are relatively of little importance, as their work is done by the green rind; but Mr. Bergen, in the Botanical Gazette, says, from experiments made at Naples on three species, that during the leafy season the leaves transpire much more than the rind does from a like area, and photosynthetic action (assimilation of carbonic acid under the influence of light) is also probably greater. Leafless plants of Spartium grow but little at any season.

PRESENTATION TO MR. A. D. CHRISTIE.—After upwards of fourteen years' service as headgardener to the Marquis of Hertford, Ragley

Hall, Warwickshire, Mr. A. D. Christie left that place in December, on which occasion he was presented with a marble timepiece, inscribed "To A. D. Christie' from the Marquis of Hertford, Christmas, 1903." Mr. Christie's fellow-servants at the Hall, the employés in the gardens, and the members of the Arrow and Ragley C.C., of which he had been treasurer for many years, presented him with an English lever watch suitably ongraved, a silver chain and pendant. Mr. Christie was well known in South Warwickshire, and horticultural societies have repeatedly requested him to judge at their shows. His many friends in Aleester and district, at a public gathering held in the Corn Exchange under the presidency of the

strongly adverse to the extinction of wild birds, but it was certainly never the intention of Parliament to cause the destruction of millions of young salmon and other fish annually by allowing worthless birds to increase as they have done." It is a curious fact that at this season more sea-gulls can be seen at any one time over the Thames, even in the centre of London, than can be witnessed on the coast. We have lately had an opportunity of testing this statement. This looks as if food were more abundant in London; whether there is a corresponding deficiency of fish in the sea we do not know. We should in any case be very sorry to see the gulls ousted from London.

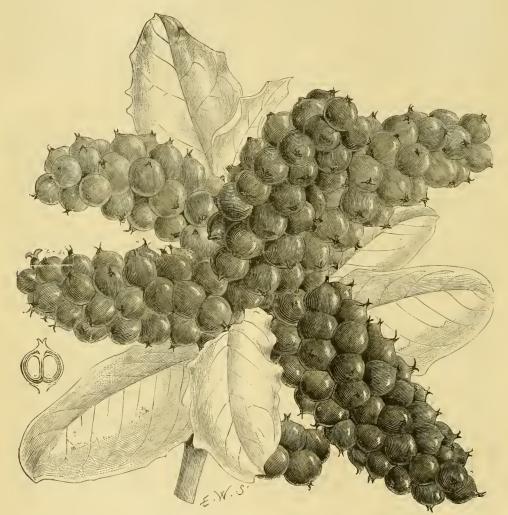


Fig. 19.—Fruits of Garrya elliptica, purplish in colour. (see p. 44.)

High Bailiff (Mr. E. A. Jephcott), recently presented Mr. Christie with an illuminated address, together with a purse of sovereigns. Mr. Christie was also a member of the Arrow Parish Council. It is hoped that this good gardener will soon obtain another appointment. His successor at Ragley, as we have already announced, is Mr. Harding, for the last eight years foreman in the Royal Gardens, Sandringham.

FISH-DESTROYING BIRDS.—In the January number of the Nineteenth Century, Mr. Marston, the editor of the Fishing Gazette, has a paper, in which he says that the protection of wild birds has been carried too far; the effect has been to increase nearly all kinds of birds, including many which destroy grain, fruit, vegetables, and fish. The increase of sparrows is indeed deplorable; if their numbers and those of a few other birds could be reduced it might be better. Mr. Marstone in the state of the

THE BATH WATERS.—The cause of the healing properties of the Bath hot springs has always been more or less of a mystery. Possibly in the future the explanation may be found in the more minute analysis that is now possible. Already we are told that the newly discovered substance helium has been found in the vapours from the spring, and now radium has also been discovered in infinitesimal quantities. Sir WILLIAM RAMBAY has found that helium is evolved from radium, and hence Mr. Strutt considers that the helium at Bath is derived from large quantities of radium at a great depth below the surface. A similar discovery has been made at Buxton.

THE CODLIN MOTH.—The best remedial measures, according to a *Bulletin* of the U.S. Department of Agriculture, are spraying and the application of grease-bands, by which means the damage has in one case been reduced from 40—60

per cent. to as low as 10 per cent. The annual loss to American Apple-growers from this pest is estimated at 11,000,000 dollars.

THE SUPPLY OF NITROGEN TO PLANTS.—MM. BOUILHAC and GIUSTINIANI, in the Comptes Rendus, give an account of their experiments ingrowing Buckwheat in a soil destitute of nitrogen, but with which had been incorporated certain algæ and bacteria. These latter speedily enriched the soil to such a degree that the Buckwheat flourished, and its analysis showed a large-percentage of nitrogen, though, as we have said the soil was originally destitute of that ingredient. The matter is in the experimental stage-purely, but there are great hopes that the resources of science will shortly place at the disposals of the cultivator sources of nitrogen at a cheap-rate.

THE BATLEY AND DISTRICT CHRYSANTHE-MUM SOCIETY will hold its annual show on. November 5.

THE ACTION OF LIME.—A certain proportions of lime is necessary to the health of many plants. If that proportion be exceeded, says M. AMAR in the Comptes Rendus, the excess is eliminated in the form of crystals of oxalate of lime. These crystals may therefore be regarded as excretions of the waste lime. Others think the crystals are excreted to get rid of the oxalic acid.

Publications Received.—From the Board of Agriculture and Fisheries, Leaflet No. 98, Grading and Packing Fruit and Vegetables. This should be studied by all who grow garden crops for market, as careless handing is a prime source of failure.—Farm and Home Year-Book and Farm Trade Directory, 1904, for the farmer, stock-keeper, and housekeeper. A storehouse of information on matters connected with live stock and crops of a farm.—Journal of the Scottish Meteorological Society, with tables for the years 1900-1901. This deals with the rainfall of Scotland in relation to sunspots, by Dr. Buchan; Temperature Observations on Ben Nevis, by T. S. Muir; and Meteorology of Scotland for 1900 and 1901, with tables.—From the Imperial Department of Agriculture for the West Indies: Summary of the Results of the Cultivation of Scedling and other Canes at the Experiment Stations in the Leeward Islands, 1802-1903.—The Agricultural Gazette of New South Wales. November Contents: Letters on the Diseases of Plants, Macaroni Wheats, Late Grapes for Export, Vegetable and Flower Growfug, &c.—The Year-Book of New South Wales, 1904. Gives particulars concerning the Government, and Legal, Military, Commercial, and Historical Notes. Describes also the Geographical Characteristics, Water Supplies, Railways, &c., with chapters devoted to Crown Lands, and Professional and other Prospects; information invaluable to intending colonists.—Agricultural Bulletin of the Straits and Federated Malay States. November. Contents: Cultivation of Cotton in the Federated States; Notes on Rubber, Coffee, &c.—The Agricultural News, a fortnightly Review of the Imperial Department of Agriculture for the West Indies, Barbados, Dec. 19, 1903. Deals with Cotton Seed, the Sugar Industry, Cacao, Tobacco, &c.—Fertilisers and Federated States; Notes on Rubber, Coffee, &c.—The Agriculture for the West Indies, Barbados, Dec. 19, 1903. Deals with Cotton Seed, the Sugar Industry, Cacao, Tobacco, &c.—Fertilisers and Federated States; hopening Poeket Diary and Note Book for 190

DESIGN FOR PARTERRE GARDEN.

[SEE SUPPLEMENTARY ILLUSTRATION.]

The garden plan shown in the Supplementary. Illustration differs from most others, which generally include elaborate and, of course, expensive Box or worked stone edgings and narrow gravelled walks. The designs which I favourare cut out simply on grass; they require no-Box or stone edgings, and are much lighter in appearance than the forms of squares, oblongs, stars, ovals, &c., usually adopted. The grass-throughout and also in the narrowest spaces-forms the groundwork of the design, and is easily kept mown by the frequent use of those very perfect machines which are now made to cut into the smallest spaces imaginable.

The design is one of many that I have drawn and which are similar in general features but different

in detail; it is drawn to no particular scale, but it may be assumed that to carry out such a design with any pretence to dignity an area would be required of from 3 to 10 acres or upwards, that is, of course, exclusive of the more sheltered shrubbery, wood and water generally found forming the immediate surroundings of such formally laid-out, gardens. As there can be no

Box or stone edgings, and also of those most unmeaning, narrow, Lilliputian gravelled walks we generally find forming part of the design of most of our existing parterre gardens. With such a choice of plants as we now have, the planting of these designs is reduced to a very simple matter. Unlike the neat but expensive and laboured carpet hed, the 'design for which has to be

selection of Crocuses, Pansies, Tulips, Hyacinths, and such bulbs. A parterre garden of this type I designed and laid down for the Countess of Craven at Coombe Abbey many years ago, and the Countess and her friends were very much pleased with its effective simplicity.

The work of forming these designs is to me a labour of both love and pleasure. They



Fig. 20.—Garrya elliptica (hardy shrub): male catkins. (see p. 44.)

large trees introduced into such a garden, I have, as may be observed, arranged along the outsides some shady pergolas for use during days of very hot sunshine.

I had long thought that free-and-easy scroll designs of this kind, simply cut out on grass, might be carried out with advantage, and be appreciated all the more for the complete absence of

renewed every year, this design, once formed, is there always, or until a fresh design is wished for, and then the work is merely one of moving the turf to form new scroll figures.

When the summer flowers are past, and the beds (which are never very wide) have been digged, they can be made effective for the winter and spring months hy planting them with a

are chiefly the work of winter days and wet summer weather; but so seductive is this kind of labour that I confess to often finding myself busily at work even when the sun is high in the heavens. I shall continue the work of these parterre scroll designs, for which I believe there is a great future. W. Miller, Berkswell, Coventry.

TREES AND SHRUBS.

THE SPECIES OF GARRYA.

In the Botanical Gazette (Chicago) Miss Eastwood describes several species of Garrya. The plants are dioecious, and are madequately represented in herbaria. They bloom in the depth of winter, when few people collect; they fruit in August and September, when it is dangerous to explore the dry hills of California on account of the absence of water and the density of the The species are arranged as follows:—
Aments not branched—

Pubescence of tangled or wavy hairs:
G. Veatchii, G. elliptica, G. Congdoni, Eastwood (sp. n.).

Pubescence of straight hairs: G. buxifolia, flavescens, pallida, rigida
Eastwood (sp. n.), Fremonti (fig. 21).

Aments more or less branched—

Pubescences of curly hairs: G. ovata, Lindheimeri, macrophylla, oblonga longifolia, Rose in herb.

Pubescence of appressed silky hairs: G. laurifolia, salicifolia, Eastwood (sp. n.), Wrightii, and Fadyeni. ment to the report of the Conifer Conference held at Chiswick in October 1891, particularly as, in some instances, measurements of the same trees are given, so that the rate of growth in twelve-years can be estimated.

It is not quite clear what tree is meant by the author under the name Libocedrus decurrens, Torrey, as the synonym Thuya gigantea of Carrière is attached to it. We are unable to find that Carrière used that name for a species. Libocedrus decurrens of Torrey is one thing, and for some time it was erroneously called in gardens. Thuya gigantea. Thuya plicata is the true name

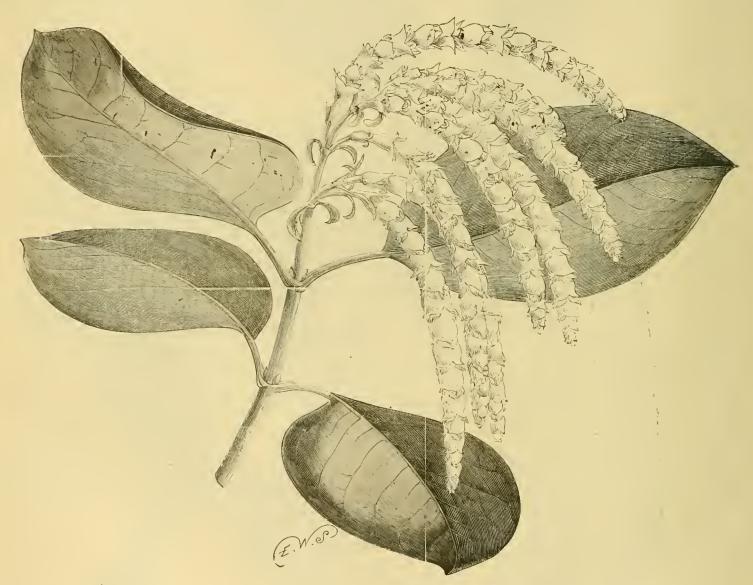


FIG. 21.—GARRYA FREMONTI (HARLY SHRUE): MALE CATKINS.

"brush." Garrya elliptica, the best known species, has peculiar pubescence, consisting of curly hairs on the lower surface of the leaves and on the young fruit. The berries when ripe are not unpalatable (figs. 19, 20).

Garrya rigida has sparse pubescence of straight silky hairs, regularly appressed upward, and a fruit so bitter that one taste will suffice for a lifetime, hence the name "quinine bush." The northern section of the genus has unbranched catkins, as in G. elliptica; the species of the southern parts of California have more or less branched catkins. In each division the pubescence is either of curly hairs, as in G. elliptica, or of straight hairs, as in G. rigida.

Plagiospermum sinense, Oliver.

A spiny shrub with alternate, narrow, lanceolate leaves about 2 inches long; and stalked, yellow, five - petalled flowers in axillary tufts. Each flower is about ½-inch across. The shrub is described by Mr. Purpus, of Darmstadt, as hardy. It is related to the Spiræas. Mittheil. der Deutschen Dendrologischen Gesellschaft, n. 12, 1903, p. 1.

EXOTIC CONIFERS IN BRITAIN.

A paper, read before the Forestry Conference in Vienna in September, 1903, by Dr. Somerville, is printed in the *Journal of the Board of Agriculture* for December last. It a useful supple-

for T. gigantea, which is also known in gardenss as T. Lobbi. This is quite a different thing, and for timber purposes probably better than the-Libocedrus. The T. plicata of gardens is a form of T. orientalis.

Many of the specimens of Libocedrus have been grafted, and that may be true of Thuya gigantea, though it produces seed freely. At any rate, in estimating rate of growth and suitability for timber, the possibility of any particular specimenhaving been grafted should be borne in mind.

FORSYTHIA EUROPÆA, Degen.

Two species of Forsythia, natives of China and Japan, are known in English gardens, but it will be news to many to hear that a third species.

F. europæa, has been discovered in Albania. It was described originally in the Oesterr. Botan. Zeitschrift (1897), and is the subject of a note in the Mittheilungen der Deutschen Dendrologischen Gesellschaft for 1903. The plant has been in cultivation in the Berlin Botanic Gardens for some years, but has not yet flowered. A hybrid between F. suspensa and F. viridissima, named F. intermedia ×, is also in cultivation.

CALLITRIS QUADRIVALVIS

has lately been discovered in Eastern Spain by M. Ch. Pau, having previously been known in the wild state only in Algiers, Morocco, and the Barbary States. We prefer to call it Tetraclinis articulata, because the species of Callitris differ in structure and are all Australian. The tree furnishes a wood which is highly ornamental. The record is furnished in the Botanisches Centralbiatt.

THE SPECIES OF CORNUS.

Dr. Koehne, in the Mittheilungen der Deutschen Dendrologischen Gesellschaft for 1903, gives an elaborate paper with analytical tables of the microcarpum section of the genus Cornus. Twentynine species are enumerated, many of which are in cultivation.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents)

ARAUCARIA IMBRICATA.—A very fine specimen of this tree is growing in the grounds of Pulford Rectory, North Devon. It is upwards of 65 feet in height, is in robust health, and, with the exception of a branch which has been broken off (probably by wind), perfectly furnished from top to bottom, the lower branches, indeed, lying on the grass in a circle some 30 yards round. The upper branches are carrying many cones. The trunk measures 68 inches in circumference 3 feet from the base. The tree is a very beautiful object, and its semi-wild surroundings add to its effect. C. H.

RIPE MELONS IN DECEMBER.—I have grown Melons for many years, and have tested many of the new varieties so highly recommended. I have had ripe fruits in April and December, but during those months both flavour and appearance have been defective, consequently I conclude that very early and very late Melons "are not worth the candle." T. Lockie, Senr., Diddington Hatl Gardens, Huntingdon.

PRIMULA FORBESI. — Unfortunately this pretty little Primula, illustrated in your last issue, is not hardy enough for the average rockgarden in Great Britain, and we cannot grow it outside as it is shown in the illustration. It is, however, a charming plant for the cool greenhouse, where it is most at home, and where it is very heautiful. S. Arnott, Carsethorn-by-Dumfries, N.B.

GRAPE MELTON CONSTABLE .- I am reluctant to write, being the exhibitor and owner of this Grape, but "A. D.'s" letter on p. 12 compels me to do so. I am sending the Editor two berries of the bunch that was exhibited three times at the Drill Hall, also at Cambridge, the Crystal Palace, and Edinburgh. [We did not receive them till they were decayed, owing to an accident in the Post Office. ED.] The large bunches had not red Post Office. Ed. The large bunches had not red berries; one of the bunches, I remember, had one or perhaps two berries at the shoulder rather red, but the remainder were beautifully finished for a Grape that was not then ripe, as I explained to the Fruit Committee. When the two large bunches were first submitted, I was asked by the Fruit Committee to let them see the variety again later. I did so, viz., on November 10, and was then asked to submit it again next year alongside with Gros Colmar, and the foliage of both. had made such demands on the raiser for bunches for exhibition (and unfortunately three bunches on two separate occasions were stolen in transit) that I could not again show it this season. However, I was fortunate enough to get another bunch from Mr. Shingler for the Edinburgh Show

(which was exhibited there with the two large bunches exhibited at the Drill Hall and elsewhere), and brought some back, and submitted it on November 24 at the Drill Hall alongside a bunch of Gros Colmar and foliage of both. I was then asked to submit it again in February, as it was claimed to be a very late Grape. The Fruit Committee knew full well the reasons why I could not do this. I am not protesting or complaining as to the action of the Fruit Committee, but I do most emphatically protest against "A. D.'s "statements. Jabez Ambrose.

— I saw this Grape exhibited at the Drill Hall, and am very much surprised at "A. D.'s" assertion that the large bunches had red berries. In my opinion this statement is contrary to fact. Anyone who has grown Gros Colmar, as I have done for years, knows full well the difficulty in colouring. I have seen Gros Colmar exhibited many times this year, but not once has it been coloured to any degree approaching Melton Constable as exhibited. "E M." in his letter distinctly stated, "I have known this Grape for several years, and its raiser"; therefore "A. D.'s" remark that "E. M.'s' knowledge seems to be gathered from hearsay." is inaccurate. E. H.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—"R. D.," p. 27, writes feelingly on the claims of the above Institution. But surely he has not found time to follow up the work of the excellent Committee and their hardworking Secretary (Mr. Ingram), or he would have come across such leadets as he suggests. The writer has distributed a number of them (say has distributed a number of them (say within the past ten years) both at York and other exhibitions. Others whom he knows well have dono the same. Boxes, too, have been used at some gardeners' societies' meetings. All the same, there is room for more effort. Here I would suggest that no one should be disheartened if the immediate results are not thought good. Please permit me once again to appeal to all my fellow-gardeners to do their very best to become either life members, annual subscribers, or both. I know something of the difficulties of life, but must say that at least one thousand more gardeners might become either one or both if only the resolve was made in earnest. What a consolation it will be, if circumstances should compel any of us to come on the pension list, to feel that at any rate we have done something towards helping the funds when we were able. No one can say for certain what the future has in store for him, as witness the many deserving cases that must be disappointed next week. Few, if any, non-subscribers will be elected in the near future. Life Member and Subscriber for twenty-four years.

THE LATE JOHN WARD.—As the eldest son of the late John Ward, I thank Mr. Douglas for his kind obituary notice of my father. Mr. Baines exhibited stove and greenhouse plants only, whilst my father, at the time when wrestling with him for premier honours in that class, was also taking Ist prizes for Orchids, show Pelargoniums, and Heaths. Whilst Mr. Baines was exhibiting in London only, my father was at the same time exhibiting at Romford, Chelmsford, Brentwood, Colchester, Bishop's Stort-Saffron Walden, Tunbridge In this connection I should like to mention that on one occasion I remember him leaving Leyton one Monday, showing at various towns through Essex, and returning on the following Friday, having been in a bed during the whole of that time. As Mr. Douglas truly says, he was a splendid cultivator of cool Orchids. I have heard him relate with great glee a story of how, in the early days of cool Orchid culture, the Royal Botanie Society offered a prize at Regent's Park for six Odontoglossums (open). It was thought that no amateur could put up six distinct varieties at that time, and apparently the only two exhibitors were Messrs. Linden and Bull, until at the last moment my father put up six, and took the 1st prize, no mean honour with such redoubtable adversaries. I have known him to show in the old days at the Royal Horticultural Society's gardens in thirteen classes, and carry off thirteen lst prizes, but he always considered his greatest coup was the day the Westminster Aquarium was opened with a huge flower-show, under

the management of the late John Wills, but although I was present I regret I cannot remember the details. That he could also grow stove Orchids is proved by the fact that I have in my possession two photographs of plants cultivated by him over thirty years ago—one of Angræcum sesquipedale, with eightern flowers expanded, and one of Phalænopsis grandiflora with sixteen flowers on a single spike; and these, I think, would be hard to beat even in these days of highly specialised Orchid culture. George Ward.

TRICYRTIS HIRTA.—This plant, so well figured in the Gardeners' Chronicte of January 9, p. 18, is quite hardy here, but unfortunately it flowers too late in the open to be of any use as a garden flower. It has seldom flowered with me, and only in very warm seasons. S. Arnott, Carsethorn-by-Dumfries, N.B.

— You are quite right in remarking that you may have seen this plant and some other species on the Kew rockery; but are you equally small tribe of Liliaceæ, of which Colchiceæ, a small tribe of Liliaceæ, of which Colchicum is the head? [Yes.] This small group of perennial herbaceous plants is well known to hardy plantsmen; the several species and forms, too, are quite hardy and most vigorous when grown in moist peat and sandy loam in about equal parts. In the note on p. 18 it is stated that "the stem is 2 to 3 feet high, with a terminal racemo of six to eight flowers." Some thirty years ago I grew a plant, probably a variety of T. hirta, that would exactly answer this description; but all others known to me have the flowers more or less in the leaf axils, as shown in your illustration. respect to the hardy character of the plant in country, I may say I have never yet known a plant to suffer from frost. Between 1872 and 1882 there were some severe winters, and in the long frost of the winters of 1878-1879, when I had a large batch of plants, none was lost. It is not usual that true herbaceous perennials suffer from frost. In respect to these plants there would appear various misapprehensions, Dictionary of Gardening (Nicholson) all the species are cited as flowering in May. I have never yet seen one in flower, except in late September or October, and this, from your note, is the natural flowering period in Japan. In the month of May the plants are barely moving. I am strongly of opinion that the lateness of flowering, with the often wet season and frequently sharp frosts experienced in October, are chiefly responsible for the rarity of these plants in gardens. The flowers are barely expanded before they are ruined from these causes. Formerly I grew several varieties of T. hirta, and in particular T. h. nigra and T. h. Formerly I grew several varieties grandiflora. There was also a somewhat varie-gated-leaved kind. At this distance of time I am unable to describe the varieties more fully than in the names cited, yet they were ever a most interesting assembly of plants, and for which the popular name of "Japanese Toad-Lily" is by no means inappropriate. E. H. Jenkins, Hampton Hill. [Quite appropriate; but it is not a toad, nor a Lily, except in a very broad sense, nor a Toad-Lily! Mr. Baker refers Tricyrtis to the tribe Uvularieæ of the sub-order Colchiceæ. ED.]

— I have had a clump planted out in a border here for two years, and it has stood safely through the winter (although I do not think it would stand a very severe winter). We, however, moved the clump when the border was reconstructed last spring. Those we grow in pots we always winter in a cold frame, covering about 2 inches deep with litter. Richard F. Martin, Ware's Nurseries, Feltham.

TREE CARNATIONS.—In reference to Mr. Jenkins's letter on Tree-Carnations in the Gardeners' Chronicle on p. 441, December 26, 1903, that I would not grow Carnation cuttings in like manner to Chrysanthemums, I maintain that I could, and get the same percentage of results as in Chrysanthemums, but bottom-heat, which Chrysanthemums do not require, will hasten the rooting of Carnations with good results. I will not say that gardeners will be so successful at first with American Tree-Carnations as they now are with Chrysanthemums, as the former are of recent introduction, and their habits are not yet so well known. I am quite sure if the few hints I gave in my last letter are fol-

lowed, the gardener will have proof of their easy culture and free-flowering qualities. It is a fact that each of my men unassisted grow and attend to 8,000 plants—no great wonder, as Mr. Jenkins My letters have been written purely for the benefit of your readers, and not in a spirit of controversy. A. F. Dutlon.

ARBUTUS UNEDO.-There was a fine specimen of this shrub illustrated in a recent issue. There are two good specimens growing here on gravel soil. One is 6 feet from the ground, it measures 13 feet high, 66 feet in diameter, and the other is 56 feet in diameter and about the same height. These are clipped annually, and this year they have flowered and fruited freely. W. Hinton, The Oaks, Hanworth, Middlesex.

图 A NATIONAL GARDENERS' ASSOCIATION. There is to be a sifting of the chaff from the wheat. Who is to constitute the council to decide such matters? And who is also to compile the gardeners' peerage, and describe the royal man down to the humble commoner? the matter of horticultural examinations, which have been recommended, by all means have them, and combine the theory with practice; but give me the young man who has brains, and uses them, with his practical knowledge, rather than rely on his certificate. Young gardeners should not think any matter pertaining to the profession beneath their notice or attention. T. H. Slade.

As a trade employé I am not a little surprised that no mention has been made of asking the trade to join such an association. If Mr. Deunis's excellent ideas may be taken as embodying in a general way the basis of the proposed Association, then surely it must be approved by hundreds of the most capable nursery-hands. Can it be that to include trade those "horrid" trade-unions? and do thoughts of trade-hands prompt thoughts of strikes, &c.? If that be so, I think the fear groundless, and that it is, moreover, unfair to those men. H. J. Gillingham.

Ten years ago a conference was held at Tunbridge Wells of representatives of gardeners' societies to consider the desirability of forming a central organisation of delegates from gardeners societies for the South of England. broader platform than that suggested in the proposal to form a Gardeners' Association iu London, as it was to be representative of gardeners of every degree; while, as I understand it, the London organisation is to be confined to head gardeners only. The groundwork of the Tun-bridge Conference, as laid down by the chairman, was "to help and encourage the industrial classes connected with the various branches of professional and amateur gardening, to make use of the advantages within their reach, to improve the conditions of their occupations, and to assist them in recognising more fully than they have them in recognising more runy than they have hitherto done their position in the state as be-longing to an industry calculated to be of the greatest possible good to the future welfare of this country in relation to the utilisation and cultivation of the soil," all objects to which little, if any, serious objection could be taken. These points the chairman, Mr. D. C. Cornwell, temperately and lucidly expounded, dwelling fully upon the social aspect of the matter, and suggesting a bond of union and a channel of communication whereby not only the horticultural trader and merchant can the more easily reach and be in touch with the workers, buyer, and consumer, but also create a channel into which the philanthropic interest can best flow to benefit the particular industry of gardening. The suggestion of a bond of union naturally enough conveyed to the minds of many of those present the idea of a trades-union, one of the chicats of which would be to course a higher objects of which would be to secure a higher scale of payment to the working gardener; and though the meeting was assured the idea of a trades union was never contemplated, yet the bettering of the condition of the worker appeared to be the dominant idea in the minds younger members present. A committee was appointed to draw up a constitution for a central organisation, but it would appear the matter never got much beyond this stage. I recall this circumstance to point out that though the

interests of horticulturists may, to a certain extent, be characterised as communal, yet in the case of a proposal of so wide a scope as that contemplated at the Tunbridge Conference, there would be also isolation of interests—on the part of the trader on the one hand, and the worker on the other, and a clashing of these which would probably result in sharp and regrettable conflict between the two. I was present at the Conference, and took much interest in the various points advanced; at the same time I felt that if the rank and file of the gardening profession could become a part of such an organisation, something in the way of a tradesunion would be insisted upon. I am therefore anxiously awaiting some details of the probable programme of the proposed association. I am doubtful both of the appropriateness and the utility of an association formed wholly of head gardeners. R. D.

- During my experience I have been hit pretty hard by one employer whom I served faithfully for a number of years, and studied his interest night and day, and was often out of pocket to save him expense. When the screw got too tight I sent in my resignation. I was then paid a retaining fee for a few weeks by a gentleman who was away in Scotland. I had an interview, I was engaged, the day was settled when I should start, but my reference was needed; and my late employer's last words to me had been, "I will back you up in anything." I received a note from my new employer some few days after this, saying, "I have come to the conclusion you will not suit me as a head-gardener, and as I have paid you a retaining fee I think I am exempt from all further obligations." So was the bread taken from my mouth. I feel sure all right-thinking men, both employers and em-ployed, would welcome an Association that could prevent such cases as this. A gardener is quite at the mercy of his employer, but a willing horse does not like the spurs too much. Gardeners are not so bad that they require anything so severe as trades-unionism. A Sufferer.

The word "Gardener" covers a very wide field. It would doubtless be interesting to many readers of the Gardeners' Chronicle to know which or if all the different sections of gardeners outlined below would be eligible as members of the Association :-

Head gardeners Single handed gardeners Foremen Foremen
Journeymen
Improvers
Apprentices
Apprentices
Park superintendents
, foremen

gardeners from Lon-don County Council

and other public parks and gardens, provincial or other-wise Nursery managers ,, loremen ,, sub-foremen ,, journeymen

, apprentices Florists, male Lady gardeners Ponica.

CYPRIPEDIUMS AT HOMEWOOD (see pp. 4,28).— Respecting the appreciative note by Mr. Webster of the plants of Cypripedium insigne grown here, I send a few flowers for your inspection. The compost used for potting our plants was one of turfy yellow loam, peat, and chopped sphagnum-moss, with a good sprinkling of broken soft brick and silver-sand. Thos. Crosswell, Homewood Gardens, Beckenham. [Exa good form of C. insigne. Ed.] [Excellent flowers of

TRADE- NOTICES.

BEDFORD & Co., LIMITED.—The above-named company has been registered with a capital of £4000 in £1 shares. Its object is to carry on at Shiplake-on-Thames or elsewhere in the United Kingdom the business of raisers and growers of and dealers in fruit, flowers, plants, shrubs, trees, bulbs, and vegetables of all kinds; nurserymen, seedsmen, florists, market and landscape gardeners, horticulturists, &c. No initial public issue. The first directors (to number not less than two or more than five) are R. A. Budicom and F. W. Norsworthy. Qualification £250. Registered office, Shiplake, Oxford.

MR. GEORGE I'ANSON, for the last twenty-seven years with Messrs. Hugh Low & Co., Bush Hill Park, Enfield, has entered the service of Messrs. Charlesworth & Co., Bradford, taking the entire charge of their growing departments.

Obituary.

WILLIAM GIBSON.-We regret to record the loss of a useful and much respected public servant by the untimely death, on the 17th inst., of Mr. William Gibson, aged 58 years, for many years gardener at the Royal Hospital, Chelsea. It appears from the evidence given at an inquest held on Tuesday last that he had been suffering from rheumatism and neuralgia, and for a month past had been very depressed. On the previous Thursday evening he was missed from his house, in the gardens, and next morning his body was found hanging from a strap in the greenhouse. A verdict of suicide whilst temporarily insane was recorded. The deceased, who was for some time under the late Mr. John Fleming, at Cliveden, and afterwards went to Battersea Park, under the late Mr. Roger, was a very clever draughtsman, and in his day had few equals as a designer of carpet - bedding patterns, as our columns often bore witness during the period of Mr. Roger's service at Battersea Park,

CHARLES FRANCIS SAUNDERS .- Deceased, who was a nurseryman and seedsman at Abergavenny, Monmouthshire, succeeded to the management of the business a year ago, upon the death of his mother, the family having been engaged in this business for a century. Mr. Saunders was recently travelling to Minehead to lay out some gardens, and shot himself in a train when passing through the Severn Tunnel. Deceased, who was 41 years of age, had been much depressed since the death of his mother.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

JANUARY 5.-Present: Dr. M. T. Masters, F.R.S. (in the Chair); Messrs. Gordon, Baker, Saunders, Hooper, Veitch, Hudson, and Massee; Drs. Conke and Rendle; Prof. Bou'ger; Revs. W. Wilks and G. Henslow (Hon.

Pear-shoots Diseased .- Dr. Cooke reported upon some samples sent by Mrs. CURE, of Coombe, Oxon. They were attacked by Cystospora in patches. This lungus would subsequently pass into the Eutypella stage. The trees should be sprayed with Bordeaux-mixture at intervals, and if this was unsuccessful the places should be cut out and burnt, the wounds well protected with tar.

Proposed Scientific Investigations at Wisley .- The following is the substance of the reply received from the Council to the renewed communication addressed to them by the Scientific Committee on this subject: The Council appreciate the desirability of almost all that was urged therein, and they hope that the day is not far distant when much of it may be accomplished. They feel sure, however, that the Scientific Committee will understand that all the desirable things cannot be carried out simultaneously, and that financial considerations compel them to see the new hall finished and paid for before embarking in new projects.

The Codlin-moth.-Mr. HOOPER raised the question as to whether the grease bands, if kept till the end of May, would catch the caterpillars at that time. It was the opinion of Mr. SAUNDERS that the caterpillars would not have left the Apples in May; but Mr. Massee observed that there is a spring brood in America, but he was not aware of its existence in Eng'and, and recommended observations to ascertain

Camellia leof discased .- Mr. SAUNDERS showed specimens badly attacked by Pestolozzia Guepini, a fungus which damages the Tea plant. It has been known here for the last fifty years. Spraying would only partially arrest it, as the fungus is below the epidermis.

Orchids malformed. - Mr. Bidgood, Saltwell View, Gateshead, sent some excellent coloured photographs of Orchids, showing certain peculiarities: (1) An Odontoglossum citrosmum had the basal flower of a raceme with two well-formed columns, three labella, and eight other perlanth segments. The ovarian section had no ovary cells, but numerous clusters of fibro-vascular

cords, showing that it was a "multifold" flower, the cords of each perianth-segment branching and entering two instead of a sing's segment; so that excepting one, all the parts of the perianth were doubled. (2) Phaius Humblotti × P. Wallichi, received from Mr. Cookson's collection. One photograph showed the inflorescence, one flower of which had the lower portion of one of the lateral sepals petaloid like a labellum; the placenta of the ovary next to the position of the labellum was absent. A second flower had no labellum, the lateral sepals were fused, making one wide, median sepal, and both the lateral petals were slightly labellate.

HORTICULTURAL CLUB.

JANUARY 5. — Subsequent to the usual monthly dinner on the above date, at the Hotel Windsor, under the Chairmanship of Mr. Harry J. Veitch, Mr. George Gordon, V.M H., io an interesting paper gave expression to his views as to the manner in which experimental gardens should be conducted. The large majority of Horticultural Societies outside the Royal, took, he considered, far too narrow views of their functions, confining themselves almost entirely to exhibitions, and doing little or nothing to contribute to the extension of knowledge. Mr. Gordon considered that a minimum area of about 30 acres should be devoted, in various parts of the country, to the cultivation of fruits and vegetables in conjunction with standard typesof recognised superiority, without which little is to be learned.

standard typesof recognised superiority, withoutwhich little is to be learned.

The cultivation of luferior forms was strongly deprecated; but in the subsequent discussion, in which Messrs. Bunyard, Munro, Wright, Veltch, and Molyneux took part, it was pointed out that in this latter respect the public were largely to blame, since they would not accept the experts' assurance of the superiority of certain varieties, but insisted on receiving old-fashioned and inferior ones, which consequently had to he grown to meet the demands. The importance of making all comparative tria's on the same kind of soil was insisted upon, as very misleading results were obtained when the soil factor was ignored and no note taken of the inevitable difference which was caused by previous cultivation on the same area on different lines, exhaustive or the expessite.

by previous cultivation on the same area on different lines, exhaustive or the opposite.

Mr. Gordon also advised care in sowing seeds, say of successional Peas, at different times; but Mr. Bunyard stated that in his experience sees of early, medium, and late Peas, all sown at the same time in February, asserted their special periodicity in spite of their being started at the same time. The various forms of training trees should be shown for educational purposes.

started at the same time. The various forms of training trees should be shown for educational purposes.

Mr. Bunyard and Mr. S. T. Wright remarked that the experiments at chiswick had been conducted for some time precisely on the lines indicated; at the same time they and others cordially appreciated the necessity, pointed out by Mr. Gordon, for students who really mean to adopt horticulture as a profession to hegin at the bottom, and to be prepared to work hard, not only in the latter part of the day, but in the morning, when so much of the gardening work can be most advantageously done. There was too great a tendency on the part of students to treat the business in a dilettante fashion. To a very large extent the moral of the paper was the need of thoroughness first of all in arranging the proper basis of the experiments themselves; next in carrying them out and making systematic records of results; and lastly, but not least, of earnest work and conscientious study on the part of the young men whom it is desired to educate to become the gardeners of the future.

UNITED HORTICULTURAL BENE-FIT AND PROVIDENT. JANUARY 11.—At the monthly committee meeting,

JANARY II.—At the monthly committee meeting, held on Monday evening last, seventeen new members were elected. The death of two members was reported (Mr. Charles Brown, and Mr. Henry Sheppard). The Secretary was directed to pay to their nominees the amount standing to their credit in the Society's books. Three members applied to be allowed to pay the higher scale of contribution, which was granted. Nine members were reported on the Sick Fund, the amount of sick pay for the month being £23 188 Messrs. W. Gunner and T. H. Puzey were appointed to audit the accounts for the past year.

GARDENERS' DEBATING SOCIETIES.

CROYDON & DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.—The annual general meeting of this Society was held on the 5th inst., Mr. W. J. Simpson presiding. The report of the Committee showed the Society to be in an excellent financial condition, and able to carry forward a substantial balance for the coming year. Nineteen meetings were held during the past year. The exhibition on April 22 was a success. The prize essay was won by Mr. A. Middleton, the 2nd place being secured by Mr. T. Briscow. The resignation

of Mr. F. Lloyd as President, owing to pressure of time, was deeply regretted, although he has accepted the Vice-Presidency. Mr. Bunyard, in submitting the balance-sheet, showed the receipts had amounted to £55 163. $2\frac{1}{2}d$, leaving a halance to the good of £3 78. 3d. The report and balance sheet were adopted. Mr. J. J. Reid was elected President; Mr. P. F. Bunyard, Hon. Treasurer; and Mr. H. Bushier, Hon. Secretary. The annual dinner will be held on February 10.

ABINGER AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT.—On Monday, January 4, 1904, a lecture was given by Mr. F. W. E. Shrivell, F. L. S., of Golden Green, Tonbridge, Kent, in the Abinger Institute. Mr. Payne, head-gardener to Lord Farrer, In introducing the lecturer, asked that all present should bombard the lecturer with questions. The lecturer dealt with the use of chemical and farmyard manures, speaking from several years of practical experimental work carried on by Dr. Bernard Dyer and himself on kitchengarden, fruit, and farm crops. Mr. Shrivell spoke first on the importance of lime in the soll, adding that soils that had had heavy dressings of farm manure for several years in succession and had become sour needed lime as a corrective. Diagrams were shown proving that after several years experiments, better results were obtained in the kitchen-garden by employing a small quantity of dung with chemicals, than by heavy dressings of dung without them. An area of 100 square yards should be given half a load of farmyard manure, 11 ibs. of superphosphate of lime, and 10 ibs. of kainit. This should be dug-in in the autumn or early spring. Later in the seasoo, when crops are growing, sow on the surface 10 ibs. of nitrate of soda in two or more dressings. The lecturer gave several other recipes for use in Vine-horders, herbaceous-borders, and for fruit-trees, lawns, &c., for supplying all the constituents of plant-food required at less than half the cost of patent compound manures.

THE FELTHAM, BEDFONT, AND HANWORTH MUTUAL IMPROVEMENT.—This Society has just been established, and has thirty members. Mr. R. F. Martin (of Messrs. T. S. Ware, Ltd.) opened the session on January 6 hy reading a paper on "Plants for Cultivation on Rockeries." The hon. sec. is Mr. J. Tait.

ENQUIRY.

Bone Manure.—Assuming that I am able to offer ½-inch bones and fine bone-meal at the same price as basic slag, in bags of 28 lb., 1s 6d.; 56 lb., 3s.; I cwt., 6s., would there be sufficient demand to warrant me in going to the expense of the necessary machinery fer crushing? Could a living be made out of it? C. E. P.



*** Editor and Publisher.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should he addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the Editor. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

Address of Messes. Williams & Norgate:
M. Chart. Henrietta Street, Covent Garden.
London, W.C.

Apple-shoots Injured: R. G. The injury appears to have been caused by frost. We do not see any fungus, but there may be some.

Books: M. C. The Fruit Growers' Guide, by John Wright, was published in 3 vols., price ene guinea each, by Messrs. Virtue & Co., Ltd., City Road. We believe this firm is now merged into another whose title is different, but an enquiry at that address would settle the matter. This standard work is sometimes advertised secondhand.—N. H. R. Hextable. The Australian Garden and Field is published weekly at 81, Grenfell Street, Adelaide, S. Australia, price twepence; and the Agricultural

Journal, Cape of Good Hope, may be obtained from the printers, Messrs. Townshend, Taylor & Snashall, Loop Street, Capetown, price sixpenco menthly.

CALVARY CLOVER: C. O. This is the popular name for Medicago echinus, an annual species, introduced from the South of France in 1818. If your seeds are good and you sow them en some other day than Good Friday, you will witness the explosion of the popular fallacy to which you refer

CAMELLIAS: R. H. You ask merely if Camellias would flower in a dwelling-room? If you mean plants that are not removed to the dwelling-room until the flowers are commencing to open, the answer is in the affirmative. But Camellias cannot be cultivated and flowered in a dwelling-room satisfactorily. They are good decorative plants for the greenhouse or conservatory, but even when in full flower they are not the most suitable for the dwelling-rooms, owing to the habit they have of shedding their petals or dropping their flowers.

CARNATIONS: Anxious. You do not give the dimensions of the house, so that we are unable to say if the 3-inch flow-and-return pipes mentioned are sufficient to maintain the heat essential to the production of Carnations in winter. To flower Tree-Carnations during winter. To flower Tree-Carnations during winter is a very simple matter, provided the plants are in a healthy condition and have been duly prepared. They need a well-ventilated structure, with a night temperature of 50°, with a corresponding rise by day, due attention to water, and not too much moisture in the structure. These are the chief factors to success. In the case of Souvenir de la Malmaison Carnations, however, it is quite a different matter, as they are certainly not adapted for winterflewering; and while much can be done by early propagation, the flowers produced during October, November, December, and January, are anything but satisfactory; and if the system is persisted in, and no provision made for the maintenance of a healthy stock from mere naturally-grown plants, the stock will seon diminish, as the heat to which the plants are perferce subjected will soon lewer the vitality of the plants. There is no gain in removing side-growths in young stock, as these stimulate root action and tend to produce strenger flowers (see note en p. 41).

COLLECTING AND DRYING BRITISH PLANTS: Thomas. This is generally an easy process, but much pains must be taken to secure a good result. First get some sheets of thin paper, and then some leaves of soft thick paper carpet paper is very good, but ordinary news-paper will do). Select as good a specimen as possible to show all the parts of the plant. Spread it out carefully in one of the sheets of spread it out carefully in one of the sheets of the thin paper, then put the sheet of thin paper with the specimen in it, between four or five leaves of the thicker paper. On the top place another specimen in thin paper, covering it as before with sheets of thick paper, and so en till you have a packet say 12 or 18 inches thick. On the top of this place a thin beard with a heavy weight on it—a brick will do. After twenty-four hours take awayall the thick papers twenty-four hours take away all the thick papers and replace them by others. If these have been heated before the fire so much the better. Yeu need not interfere with the specimen between the thin sheets at all unless it be necessary to unfeld a curled leaf or to arrange the plant better. In another 48 hours repeat the process, and continue it at intervals of two or three days till the plants are dry, but not so dry as to be brittle. In the case of most plants, a few days suffice to dry the plants sufficiently if kept in a warm, dry room; but if the plants are of fleshy texture, much more time is required. When the plants are dry sprinkle them with a little naphthaline to preserve them from insect attacks.

Currants, Gooseberries, and Sparrows: J. W. Your garden being in a town, we have much sympathy with you. The same sparrows that are now taking your fruit-buds may be expected presently to destroy the flowers of your Crocuses, especially the yellow ones. If you have not many bushes you might fasten threads of

black cotton about them, and the sparrows, when pulled up suddenly by these, will be scared for a time; but they will continue to have some of the buds, unless you can put the bushes under permanent netting.

Currant Bun Mite: E. B., Abbott, J. A. L., &c. Yes, certainly, in each instance the swollen condition of the buds is due to the mite (Phytoptus ribis), figured and described in the Gardeners' Chronicle as long ago as August 7, 1869. The best policy is to dig up and burn all badly infested plants, and cut away the shoots upon other bushes where only an occasional bud is affected. Take away the surface soil from under the remaining bushes and burn it on a smouldering fire, then afford a top-dressing of good soil that may reasonably be supposed to contain no infection. Some growers have found a new variety known as Boskoop Giant, to be more or less resistent to this pest, and it may be worth your while to give this a trial.

Cyclamens: T. D. Weevil grubs, very destructive. Trap them with slices of Carrot or Potato and destroy them. Your potting-soil should be baked before using it.

EUCHARIS: R. W. K. You will find an exhaustive article upon Eucharis species and hybrids, also details of cultivation, in the Gardeners' Chronicle for September 23, 1899. In the same issue were published excellent illustrations of E. grandiflora Lowi, E. Mastersii, E. × Stevensii, E. Bakeriana, E. × burfordiensis, and Urceocharis Clibrani, a bi-generic hybrid from Urceolina pendula and Eucharis grandiflora (amazonica).

FRUIT-TREE SHOOTS: J. H. P. The shoots are affected by the fungus known as Nectria ditissima, a wound parasite, whose spores usually germinate in the first instance on some wounded surface, but afterwards invade healthy tissue. Cut away all badly affected branches and shoots, and burn them at once. Shoots not so badly attacked may have the affected parts scraped or cut out, and the wound dressed with a coating of tar. This disease is generally present in cases of canker.

HIPPEASTRUM (AMARYLLIS) JOHNSONI: R. H. M.
This hybrid resulted from a cross made over 100 years ago between H. Reginæ and H. vittatum, both deciduous species, the latter especially so. If your plant is of the original type it requires to be dried off after the leaves have withered, and to be kept dry until the flower-spikes appear, or it is seen that the plant is not going to flower.

Hybridising Begonias: Omicron. There is no special book on the subject, but nothing can be easier than to do this in Begonias, in which the male or pollen-bearing flowers are so different in appearance from the females. You will require to impregnate the female blossoms early, before they have had time for the pollen of some other flower to have been deposited on them. You can arrange this by covering up the young unexpanded female flower in bags of muslin, to prevent access of pollen-bearing insects. When the flowers are ready apply the pollen from another flower with the aid of a camel's-hair brush.

Hydrangea paniculata grandiflora: G. W. This species may be cut back pretty severely and it will flower in summer from the growths of the current year. The plauts are very suitable for growing in pots to flower in the greenhouse, but you could not get plants that are now being potted up to flower in March, even if forced. It will be better to let them make their growth slowly, for Hydrangea does not take kindly to forcing; and in order to get large trusses of flowers, it is necessary that the new growths should be made firmly and strong. The plants like a tolerably rich soil, such as one of fibrous-loam, sand, and decayed manure to the extent of one-third of the whole.

INSECTS: E. T., Warwickshire. The branch sent is infested with the red globular eggs of Bryobia pruni, one of the family of the Trombidiidæ, and is closely allied to the common

harvest-bug (Leptus autumnalis). It is an extremely abundant and wide-spread insect, affecting various fruit-trees, but it is not so destructive to them as the well-known redspider is. As a remedy use a dressing of limewash at the rate of 2 lb. fresh lime to each gallon of water, and apply while hot. The lime and sulphur solution is perhaps the best, but it is somewhat troublesome to make. The usual proportions are 30 lb. lime and 20 lb. sulphur to 60 gallons of water. The mixture should, if possible, be steam-boiled for four hours, and the mixture applied while hot.

LOAM: Anxious. Without analysis we cannot tell you the exact value of the sample you send, but it is moderately rich, possesses good fibre, and in fact is exactly the kind of loam a gardener would like to use. In London it would be very valuable.

Mealy Bug: Mon. Before applying the dressing described in the issue for January 2, take away all the loose bark which would help to screen the bugs, but do not scrape the rods unmercifully. The other mixture you mention, of Gishurst Compound with clay and soot, is a very old remedy and a very good one.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—M. Buysman. Astelia Menziesiana.—F. B. 1, Pinus, perhaps monticola; 2, Abies grandis; 3, Retinospora filifera of gardens; 4,Retinospora squarrosa of gardens; 5,Thuya occidentalis; 6,Thuiopsis dolabrata.—R. V. Zygopetalum Mackaii.—J. S. 1, Jasminum Sambac; 2, Strelitzia Regina; 3, Acokanthera spectabilis; 4, not found; 5, Adiantum capillus-Veneris; 6, Pteris longifolia.—H. W. The specimens you send are quite insufficient; No. 4 is a Statice.—J. M., Nottingham. 1, Polypodium venosum; 2, P. longipes; 3, P. nigrescens; 4, not found; 5, Nephrolepis ensifolia; 6, Adiantum Capillus Veneris.

ORCRIDS: R. T. H. The 50° to 60° Fahr. would be a sufficiently high temperature for Sophronitis grandiflora, Cologyne cristata, and most of the other species you name, but for the winter it would be better to be careful, and keep the plants rather dry. The ventilators should not be opened, or only an inch or so when the weather is mild, but in sunny weather the bottom ventilators may be freely used. If the pots in which the plants are growing and the staging and interior of the house are thoroughly cleansed, it will ensure a healthy atmosphere in the house, and give the plants a better chance of passing through the winter in the low temperature you anticipate. The Cattleyas and Lælias should be kept tolerably dry. Angræcum sesquipedale should be placed in the warmest position.

Peach-trees: Borderer. If you have to lift Peach-trees from open walls now to fill vacancies in the forcing-house, the forcing will need to be done very gently indeed, and the results could hardly be good. If you could let the trees come along naturally we should advise you to do so; but this may not be possible.

Potato: W. H. S. The variety of Potato is Vicar of Laleham. The tubers are rather longer than usual, but soils and seasons produce diverse forms. The variety was raised some thirty years since by the Rev. — Peake, then Vicar of Laleham, Middlesex. One of its parents was the old Red Emperor, a small but very handsome round variety. The Vicar of Laleham has had a long innings, as it is still much grown, but in the matter of table merit it is beaten by one of its own progeny, the Dean, which has a violet-coloured skin and is always round. Coloured varieties now have not much favour shown them. They do not seem to possess the strong constitution the finest white tubers possess.

Schizanthus in Soil: R. N. The soil you forwarded contained grubs of Millipedes and other insects. These would be injurious to the plants. They probably originate in the leaf-mould. Use fresh potting soil, and bake the compost before use.

Sowing Tree Seeds: J. T. For sowing Larch seeds prepare a bed by putting a layer of crocks or rubble at bottom, and cover with good ordinary soil. Then make a light compost of leaf-mould and fine sand in equal proportions. Spread a layer of this on the bottom soil, and gently roll or pat down smooth with a spade. Next, fan or winnow the Larch seeds thoroughly, as a third of it is generally light and useless, and sow evenly on the soil of the prepared bed, sifting over it some of the same to the depth of about 11 inch, so that when this is pressed down it remains not more than 1 inch in thickness above the seeds. Water thoroughly but lightly through a fine rose, and cover over with flat boughs of Spruce Fir or other like material, or a bast mat, so as to slightly shade the soil and prevent its baking hard in the sun. Keep a sharp look-out for mice, both field and common, which are very fond of the seeds when about to germinate. The best time to sow is from the end of February to the middle of March; and this applies to most Conifer seeds. Birch: fan the Birch seeds well, and prepare your bed in a similar manner to that for Larch seeds, but add powdered chalk or spent lime to the soil; scatter the seeds evenly and lightly on the surface, and water thoroughly. the surface, and water thoroughly. It sufficient water be given there is no need to soak the seed in water. Merely hide the seeds with a very thin layer of the sifted soil. Alder seeds are best sown in drills in light, moist soil, and just covered with a light compost, the operation being done in March or early in April. The small, white slug is very partial to the record souldings but a watering with lines. the young seedlings, but a watering with limewater once or twice will prevent injury from this mollusc. Seedlings of all the above trees are best left in the seed-bed until the second year before lining out in the nursery quarters. Refer also to our article on "Propagation of Wood and Coppice Plants" in the Gardeners' Chronicle, December 19, 1903, p. 414.

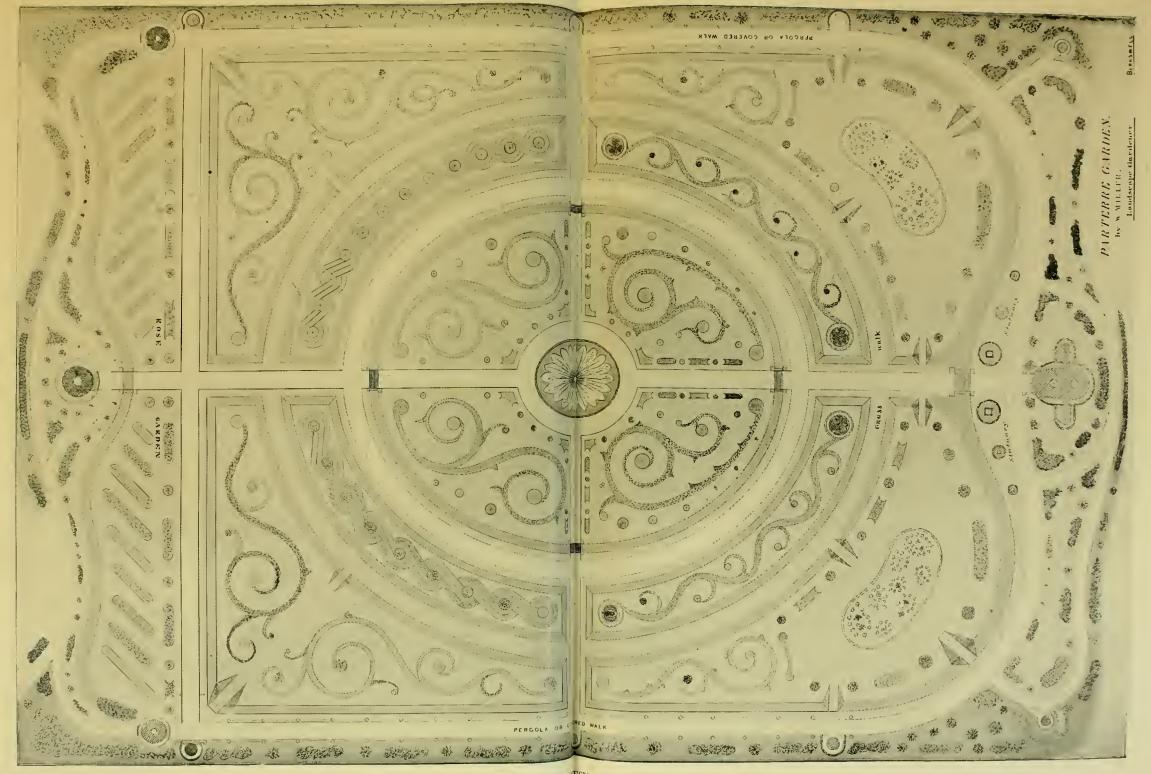
Surface of Soil in Pots: G. W., Stonehaven. The substance on the surface of the soil is neither a fungus nor a poison, but a low form of plant-life belonging to the Algæ, and its presence is a pretty sure indication that the soil is in a sour and sodden condition through over-watering or other cause. If you do not wish to repot the plants, scrape off all this Alga, removing as much soil as can be done without injuring the roots of the plants; then afford a top-dressing with fresh compost, consisting of fibrous loam, peat or leaf-mould, and sand, broken rather finely. The brown spots on the leaves of several species of plants sent are due to drip and a too moist condition of the atmosphere of the house. It is necessary during the winter months to take care that the temperature of the house is not permitted to fall suddenly or very low, and also that the atmosphere be not very moist when the temperature from any cause is lower than usual. The white substance upon the Codieum (Croton) leaves is merely a deposit of lime from the hard water that has been syringed over the plants, and may be removed readily by the use of a sponge.

Tulasi Tree: R. H. The Tulasi tree that you describe as being worshipped by Indians is Michelia champaca (Magnoliaceæ), the Chumpaka of the Hindoos. It is cultivated commonly in India for the powerful fragrance of the flowers. The tree is sacred to Vishnu, and is therefore an object of superstitious regard on the part of the Hindoos, who adorn their dark hair with its rich orange-coloured flowers. The root, like all parts of the tree, has bitter properties, and is used medicinally. There are many varieties, and some are cultivated, though rarely, in English hothouses.

Communications Received—H. S. Guinness (letter has been forwarded).—J. McF., Philadelphia—R. I. L.—H. H.—J. E. tle—H. J. C.—Linnean Society—C. P.—A. H. W.—A. H.—S A.—H.—H. W. W.—Brighton Hort. Soc.—Old Subscriber—J. L.—P. W. B.—E. C.—J. Wreach & Sons, Lid.,—J. B.—W. M.—J. Douglas—A. A. P.—Charlesworth & Cn.—J. Peed & Son.—J. S., Barnet.—Wm. D., Bromham—Nestor, St. Albans—B. S. N., Radstock.







1'LAN FOR LAYING OUT A PARTERRE GARDEN, IN WHICH MR. WILLIAM MILLER, THE DESIGNER, HAS INTRUCED SCROLL-LIKE FLOWER-BEDS, CUT IN THE TURF, IN PLACE OF THE MORE COMMON GEOMETRICAL SHAPES.

brudbury, dynew & Coall " tomben and Tomben





THE

Gardeners' Chronicle

No. 891.—SATURDAY, January 23, 1904.

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THE SWEET PEA: AN APPRECIATION.

THE Sweet Pea is the queen of annuals no other is comparable to this flower, whether in fragrance, in purity or in grace. If all other annuals disappeared from my garden and this one remained, I would be quite satisfied with my floral possessions for along the half-shaded borders, with an environment of Roses and Oriental Lilies, it blossoms everywhere, and "nothing can stale its infinite variety." Fair to the eye, it is still fairer to the memory. There is no other flower, with the exception of the Rose, that so tenderly links the pensive present to the fadeless past. Ever since I can remember, it has been one of my favourite flowers, and I used to envy those cottagers in this picturesque parish whose limited enclosures it adorned so gracefully, long before I began to grow it myself. It was the first flower that awakened in my nature that gardening enthusiasm which has descended to me by ordinary generation. But the Sweet Pea was not in those days what it is now; it has emerged from its comparative obscurity and become a florists' flower. By the hybridising genius of that floral magician, Mr. Henry Eckford, of Wem

(a native of Midlothian), it has developed capabilities undreamed of by our ancestors, who were for the most part quite satisfied with flowers hardly more than half the size of its modern representatives. Its colouring, one of its finest attributes, has also been intensified in a marvellous degree. It ranges from the purest, snowiest white to the deepest shade of crimson—from Sadie Burpee to that latest and grandest Eckfordian introduction, the incomparable Scarlet Gem.

Grown in "hedges," which is the olden conventional custom, whether with mingled varieties or in separate colours, Sweet Peas have an invariably impressive effect; but they never have such an artistic appearance as when they are seen climbing upwards, and flowering profusely through the branches of venerable fruit-trees-as they do in my own garden-to a most commanding height. Alike in colour and in fragrance they are attractive. Even at our grandest floral exhibitions the Eckford Sweet Peas, by virtue of their lustrous beauty, arrest attention, notwithstanding counter attractions of the most engrossing description. This I can testify from personal observation.

The reign of the Sweet Pea is considerably longer than that of the great majority of its floral contemporaries; its first blooms often appear before the middle of June, and we find it making heroic efforts to flower on the confines of December. The only flower that blooms for a longer period is the richlyodorous Viola, which not seldom begins to unfold its floral treasures in the beginning of May. The culture of Sweet Peas, when sown not too numerously in suitable situations and in fibrous, fertile soil, has only one great initial difficulty, so far as I am aware; and that is the preservation of the germinating seeds from the insidious attacks of the rapacious regiments of blackbirds and voles. Even when carefully coated with red-lead, I have found them, as I did in April last, entirely destroyed, and the only alternative is to sow them again, perhaps too late; for under such conditions they are not always (to use a Wellerian expression) "very conformable," as I know from sad experience.

Of the many superb varieties of the Sweet Pea raised or introduced by Mr. Henry Eckford, the following are supreme favourites with the majority of cultivators: Dorothy Eckford and Sadie Burpee, pure white in colour, of satin-like texture, and exquisitely hooded form: Blanche Burpee, almost equally effective, though without its successor's unique formation; Navy Blue and Emily Eckford, rivals in renown; Hon. Mrs. E. Kenyon and Queen Victoria, the former the nearest approximation to a yellow Sweet Pea yet produced; Lord Kenyon, Prince of Wales, Her Majesty, and Royal Rose, varieties of carmine and roseate shades; Miss Willmott and the radiant Countess of Powis, orange-pink in colour, and bearing flowers of enormous size. Prima Donna, Lovely, and the Hon. Mrs. Bouverie are the predominating pink-coloured introductions of the Man of Wem; Lady Grizel Hamilton, Countess of Radnor, and Lady Nina Balfour are the leading representatives of lavender Sweet Peas. Supreme among crimson hues are Salopian and Mars; blush is well represented by the Duchess of Sutherland; while Black Knight and

Stanley are splendid specimens of the deepest maroon. Other notable introductions are Dorothy Tennant, a highly distinctive manve; Duke of Westminster maroon shaded with tenderest rose; Prince Edward of York, Triumph, Gorgeous, and Lady Skelmersdale are bicolor varieties of beauty and distinctiveness. Up to this period Scarlet Gem is probably Mr. Eckford's most brilliant creation. It is certain to prove an abiding acquisition.

Lord Rosebery has asserted that to him the Sweet Pea is more fascinating than the Orchid. It is not, indeed, so aristocratic or prohibitive in price; nor does it require a heated conservatory for its adequate cultivation; but, on the other hand, it is within the power of the humblest cultivator to acquire and grow exquisitely this finely-formed, delicately - coloured, and richly fragrant flower. David R. Williamson.

FIG-TREES ON WALLS OUT-OF-

I have in my mind's eye a length of hrickwall, from 9 to 12 feet high, and about 350 feet in extent, furnished from base to summit with healthy, fruitful branches. Two of the Figtrees in question are of great age and size, having stems nearly three feet round, and branches extending from 35 to 40 feet therefrom on each side. Yet, owing to the method of training practised, the wood forming the individual tree is, with the exception of a few thick branches proceeding from the base, such as may be found in a six-year-old tree.

SELECTION OF VARIETIES.

The varieties best adapted for culture against walls in the open, or under glass for that matter, are the following:—

Brown Turkey, a free-bearer with large turbinate fruits, with grooved surface, skin brown with a slight purplish tinge next the sun, flesh tinged with red at the centre, rich and sugary.

White Marseilles, a free-bearing variety, producing fairly large roundish-obovate and slightly ribbed fruit having a pale green skin, which is very thin and becomes yellowish-white when the fruit is ripe, flesh opaline, juicy, aweet and rich.

Castle Kennedy, a rather shy-bearing variety, a fact which may account for the great size to which its obovate and handsome fruit attains to on vigorous trees—skin greenish-yellow, pale brown towards the eye, flesh whitish, with stains of red near the eye.

Brunswick is another somewhat shy-bearing variety, with pyriform, very large and handsome fruits; skin pale-brown next the sun, and yellowish-green where shaded; flesh opaline outside, reddish-brown at the centre, and fairly rich and sugary. The fruits of the Castle Kennedy and Brunswick Figs, which were included in my prize collections of fruit at the annual fruit shows held at the Crystal Palace and in the South and West of England, prior to September, 1896, I have reason to know, were the means of these two Figs being introduced into many gardens and glasshouses in this country for the first time.

THE ROOTING MEDIUM.

The rooting medium for Fig-trees should consist of moderately good loam and one part of old mortar rubble and wood-ashes well mixed. When Fig-trees are planted in borders of such compost, about 5 feet wide and 2 feet deep, including where necessary, about 6 inches of brick rubble as drainage, they make short-jointed and firm growths, having an embryo fruit in the axi of every leaf. Copious supplies of water and

liquid manure should be afforded the roots during the summer months in the absence of heavy rains. In ordinary garden soil resting on a gravelly or chalky sub-soil well above the water line Fig-trees may be planted without any preparation other than the excavation of holes of the proper size and bottoming of same with a layer of brickbats, clinkers, or stones, covered with thin turf or long litter. The roots of the trees should not be buried too deeply in the soil, but a few inches above the ground line may be allowed for the freshly disturbed soil's settling down within a few weeks from the time of planting.

TRAINING AND PRUNING.

A wall having a south, south-east, south-west, or west aspect is suitable for the growth of Figtrees, and the trees may be planted at distances of 30 feet from each other. The intervening spaces may be utilised for a time for the cultivation of young fruit-trees; but they must be removed as soon as the permanent trees require more space. The branches should be trained in a fan-shaped manuer, securing them at regular distances on the wall, and at the same angle on either side the centre of the trees, allowing space for two or more young shoots that will grow therefrom during the summer to be trained in. To maintain a proper balance of growth, pinch out the points of strongly-growing shoots. The temporary check thus given to the flow of sap will tend to the formation of fruits on the shoots as stopped. In the case of established trees a space of 6 inches should be allowed between the branches of the previous year's growth, and between these one of the current year's growth should be laid-in during the summer and be stopped when it attains to a length of about 20 inches, pinching all other shoots out as soon as they appear. The practice of taking down, bundling together, and covering the branches of Fig-trees with Fern or mats during the winter and early spring months is unnecessary in the southern, western, and eastern counties at any rate, and is calculated to hinder the prospect of a good crop of fruit.

When the trees begin to push forth leaves, as they usually do in the southern and western counties early in May, they should be pruned somewhat after the fashion of the Peach or Morello Cherry-that is, as many of the old branches as can be dispensed with should be cut out to make room for a like number of young ones of the previous year's growth, retaining, however, the necessary number of branches to form the trees, and selecting those shoots which have most young fruits upon them, which will be obvious at the time. For this reason, and because the shoots will not bleed so much owing to the absorption of the sap by the leaves, it is advisable to defer the pruning of Fig-trees growing against walls cut-of-doors till May.

January is a good month in which to plant Figtrees, as well as every other kind of fruit-tree. Where wall space is not available for the growth of Fig-trees, they may be grown in the form of bushes in sunny positions in the open, sheltered from north and east winds. The judicious pinching and thinning of the shoots will be necessary to the attainment of good results. As I write I know of several huge bushy Fig-trees growing in a park in one of the home counties which produce heavy crops of fruit; and the only attention bestowed on the trees after the initial stage of training is that given to the gathering of the fruits. H. W. Ward, January 2.

PLANT PORTRAITS.

VANDA INSIGNIS, Illustr. Garten-Zeitung, December. VANDA INSIGNS, Itwist. Garten-Zeitung, December. Cartiley Ax X Duchesnel = C. bicolor x C. Loddigest var. Harrisoniana.—Nai. hybr. Perianth segments rosypurple; lip whitish with purplish stripes on either side of the yellow central line. Revue de l'Horticulture Belge, January.

RANDIA MACULATA (Gardenia Stanleyana), Revue de l'Horticulture Belge, January.

NEW OR NOTEWORTHY PLANTS.

HUERNIA PILLANSI, N. E. BROWN.*

WHEN out of flower, this novelty is so unlike any other known member of the genus that no one would be likely to recognise it as a species of Huernia, and would in all probability imagine it to belong to the genus Tavaresia (Decabelone), so very distinct is it in the character of its stems, which are covered all over with bristle-tipped tubercles and are like those of a Trichocaulon on a small scale. The flowers, however, are distinctly those of a Huernia; they have nothing remarkable about them and somewhat resemble those of H. hystrix. It was discovered by Mr. N. S. Pillans (No. 23) near Matjes Fontein, in South Africa, where Dr. R. Marloth (No. 3308) has also collected it, and both gentlemen have transmitted specimens to Kew, where it is in cultivation. N. E. Brown.

THREE NEW BORNEAN PALMS.

When one first visits Sarawak after a long residence in the Malay Peninsula, one is at first sight struck with the small feature (comparatively) that Palms make in the landscape. This is, however, chiefly due to the comparative scarcity of some of the bigger Palms, such as Oncosperma, Orania, Arenga, Caryota, Livistona, and Pholidocarpus. But in the woods themselves many of the smaller Palms are quite as abundant as they are in our Malayan forests: Iquanuras, Licualas, Calami, are plentiful and of very varied forms. Although Dr. Beccari paid much attention to the Bornean Palms, he by no means, it appears, exhausted those of Sarawak. In a recent expedition to that charming country I obtained a number which I am unable to identify with any hitherto described; and then comes Mr. Micholitz with excellent specimens of three more very beautiful species which we may hope ere long to hear of in the conservatories of Europe. The following are descriptions of them :-

LICUALA ELEGANTISSIMA, Ridley (n. sp.).+

Almost stemless, the short stem covered with the red-brown rete of the leaf-sheaths. Leaves numerous; petioles very slender, 12 inches long,

* Huernia Pillansi, N. E. Brown (n. sp.). — Plant tuited, with erect or ascending stems, $\frac{3}{4}$ to $1\frac{1}{2}$ inch in diameter, the younger sub-globose, becoming cylindric, densely covered with bristle-pointed conical tubercles 1½ to 2 lines long, arranged in 20 to 24 crowded spiral series, with the bristles recurving; glabrous, green or becoming dull purplish when exposed to the sun; cymes progressively 2 to 3 flowered, sessile near the base of the young stems; pedicels 1½ to 2 lines long glabrous; seems [sqlabrous 3 to 2 lines]. Iline long, glabrous; sepals glabrous 2 to 3 lines long, glabrous; sepals glabrous 2 to 3 lines long, glabrous; sepals glabrous and smooth officerm recurving tips; corolla glabrous and smooth outside, thickly covered on the inner face of the lobes and in the throat of the tube with fleshy, terete, very solution recovered to the long otherwise glabrous and in the intent of the tube with fleshy, terete, very obtuse processes \(\frac{1}{2}\) to \(\frac{1}{3}\) line long, otherwise glabrous and not ciliate; tube about \(\frac{1}{2}\) inch long, \(\frac{1}{2}\) inch in diameter inside, campanulate, smooth in the lower part, pinkish cream-coloured dotted with crimson; lobes to 6 lines long, 3 to 3\(\frac{1}{2}\) lines broad at the base, whence they taper in a straight line to a fine very much recurved point, slightly convex at the base, pale yellow marked with small crimson spots and with the tips of the processes also crimson the angles between the the processes also crimson, the angles between the lobes produced into short, subulate, abruptly reflexed processes; outer corona with 5 subquadrate, shortly bifid lobes or subequally 10 toothed, blackish purple, teeth deltoid; inner coronal lobes 1 line long, conniventerect, linear, somewhat dilated and thickened at the base, shortly recurved and papillate at the obtuse apex, dark purple-brown, glabrous; staminal-column i line long.

† Licuala elegantissima (n. sp.) - Subacaulis, caule † Lecuda elegantissima (n. sp.) — Subacaulis, caule brevissimo rete rufo tecto. Folia copiosa, petitolis tenuissimis 12 poll. longis, aculeis minutis ad bases, lamina 13 partita, 8—9 poll. longa, segmentis anguste linearibus $\frac{1}{3} - \frac{3}{2}$ poll. latis, duobus exterioribus et duobus mediis 2—3 nerviis, aliis uninerviis apicibus truncatis, dentibus inequalibus obtusis 2 vel pluribus. Spadices graciles 3 pedales, spathæ glabræ tubulatæ superne

with minute thorns at the base; blades 8 to 9 inches long, the leaflets forming three-quarters of a circle, about thirteen in number, narrowly linear, $\frac{1}{4}$ to $\frac{1}{2}$ inch wide, the outer two and middle two the widest, two to three-nerved, the others one-nerved; tips of leaflets truncate, with two or more unequal bluut teeth; spadices very slender, 3 feet long; spathes glabrous, tubular, swollen upwards, quite smooth, bifid at the top, and shortly Branches of spadix four, the lowest three-branched a little more than an inch long, upper brauches simple. Flowers sessile on a small callus; bracts lanceolate, acute, deflexed; calyx cylindric, narrowed a little at the base, three-lobed for one-third of the length, minutely pubescent, ribbed; corolla lobes lanceolate, obtuse; short staminal cup hardly toothed; anthers linear, nearly sessile. Borneo, Sarawak, Sempadi, river Lundu (Micholitz). Allied to L. bidens, Beccari.

LICUALA MICHOLITZI, Ridley (n. sp.)*

Leaves simple, petiole over 3 feet long, 1/6 inch through at the base, triquetrous, with very short recurved thorns (hardly more than very small tubercles) at the base, blade rhomboid, base cuneate, plicate, and many nerved; edge crenulate, 16 inches long 12 inches wide at the widest part, in tint of a light green; spadix [with a] peduncle 10 inches long, compressed, slender, silky-woolly; branches four, rather thick, 2 to $2\frac{1}{2}$ inches long, tomentose; spathes not seen; flowers spiral in pairs, stalked; calyx cup-shaped, obscurely threelobed, tomentose 1 inch long. Borneo, Mount Brooke, Lundu and Sarawak (Micholitz).

IGUANURA SANDERIANA, Ridley (n. sp.).+

Stem about a foot high, 1 inch through, distinctly ringed. Leaves large, crowded; sheaths of lower leaves broad, 5 inches long, petiole 4 inches blade entire, base cuneate gradually dilating upwards, apex rounded, acute, almost entire, or cleft into three unequal acute lobes, plicate, with numerous veins. Spadix 6 inches long; spathes two, narrow, acuminate, flattened, 2 to 3 inches long; branches of spadix two, rather thick, 2 inches long, covered with fugacious red tomentum. Flowers spirally arranged, solitary, rather distant, sunk in a deep foveola; sepals broad, ovate and rounded; petals twice as long, oblong lanceolate, strongly ribbed; stamens linear, filaments vory short. upper reaches of the Lundu river (Micholitz). Henry N. Ridley.

Unfortunately it has not been possible for Mr. Ridley to see the proof before publication,—ED.]

dilatatæ laeves, apicibus bifidis. Rami spadicis 4 imoramis tribus pollicaribus, superiores simplices. Flores sessiles in callis parvis impositæ. Bractæ lanceolatæ acutæ deflexæ. Calyx cylindratus basi angustatus trilobus minute pubescens. Corollæ laciniæ lanceolatæ obtusæ breves. Andrecium vix dentatum, antheris linearibus subsessilibus. Sarawak (Coll. Micholitz).

* Licuala Micholitzi n.sp.-Folia integra petiolis tripedalibus triquetris † poll. crassis, aculeis brevibus minuiis recurvis ad bases, lamina rhomboidea basi cuneata plicata multinervia margine crenulata 16 poll. longa 12 poll. lata et ultra. Spadix pedunculo 10 poll. longo compresso gracile, sericeo lanuginoso, ramis 4 crassiusculis 2 2 poll. longis tomentosis. Flores spiraliter ordinatæ pedicellati. Calyx cupulata vix trilobatomentosa ‡ poll. longa. Bornco, Sarawak ad Lundu. Coll. Micholitz).

† Iananura Sanderiana, n.sp.—Caulis pedalis † poll. † Iguanura Sanaeriana, n.sp.—Caulis pedalis § poll. crassus, annulatus. Folia magna, vagiuis inferiorumlatis 5 poil. longls, petiolis 4 poil. longls, lamina integra, hasi cuneata superne dilatata, apice rotundata, subacuta, subiniegra, aut in tribus lobis inequalibus acutis fissa, plicata; spadix 6 poll. longa; spathæ 2, anguste acuminatæ complanatæ, 2—3 pollices spains 2, anguste acuminate companies, 2—spaines longe; rami spadicis 2, validuli, 2 poll. longi, ruio tomentosi. Flores subremoti, spiraliter ordinati, in foveolis subprofundis; sepala late ovata, rotundata; petala duplo longiora, oblonga lanceolata; stamina linearia, filamentis brevissimis. Borneo, in flumine Lundu (Coll. Micholitz).

THE RAINFALL AT ROTHAMSTED IN 1903.

The rain-gauge at the Rothamsted Experimental Station, Hertfordshire, was constructed fifty years ago, and is one-theusandth part of an acre in dimension, standing 2 feet above the surface of the ground, and about 420 feet above sea-level. The rainfall for the year 1903, recently ended, amounted to more than 38 inches, 10 inches in excess of the average record for this district extending over the period of fifty years for which the records are available. In no other year of the fifty has there been so large a rainfall, the nearest approach being in the year 1879, when 36 inches were measured.

The following table shews the rainfall of each month for the past year at Rothamsted, with the average amount of rainfall for each month of the previous fifty years and the difference of 1903, above or below the average:—

Rainfall at Rothamsted, Herts, for each month of the year 1903, the Total for the year, the Average Rainfall of fifty years, 1853-1902, and 1903 above or below average.

Months.		Rainfall,	Average rainfall of fifty years.	Above or Below the Average.**
January		Inches.	Inches.	Inches. + 0.20
February		1.07	1.49	0 12
March		3.46	1.78	+ 1 68
April		1 53	1.86	- 0 33
Мау		2.23	2:23	- 0 01
June		6 11	2 31	+ 3 80
July		4 09	2 55	+ 1:51
Augnst		3.56	2.65	+ 1 31
September		2.75	2 50	+ 0 25
October		6:32	3.08	+ 3*23
November		2 21	2 58	- 0:37
December		2 42	2 3t	+ 0.11
Yearly	total	38 69	28 00	+ 10 69

* The sign (-) signifies below the average, and the sign (+) above the average.

The above figures show that the yearly total of rain, frost, and melted snow, of which latter there was a very small quantity, in the past year amounts to 38.69 inches, against an average of 28 inches for the previous fifty years, showing an excess in the twelve months of 10.69 inches. And as 1 inch of rain represents 101 tons of water on each acre of land, the results show that the enormous quantity of 3,907 tons of water per acre has been contributed during the year, or very nearly 1,080 tons per acre in excess of the average of the past fifty years. It is seen that eight months gave an excess of rain, while the four months of February, April, May, and November gave a deficiency of rain compared with the average.

Water is an essential factor in the life of a plant; if moisture is wanting, or if the roots do not transmit to the leaves water in quantities sufficient to provide for losses due to transpiration, the plant is endaugered, and ceases to grow. If the scarcity of water continues, the crops dry up rapidly, and yield but a poor return.

But it may be objected that excess of rain is more often injurious in the climate of England than drought; but in wet seasons plants suffer owing to want of light and generally of warmth. During the past year of 1903 there have been recorded at Rothamsted only 1,450 hours of bright sunshine, the usual growing months of the year being particularly noticeable for the deficiency of sunshine.

It is very probable that if the same quantity of rain which the soil receives in our wettest summer were to fall only between the hours of nine o'clock in the evening and three o'clock on the following morning, and if the sun were to shine brightly and warmly through the whole of

the day, no injurious effects would follow; and every experienced gardener knows with what luxuriance and rapidity plants of every species grow in hot and bright weather after the ground has been drenched with water by thundersterms. J. J. Willis, Harpenden.

CHRYSANTHEMUM MARGINATUM.

This fine dwarf species is a comparatively new plant, having been introduced from Japan about the year 1888. It has been cultivated for a number of years in the open border in the herbaceous ground, Kew, where it formed dense bushes 3 feet high and 3 feet in diameter, but failed to produce perfect flowers before being cut down with frost. An effort was uade last season to induce it to bloom by growing it as a pot plant, and the success of this method of treatment is evident from the several fine plants which were lately in bloom in the Temperate-



FIG. 22.—CHRYSANTHEMUN MARGINATUM IN THE TEMPERATE-HOUSE, KEW.

house. The plant is naturally of a free-branching habit, with stiff, erect stems, covered with a white tomentum. The leaves are ovate, pinnatifid, slightly hairy on the upper surface, densely tomentose beneath and on the margins. The whitish margins give to the plant a very pretty appearance, as its specific name. The flowers are borne in reunded corymbs of from three to eight flower-heads, each of which are 1 to 1½ in. in diameter. Ray florets pure white, disc florets bright-yellow.

As a decorative plant it should become a popular one among gardeners, as it blooms naturally about Christmas, requiring only the protection of a cold frame until it flowers, when it may be taken into the greenhouse. It is useful to supply cut flowers for the decoration of vases. &c., on account of its light and graceful habit. For such purpose the plant might be grown in the open border during the summer and autumn menths, and be then lifted with good balls and planted in shallow frames when the danger of frost becomes apparent. Chas. P. Rafill. Kew.

MARKET GARDENING NOTES.

CHANGE OF SEED.

THERE is not the slightest doubt but that the interchange from one district to another of seeds of Tomatos and Cucumbers is beneficial. Seed of my own saving, after being sent back from a district where it has been grown for a season, was much improved.

Tomato-seeds are sent not only to the Canary Islands, but also to Australia, by some growers, and the exchange is productive of good results. Much of the disease commonly seen is the result of the in-and-in seed-raising and cultivation. Worthing Cucumber-seed is being exchanged with that from Middlesex and Midland growers with decided advantage.

LATE VINE PRUNING.

Vines pruned after this date will be far safer if the cuts are touched with some styptic (see contrary opinion on p. 39). The best and most simple, yet cheap and effective material, is "knotting," as used by the carpenter and painter for stopping. To ensure the regular break of each rod, prune from bettom to top in one day. When the pruning is done well the breaks should be regular and grow evenly. Stephen Castle.

MARKET NOTES.

CUT FLOWERS AT COVENT GARDEN.

In cut flowers the chief supply is in Dutch bulbs and imported flowers. Tulips are very plentiful, and vary from 6s. to 12s. per dozen bunches; a few extra fine whites were making 15s. Double yellow Daffodils, 8d. to 1s. per bunch of about twelve blooms. Paper-white Narcissus very plentiful; also other Polyanthus Narcissus. A good many of these are now ceming from the Scilly Islands. Yellow Soleil make 4s. to 5s. per dozen bunches. Lily of the Valley is much cheaper, some very fine being offered at 10d. per bunch. Callas are plentiful, and are down to about 4s. per dozen for very good blooms. Good English Carnations are still scarce, and make about 4s. per dozen blooms. Tuberoses are plentiful and cheap. Liliums are not quite so abundant just now. There are still a good many Chrysanthemums coming in, and the best blooms make good prices, but there are now a good many small blooms, and these do not sell so well. The supply of French flowers was very plentiful lately, but the new French market was not very attractive, for there was a good supply of almost all imported flowers in the ordinary flower market. Yellow Marguerites, blue Coruflower, scarlet Anemones, also mixed colours, Ranunculus, Violets (immense quantities), Roses (plentiful, but many of them very poor). Acacia (Mimosa) is now plentiful and good. A. H., Jan. 9.

COVENT GARDEN FRUIT MARKET.

Large quantities of Gros Colmar Grapes are now on the market. Though some are not well coloured, there are many of excellent quality. Perfectly coloured examples are being sold retail at 3s. and 3s. 6d. per lb., and Alicantes of fine quality at 2s. 6d. per lb. There is plenty of very fair quality priced much lower than those I have quoted.

APPLES.

The market is well stocked with Apples. The Cauadian Apples in barrels are the most prominent, and the samples are of very good quality. Much trouble is taken in the packing, for when opened the fruits do not appear to have moved in the least, and all are almost free from bruises. A. H., January 16.

THE GARDENS OF THE ROYAL HORTICULTURAL SOCIETY.

The Society's Gardens were established at Chiewick in 1822, and since that time they have been looked upon as a leading and important help to horticulture. Of recent years the difficulties to be contended with at Chiewick, arising chiefly from the excessive surrounding drainage

a school of practical and scientific horticulture, and of increased value and interest to the Fellows. Mr. Wilson's wild-garden will be carefully preserved and continued, whilst other parts of the site will be devoted to the cultivation of all such trees, shrubs, fruits, vegetables, stove, greenhouse an I hardy plants and flowers as are found to be most generally useful or ornamental; to the trial

FIG. 23.—RHODODENDRONS IN THE ROYAL HORTICULTURAL SOCIETY'S NEW GARDEN AT WISLEY.

(From a photograph by F. Mason Good.)

and from the London smoke, have increased with tremendous rapidity. In consequence of which a desire for a better situated garden has been freely expressed, and, thanks to Sir Thomas Hanbury, K.C.V.O., this desire is in process of being gratified. Sir Thomas has purchased 60 acres of and, including the celebrated wild-garden of the late Mr. G. F. Wilson, V.M.H., at Wisley, and has given it in trust for the Society's use.

The Council are anxious to make the Gardens (as far as the funds at their command will allow)

of new varieties side by side with old established ones; to the hybridisation of plants and the raising of new varieties; to experiments in the culture and treatment of those plants which possess a floral or decorative as distinguished from a merely scientific value and interest. To these may be added the trial of such horticultural appliances and materials as may from time to time be submitted, and if funds be forthcoming it is hoped to add a practical Scientific department, with laboratory, &c.; this, however, will

largely depend on the liberality of Fellows interested in scientific research.

The cultivation, trial, &c., of Fruits have always been considered as of the utmost importance, and will form one of the most valuable features of the Gardens, and it is intended to establish and maintain a collection of all the best varieties of fruits, and extend it from time to time by the trial of such novelties as the raisers may be good enough to bestow on the Society.

A collection of standard and typical varieties of different Vegetables will also be grown for comparison with new varieties, both to assist the Committee in recommending their awards and for the general information of the Fellows. Besides this general collection, specially exhaustive trials of certain classes of fruits, flowers, and vegetables will be made every few years in rotation, and descriptive reports given in the Society's Journal.

The Floral department will include trees, shrubs, plants, and flowers of a distinctly decorative garden character, whether for cultivation under glass or out-of-doors. A few classes only can be illustrated each year.

Wisley may be reached from the under-mentioned stations, all of which are on the London and South-Western Railway. Starting from Waterloo Station, most of the trains stop at Clapham Junction, about eight minutes afterwards, but it is not quite safe to reckon on this without first ascertaining the fact; nor must the times of the trains given below be trusted without verification, as they are liable to alteration:

Weybridge.—19 miles from Waterloo (Central Station), and $5\frac{1}{2}$ from Wisley. Return tickets: 1st class, 5s.; 2nd class, 3s. 6d.; 3rd class, 2s. 10d. Carriages will be found at the station. Trains leave Waterloo 9.30, 10.5, 11.22, reaching Weybridge 10.19, 10.44, 12.1. Returning from Weybridge 3.34, 4.8, 4.25, 5.26, reaching Waterloo 4.15, 5.5, 5.18, 6.10.

Horsley.—22 miles from Waterloo (South Station), and $2\frac{1}{2}$ from Wisley. Return tickets: 1st class, 6s. 4d.; 2nd class, 4s.; 3rd class, 3s. 6d. Carriages can be procured by writing beforehand to the Manager, "The Hut Hotel," Wisley, Cobham, Surrey. Trains leave Waterloo 9.2, 9.35, 10.20, 11.2, reaching Horsley 10.15, 10.34, 11.35, 12.12. Returning from Horsley 3.29, 4.56, 5.12, reaching Waterloo 4.24, 5.49, 6.20.

Effingham Junction.—21 miles from Waterloo, and 3 from Wisley. No carriages here; only useful for pedestrians. Return tickets: 1st class, 6s.; 2nd class, 4s.; 3rd class, 3s. 4d. Trains from Waterloo 9.35, 10.20, 11.2, reaching Effingham Junction 10.30. 11.28, 12.8; returning from Effingham Junction 3 33, 4.59, 5.16, reaching Waterloo 4 24, 5.49, 6.20.

Byficet.—This station may be of use to visitors coming from the Portsmouth or Windsor directions, instead of going on to Weybridge. The distance to Wisley Common is 4 miles, and the road is exceedingly tortuous on account of the river.

Nota Bene.—Anyone liking to spend a day ortwo near the Garden, and in lovely scenery, will find an excellent country hotel, called "The Hut," situated in the middle of Wisley and Ockham Commons, on the main London to Portsmouth road, and only three-quarters of a mile from the Garden. The postal address of "The Hut," which is carried on by the Surrey Publichouse Trust, is "The Hut," Wisley Common, Cobham, Surrey.

The Gardens will this year (1904) be closed until after March 25. After March 25, 1904, on showing their tickets, Fellows of the Society will have free personal admission to the Gardens on all occasions when the gates are open, including all exhibitions and meetings. Visitors will be admitted on presenting a Fellow's transferable

ticket. Children will not be admitted unless accompanied by an adult, who will be held responsible for their conduct while in the Gardens.

Students and gardeners may obtain orders on application to the Secretary of the Society, Vincent Square, S.W., which will secure them special facilities for observation and study.

The gates will be open daily after March 25 (Sundays, Good Friday, and Christmas Day excepted) at 9 AM, and will be closed at sunset. On Sundays, Good Friday, and Christmas Day the Gardens are closed, but not on Bank Holidays. Extract from "Book of Arrangements" just issued by the Royal Horticultural Society.

Alsophila Sanderi, April 25, p. 259. Archontophænix Cunninghamii, July 25, p. 551. Asparagus scandens (japonica), May 30, p. 339. Begonia Marie Bouchett, August 1, p. 71. Begonia Bowringiana, Supp., April 18. Begonia His Majesty, Begonia Our Queen, Begonia laciniata, SANDER, pp. 268-9. Bilbergia Forgetiana, April 25, p. 258 Bryophyllum crenatum, January 24, p. 59. Calochortus pulchellus, August 22, pp. 133-41. Cephalotaxus drupacea, Apr. 111, p. 227. Cephalotaxus Oliveri, April 11, p. 226. Cephalotaxus pedunculata, April 11, p. 228. Cephalotaxus pedunculata fastigiata, April 11, Ficus pandurata, May 2, p. 284. Gloriosa Rothschildiana, May 23, p. 323. Gladiolus (new), September 5, p. 171. Hepatica alba plena, April 4, p. 213. Heliconia Edwardus Rex, Supp., April 18. Iris purpureo-persica, April 4, p. 211. Iris Reinette, Supp., July 11. Jasminum primulinum, March 28, p. 197. Keteleeria Davidiana, January 17, p. 35. Keteleeria Evelyniana, March 28, p. 194. Linospadix Leopoldi, Supp., April 25. Lowrya campanulata, February 14, p. 107. Meryta Sinclairii, Supp., December 19. Narcissus Viscount Falmouth, April 25, p. 260. Narcissus Mrs. Geo. Barr, Supp., August 1.



Fig. 24.—Irises and other flowers in the royal horticultural society's new garden at wisley. (see p. 52.) (From a Photograph by F. Mason Good)

NOVELTIES OF 1903. (Concluded from p. 28.)

OTHER HARDY FLOWERS

have been steadily recruited by the several showy specialities of Messrs. Kelway & Sons, Langport; Messrs. Cutbush, Highgate, in florists' Carnations; Mr. Jas. Douglas, Edenside, with Carnations of all classes, Auriculas, &c., Roses, especially of the rambler class, and other good novelties, many of which will be found in the following list.

The following novelties and noteworthy plants were illustrated in the Gard. Chron. in 1903:-

Æsculus indica, Supplement, Feb. 28. Allium albo-pilosum, Supp., July 18. Alpinia Sanderæ, Supp., April 18. Alpinia tricolor, Supp., April 18.

Clerodendron myrmecophilum, May 9, p. 291. Coffea Laurentii (robusta), May 16, p. 306. Coriaria terminalis, October 24, p. 282. Crinum rhodanthum, May 16, p. 315. Chrysanthemum Mrs. J. Dunn, Dec. 5, p. 385. Chrysanthemum Miss Elsie Fulton, Dec. 19, p. 424.

Crocus caspius, December 26, p. 443. Crossosoma californicum, August 22, p. 130. Dahlia (Cactus) Cheal's White, Supp., Sep. 5. Dahlia imperialis, September 5, p 178. Davidia involucrata, April 11, p. 235. Dracæna Broomfieldi superba, Supp, April 18. Dracæna kewensis, Supp., April 25 Echinocactus Delaetii and others, Supp., March 14.

Eremurus Elwesianus, June 13, p. 381

Nicotiana Sanderæ, Supp., October 10. Nolina Beldingii, July 18, p. 43. Nymphæa gigantea, July 25, p. 63. Œnothera cæspitosa, Supp, June 13. Opuntia cantabrigiensis, February 14, p. 98. Opuntia, twelve species, from La Mortola, August 8.

Philadelphus mexicanus, September 26, p. 218. Phrynium Micholitzii, Supp., April 18. Picea neoveitchii, February 21, p. 117. Picea Wilsoni, February 28, p. 133. Pinus Armandi, January 31, pp. 66, 67. Pinus koraiensis, January 17, pp. 34, 35. Platycerium Hillii, January 10, p. 22. Platycerium Willinckii, January 10, p. 20. Polypodinm Knightiæ, Supp., and p. 245 April 18.

Primula Kewensis, March 7, pp. 147-149.
Prunus subhirtella, March 14, p. 163.
Psoralea pinnata, May 9, p. 301.
Rehmannia angulata, Supp., May 9.
Retinospora Sanderi (probably a form of Cupressus obtusa), April 25, Supp., and p. 266.
Ribes speciosum, August 1, p. 71.
Romanovia Nicolai, Supp., April 25.
Rubus reflexus (moluccanus), May 16, p. 309.
Saxifraga Grieabachii, February 21, p. 123.
Selaginella Watsoniana, Supp., April 18.
Stock "Excelsior," May 30, p. 341.
Tulipa præstans, May 23, p. 325.
Vellozia equisetoides, December 19, p. 425.
Widdringtonia Whytei, March 14, p. 162.

VEGETABLES.

DISEASED POTATOS.

I HAVE never yet lifted a crop of Potatos that showed any signs of disease in the haulm, and only in very few instances have I found any diseased tubers. The chief reason for this I believe to be early planting. I make a special effort to get the main crop planted as early in March as possible. They are ready to lift early in the autumn, before the disease is widespread. I noticed several crops this year that showed signs of disease, and in most cases they were not planted until May. They were lifted in October and even November. I have had charge of four gardens in different parts of the county, and the soil has been of various kinds. Some good varieties are Up-to-Date, Windsor Castle, Evergood, Duke of York, Duke of Albany, Ninetyfold, British Queen, and Harbinger. I do not see how the spraying of Potato crops can be carried out on a large scale, owing to the expense, which would be very heavy where large quantities are grown for market. But I do believe that early planting, combined with the thorough cultivation of the soil, is the best preventative of disease at the present time. H. Green, The Gardens, Nocton Hall, Lincolnshire. [The spraying of Potatos will pay far better than the loss of the crop through disease. En.

WINTER SALADS FOR AMATEURS.

If one cares to go to the expense of sixpence and invests half of it in a packet of Endive-seed and half in Lisbon Onion-seed, he may have salad galore through November and December in any ordinary season, and with very little trouble. Sow Endive-seed from the beginning to the middle of July in drills 15 inches apart, and as soon as the plants are large enough, hoe, and thin out to 10 inches. Hoe the surface of the soil frequently, and in October, or sooner if the plants are large enough, tie them up tightly with raffia, rather near the top; this should be done when the plants are perfectly dry, or they may go rotten. In a fortnight the hearts will be bleached, and as tender as a Cos Lettuce. The Onion-seed should be sown thickly in drills 9 inches apart, about the middle of July, and will only require to be kept clean with the hoe. C. Myatt.

COLONIAL NOTES.

FOREST FLORA OF NEW SOUTH WALES.

The fifth part of this publication, edited by the colonial botanist, Mr. Maiden, contains plates and descriptions of Tristania conferta, which yields valuable timber when properly treated, and is largely planted as a shade-tree in Sydney; Lagunaria Patersoni, or, as Mr. Maiden prefers to write it, Patersonii; also of Eucalyptus gonio-calyx, which furnishes second-class timber, and Cupania anacardioides, a handsome tree for planting in parks in N. S. Wales.

FOREIGN CORRESPONDENCE.

THE name Strawberry-Grape, as applied to the American Fox Grape, by Mr. Bailly Wadds, on page 426 of your issue of December 19, 1903, is new to me. The Fox Grape is very common in the Eastern States, and from it have been derived many of our best varieties. Indeed, it is the basis upon which our American Grape culture is chiefly built. I am pleased to know that some of its offspring, as, for example, Isabella, find some favour in Britain. We have on our nursery lists some hundreds of varieties of similar parentage, and among them many which we consider superior to Isabella-at least as regards the general results of outdoor culture. I should think that those British gardeners who have found Isabella worth their while would be inclined to test other American varieties, such, for instance, as Delaware, Catawba, Niagara, Wilder, and Brighton. F. A. Waugh, Massachusetts Agricultural College, U.S.A., Jan. 6.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Strawberry Beds.-If it is intended to plant new beds with Strawberry plants which are being moderately forced and will be properly hardened off, prepare a suitable piece of land some weeks previous to the time for planting, so land some may become moderately firm. If depth of good soil is sufficient, have it trenched to the depth of 2 feet, supplying at the same time and at various depths plenty of well-decayed manure. It is not advisable to bring the bottom spit of soil to the surface when it is very heavy, yet it is essential to break up the subsoil to a great depth so as to allow the water subsoil to a great depth so as to allow the water to pass through it freely. Heavy land may be greatly benefited by a good dressing of wood-ashes, old lime, soot, or old potting soil. When the land has been properly prepared, the surface should be left rough for the time being. If the permanent beds have not already been mulched with manure, they should be afforded some at once. This work is best done in summer, as soon as the fruits have been gathered, especially if the land is light and gravelly. applying manure at this season, cover the surface thialy with strawy litter; the rains will wash this cloan, and it will preserve the fruits at the proper time from dirt, grit, &c., no more bedding-down being required.

Bush Fruits.-When pruning Black and Red Currant or Gooseberry bushes, select moderately-strong shoots for the purpose of cuttings. In gardens, large and small, a few cuttings should be rooted each year for the purpose of filling gaps or making new plantations. In cuttings of Gooseberries, and Red and White Currants, remove several of the lower buds, so as to allow a clean stem of 6 inches from the ground-level to the first set of branches. Plant the cut-tings firmly in a well-prepared piece of land, resting the base on a moderately firm bottom, in rows 15 inches apart, and 4 inches apart in the rows. Examine them occasionally to ascertain if they are firmly embedded, as frost is liable to loosen them. Lift and transplant those that were planted last year, allowing them more room for development. A little pruning may be required to keep them in shape. Cuttings of Black Currants do not require to have any of the buds removed. Do not propagate any but the best fruiting varieties. Red and White Currants are sometimes grown as standards, and they are very prolific. The cuttings for these should not be stopped till they have reached the proper height, out prune back all side-growths. When the but prune back all side-growths. When the heads have been formed they are usually spurred back, and if the growths be kept within bounds, the fruits are very fine. Red and White Currants when trained to walls may be netted easily, and the fruits thus protected from birds will keep sound and fresh for a considerable time.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Pines.—The culture of Pines here is done on a very limited scale. If the number of plants be small and the aims of the cultivator high, strict attention must be given to every detail. When ripe fruits are expected about the end of May or early in June, it will be necessary to maintain a bottom heat of from 75° to 85°, and a moist atmosphere by damping every available surface, except in dull, damp weather. The atmospheric temperature at night should be from 60° to 65°, varying in accordance with the weather, and rising 10° in the morning before admitting air. Do not afford water very liberally until the plants show fruit. Then thoroughly moisten the soil with water well coloured with Peruvian guano, and of 80° in temperature. Plants upon which fruits are swelling should be afforded an atmospheric heat of 65° to 70°, and a bottom-heat of 85° to 90°. When the fruits are partly coloured, only sufficient water will be necessary to keep them from shrivelling; and to secure high flavour less moisture in the atmosphere and more air will be necessary.

Succession Plants —Preparations may be made for potting succession plants into larger pots. Put the turf under cover, and pick it well over, as only the fibrous portion should be used. The plants need only a night temperature of 55°, and by day with sun-heat 70°, the bottom-heat being about 75°

Inside Vine-borders.—There is much difference of opinion with respect to the management of Vine-borders, but I think all agree that the nearer the roots are to the surface the greater the success that will follow. By annual applications of small quantities of plant-food, the roots may then be supplied with constituents necessary to the plants. About eleven years ago the borders here were reduced to skeletons in our search for roots. We then afforded them lime-rubble, broken bricks, charcoal, and ½-inch bones, together with Thompson's Vine Manure. These were spread over the surface amongst the roots in considerable quantity, and fresh turves about 4 inches in thickness, and as whole as possible, were placed grass side downwards, about 2 feet separating each turf, and made firm by treading, by which process the above-named ingredients had almost become covered. We then spread a good covering of sweet horse-droppings over it. At the present time we are sweeping up the spent manure applied last season, and adding one more turf, the whole being again covered with droppings from the stable. Three or four years is required in this way to cover the border one turf thick, the roots on the surface multiplying rapidly. We are not concerned that the surface presents a somewhat uneven appearance.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Disas.-Plants of Disa grandiflora (scarlet), D. racemosa (rose-purple), and the hybrids D. × Kewensis, D. × Veitchii, D. × Langleyensis, D. × Premier, &c., that were repotted in November will be making progress with their new growths. Prick-in some living heads of sphagnum-moss thickly over the surface of the compost if this has not been done. When Disas are growing strongly afford them a good supply of water at the root, and when the weather is fine and bright lightly syringe the plants overhead with the fine sprayer two or three times a day. In some localities Disas will grow very well in cold frames, but they succeed best here in the temperature of an ordinary greenhouse, and where the atmosphere is moderately dry during the winter months. No artificial heat is used unless it be to keep the temperature of the house up to 36°. The atmosphere of the Odontoglossum-house appears to be too moist, and the temperature a trifle too warm for them. When the plants are in full growth they require a good clear light, but strong direct sunshine is harmful. Green flies frequently attack Disas, and must be cleaned off brush or sponge immediately they make their appearance.

Vanda cærulea.—Plants requiring fresh rooting material should be afforded this at once, for new roots are being made already. Cockroaches will destroy these young roots if not kept under. I am now using "Beetlecute," "Beetawline," and phosphorus-paste in turns, each proving effective. This lovely Vanda has always been very difficult to grow under our artificial conditions, but in Belgium, where the plants are potted in leaf-soil and surfaced with sphagnum-moss, they thrive splendidly and produce such spikes of bloom that have rarely been seen under our former methods. We have plants similarly potted at Burford, but it is yet too early to express an opinion as to their real progress. I advise cultivators to give a few plants a trial in the leaf-soil. The Mexican-house will suit Vanda cœrulea at present, but in summer they require a cooler temperature and more ventilation.

Cattleya Mossie. — Plants recently imported must be thoroughly cleansed of dirt and rubbish, cutting away all dead parts. Fix them in pots containing nothing but crocks. Water may be poured two or three times a week through the crocks to keep them moist, which will induce the plants to make fresh roots. When these appear the plants should be repotted, using a mixture consisting of one-half leaf-soil and the other half of equal parts of peat and sphagnum-moss, mixing the whole well together and surfacing with clean picked moss.

Dendrobiums.—Such species as D. Wardianum, D. crassinode, and the following hybrids, D. Clio, D. melanopthalmum, D. Juno, D. micans, D. Aspasia, D. Wardiano-japonicum, and D. crassinode-Wardianum, generally commence pushing new growths just when the flower-buds appear on the last-made pseudo-bulbs. Special attention must now be given to these plants, and water should be afforded only at long intervals, or the growths that are now breaking very slowly will start away and the flower-buds turn yellow and fall. Other Dendrobiums that have been rested in the cool-house and are now showing their flower-buds may be placed in more heat. The Cattleya or intermediate-house will be warm enough for a week or two, afterwards they will require the temperature of the East Indian-house. Place them on the lightest side, and well up to the roof-glass.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Clerodendron Bulfourianum.—Where specimens are required to he in bloom early, plants which have been rested may be placed at the warmer end of the stove, and when an inch or two of new growth has been made repot the plants, using a compost of two parts good peat, and one part loam, adding a little leaf-soil and coarse silversand. Thin out the weak growths and train the shoots equally over a halloon trellis or around stakes. Afford water carefully until the plants are growing freely. Specimen plants are very effective for house decoration, and may be stood in trays with a few Ferns arranged around the base, or be placed in large vases. This Clerodendron may be easily increased by means of cuttings if the shoots be removed with a heel when about 3 inches in length, and inserted around the sides of small pots containing light soil. Plunge them in the propagating frame or under a handlight on a hothed having a temperature of 75° to 80°.

Seedling tuberous - rooted Begonias.—Seed of tuberous-rooted Begonias should be sown forthwith if the plants will be required to flower the first year. Use seed pots or pans with good drainage, and fill them to within half-an-inch of the rims with a finely-sifted compost consisting of two parts sandy-loam, one part leaf-soil, and some sand. Press the soil down evenly, and then water it by holding the pot in a pail of water, allowing the water to soak upwards through the hole in the pot until it can be seen on the surface of the soil. Then sow the seeds carefully and evenly, and sprinkle a little silversand on the surface. Cover the pots with a piece of glass, and place them in a moist atmosphere of stove temperature, where they may be shaded.

Gloxinias, Streptocarpus, and Begonia Frabeli.— Sow seeds of these plants this month, affording

them the same kind of soil and treatment as that recommended above for Begonias. In the case of all such minute seeds as these the safest plan is to divide the seed among several pots, in preference to sowing the whole of it in one. Until the seedlings are firmly rooted water must be afforded very carefully, or the tiny plants will be washed out of the soil, however fine the rose may be.

Forcing Shrubs.—Introduce batches of these into heat in such numbers as the requirements of the establishment demand. The forcing must be gradual. Ghent Azaleas, Lilac, Staphylea, Spirma arguta, Deutzia gracilis, D. Pride of Rochester, &c., may be placed in a vinery or Peach-house which is being started, where the moist atmosphere and gradually increasing temperature will meet their requirements perfectly.

Malmaison Carnations.—Where from any cause the young plants have not yet been placed in their flowering-pots, this should be done without further delay. A strong well-grown plant will require a 6-inch pot, and the soil may consist of three-parts fibrous loam, one-part flaky leaf-soil, and plenty of coarse silver-sand, together with a 6-inch potful of bone-meal to each barrow-load of compost. If the loam be deficient in fibre, then two-parts loam, one-part peat, and one of leaf-soil, with the sand and bone-meal, will be preferable. See that the compost is in a sufficiently moist condition before using it, and in potting make the soil moderately firm. Water must be afforded sparingly until the roots have taken possession of the new soil. Afterwards thoroughly soak each plant as required when it is watered, and avoid frequent dribblets.

THE KITCHEN GARDEN.

By John Pentlann, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Preparing for Crops.—When all vacant ground has been dug or trenched, the gardener must exercise forethought in respect to his crops. It has been said that a gardener has but two things to please—the eye and the stomach. Our first duty is to try to produce, according to the means at our disposal, at all seasons in quantity and good quality, everything required for the supply of the table.

Jerusalem Artichokes are sometimes planted in some out-of-the-way corner year after year, yet show no sign of deterioration in the quantity or size of the tubers. If the weather remains open, take up the tubers and grade them. Place the largest in a heap in some convenient place for supplying the kitchen, covering them with soil or damp litter that is not likely to heat, that they may keep plump and crisp. The smaller tubers should be used for the purpose of seed, and may be planted now in rows $2\frac{1}{2}$ feet apart, and the sets 18 in. apart in the rows. If it is intended to plant them in the same ground manure it well and dig them in, which will be better than treading over wet ground.

Stachys tuberifera (Crosnes or Chinese Artichokes) should also be taken up and graded. If a border is ready and the soil in perfect condition, plant the tubers at once in lines 16 inches asunder, putting the sets 8 inches apart from each other. Cover them about 3 inches deep with rather fine soil. This Stachys is easily grown, and the tubers afford a little variety to winter vegetables. The demand for them here is increasing.

Parsnips.—Nothing will be gained by keeping Parsnips in the ground any longer; therefore lift the roots at once and place them in a heap, putting a few shovelfuls of damp soil or ashes amongst them as the heap rises, and covering the heap several inches deep with soil or straw. Have the ground thus cleared turned up roughly as soon as possible. In wet weather write or print labels, look over Onions, and take away any bulbs that are decaying; prepare Pea-stakes, and have any other work done that is convenient, for a busy season is approaching.

Growing Crops.—Observe these closely. Remove any Broccoli that are turning-in to a shed or cellar where they will be safe from frost. Admit fresh air to Cauliflowers in frames on all favourable occasions, and remove any decayed leaves from them.

Forcing.—Introduce into heat fresh batches of vegetables and salads. Cut Seakale when it is short and crisp; it is useless when long and stringy.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. Pearson, Bart, Paddockhurst, Sussex.

Climbers and other Plants ogainst Walls.—In exposed and windy positions climbing plants need to be frequently inspected and made secure, but the necessary pruning and thinning out of shoots it may be assumed was done in autumn. Afford Magnolias and Camellias a good top-dressing of rough peat, loam, and brick-rubble. or charcoal and soot. Akebia quinata, Chimonanthus fragrans, and Tropæolum speciosum should be included in all collections. The Tropæolum may he easily increased by seeds sown as soon as ripe in the autumn, but off-sets or roots taken up and potted now will make nice plants by the summer. They should be planted in partial shade on the north side of a Yew-hedge, where the growths will get the benefit of the sun, or on a north-east wall. The plants like a rich soil, such as peat, rich loam, and sand; also in the summer, when well established, a liberal supply of farm-yard liquid-manure.

Calceolarias may be stopped to four leaves if required to flower late, not otherwise. Afford them a watering of soot-water on a dry day, and remove the green surface-soil and decayed leaves. Beds to receive these should be afforded some good loamy soil, digging it in now.

Lobelia cardinalis, lifted in the autumn, will be making fresh roots, and can be increased easily if the young side-shoots be broken off and potted-up. Keep them moderately dry, and afford them a little warmth through the winter months.

Echeverias.—Look over the stock, and shorten back any long roots. Pot-up suckers in order to-increase the number of plants.

Tender Bedding Plants. — Abutilon Thomsoni, Fuchsias, fibrous-rooted Begonias, Lantanas (Drap d'Or), Verbena venosa, and Heliotropes may be placed in heat, where they will make new growths for use as cuttings. Repot Pentstemons, take cuttings of border Chrysanthemums, or divide the roots. If there is not sufficient accommodation for striking cuttings in pits, a hot-bed had better he made up in a sheltered position outside for use in a few weeks' time. Let it be composed of leaves and long stable-manure in equal portions. There is nothing to be gained by starting too soon, if an outside hot-bed has to be used, as the weather may be very bad for some time to come.

The Sub - Tropical Garden. — Sow seeds of Grevillea robusta, Centaurea candidissima, Chamæpeuce Casabonæ, Eucalyptus, Ricinus, and other species required for the sub - tropical garden.

General Work.—Finish the pruning of shrubs, cut away the growth of Laurels if more space is required for choice evergreens to develop perfectly. The borders may then be forked lightly, or hoed to give a tidy appearance. The lifting and laying down of turf should be pushed forward. Low spots may require to he raised, and grass verges to be edged up. Roll the walks, and make good such as are in bad condition. Lawns that are badly affected with moss should be afforded a good dressing of finely-sifted wood-ashes.

PUBLICATIONS RECEIVED.—Willings' Press Guide and Advertisers' Directory and Handbook. This reference book (published by James Willing, junr., Lim., 125, Strand. W.C.), has now attained its thirty-first annual issue. As a "concise and comprehensive index to the Press of the United Kingdom, containing [the names of] all the newspapers, magazines, reviews and periodicals, annuals, guides and directories, journals, proceedings, reports and transactions of learned and other Societies issued in England, Wales, Scotland, Ireland, and the British Isles," the volume is valuable, not to say essential, to all connected with journalism. A list of the principal Colonial and Foreign journals, and a variety of general information are included, and the whole has been brought up to the present year of 1904.—England's National Flower, by George Bunyard.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as epecimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London.

Communications should be WEITTEN ON ONE SIDE ONLY OF THE PAPEA, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JAN. 25 (Royal Horticultural Society's Committees meet.

SALES FOR THE WEEK.

BALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT—

Hardy Border Plants and Perennlais, Azaleas, Roses, &c., at 47 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.

TUE3DAY NEXT—

Unreserved Clearance Sale of Nursery Stock at The Nurseries, Church Road. Leyton, by order of Mr. J. Fraser, by Protheroe & Morris, at 11.

WEDNESDAY, JANUARY 27—

At Stevens' Rooms, at 12 30, Roses, Rhoddendrons, Azaleas Palms, &c. — Palms, Plants, Azaleas, Lil.ums, Roses, Herbaccous Plants, &c., at 67 & 68, Che. pside, E.C., by Protheroe & Morris, at 12.

WEDNI SDAY AND THUR 'DAY NEXT—

Unreserved Clearance Sale of Nursery Stock at The Nurseries, South Woodford, by order of Mr. J. Fraser, by Protheroe & Morris, at 11.

FRIDAY NEXT—

Importation of Odontoglossum Harryanum, &c., at

Importation of Odontoglossum Harryanum, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON.-Jan 20 (6 P.M.): Max. 38°: Min. 34°. Jan. 21 (noon): Frost last night, wet and

cold. Provinces. - Jan. 20 (6 P.M.): Max. 45°, N.E. coast of Iroland; Min. 34°, S. coast of England.

Some documents have reached The Royal Horticultural us, including the Report to be Society. presented to the annual meeting on February 9. From them we make copious extracts. They show that this year, 1904, is likely to be an annus mirabilis for the Royal Horticultural Society. The extraordinary growth of the Society during the last few years may be traced to the determination of the Society to stick to matters horticultural, to the undeviating persistence and courtesy of the President, and the perseverance, industry, and organising talent of the Secretary. We are sure that all members of the Council will substantiate this statement. As the centenary of the Society approached there were various proposals as to the best method of celebrating so auspicious an occasion. The scheme, launched by Baron Sir HENRY SCHRODER, for the erection of a home for the Society, including an exhibition hall, rooms for the Lindley Library, and for the offices of the Society, now more than overcrowded, was the one that found most favour. There were some who would have preferred the formation of a new garden in the country in place of the honoured establishment at Chiswick.

The provision of a suitable home for the Society seemed to the majority to be the most urgent necessity of the two, particularly as the lease at Chiswick had still several years to run. However, a considerable amount of subscriptions were received, and the foundations of the Hall were laid, when Sir Thomas Hanbury most unexpectedly came forward to fulfil the aspirations of those who preferred the garden

scheme, and presented to certain Trustees for the benefit of the Society the garden at Wisley, which the late Mr. George Wilson had rendered famous. And so it happens that the Centenary Year opens, not with the prospect, but with the certainty that a suitable Hall and Offices and a fine garden will become the property of the Society. The most brilliant imagination could not have predicted such an issue, and to those who laboured in the service of the old Society during the many years when ruin seemed ever imminent, the present condition of affairs is simply astounding. Not that the prospect is even now quite unclouded. Many more thousands are still required for the completion of the Hall; correspondingly large sums will be demanded for the new installation at Wisley, and for its permanent maintenance.

The usefulness of the Library must be enhanced, the income of the Trustees must be rendered less pitiful in amount, and the necessities of scientific horticulture must be provided for. To those who have eyes to see, it is more than evident that the claims of science are peremptory and inexorable, that is, of course, if the Society is to make progress, enrich its supporters, and benefit humanity. If the Society is only to exist for the sake of getting up flower-shows, awarding prizes for exhibitors, providing advertisements for the trade, and catering for the gratification of sightseers, the present arrangements will suffice. But we have the future to look to; and even the commercial fraternity has its own interests to consider, and to meet the ever-increasing competition from some foreign nations wiser and more foreseeing than ourselves.

On these grounds we are glad to see reference made to the subject in the statement that the Council has not overlooked its importance, and that in the near future, if not at present, we may see a laboratory placed under the direction of a competent director conversant with the needs of borticulture, and properly equipped for the purposes of scientific research into the many matters which concern the practical cultivator.

The celebration of the Centenary Year by means of a dinner at the Metropole in March is decidedly a British proposal, but it may be questioned whether this is the best way of getting the Fellows together to "talk over the affairs of the nation," and exchange opinions. A reception in the new Hall, such as proposed by one of our correspondents, would meet these requirements much better than the solemn formality of a public dinner, to which only a few would go unless they were obliged, and from which most people are glad to escape when the time comes to break up. Be this as it may, there is ample occasion for both functions, for the more opportunities of meeting in social gatherings the better for the Society.

Another matter referred to in the Report demands still more serious consideration. It is, we observe, proposed to enact a byelaw raising the minimum subscription from £1 1s. to £2 2s. to all but bona-fide gardeners, residents abroad—and journalists (!).

We cannot, of course, doubt that this proposal has been duly considered in all its aspects by the Council, and that they will be able to adduce good reasons for what seems an extraordinary reversal of a policy which has so obviously been beneficial.

CHRYSANTHEMUM LADY CRANSTON (See Supplementary Illustration). - The Japanese Chrysanthemum shown in our supplementary illustration this week has been seen at some of the large exhibitions during the past season, and was awarded a Silver Medal at Edinburgh. It is a sport from the popular variety Mrs. Barkley, and originated in the collection of Mr. R. E. N. MURRAY, Edinburgh. The florets are longer and broader than those of Mrs. Barkley, and the flower is white, except that the uppermost florets have a pink blush upon them, which increases the attractiveness of the flower. The variety is among the largest of those grown for exhibition, our illustration having been reduced about onehalf. The novelty has received Awards from the Royal Horticultural Society and the National Chrysanthemum Society, and will be distributed by Mr. W. J. Godfrey, Exmouth Nurseries, Devonshire.

ROYAL HORTICULTURAL SOCIETY.-The next meeting of the Committees will be held on Tuesday next, January 26, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "Oranges" will be given by Mr. H. Somers RIVERS at 3 o'clock. At a general meeting held on Tuesday, Jan. 5, 53 new Fellows were elected.

THE GARDENERS' ROYAL BENEVOLENT IN-STITUTION .- On Thursday last, as these pages went to press, the supporters of this Institution met at Covent Garden Hotel for the transaction of the business that is necessary at an annual meeting, and to elect a number of pensioners to the Fund. Following this business, the Committee and friends met at the annual Friendly Supper. In former years we have been able to record the names of the successful candidates in our current issue, but the necessity for printing a larger number of copies, owing to our largely increased circulation, has compelled us to go to press earlier. A report will be given

FIRE AT KNEPP CASTLE.—We regret to hear that Knepp Castle, the residence of Sir Merrik BURRELL, Bt., at West Grinstead, has been almost destroyed by fire. Sir Merrik and Lady Burrell had a narrow escape. The Horsham Fire Brigade was assisted by Mr. Lucas's steam fire-engine from Warnham Court, the beautiful gardens of which have been described frequently in these columns. The firemen had an excellent supply of water from Knepp Lake, a large sheet of water.

MR. A. W. METCALFE, who has filled the situation of gardener to the Marquis of Exeter, Burghley House, Stamford, for the last eight years, and has carried out many improvements there, has been appointed gardener to J. H. WERNHER, Esq, Luton Hoo, Luton, Beds.

MR. J. BURN.-Many readers will regret to hear that Mr. J. Burn, who has had charge of Leicester Parks and Public Gardens for the last twenty-two years, has resigned. The large flowershows that have been held in the Abbey Park, which Mr. Burn kept so well, have been the subject of numerous notes in these pages.

ROYAL MEMORIAL TREES .- During the recent visit of the King and Queen to the Duke and Duchess of Devonshire at Chatsworth, the Royal party motored over to his Grace's historic Elizabethan mansion of Hardwick Hall to lunch, and while there planted in the garden two memorial trees (Cedar of Lebanon), which had been prepared for planting by Mr. Wilson, the head gardener.

PACKING AND SELLING FRUIT AND VEGE-TABLES .- His Majesty the King has accepted a copy of the Gold-medal Essay on Packing and Selling Fruit and Vegelables, by Mr. R. LEWIS Castle, of Ridgmont. The book was bound in purple morocco, and was presented by the Worshipful Company of Fruiterers.

SURVEYORS' INSTITUTION .- The next Ordinary General Meeting will be held in the Lecture Hall of the Institution on Monday, January 25, 1904, when a paper will be read by Mr. RALPH NEVILLE, K.C., entitled "The Garden City Scheme and First Garden City, Limited."

- The Annual Dinner of the Institution will be held at the Grand Hall, Prince's Restaurant, Piccadilly, on Friday, February 12, 1904, at 7 o'clock precisely.

GARDENING FOR AMATEURS .. - Following the example set in these columns by Mr. H. A. Вклонт, in his "Year in a Lancashire Garden," and followed here and elsewhere by a host of imitators, Mr. RIDER HAGGARD is now contributing to the Queen a series of articles on "Gardening for Amateurs." It is refreshing after the pages of --- (well, we need not particularise) to read of the clearly told experience of a genuine gardener. Doubtless, when the series is complete, a separate volume will be issued. If so, we predict that it will be very serviceable.

STERILISATION OF SOIL.—The practice of sterilising the soil by means of steam or by baking is often recommended as a means to destroy eel-worm and other pests, and it is no doubt efficacious. But the soil, we have been taught to recognise, contains countless bacteria, by whose beneficent agency the insoluble and therefore useless ingredients of the soil are converted into those that are soluble and nutritious, and the inert nitrogen is rendered available. But what if the sterilisation destroys those humble enicrobes which play so large a part in the nutrition of the plant?

SCIENCE HAS NO NATION.—The Chrysanthème motes that M. MAURICE MADELIN, a Frenchman, lately in the service of Mr. Wells at Earlswood, has been elected Secretary of the Wanstead and District Chrysanthemum Society. Our contemporary appears to think this a unique case in the horticultural world, but we think it can be paralleled in several of our scientific societies. It is not long since Dr. GÜNTHER resigned the Presidency of the Linnean Society. M. WAD-DINGTON, an Englishman by birth, was Ambassador for France at the British Court.

GARDENING IN THE ANTARCTIC REGIONS .-When the s.s. Discovery was taken to the Antarctic regions by Captain Scott, Messrs. James CARTER & Co., High Holborn, London, conceived the idea of sending some seeds to supply the sailors with something green while passing the time frozen up within the regions of the Antarctic oircle. An intimation of this, given in the Daily Telegraph on May 11 last, was that "the only bit of green vegetable seen on the Discovery was a crop of Mustard and Cress grown by the officers on a wet blanket. This information was brought back to England by the relief ship Morning, and it shows that the officers had been successful in growing a little bit of green hy following the instructions given by the Messrs. Carter, while passing the time in that dreary land. Another communication came through Admiral Sir CLEMENTS MARK-HAM, K.C.B., F.R.S., who heard that the Mustard and Cress supplied to Captain Scott, of the s.s. Discovery, was a great success and much appreciated. A further consignment of seeds, specially treated by an original process and packed in air-A further consignment of seeds, specially exhausted receptacles, has been taken out in the relief ship Terra Nova, which has lately left Hobart to seek for the whereabouts of the

A STRAIN OF PRIMULAS.—Primula sinensis is once again brightening our greenhouses and conservatories. A few days ago we were shown flowers representing the strain of Messrs. W. Bull & Sons, of King's Road, Chelsea. A variety named Duke of York, with fimbriated flowers of intense madder-crimson, was particularly noticeable by reason of the depth of colour. Other good single flowers were Comet (crimson), fulgens, Ruby Queen, Pink Beauty, Imperial Blue, alba oculata-lutea, also the old fimbriata alba and rubra. Of the semi-double varieties, Blushing Beauty was very large and full; and rosea and rubra, &c, were good. The strain generally may be recommended.

STOCK-TAKING: 1903.—At the close of a year characterised by unusually wet weather some naturally look with apprehension at the solid mass of figures in a volume of 240 pages relating to the Trade and Navigation Returns for 1903the "some" are those who have not taken stock as the months rolled past of the figures presented in these columns, which indicated the gradual piling up of a colossal total, which has never anywhere had its equal, and triumphantly proclaims this old land to be the Colossus of Commerce. The proof is to be found in the figures; but let us record the totals for December. first The imports were valued at £52,319,618, against £48,170,628 for the same month in 1902-a difference of some £4,148,990-due to great imports in grain and flour, in Cotton, and other items. The exports for the month reached a total of £24,612,503, against £24,208,533 for the corresponding period in 1902-a gain of £403,970. The total, adding imports to exports, foots up at £833,796,606, against £871,815,240 for the same period in the previous year-a difference of £21,981,366. Adding the ships to the goods carried, we have for last year's work the astonishing sum of £903,000,000. We give the following dissection of the "summary" table for the year :-

IMPORTS.	1902.	1903.	Difference.
Articles of food	£	£	£
and drink—duty free	109,684 688	114,109,426	+4 424,738
Articles of food & drink-dutlable	108 926,617	114 218 387	+5.291,770
All other Imports	309,779 969	314 578 512	+4,798,543

We turn now to the division devoted to the imports of fruit, roots, and vegetables :-

IMPORTS.	1902.	1903.	Difference.
Fruits, raw-	Cwt.	Cwt.	Cwt.
Apples	2,843,517	4,568,413	+1,724,896
Apricots and Peaches	16,112	9,578	- 6 534
Bananas bunches	2,804,700	3,087,516	+282,816
Cherries	166 359	110,192	56,167
Currants	76,080	76,419	+339
Gooseberries	27,564	34,312	+6,748
Grapes	632,932	687,938	+55 006
Lemona	1,003,298	978,318	-24,980
Nuts-Almonds	149 574	157,159	+7,585
Others used as fruit	783,788	791,278	+7,490
Oranges	6 518 107	6,176,789	-341,318
Pears	491,906	271,483	-220,423
Plums	541 136	596,182	+55 046
Strawberries	40 211	32,644	-7,567
Unenumera.ed	500,679	688,876	+188 197
Vegetables, raw-			
Onionsbush.	7 605 489	8 619,719	+1,014 230
Potatos cwt.	5,699,090	9 150,202	+3,451 112
Tomatos ,,	783,894	1,068,435	+ 284,541
Vegetables, raw, un- enumeratedvalue	£468,411	£396,957	−£ 71,454

In taking stock of Consular and other reports issued during the year, it is pleasant to see the interest displayed in the fruits of the different countries. Concerning Cape fruit, up to the time of writing, 968 boxes of Peaches and Apricots have been landed and sold. In the face of the above-noted figures, and of the great complexity of the conditions, it is evident that careful enquiry should be made before any change in our fiscal system be introduced.

THE WEYBRIDGE AND DISTRICT HORTICUL-TURAL SOCIETY'S summer show will be held at Duneevan, Oatlands Park, on July 14, and the autumn exhibition on November 3.

FARM AND GARDEN INSECTS.-To those conversant with the French language, and interested in the manners and customs of the insects injurious to the plants of the farm, the trees of the forest, or the flowers of the garden, we commend a little treatise entitled Entomologie et Parasitologie Agricoles, by M. GEORGES GUÉNAUX, Demonstrator at the National Agronomic Institute of France, and published by MM. J. B. BAILLIÉRE ET FILS, of Paris. Not only are the insects described, but also the means of destroying the pests. The book is freely illustrated, and has a table of contents, as well as a good index, so that its contents are readily accessible.

TURIN INTERNATIONAL HORTICULTURAL EXHIBITION.-M. Raduelli, Vice-President, and M. Roda intend to visit London shortly to ascertain how many of our British horticulturists are likely to take part in the exhibition in May next, and to give all requisite information. The King and various members of the Royal Family offer medals and other prizes. The Editor will be glad to receive the names of those who propose exhibiting. All enquiries should be made to Sig. Palestrino, Rue Stampatore, Turin.

THE DEPARTMENTAL COMMITTEE ON FRUIT GROWING. - We have received the following communication from the Secretary of the National Fruit Growers' Federation :-

"Every member of the National Fruit Growers' Federation must heartily welcome the decision of the Board of Agriculture to hold a Departmental Enquiry into the condition and prospects of the Fruit Growing

Industry in this country.

"Of course, it is a matter which affects every Grower, but Members of the Federation will be justified in

but Members of the Federation will be justified in feeling with some pride that they have had a hand in bringing it about, for without wishing to claim more credit than fairly belongs to it, there can be no doubt that it was the agitation act on foot by this National Society which brought to the minds of the powers that be the necessity for an exhaustive enquiry.

"It is a well-known fact that Government Departments rarely take action of this kind without spontaneous evidence from the particular interest concerned that such action is really required, and in this instance the National Federation has undoubledly furnished such evidence. By its deputation to the Board of Railway General Managers, which led to some very satisfactory results, and [by] the public meetings it Board of Railway General Managers, which led to some very satisfactory results, and [by] the public meetings it has held in various parts of the country, it has called attention to the needs of the industry; and especially by its frequent communications with the Board of Agriculture have these needs been impressed on the late and present heads of that Department. At the west gathering at Maidstone in August last, the great gathering at Maidstone In August last, the President of the Board was present in person, delivered a most sympathetic address, and himself joined tha Federation. Then we have the fact that the President Federation. Then we have the fact that the President and two other leading members of the Federation are appointed as members of the Committee of Enquiry, which alone should convince the growers in general as to what influence is possessed by their representative combination. Indeed, it is difficult to see how any grower can conscientiously withhold his support from a body which is so manifestly working for his best interests. interesta.

'I shall be glad to answer any enquiries and to receive any auggestions with regard to the work of the forthcoming Enquiry Committee, which will be forwarded to the proper quarter. A. T. Matthews, Secretary, N.F.G.F., 28, Eaton Rise, Ealing, London, W."

IRISH FORESTRY .- Lord POWERSCOURT had a very instructive article on this subject in the Times of the 15th inst. In it he gave particulars of the large share he has himself taken in planting on the mountain-sides in his estate; of the way in which it has been done, and of the average cost of the transaction. For three-years seedlings twice transplanted the cost of notch-planting per acre works out at £4 13s. 11d. As many as 300,000 to 400,000 plants were planted - out annually. The species planted were Larch, Scotch Pine, together with thousands of Douglas Fir, Thuya gigantea, Cedrus Deodara, C. atlantica, Pinus insignis, Cupressus Lawsoniana, Wel-

lingtonias, and Araucaria imbricata. In one place a hundred Araucarias were planted in a group, nursed up with Scotch and Larch for shelter. The nurses have now been cut away, and the Araucarias stand by themselves and form a remarkable feature. The trees are not much injured by wind, though the Douglas Firs are apt to lose their leaders from this cause. The Corsican Pine is spoken of as one of the best trees for exposed places. Nothing is said about the Sitka Spruce, though this is one of the most promising of timber trees. The Land Act is said to work detrimentally so far as afforestation is concerned, and the land sold to the farmers is being at once denuded of its timber. This would furnish an argument for the establishment of State forests, so managed that the peasants might, directly or indirectly, have some share in the proceeds, and

particularly as a good index is supplied. The book is a veritable ouvrage de luxe, and will be welcomed as a "precious" possession by those endowed with artistic perceptions.

ROYAL HORTICULTURAL SOCIETY OF IRE-LAND.—An effort has been made to revive the fallen fortunes of this Society. Lady Ardilaun took the chair at a meeting held in Dublin, and Mr. F. W. Moore, Glasnevin, and other speakers advocated measures to put the Society in a more stable financial condition. It was arranged that a spring fête be held in the Rotunda on April 14 and 15. It was also resolved that the following executive committee be appointed, with power to add to their number, viz.: Lady Arnott, Miss Pim, Mrs. Domville, Mrs. John Jameson, Mrs. T. Talbot Power, Mrs. Moore, Mrs. Howard Guinness, Colorado, and even in New Mexico and Arizonabeing thus able to maintain itself in hot, dry regions. It was introduced into cultivation by Jeffrey and Lohb. It was formerly confounded with A. lasiocarpa (= subalpiua), with A. grandis and other species, as owing to its widely extended habitat it varies much in character.

A long-leaved form was long thought to be distinct, and is still cultivated in many gardens under the names of A. lasiocarpa, A. Lowiana, or A. Parsonsi; but there is now little doubt that all these are but forms of A. concolor. Some of the forms of concolor from Colorado possess a very heautiful bluish tinge; the best-coloured of these are called P. concolor var. violacea, but the seedlings vary greatly in colour, so that those who desire a fine form should visit the nurseries and pick them out for themselves.

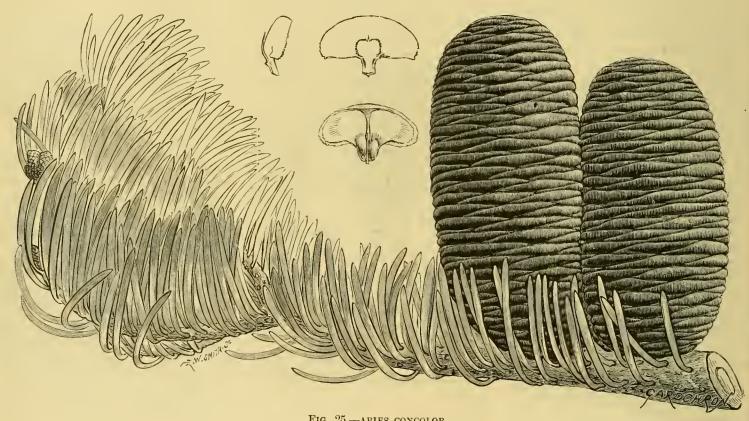
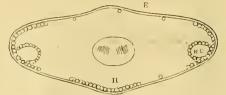


FIG. 25.—ABIES CONCOLOR.
Fruiting branch with upturned leaves; above are shown fruit-scales with bract, and seeds, cones brown.

thus be induced to protect and take a personal interest in property in which they had a heneficiary interest; otherwise "accidental" fires are apt to break out.

"FLORA AND SYLVA."-The first volume of Mr. Robinson's new publication is now issued in a very elegant form. Binding, paper, and type are luxurious; the woodcuts' are luminous, the coloured plates "impressionist," though lacking in utilitarian detail. Any reader who desires to make a comparison between the effect of glazed and unglazed paper, or between woodcuts and process-blocks, can easily do so in this volume; and he will probably come to the conclusion that, as regards merit and suitability, there is something to be said on both sides. . Much attention is given in the text to] trees and tree-planting, and several of the more newly introduced plants are the subject of coloured illustrations, such as Hidalgoa Wercklei, Fritillaria askabadensis, Pæonia lutea, Lilium Grayi, and an excellent figure of Inula Roylei, or Royleana, for it is spelt both ways. There are uumerous "monographs," if we may venture to use such a term, relating to particular gener which are suitable for reference



F10. 26.—ABIES CONCOLOR: SECTION OF LEAF.
E, epiderm; H. hypoderm; R.C, resin canal; in the centre the vascular cylinder.

Miss Constance Greene, Mrs. W. W. Goodhody, Miss Hutton, Miss Hone, Mrs. Riall, Mrs. J. G. Jameson, Miss H. Goodhody, with Messrs. Moore, Robertson, Drummond, D'Olier, Bewley, Ross, and Goodbody.

ABIES CONCOLOR.

This is a noble tree, attaining, according to Sargent, a height in the Sierra Nevada of from two hundred to two hundred and fifty feet. It grows on the mountains at altitudes of from 4,000 to 8,000 feet, and occurs not only along the Californian Sierras but also in Utah, Western

In the young state it is highly ornamental, as our figure of a tree at Linton Park, near Maidstone, the residence of F. S. W. Cornwallis, Esq., shows (fig. 27). This tree, we are told by Mr. F. Kneller, the gardener, is now 80 feet in height. We have no experience of it as a timber tree, but the wood is soft and white, and said by Sargent to be deficient in strength and durability. Theresin canals are sub-epidermal.

The hotanical history may be gleaned from the following references, and is summed up in Sargent's Silva, vol. xii., p. 121, tab. dexiii. (1898).

Figures of A. concolor, and of the species allied to it, have been given in the Gardeners' Chronicle as under:—

Abies Lowiana, branch with chestnut-brown concs, 1886, December 11, p. 753. A specimen in the grounds of the late Sir John Walrond was 60 feet high in 1886. May 22, 1880, p. 648.

Abies concolor, twigs of. May 21, 1881, p. 661.
Abies (Picea) concolor violacea, Roezl., 1879.
Nov. 29, p. 684.

Abies grandis, 1881. February 5, p. 179; Cones bronzy-green. See also 1885, October 31, p. 561.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

BONE MANURES (see enquiry on p. 47).—
Assuming that "C. E. G." can give a good analysis with each parcel, I do not think he would have much difficulty in selling a quantity of hone manures at the prices he quotes. At any rate they are a good bit below those quoted by respectable dealers in these articles. H. J. C.

TRICYRTIS HIRTA.—This plant is hardy here, but has not flowered during the last six or seven years, owing chiefly probably to our cold clay. I remember how well it flowered at Linton Park, Kent, under the charge of the late Mr. J. Robson, in the years 1872-1874; but one or more of those summers was exceptionally hot. It was very late in the year before the flowers opened. W. H. Divers, Belvoir Castle Gardens, Grantham.

enclose one bract of Poinsettia that was grown out-of-doors from the middle of June to the middle of September, and considering the cold, sunless year (1903) I do not think it is at all bad; the temperature repeatedly fell to 35° during the latter part of the time they were out. The bracts are not quite so large this season, as the wood did not get so well ripened. In the two previous years we had them 13 and 15 inches across, which, I think, proves that Poinsettias will grow for the period mentioned entirely without protection, and do not require a frame. J. S. [The head of bracts was 10 inches across, and the foliage large and finely developed. ED.]

—— I have twelve plants of Poinsettia pulcherrima now in full bloom bearing over 200 magnificent scarlet heads, many of which pulcherrima now in full bloom bearing over 200 magnificent scarlet heads, many of which measure 16 inches across, and are composed of as many as forty-eight bracts. They fill one-half of a stove measuring 31 feet by 28 feet. Some of the leaves measure $7\frac{1}{2}$ inches in length and $4\frac{1}{2}$ inches in width, and the main stems of some of the plants are $6\frac{1}{2}$ inches in circumference. They were originally placed in pots on a bed of soil, but their roots are now firmly fixed in the bed of soil 26 feet by 2 feet, and the depth of soil 18 inches. Johnson Mayhew, gr. to H. Marsland, Esq., Woodbank, Stockport.

FORESTRY.—Referring to your note, p. 41, I may mention that the Japanese Larch (Larix leptolepis) grows very freely on our stiff limestone loam. About seven years ago my employer had a small packet of seed sent from Japan, from which we raised a small batch of plants. When large enough we planted them out in a not too favourable position in the grounds here; they have grown very well, some of them heing fully 8 feet in height. So far there is no sign of disease. It is only right to say that the common Larch is practically free from disease so far as this particular district is concerned. I should be disposed to agree with "F. R. S." as to the advisability of planting fully 80 per cent. with the common Larch if any new plantations were to be made with the sole view of ultimate profit. The most useless tree to plant is the common Spruce, if the latter object is in view. I agree in thinking that given suitable positions beth Chaptered Levenille. to plant is the common Spruce, if the latter object is in view. I agree in thinking that given suitable positions both Cupressus Lawsoniana and Thuyopsis borealis (= Cupressus nootkaensis) are likely competitors with the Larch as timber producers. I have this evening put the tape round one of each of them at 3 feet from the ground. The former girths 4 feet, the latter 2 feet 8 inches; one of them is from 36 to 40 feet in height, the other about 6 feet less. They are growing near together on stiff, clayey limestone soil, and have been planted about thirty-five years. I ought to mention that the Cupressus carries its I ought to mention that the Cupressus carries its aximum girth much higher up the stem than the Thuyopsis. Supposing an acre of land had been planted at the time and thinned out to, say, 8 to 9 feet apart, it is easy to see what an immense quantity of useful material would have been produced. Other plants of this Cupressus planted out about the same time, but in a somewhat drier soil, do not girth so much as the one already mentioned. As is well known, the home covers on most estates are not judged mainly from covers on most estates are not judged mainly from a timber-producing point of view, but more as shelters for game-preserving. So far as my ex-perience and observation go, this view of the

matter is, if anything, on the increase. Hence the necessity of finding some other evergreen conferous tree that when freely grown will be of more service than the common Spruce or its near relatives. Pseudotsuga (Abies) Douglassi will not grow well here. I saw recently a fine lot of ance. I lost sight of them for some years, and was much surprised a few days since to find several of them 30 feet and upwards in height, being beantiful specimens of a fine dark healthy colour. Mr. Metcalfe expressed the opinion that they had rooted through the unsuitable soil into



FIG. 27.—ABIES CONCOLOR AT LINTON PARK, MAIDSTONE, THE RESIDENCE OF F. S. W. CORNWALLIS, ESQ.: ABOUT 80 FEET HIGH. (SEE P. 58.)

trees of it at Condover Hall, in Shropshire, where

the soil is of a red sandstone nature. H. J. C. Grimston, Tadcaster, Yorks.

—— The Douglas Fir (see p. 41) does not succeed well in all soils. I remember some trees at Burghley, near Stamford, twenty years since, which were then about 10 feet in height. They had a miserable, stunted, rusty appearother soil they liked better. Trees not far distant, planted five or six years since, were sibkly in appearance, as the large ones were formerly. W. H. Divers.

TO VARIATION IN SEEDLINGS.—Among the seed-lings I have obtained from Campanula Barelierii, a variety which has glossy green leaves perfectly bare, are several with distinctly woolly leaves—one particularly so, and presenting to view a remarkable departure from the type. As soon as it comes into bloom I will submit it to the Floral Committee with a plant of C. Barelierii. The woolly character is not unknown in C. Mayii, but it is much more evident in the seedling above referred to. R. D.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—I intended no slur on the "excellent committee and hard-working secretary" of the above Institution. I am aware of the existence of leaflets—I doubt if they are "catching" enough —yet I find a lamentable indifference to, or a profound ignorance of, the objects of the charity among many gardeners. I attend not a few of the larger exhibitions about the country, and I fail to perceive any effort whatever being made to distribute leaflets of any kind on such occasions. My aim is to stir up some of the local gardeners who are interested in the welfare of the Institution to undertake some missionary work. A small tent as a base of action, or, better still, one for the sale of flowers, with a free distribution of attractive leaflets—these are among the means which could be adopted with a certainty of success. What is the action of local or district committees, where they exist, on such occasions? Are they in evidence at all? R. Dean, Subseriber and Life Member for Forty Years.

LABELS.—I send you a new form of ticket for plants, which was got by a friend in Paris. I think if the strip inside the tube were of zinc sheet, written with sulphate of copper solution, the writing would be more permanent. Writing on cardboard with ordinary ink disappears in time by the action of sunlight or other similar influence. George Bonavia, M.D. [The glass tube containing a piece of cardboard, with a cork at one end and a hole for wire to be passed through at the other end, is by no meaus a new device, but its use might be extended with advantage in this country. Ed.

CLETHRA ARBOREA.—In a recent issue of the Gardeners' Chronicle Mr. FitzHerbert mentioned that a large tree of Clethra arborea had been blown down on Valencia Island. I think this happened about thirty years ago. A tree over 30 feet high was destroyed here (Co. Kerry) by the gale of December 29, 1903. H. Hallett, gr. to the Knight of Kerry.

A NATIONAL GARDENERS' ASSOCIATION.—
"J. C. S.," on p. 28, has evidently misunderstood your excellent report of the meeting held on December 15. Being the first meeting to consider the subject, it was only natural that speakers should express various—and in some cases divergent—views. The letter from the lady-gardener (which "J. C. S." specially objects to) was merely received by the Secretary in the ordinary way, and it was his duty to bring it before the meeting. I do not suppose a majority of head gardeners are in favour of admitting ladies; my own opinion is that they are not required in private gardening. Much good might be done in raising the social and professional status of the gardener by lessening the present overcrowding of the profession, and by securing a general course of action on many points, if all would join and work together for the common good. Why should gardening be the most disorganised and the worst paid of all the professions? The Committee will endeavour to draft a basis of rules, to enable all head gardeners who have had a professional training to join the Association. When this is completed it is proposed to submit it to as large a meeting of gardeners as can be got together in London, and it must rest with that meeting whether the Association is to be started or not. We want a central rallying-point in London, with representatives in all the districts of the United Kingdom. If this is well supported by gardeners we should be able to speak effectively on all matters relating to private gardening. Matters of detail can be considered afterwards. As soon as we can get a good list of members it will be possible to make arrangements with some hotels, whereby members coming to London from the country districts will be able to obtain board or lodging at greatly reduced rates, similar to those now arranged by the Cyclists'

Touring Club. My own opinion is that the Association should be managed by a committee of private gardeners, for the benefit of private gardeners only. Subscriptions should be kept as low as possible in order that all may be able to join. Honorary subscriptions should be accepted, but should carry no right to intervene in the business of the Association. The Association should be carried on in harmony with but independently of the Royal Horticultural Society. No trades-unionism to be encouraged in any form. W. H. Divers, Belvoir Castle Gardens.

- Respecting Mr. Wood's letter in a recent issue, I would say, first, that the great majority of gardeners are not overburdened with money, neither have they much spare time at their disposal; and there are already charitable institutions to which they can well apply their few spare shillings for the benefit of the garden fraternity. Secondly, such an expensive scheme as suggested would not and could not meet with the willing co-operation of the immense body of men who call themselves gardeners; the management call themselves gardeners; the management and control would be far too costly an undertaking. Thirdly, the shows, concerts, sales, and picture galleries suggested must be few and far between, seeing the number already held that do not always result in profit. Fourthly, neither employers nor gardeners are over-anxious to exhibit their produce, seeing the expense and displacement exhibiting involves. Their object is to get the greatest possible amount of enjoyment and pleasure out of their work for themselves and personal friends. Fifthly, the patronage of the nobility and gentry could hardly be expected except in a very limited degree for the purpose of a national association of gardeners. It must be admitted they do very much alroady for the welfare of the gardener. Their proper sphere is the exercise of charity, and not the aggrandisement of gardeners. The whole subject seems to me to be one for gardeners themselves, always, of course, looking for sympathetic support in other quarters. My conception of a scheme is that it should be one that would facilitate intercommunication between gardeners; in other words, enable them to render each other mutual assistance and benefit. Gardeners in good positions should be appointed in as many districts as possible, whose duties would be to report vacant places and those likely to become vacant, and unemployed gardeners, also any particulars appertaining to them. These reports would, of course, apply to any under gardeners in the same degree as head gardeners. I feel sure there are many who would undertake such duties out of pure sympathy with the object in view. By all means have your central authority, but beware of excessive administrative expenses; some there must inevitably be. whole work should be conducted by bond-fide gardeners. Do not let it be said that the gardener is incapable of taking care of himself.
Begin slowly, and first find out what is the general feeling on the whole subject. Acceptable additions to its efficacy may always be made, whereas it is difficult to rescind rules which may have been accepted by any section. Charles Dennis.

THE ROYAL HORTICULTURAL SOCIETY'S MEETINGS.—Assuming that the new Horticultural Hall will be completed by midsummer next, the National Carnation Society will probably have the honour of holding the first exhibition within its walls. No one will grudge the Carnation, or the Society that is identified with its interests, that honour. That show is fixed for July 26, so that there is yet a clear six months for the Hall to be completed. But, should no such suggestion be already in the minds of the President and the Council of the Royal Horticultural Society, I would submit that the most desirable first assemblage in the new Hall should take the form of a reception, by the President and Council, of all who have subscribed to its erection, and representatives of the general and of the gardening Press. Were it widely intimated that such a reception would be held, the first evening of the Holland Park show, fixed as late this year as July 12, would doubtless suit admirably for the purpose. The desire to be amongst the invited would doubtless cause many who can, but have

not yet done so, to subscribe to the building fund. The Council certainly might expend £100 in a far worse way than in holding the reception here suggested. The Council may well desire that all horticulturists should, through the gardening papers, know of the completion of the Hall and offices, and of their capacities. Equally it would be good policy to utilise the London papers by circulating widely the information that so fine and roomy a hall is available. When its character and area, as well as its convenience, become well known, and especially its freedom from the noise of London traffic, it should, assuming that the Hall's acoustic properties are good, let for many diverse objects, when not required by the Society. Without imposing exorbitant charges, the new Hall could be made a source of income of a distinctly lucrative kind. A. D.

Obituary.

F. C. LEHMANN. — We regret to see an announcement of the death by drowning of our esteemed correspondent, Mr. F. C. Lehmann, the well-known botanical traveller and explorer. Should the bad news be unfortunately confirmed, we shall give some particulars of Mr. Lehmann's interesting career in a future issue.

HUGH FRASER.—It is with regret we record the death of Mr. Hugh Fraser, who passed away on the 13th inst., aged seventy years. For fifty years Mr. Fraser was in the employ of Messrs. To Methyen & Sons, Edinburgh; and for a period acted as their traveller, making many friends over all the country. Mr. Fraser was the author of The Book of Conifera, which had a large sale. His knowledge of Rhododendrons and American plants was extensive. It was under Mr. Fraser's care that Rhododendron Thomsoni first flowered in Europe, and from that splendid Himalayan species many of our rich crimson Rhododendrons originated. By the death of Mr. Fraser the Scottish Horticultural Association has lost one of its original members, and one who filled the posts. of Vice-President and President with conspicuous success. His genial face will be missed by a large circle of friends, among whom his reminiscences of the old nursery trade of Edinburgh, told in his inimitable way, were always appreciated.

GEORGE WILLIAMS.—On the 18th inst., at Croydon, aged 59, George Williams, gardener to the late Ludy Louisa Ashburton, Addiscombe Park, and formerly gardener and bailiff for many years to the Right Hon. Lord Carew, Castleboro', Enniscorthy. He succumbed from shock following an operation, after a short but painful illness. Of sterling worth and exceptional attainments, his high sense of duty commanded the respect of his employers, while his genial character endeared him to all those with whom he came in contact. Interred at Mitcham Cemetery.

DR. FRANCIS.—Old members of the Linnean Society will learn with regret of the death of this gentleman on the 19th inst. at Richmond. Dr. Francis was eighty-six years of age, and was for many years head of the printers' firm of Taylor & Francis, Red Lion Court, Fleet Street. As a Fellow of many scientificsocieties he was thrown in contact with a large circle of friends and acquaintances, by whom he will be sincerely mourned.

JAMES MELODY.—On January 7. at 15, Cicada Road, Wandsworth Common, S.W., in his fifty-ninth year, James Melody, for many years manager of the seed business of the late firm of Thomas Gibbs & Co., 24, Down St., Piccadilly, W.

ENQUIRY.

A. B. Lousada.—Can any reader give particulars respecting a botanist named A. B. Lousada, who lived in Devonshire Square, London? In a copy of Sweet's Hortus Suburbanus Londinensis, used by Lousada, appears the following note at Draba alpina: "See my account of the large and beautiful state of D. alpina, with its three varieties, found in the arctic regions of America, as described by Dr. Hooker in the Linn. Trans., vol. xiv." P.

SOCIETIES.

ROYAL HORTICULTURAL.

REPORT OF THE COUNCIL FOR THE YEAR 1903 (ABRIDGED).

- 1. The One Hundredth Year.—The year 1903 will long be noteworthy in the Annals of the Society. Not only does it complete (i.) One hundred years of the Society's existence, but it has also seen (ii.) the commencement of the New Hall and Offices, (iii.) the inauguration of a New Garden, and (iv.) the largest numerical addition to the list of Fellows that has ever taken place in the Society's history.
- 2. To celebrate the One Hundredth year of the Society, it has been decided to hold a Centennial dinner at the Hotel Métropole on Thursday, March 3, the nearest convenient date to the actual completion of the centenary, which will take place on Sunday, March 6 next, the Society having been founded, on March 7, 1804, by Mr. Charles Greville, Sir Joseph Banks, Mr. Richard Anthony Salisbury, Mr. W. T. Aiton, Mr. W. Forsyth, Mr. James Dickson, and Mr. John Wedgwood. The Rt. Hon. the Earl of Onslow, Minister for Agriculture and Horticulture, will preside at the dinner, and the Council hope that a very large number of the Fellows will join in the celebration. The Dinner Tickets, which the size of the room unfortunately necessitates being confined to gentlemen, will be 21s.
- 3. New Hall.—While the Centennial Dinner is the social commemoration of a striking anniversary, the Council have had under consideration, for not less than five years, in what way the Centenary could be most worthily celebrated.
- 4. Two projects speedily came into prominence—(1) a New Hall and Offices for the Society's Exhibitions and Shows and for the accommodation of the Library and of the Office Staff; and (2) a New Garden less exposed to London smoke, fog, drainage, and crowding, than Chiswick has of late years become.
- 5. These projects having been very deliberately considered, the Fellows finally decided in General Meeting assembled to adopt the proposal of a Hall.
- 6. The site in Vincent Square, almost exactly midway between the Abbey and Victoria Station, having been approved by the Fellows in General Meeting, the Council were instructed to push matters forward, so that the buildings might be opened in the centennial year. This they have done, and the Great Hall (containing, with its two annexes, a floor space of almost 13,000 square feet) is now ready for roofing, and the Council are promised that the whole building shall be finished in July. The Hall and Offices, when completely furnished, will, it is estimated, cost nearly £40,000, of which upwards of £24,000 has been received or promised.
- 7. It is impossible to estimate what income may be derived from letting the New Hall, when not required for the Society's use, but when it has become known what a fine and spacious hall it contains, this will probably be a considerable asset. In this matter the Council ask the Fellows to help them by using their influence to get the Hall let for Concerts, Meetings, Bazaars, and suchlike purposes.
- 8. New Garden Meanwhile, several influential Fellows, who preferred the establishment of a New Garden as the celebration of the Society's Centenary, had been urging their views in certain quarters, and on August 4, 1903, Sir Thomas Hanbury, K.C.V.O., having asked for an interview with the Council, offered to purchase the late Mr. G. F. Wilson's famous Garden and Estate at Wisley, comprising 60 acres of land, and to place it in trust for the use of the Society as a Garden as long as the Society desired to retain it.
- 9. It is needless to say that the Council accepted this timely and generous offer, which came as a complete

- surprise both to themselves and to the geoeral body of the Fellows. It had the signal advantage of affording a solution of the rival claims of a New Garden as against a New Hall as the Centennial Celebration of the Society.
- 10. Wisley is some distance from a railway station, and two miles from the village of Ripley. Full directions for reaching it will be found on p. 15 in the Specity's Book of Arrangements for 1904.
- 12. The Garden has no glasshouses upon it, being at present only a very beautiful and well-placed wild garden, stocked with a large number of rare plants. It will therefore be necessary to build a couple of small dwelling-houses for the Superintendent and Foreman, a room where the Council and Committees can meet, and suitable ranges of glasshouses and pits. The water supply and drainage will also require careful attention. By limiting the glasshouses as far as possible at present, the Council estimate that the necesary equipment of Wisley can be carried out within the means of the Society, supplemented by the aid which they expect to obtain from the reliaquishment of the Cluswick lease.
- 12. There are many other objects which will hereafter be desirable at Wisley, such as a Scientific Department, with residence for a Professor and laboratory attached, bothles for young gardeners, rooms for students, &c. But the Council feel it imperative to allow these matters to wait until the New Hall is paid for and furnished and its upkeep expenses provided.
- 13 INCREASE OF FELLOWS.—The exceedingly rapid increase in the number of Fellows (1412 having been added during the last twelve months), gratifying as it is as a proof of the appreciation of the Society's work by the lovers of gardens, appears nevertheless to the Council to contain an element of dauger inasmuch as it is becoming more and more difficult at times for Fellows to see the flowers, &c., without serious discomfort from crushing and crowding.
- 14. New Bye-Law.—After very grave consideration the Council have decided to advise that the minimum rate of Fellowship should in future be raised to £22%, except in the case of bond-fide gardeners, persons living abroad, and journalists writing for provincial or foreign newspapers. The existing £11% Fellows will ni course be under no compulsion to change the rate of their subscription, though it is hoped that not a few will voluntarily do so. The Council have therefore directed a new bye-law to be drawn up and submitted to the Meeting for approval, the effect of which will be, if carried, to make the lowest subscription for Fellows in future £22%, except in the cases mentioned.
- 15 It may be as well to point out the return value which a Feliow will receive for his £22s, subscription:—
 3 Tickets admitting th: The Temple Show—1st day, £12s, ed.; 2nd day, 7s, ed.; 3nd day, 8s. The Holland House Show—1st day, £12s, ed.; 2nd day, 7s, ed. Seventeen Exhibitions at Drift Hall or Vincent Square at 2s ed., £67s ed.; eight exhibitions at Drift Hall or Vincent Square at 1s, £14s. The Society's Journal, £110s.; Total, £124s, ed.
- To this must be added, free advice on all ordinary garden subjects; lovestigation of Plant diseases, &c., by the Scientific Committee; a share of Plants at the Annual Distribution; Facilities for [obtaining] Chemical advice. &c.
- 13. MEETINGS.—Twenty-two Fruit and Floral Meetings have been held in the Drill Hall, Buckingham Gate, Victoria Street, besides the larger Shows in the Temple Gardens on May 26, 27, and 28; at Holland House on June 25 and 26; at Chiswick on September 29 and 30 and October 1. Lectures or Demonstrations have been delivered at almost all of the Meetings.
- 17.—AWARDS.—The number of awards granted by the Council on the recommendation of the various Committees [amounts to 1180, full details of which are given in the Report].
- In addition to the above, a Silver-gilt Flora Medal was awarded to Miss W. E. Brenchley for having passed 1st in the Society's Examination. One hundred and twenty-three Bronze Banksian Medals have also been granted to Cottagers' Societies.
- 18. TEMPLE SHOW.—The Society's Great Show held in May in the Inner Temple Gardens (by the continued kindness of the Treasurer and Benchers) was as successful as ever, and was visited by a very large number of Fellows and their friends. It is a matter of satisfaction to the Council to find that this Meeting is universally acknowledged to be the leading Horticultural Exhibition of this country.
- 19. HOLLAND HOUSE SHOW.—The best thanks of the Society are due to the Rt. Hon. the Earl of Ilchester for his kindness in allowing a Show to be held in his park at Holland House, Kensington, on June 25 and 26. Financially the Show was not a conspicuous success, but from every other point of view it more than fulfilled expectations. The Fellows will be pleased to know that his Lordship has consented to another Show heing held [in the grounds] at Holland House in the ensuing year on July 12 and 13. Fellows are requested to inform their friends of this Show, so as to make it this year a financial as well as a floral success.

- 20. SPECIAL SOCIETIES.—At the request of the various Societies concerned, the Council have arranged as follows:—April 19. National Auricula and Primula Society's Show; May 7. National Tulip Society's Show; July 6. National Carnation Society's Autumn Show; September 20. National Bose Society's Autumn Show; September 20. National Dahlia Society's Committee Meeting. These will be held in conjunction with the Society's usual Fortnightly Meetings, and full particulars of the Prizes, &c., will be found in the Book of Arrangements for 1904. 21 The Council greatly regret that the National Dahlia Society should not have seen their way to accept the same terms of co-operation as the other Special Societies, and they hope that next year a mutual agreement, satisfactory to buth sides, may be arrived at.
- 22. FBUIT SHOW.—The Exhibition of British-grown Fruit and Vegetables held in the Society's Garden at Chiswick, September 29, 30, and October I, was, from an educational point of view, most satisfactory. Full particulars will be found in vol. xxviii., part 3, of the Journal, which will be issued in the course of a few weeks. 23. It is intended to hold a similar Show of British-grown Fruit in the New Hall on October 4. 5, and 6, 1901, but inasmuch as it is calculated that such a Show cannot be held under an expenditure of £330, if the intention is to be carried into effect it will be necessary for all who are interested in the encouragement of the growth of good Fruit within the United Kingdom, now largely dependent on external and foreign supplies, to combine in raising at least half the amount of money required. The Schedule of the Show is being proceeded with and will be ready for issue on Aprit 2, should the list of subscriptions prove satistactory. The List of Subscribers to the 1903 Show will be given in vol. xxviii., part 3, of the Society's Journal.
- 21. Examinations.—An examination in the principles and practice of Horticulture was held on April 22, concurrently in different parts of the United Kingdom, a cantre being established wherever a magistrate, clergyman, schoolmaster, or other responsible person, accustomed to examinations would consent to act on the Society's behalf, in accordance with the rules laid down. No limit as to the age, position, or previous traiting of the candidates presented themselves for examination. The names and addresses of those who succeeded in satisfying the examiners, together with the number of marks assigned to each, will be found in the Society's Journal, vol. xxviii. p. 119. It is proposed to hold a simitar examination in 1904, on Wednesday, April 20. Candidates wishing to enter for the examination should make application during February to the Secretary, Royal Horticultural Society Office, 117, Victoria Street, Westminster. 25. The Council have also consented to hold an examination on Tuesday, June 21, 1904, in Cottage and Allotment Gardening. It is intended for, and will be confined to, elementary school-teachers shall be competent to teach the elements of Cottage and Allotment Gardening, and of the absence of any test whatever of such capacity. The general conduct of the examination will follow the lines of the more general one, save in obvious points to which they would not apply.
- 26. THE LIBEARY.—Valuable books have been presented to the Society during the past year by the Director of the Royal Gardens at Kew, Dr. Maxwell Masters, F.R.S., Rev. Prof. Geo. Henslow, V.M.H., Miss Willmott, Mrs. Langridge, the Trustees of the British Museum, Rev. W. Wilks, Mr. A. D. IIall, and othere, to all of whom the best thanks of the Society are due. A full list will be published in March, 1901, in the Society's Journal, vol. xxviii., part 3.
- 27. COMMITTEES.—The thanks of the Society are due to all the Members of the Standing Committees—viz., the Scientific, the Fruit and Vegetable, the Floral, the Orchid, and the Narcissus and Tulip Committees, for the kind, patient, and often laborious attention which they have severally given to their departments. Many of the members of these Committees have to travel long distances to attend. The thanks of the Society are especially due to all who are so good as to serve under these conditions.
- 28. PLANTS, SEEDS, &c.—The Society has also to thank all those who have kindly presented plants or seeds to the Gardens. A list of the donors has been prepared, and will be included in the next issue of the Society's Journal.
- 29. JOURNAL.—The reception which has been accorded to the Society's Journal during the past years, not only by the great mass of the Fellows, but also by various scientific bodies and individuals, both at home and abroad, competent to speak with authority on such subjects, has been exceedingly gratifying to the Council. The Fellows may be proud of their Journal, and feel that they are issuing a periodical which will compare not unfavourably with that of any other Scientific Society. At the same time it must not be for one moment forgotten how very deeply we are indebted to the small body of scientific experts who so kindly volunteer their services in making the "Notes on Research" and "Abstracts," which form one of the

Journal's most remarkable and useful features. gentlemen indeed descrive well of the whole horticul-tural community, and the Council are glad to take this opportunity of recording the grateful sense of the appre-ciation which they feel for their invaluable services. The Council also desire to express their best thanks to all who have so kindly delivered Lectures during the year. The Lectures themselves form a most valuable portion of the Journal.

- 30. OBITUARY.—The Council have the sad duty of recording the death of ninety-six Fellows during the year, and among them they regret to find the names of the Right Hon. R. W. Hanbury, Sir Joseph Pease, Bart., Sir Colley II. Scotland, Mary Countess of Galloway, the Countess Spencer, Louisa Lady Ashburton, Mrs. Willoughby Smith, Surgeon-Major Bedford, Captain Alfred Torrens, Captain Cecil Drummond, L. Lindley Cowan (Australia), L'Abbé Dupny (France), Charles Naudin (France) [M. Naudio died March 19, 1899, Ed.], Hermann Wendlaud (Germany), John C. Lanyon, John D. Pawle, E. P. Youell, A. F. Barron, V.M. H., James Smith, V.M. H., William Thompson, V.M. H., William Fell, A. Pettigrew, William Beale, J. McKenzie, J. Peed, and J. H. Fitt.
- 31. ANNUAL PROGRESS .- The total number of Fellows, Members, Associates, and Affiliated Societies is now 7,337 [details omitted].
- 32. Affiliation of Local Societies —Ascheme for the affiliation of local horticultural societies was put forward a year or two since, and 159 local societies have availed themselves of it. In order to enhance the utility of the Society, the Council have caused a special card to be prepared suitable for use by affiliated societies, for the purpose of granting certificates or awards, or for complimentary cards of thanks, commendation, &c. They have also caused a new medal to be struck which is to be used by affiliated societies only. Details regarding the prices of the medal and cards will be found in the book of the Society's Arrangements, 1904, or they can be obtained from the Society's office, 117, Victoria Street, S.W. The Council express the hope that Fellows will schizzly my most the officient of leach borriesty and the officient of leach borriesty and the officient of leach borriesty and the second of the council express the hope that Fellows will schizzly my most the officient of leach borriesty and the second of the council express the hope that the second of the council express the council expre actively promote the affiliation of local horticultural or Cottage Garden societies in their own immediate neighbourhood.
- 33. Notice of Shows. -At the request of some of the 33. Notice of shows.—At the request of some of the Fellows, the Council have arranged to send (in the week preceding it) a reminder of every show to any Fellow who will send to the Royal Hortcultural Society's office, 117. Victoria Street, Westminster, twenty-four Post Cards, fully addressed to himself, or to whomsoever he wishes the reminder sent.
- 34. DEPUTATIONS.—In January, 1903, the Council re-34. DEPUTATIONS.—In January, 1903, the Council received an invitation to send a deputation to the Cardiff and District Local Horticultural Society's Show, held on July 22, which they accepted. The Earl of Hehester, Mr. F. G. Lhoyd, J.P., Mr. James H. Veitch, Mr. A. L. Wigan, Mr. Wright and the Secretary, were appointed for the purpose. The Council wish to express the pleasure with which they received the very satisfactory report of the deputation, and also to thank the Cardiff Society for the kinduess and courlesy shown them.
- 35 A deputation was also sent to the Great Quinquential Show at Ghent, consisting of the Jtt. Hon, the Lord Rede dale, Mr. F. G. Lloyd, J.P., Mr. James Hudson. V M H, and Mr. Charles Pearson. Nothing could exceed the heartiness of the welcome and the abundant hospitality extended to the deputation by our Belgian friends. our Belgian friends.
- 36. The Couocil have been asked to nominate a representative to serve on the Board of Directors of Lady Warwick's Hostel, and they have had great pleasure in nominating Dr. Burtt, of the Botanical Laboratory, Holgate, York, for this purpose.
- 37. PRIZE ESSAY.-In the hope of encouraging and promoting better cultivation in Cottage and Allotment Gardens, the Council have offered a Prize of £10 for an Essay on the subject, which they propose to publish in an inexpensive form as a pamphlet.
- as Meteorology.—Special thanks are due to Mr. Edward Mawley, Fellow of the Royal Meteorological Society, both for his annual kindness in drawing up the Meteorological Report for the Journal, and also for so kindly superintending the removal of the instruments from Chiswick and their re-erection at Wisley.
- 39. Scottish Arboniculture. The Council have received a courteous invitation to send a representareceived a courteous invitation to send a representa-tive of the Society to the Jubilee of the Royal Scottish Arboricultural Society, which takes place on Feb. 16, and they consider themselves fortunate in having obtained the consent of Mr. A. D. Webster, F.R.H.S., to represent them on this happy occasion.
- represent them on this nappy occasion.

 40. VEITCHIAN CUP—In celebration of another Jubilee, viz., that of the establishment in London of the o'd West-country firm of Messrs. Veitch Messrs. James Veitch & Sons have presented to the Society 5 Silver-Gilt Cups, each exceeding 55 Guineas in value. One of these magnificent Cups, which have been specially made after an antique pattern, will be awarded to the best individual exhibit, be it a sirgle plant, or group, or specimen of culture, shown at the Temple Show, 1904.
- 42 The usual Revenue and Expenditure Account, with the Balance Sheet for the year ending December 31, 1903, are also given.

LINNEAN.

DECEMBER 17 .- The General Secretary exhibited a copy of a Lexicon generum phanerogamarum, by Tom von Post, revised and enlarged by Otto Kuntze, which he had received from the author a few days before. He gave a succinct account of the labours of Dr. Kuntze (from the time he worked up his collections at Kew), in the matter of nomenclature based solely upon priority, and set forth in this volume by his colleague priority, and set forth in this volume by his colleague at Upsala. The introductory matter was entirely due to Dr. Kuntze, who was also responsible for the French and English versions; besides the preface, were included a "Codex brevis maturus," in which Dr. Kuntze postulated his requirements as to names, spelling, and signs, and his ideas as to the regulations for a Botanical Congress, with the class of persons permitted to record their votes, but naturally without any power to penalise those who declined to accept the suggested trammels.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JANUARY 8 -There was a capital display of plants at the meeting held on the above date. A number of groups for display were given awards, as follows:— Messrs. Charlesworth & Co. (Silver Medal); Messrs. GRATRIX, LAVERTON, SANDER, CYPHER, SCHOFIELD, VUYLSTEKE (Bronze Medals); Messre. Robson, Keeling, COWAN and McLEOD (Votes of Thanks).

An interesting exhibit of half a dozen seedling Odontoglossums, of which the seed was sown less than four years ago, came from W. Thompson, Esq., Stone, whose gardener (Mr. Stevens) was awarded a Silver Medal in acknowledgment of his skill as a raiser and cultivator.

The following plants were granted awards:—Cypripedium × Minos, var. Youngii. a very fine hybrid (First-class Certificate); C. × aureum, var. Great Rex (First-class Certificate); C. × Latho-Thompsoni and C. × Lathomianum, West Point var. (Awards of Merit), to S. Gratrix, E.q. (gr., Mr. Cypher).

Messrs. Charlesworth & Co., Bradford, eelected from their group Odontoglossum × Wilckeanum, var. Alexandre (a magnificent form), Cypripedium × Dora Crawshaw, both of which received First-class Certificates; and Miltonia × Cogniauxiæ (Award of Merit).

Mrs. Gratrix exhibited Odontoglossum crispum, varlety Geo. Cypher. a well-shaped and distinctly marked flower, which the Committee desired to see again. The following plants were granted awards :- Cypri-

marked nower, which she can again.

M. VUYLSTERE, Ghent, obtained a First-class Certificate for Odontoglossum×Vuylstekei var. percultum(?).

Messrs. J. Cypher & Sons, Chellenham, received an Award of Merit for Cypripedium × Charlesianum var.

superba. G W. I W. LAW-ICHOFIELD, Esq., Rawtenetall, exhibited a

distinct form of Cypripedium × Euryades, called New Hall Hey variety (Award of Merlt).

A. WARDURTON, Esq , Haslingden, exhibited Odonto-gloseum crispum var. Mariæ, which has been previously certificated.

W. LAVERTON, Esq., Manchester, gained an Award of Merit for Cypripedium × Lathamianum, Redclyffe var.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

JANUARY 9.-The Worcester Auxiliary held their annual meeting on the above date, at the Guildhall, Worcester. Sir Frederick Godson, M.P., presided over a large attendance of members.

Several new subscribing members were enrolled; and it was stated that upwards of £600 had been collected and forwarded to the parent society since the

branch was formed.

The officers were all re-elected; and Mr. W. Crump The omeers were all re-elected; and Mr. W. Crump brought forward a motion to increase the Committee from "seven in number to twelve, with power to add to their number," the object being to seenre more numerous representatives in the county. Messrs. A. A. Pettigrew, of Hewell: Robertson, of Croome: Dames, of Ledbury; Charlton, of Malvern Woods; and Parsons of Worrester, were elected. sons, of Worcester, were elected.

When the routine business had been done, the

meeting resolved itself into an informal gathering, Mr. Dawes taking the chair. Short speeches and facts incidental to the good work in hand were given, and many questions were asked and explained in regard to the working of the new rules, about which there have been misgivings.

NATIONAL CHRYSANTHEMUM.

JANUARY 11 .- A meeting of the Executive Committee took place on the above date, Mr. Thomas Bevan in the chair. A financial statement was submitted, showing, with the balance in hand at the beginning of the year, an income of £801 18s. 4d., and an expenditure of £722 88. 5d, carrying forward a balance in hand of £79 98. 11d. A good sum is due as realisable assets, with but a small amount in the way of liabilities. The

Reserve Fund shows a balance in hand of £115. Considering the loss of Income the Society had to sustain in leaving the Aquarium, the state of the finances was considered decidedly satisfactory.

A report was brought up from the Finance Sub-Committee recommending that the sum of £50 be added Committee recommending that the sum of 250 he added to the November schedule of prizes, which was adopted. A draft report prepared by the Secretary was submitted, and with a few minor additions adopted as the Report of the Committee for presentation at the Annual General Meeting, at which the President will preside. A census of Japanese and incurved blooms shown in November last at the Crystal Palace, prepared by Mr. Young, of Dulwich, was accepted with thanks thanks

The Secretary was instructed to urge the Crystal Palace authorities to settle as speedily as possible the dates of the three shows in the present year. Mr. Joseph Lake was nominated for election as Auditor at the Annual General Meeting.

SOCIÉTÉ FRANÇAISE D'HORTI-CULTURE DÉ LONDRES.

JANUARY 16 .- The Imperial Restaurant, Strand, was on Saturday evening last the scene of a very pleasant international horticultural gathering. Under the chairmanship of Mr. Percy Waterer, there was a goodly representative meeting of members and supporters of the Society, among whom were Mr. George Nicholson, Mr. S. T. Wright, Mr. W. Howe, Mr. T. Bevan, Mr. Witty, Mr. A. Taylor, Mr. Harman Payne. Mr. Hiehle, Mr. Cutbush, and Mr. Drost, who kindly furnished the dining saloon and staircase with flowers, Palms, and

According to custom, the usual loyal toasts of "The King" and "The President of the French Republie" were duly honoured.

The Chairman proposed the toast of the evening. a rapid survey he reminded those present of the humble origin and modest pretensions of the few who founded the Society in 1889. Financial progress and great numerical strength had characterised the work of those who had undertaken the duty of labouring on of those who had underlaken the duty of labouring on behalf of the Society. He was pleased to say that the balance in hand for the current year was £150, that the membership amounted to upwards of 650, that the Society's Bulletin had a greatly increased value, and that the library of the Society had been largely augmented by gifts of valuable books. The Society had been the means of helping many young French-speaking gardecers, who he was sure had made lasting friendships while here in England, and many of whom now occupied positions of responsibility in various parts of the world. parts of the world.
On behalf of the officers, Mr. George Schneider said

they were all grateful for the kindly interest and support of many of their English friends, some of whom he was pleased to see present. A new feature during the past year had been introduced by the invitation the past year had been introduced by the invitation the Society had received to visit the establishment of Mr. Peter Kay. It was gratifying to be able to say that other friends had followed that example, notably Mr. Harry Veitch, whose place in the country they hoped to visit next summer. He had much pleasure in proposing the health of their English friends and supporters, coupling with it the name of Mr. Thos.

Bevan.

Mr. Bevan referred in friendly terms to the excellent relations that always existed between English and Continental gardeners, amateur or professional, wherever they met. On behalf of the Committee Mr. Guillond responded, and concluded his remarks by acknowledging their indebtedness to the English Horticultural Press. Mr. Harman Payne in reply said he felt sure that they could depend upon a continuation of this friendly feeling on the part of the Gardening. of this friendly feeling on the part of the Gardening

Press of this country.

A presentation to Mr. Schneider was made in the name of the membres titulaires in recognition of his efforts on their behalf.

ABERDEEN CHRYSANTHEMUM.

JANUARY 16.—The Annual Meeting was held in the Union Hall Buildings on the above date Mr. William Bisset presided. In submitting, and moving the adoption of the Annual Report, the Chairman congratulated the Society upon the result of the year's work, the finances showing a credit balance. Mr. Esslemont was unanimously elected president for the year. The Society's generous hop, president, Lord Provost Walker, was re-elected unanimously. Mr. Sinclair was re-appointed secretary and treasurer.

BECKENHAM HORTICULTURAL.

LECTURE ON NEW FRUITS.

ON January 18, at the Church House, Mr. G. Bunyard, V.M.H., met the members and had "A Talk on New Fruits." A. J. Baker, Esq., J.P., K C.C., took the chair. The lecturer said he felt bound to speakagainst some new varieties, but, of course, others might have

different views to himself. Some of our hest Apples had been raised, not by careful hybridisation but by chance; but he urged all present to raise a few at

chance; but he urged all present to raise a few at least in the hope of raising something good. The following are some of the varieties spoken upon:

APPLES. - Allington Pippin (Thomas Laxton), Nevember to February, excellent; Baron Wolseley, a late Warner's King; Ben's Red, good for market; Charles Ross, too large for dessert, and not good enough for the kitchen; Christmas Pearmain, very promising; Coronation, very like Cox's Orange Pippin; Diamond Jubilee was, in his opinioo, synenymous with Bedferdshire Foundling; Edward VII, a cross between Bleneim Orange and Golden Noble, an excellent kitchen Apple, which had the advantage of blooming late; Early Victoria promises to be one of our hest early kitchen varieties; King Acre, an excellent late-keeping dessert; varieties; Kirg Acre, an excellent late-keeping dessert; Northern Beauty, excellent; Prince Edward, first-rate; Sanspareil, one of the best, which will keep til

The best new BLACKBERRY was the Logan-berry; no other was worth cultivating as compared with our own native Bramble.

CHERRY. — The best new one is the Noble, which keeps well; also Windsor, a very heavy cropper.

CURRANTS. — Red: the American Wonder is best.

Black, the Boskoop Giant.

GRAPES.—Appley Towers, highly recommended; Prince of Wales, very good; Melton Constable, not sufficiently tested.

GOOSEBERRIES .- May Duke, very early indeed.

NECTARINE.-Cardinal (Rivers), grand, and certainly one of the best.

PEACH.-Duchess of Corowall, good, and stands forcing well; Duchess of York, late, fine, and good flavour.

PEARS.-Beurré Perran, Charles Ernest, and Michaelmas Nelis were among the best.

PLUMS.—President, Rivers' Primate, and Rivers' Late Orange were among the best; also Giant Prune. Good dessert Gages were Transparent and Burbank.

RHUBARR.—Daws's Matchless and Crimson Winter were both good.

STRAWNERRIES.—Mentmore is not good; Trafalgar, rather better; The Laxton had disappointed the lecturer so far, but might be better in a mere favourable season; Queen of Denmark, good flavour; Givon's Late Prolific, one of the best late varieties.

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Jan. 16, is furnished from the Meteorological Office:—

"The weather was sgain of a very unsettled character throughout our Islands. Considerable falls of rain were experienced in the west and north, and lesser falls in the south-east and east. Showers of hail and snow were not infrequent in Scotland, Ireland, and . Thunder and lightniog occurred in several of Eogland and Ireland on Wednesday and narts

Thursday.
"The temperature was again above the mean over "The temperature was again above the mean over England and in the west of Scotland, but only just equalled the normal in Ireland, S., and was slightly below it in Scotland, N. and E., and Ireland, N. The highest of the maxima were registered either on the 12th or 13th. In England, N. E. and E., the thermemeter rose to 5%, and in England, S. and S.W., to 55°; In Ireland, N., the highest reading was 50°, and in Scotland, N., 46°. The lowest of the minima, which were recerded at the end of the period, ranged from 23° in Scotland, N., and 26° in Scotland, E. to 31° in England S. and S.W., and to 35° in the Channel Islands. "The rainfall exceeded the mean in all districts. In the east and north-east of Great Britain, and in Scotland, W., and Ireland, S., the excess was slight, but in the other districts it was rather large. "The bright sunshine varied a good deal in different localities, some places showing an excess and others a deficit as compared with the normal. The percentage of the possible duration ranged from 27 in Ireland, S., and 22 in England, E., to 12 in England, N.W., and to 5 Scotland N.W.

and 22 in England, E., to 12 in England, N.W., and to 5 in Scotland, N.

THE WEATHER IN WEST HERTS.

TEMPERATURE VERY CHANGEABLE. - On the first day of the week the highest reading in the thermometerscreen was 54°, and on the last day but one 19°, whereas on one day in the middle of the week the temperature at no time exceeded 39°. The lowest temperatures registered at night by the exposed thermometer were equally variable, ranging as they did hetween 12° of frost and 17° above the freezing-point. At 2 feet deep the ground is now 1° warmer, and at 1 feet deep 3° warmer than is seasonable. Rain fell on five days to the total depth of about three-quarters of an inch. As yet there have been only live days without rain this month, but on the other hand the fall on no day exceeded a quarter of an tuch. Nearly the whole of the week's rainfall has again come through both percolation gauges. The sun shone for altogether 15 hours during the week, or for as long a period as in the whole of the five previous weeks put together, and yet the record only exceeded the average for the month by jabout three-quarters of an hour a day. On three days the wind was high, but of only moderate strength during the rest of the week. It is now eight weeks since the air has been as dry, although the amount of meisture in the air at 3 o'clock in the afternoon was only about average. The Winter Aconite first opened a flower in my garden on the 13th, which is a week earlier than its average date of flowering in the pre-vious fifteen years. The last Rose of the past scason growing in the open ground was destroyed by frost on the 17th, which is thirty-seven days later than the average date of its destruction in the previous eighteen years, and eleven days later than in any of these years. TUE RAINFALL FOR THE 40 DRAINAGE YEARS ENDING

SEPTEMBER, 1902.

The total rainfall for the first twenty years of the period exceeded the average quantity by 38 inches, whereas during the second twenty years of the period there was a deficiency of 48 inches. I have here reckoned each drainage year as beginning with October in one year and ending with September in the next. The following figures will show how much greater the excess was in the summer half of the year as compared with the winter half during the twenty years of wet weather, and how much greater the deficiency was in the summer half of the year during the dry twenty years which followed :-

THE RAINFALL IN RESPECT TO A SEASONABLE QUANTITY.

The Winter half of the year The Summer half of the year (October-March). (April-September). 1862-3 to 1881-2, excess 1863 to 1882, excess $27\frac{1}{2}$ 10^3_1 inches. inches. 1882—3 to 1901—2, deficiency 1883 to 1902, deficiency 43^3_2 4 inches. inches. If our underground water supply has suffered from

the recent long series of dry years, as it undoubtedly bas done, how much more must our trees and gardens have been injuriously affected during the same dry period? E. M., Berkhamsted, January 19, 1984.

MARKETS.

COVENT GARDEN, January 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

CUT FLOWERS, &C.: AVE	RACE WHOLESALE PRICES.
8.d. 8 d.	8.d. 8.d.
Azaleas, per doz. 4 0-6 0	Orchids: Odento.
Bouvardias.bnch. 0 4- 0 6	glossums, per
Callas, per dozen. 40 -	dozen blooms 30-50
Camellias, box 2 0-3 0	 Cypripedium
Carnations, buch. 0 6-3 0	insigne, per
Chrysanthemums,	dozen 1 6- 2 0
doz, bunches 9 0-18 0	Pelargouiums,
- blooms, doz. 2 0- 3 0	zenal, dozen
Daffodils, bunch 10-13	hunches 60-80
Eucharis, per doz. 30-40	- white, dozen
Ferns, Asparagus,	bunches 4 0- 6 0 — donblescarlet,
per bunch 1 0-26	— donblescarlet,
- French, per	per dozen
doz. bunches 0 3-0 4	bunches 60-80
— Maidenhair,	Polnsettias, per
dez. bunches 40-60	bunch 0 10-1 0
Freesia, per doz. 2 0-4 0	Roman Hyacinthe,
Gardenias, bex 4 0-50	per hunch 8 0-12 0
Lilac (French),	Roses, Mermet,
per bunch 2 6-4 6	per bunch 3 0- 6 0
Lilium auratum	- white, bunch 16-26
per bunch 2 6- 4 0	- French, per
- longiflerum,	hunch 1 0- 2 0
bunch 40-60	Smilax, per doz.
- lancifotium 1 6- 2 6	trails 1 6- 2 0
Lily of the Valley,	Spitæas, bunch 10 —
p. doz. bunches 8 0-15 0	
Marguerites, yel-	per bunch 1 0-1 6
low, doz hunch. 1 0-20	— per dozen 0 6-0 9
Mimosa (Acacia),	Tulips, Red, per
bunch 1 0- 1 6	bunch 0 €- 0 9
Narcissus, dozen	- various, per
bunches 3 0-4 0	bunch 0 6- 1 6
— Soleil d'Or, p.	Violets, p. dozen
dozen 50-60	bunches 1 0- 1 6
Orchids: Cattleya	- Parma, per
' per dozen 12 0-15 0	bunch 3 0- 4 0

PLANTS IN POTS, &c.: AVERAGE WHOLESALE PRICES.

R, A,	s, a,		5 .	Z . N .	u.
Acacias, per doz. 12 0-	-50 0	Genistas, per doz.	8	0 - 10	0
	- 8 0	Hyacintas, Roman			
Aralias, per doz. 4 0-	- 8 0			0 = 9	
	-18 0	- Dutch, p. doz. 1	2	0 - 15	0
	-36 0	Lycopodiums, per			
	- 8 0		3	0-4	0
	- 5 U	Marguerites, per			
Begonia, per doz. 8 0-	-18 0			0-"8	
				6-10	
	-24 0	Palms, var., each	3	0 - 20	0
	-12 0	Poinsettias, doz.		0 - 12	
	- 50	Primulas, perdoz.	4	0 - 6	0
Crotons, per doz. 12 ()	-24 0	Pteris tremula,			
Cyclamens, doz. 90	-12 0	dozen	4	0-8	0
Cyperus, per doz. 3 0	- 4 0	- Wimsettl, per			
Daffodils, per doz. 8 0	- 90	dozen		0-8	
Dracænas, variety,		— major, dozen		0-6	
dozen 12 0	-48 0	Solanums, dozen	4	0-6	0
Ericas, per dozen 8 0	-12 0	Tulips, red, doz.			
Euonymus, vars.,		roots	1	0 -	-
perdezen 40	- 60	— yellow, dozen			
	24 0	roots		0-1	
Fernsin var., dez. 4 0	-30 0	— various	1	0-1	- 6

VEGETABLES: AVERAGE WHOLESALE PRICES.

	s.d. s.d.	8.d. 8.d.
Artichokes, Globe,		Mushrooms(house)
per dozen	36-40	per lb 10-13
- Jerusalem, p.		Onions, per case. 56 -
sieve	13-16	— per bag 4 0- 5 0
Asparagus, Sprue,		- picklers, sieve 3 0- 5 0
bundle	0 9	- English, ewt. 5 6-60
- Paris Green	4 0- 5 0	Parsley, doz. bun. 40 -
- English, buo.	60-80	— sieve 1 6 —
Beans, dwarf, lb.	2 0- 2 6	Parsnips, per bag 20-26
- Madeira, per		Potatos, per ten 80 0-130 0
basket	2 6- 3 0	- framed, lb . 6 0-8 0
Beetroots, bushel	1 3-2 0	— New Teneriffe,
Brussels Sprouts,		per cwt 14 0
per sieve	-1.3-1.9	Radishes, per
Cabbages, tally	2 0- 3 6	dozen bunches 0 9-1 0
Carrots, per doz.		Rhubarb, Yerks,
bunches	2 0- 2 6	per dozen 1 0-11 1
- per bag	2 0-4 0	Salad, small, pun-
Cauliflowers, dez.	16-26	nets, per doz 0 8-1 0
Celery, doz. hun.	8 0-12 0	Savoys, taily 30-,50
Cress, doz. pun.	0.8-1.0	Seakale, per doz.
Cucumbers, dez.	12 0-15 0	punnets 15 0-18 0
Endive, per doz.	1 6- 1 9	Shallots, lb $0.1\frac{1}{2}$ -0.2
Garlie, per lb	03 —	Spinach, p. hush. 3 6-4 0
Horseradish, fo-		Tomatos, Canary
reign, p. bunch	1 0- 1 6	Deeps 3 6- 4 0
Lecks, per dozen		Tarnips,doz.hun. 1 6-20
bunches	10-16	- per bag 1 6- 2 6
Lettuces, Cabbage,		Watercress, per
per dozen	10-13	
,		•

FRUIT · AVERAGE WHOLESALE PRICES.

s.d. e.d.	8.d. 8.d.
Apples, home-	Grapes, Alicante, per lh 1 0-*2-0
grown, cookers,	per lb 1 0-12.0
per bushel 3 0- 5 0	— in harrel 11 0-18 0
barrel 18 0-23 0	— Muscats, A., 1b. 5 0-18 0
- American, ln	B., per lb 2 0-4 0
cases 7 6-12 0	- Gros Colmar,
Bananas, bunch. 7 0-12 0	A., per 1b 1 6- 2 6
- loose, dozen 1 0-1 6	- B per lb 0 10-1:3
Chestnuts, per	Lemons, per case 10 0-18:0
bag 17 0-18 0	Oranges, per case 6 0-12 0
Cobnuts, per lb. 0 62 -	Pears, per case 10 6-11 0
Cranberries, per	- stewing 9 0-11 0
case 10 6 —	Pines, each 2 0- 4 0
0400	

REMARKS. — Cape Apricots, in cases, 3s. to 69.; Peaches, 4s. to 12s.; Plums, 4s. to 8s.; Grape-fruits, in cases, are 6s. to 12s.; Custard Apples, per doz., 4s. to 8s.; Brussels Sprouts, per bag, 1s.; Turnip-Tops, per bag,

POTATOS.

Home-grown, 90s. to 120s. per ton; foreign, 80s. to 120s. do.; Dunbars, 120s. to 130s. do. John Bath, 32 & 34, Wellington Street, Covent Garden.

SEEDS.

LONDON, January 19.—We have to report that the demand for Clover seeds continues good. Chilian Red Clover has advanced considerably, and the better grades are now almost exhausted. Supplies from Russia show a falling off in quality, and prices in this market, as well as in France, are high. White Clover fields a ready sale at full prices. Alsike is in good request. Trefoil meets a better demand at unchanged figures. Ryegrasses in fair request. Hurst & Son, Houndsditch.

FRUITS AND VEGETABLES.

GLASGOW, January 20.—The following are the averages of the prices during the past week: Apples, Maine, U.S., 15s. to 20s. per barrel; Californian Newtown Pippins, 8s. 6d. to 10s. per box: other sorts, 14s. to 25s. per barrel; Oranges, "420's," 9s. 6d. to 11s. 6d. per box; do, large, 15s. 6d. to 17s. 6d do; do, "714's," 9s. 6d. to 12s. do.; do, large, 19s. 6d. to 23s. 6d do.; Lemons, 12s. 6d. to 18s. per box, and 18s. to 25s. per case; Grapes, home, 9d. to 2s. per lb.; do., Almeria, 8s. to 25s. per barrel; do., Guernsey, 4d. to 8d. per lb.; Pears, 6s. to 24s. per hox; Tomatos, 5d. to 9d. per lo.; do., Tenerifie, 3s. to 8s. per hox; Onions, Valencia, 6s. 6d. to 8s. 6d. per hox; Mushrooms, 1s. to 1s. 6d. per lb..

88, 6d. per hox; Mushrooms, 18, to 18, 6d, per In..

LIVERPOOL, January 20.—Wholesate Vegetable Market (North Hay).—The following are the average of the current prices during the past week—prices varying according to supply:—Petatus, per cwt., Main Crop, 48, 9d, to 58, 3d; British Queen, 48, 2d, to 48, 9d,; Upto-Date, 48, 2d, to 48, 9d; Bruce, 48, 6d, to 58.; Turnips, 6d, to 8d, per dozen bunches; Swedes, 18, 1d, to 18, 6d, to 10d per dozen bunches; Onlons, foreign, 48, 3d, to

48. 6d. per bag; Cauliflowers, 1s. to 2s. 6d. per dozen; Cabbages, 6d. to 10d do.; Celery, 9d. to 1s. 9d. do. -8t John's.-Potatos, 10d. to 1s. per peck; Cucumbers, 6d. to 10d. each; Grapes, English, 1s. 6d. to 2s. 6d. per 1b.; do., foreign, 8d to 10d. do.; Pines, foreign, 4s. to 6s. each; Musbrooms, 1s. per 1b - Birkenhead: Potatos, 1s. to 1s. 4d. per peck; Cucumbers, 6d. to 10d. each; Grapes, English, 1s. 6d. to 3s. 6d per 1b.; do., foreign, 4d to 6d. do.; Tomatos, English, 6d. do.; Pines, foreign, 2s. 6d to 4s. each; American (Maine) Apples, 15s. to 26s. per barrel; others, 14s. to 26s. do.; Californian Newton Pippins, 6s. 6d. to 10s. per Box; Canadisns, 16s. to 28s. per barrel.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending January 16, 1904, and for the corresponding period of 1903 together with the difference in the quotations. These figures are based on the Official Weckly Return:—

Des	crip	tion.		19	03.	19	04.	Dif	fere	ence.
Wheat	7	-	•••	8. 24	đ.	8 s 26	d.	+	s. 2	d.
Barley ?	•••	***		24	1	22	3	-	1	10
Oats 🖫	•••	•••	•••	16	10	15	9	-	1	1

ANSWERS TO CORRESPONDENTS.

BOOKS: W. P. Freston. The Country Gentlemen's Estate Book would furnish the intermation you require. Subscription, including the Estate Booklet, a monthly supplement, 6s. 6d. per annum, post paid. The publishers are the Country Gentlemen's Association, 16, Cockspur Street, Pall Mall, S.W.

CLIMBINO PLANT FOR INSIDE WALL: A Reader-Though not a climbing plant, the Ivy-leaved Pelargonium would probably be the best plant for you to select for the purpose. If a good variety, such as Souvenir de Charles Turner, be trained up the wall and grown well, it will afford you an abundance of flowers for cutting.

Cypripedium calceolus: A. H. W. This is not an easy plant to cultivate, but it has been often grown successfully in sheltered rockeries, or borders in the open ground. Plant in a compost of equal parts of peat, loam, leaf-soil, and sand; and in such a way that the plants do not run the risk of being dried up in summer. The lower parts of rockeries, where moistnre is always assured, is best. The roots may be planted in the above compost in pots, and the plants grown in cold frames if desired. In any case they must be kept cold while at rest, and protected by a couple of inches of dry leaves over the surface.

Dissolved Bones: Old Subscriber. Apply these as soon after the ploughing has been done as possible. You do not state what the crop is to be.

FLOWER BEDS: A Reader. The system of mixed bedding would be best suited for the design you send. Place taller-growing and graceful plants, such as Abutilons, Cannas, Albizzia, Fuchsia, dwarf Palms, &c., at intervals, and fill the ground surface with dwarfer plants, as Begonias, Violas, Ageratums, or whatever decorative plants you can obtain conveniently. If you wish to follow the "massing" system, the beds No. 4 might be planted with Violas, 3 with tuberous-rooted Begonias, 2 with the variegated Flower of Spring Pelargonium, and 1 with Fuchsias.

FOREMAN GARDENER: E. G. In the absence of any agreement to the contrary, a weekly notice is generally considered to be sufficient. He is not a domestic in the sense that the head gardener is.

GARDENER UNDER NOTICE: Woodbine. As a domestic servant, you are entitled to one month's notice.

GLORIOSA SUPERBA: A. H. W., Croydon. A very old plant in English gardens, belonging to the order Liliacea, and requiring the temperature of a stove. It is a bulbous plant, and may be propagated by offsets from the bulbs or by seeds. It is usually grown in pots, and the growths trained to pillars or wires, where the somewhat singular-looking, red and orange-coloured flowers show to good advantage. If your bulbs are dry, you may pot them up into

a compost of peat and loam in equal proportions, mixing some old mortar-rubble with it, and start them in a temperature of 65° to 70°. When the plants are growing freely, they must be afforded abundance of water and heat, and they will then flower from most of the leafaxils. It is necessary that the pots should be thoroughly well drained. When the growths show signs of ripening at the end of the summer, the water must be gradually withheld and the bulbs rested in a warm house. The roots are very brittle, and impatient of interference.

Grapes: H. There is no evidence of disease upon the fruits, and the reason is most likely to be due to the canes failing to ripen perfectly. By careful firing and ventilation get the wood to ripen as much as possible, and next season, if the Grapes appear to be going back before they are perfectly ripe, afford the house a little extra warmth, remembering that it is the imperfectly finished Grapes that will not keep well.

ILLUSTRATION: New York. We had intended to publish your photograph, but fortunately for us we saw it in another journal. You should

us we saw it in another journal. You should have stated at the time that you had sent it elsewhere, otherwise it is unfair to all parties, and may lead to unpleasantness. No journal wants to publish the same things that appear in its contemporaries, either in the text or in the illustrations, unless, of course, in the case

of news items, or for some other special reasons.

Land Agent: F. D. Apply to the Surveyors'
Institution, 12, Great George Street, Westminster, where you will be likely to obtain
information respecting the examination necessary. The Secretary is Mr. J. C. Rogers.

LADY FOREMEN: Foreman. We do not interfere with the wording of advertisements, but the reading given is in accordance with the practice of the University of London, which confers the degree of "Bachelor" in the various faculties on spinsters and even on married women.

LICHENS ON FRUIT-TREES: W. J. When fruittrees generally, and even Conifers and deciduous ornamental trees, are affected with Lichens
to the extent you describe, it is pretty certain
that the local atmosphere is exceedingly damp.
Parts of South Wales near to the Channel are
nearly as bad. The hest practice to adopt in
the case of established fruit trees is to have
hot-water and soft-soap, and wash the bole
and stems with a scrubbing-brush in winter,
and apply the caustic alkali over the branches
and shoots. The difficulty you have in syringing is probably due to not keeping the mixture
stirred properly the whole time, assuming that
you have used the ingredients in the correct
proportions.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—No name on cardboard box. 1, Abies Nordmanniana (?); 2, Pinus excelsa (?); 3, Pseudotsuga Douglasi; 4, Pinus silvestris; 5, Cupressus pisifera plumosa; 6, Abies excelsa. We name these under reserve, as the specimens are so bad.—W. L. Cypripedium barbatum.—Hants. 1, Dendrobium pulchellum; 2, Dendrobium bigibbum.—H. J. P., Ripley. Asparagus Sprengeri.

New Potatos in Magazine: Subscriber. The

New Potatos in Magazine: Subscriber. The old tubers would attempt to make growths, and new tubers having been formed, they would feed upon the substance of the parent tubers. With soil to root into, new tubers would undoubtedly be formed, but they would be small and few. The process would be costly and unremunerative.

PLUM-TREE: Phil. Your seedling Plum-tree will certainly flower if it is allowed to grow sufficiently long. Thin out the weaker growths in order that the sun and air may easily reach every part, and wait. The other alternative would be to cut the tree back and graft it with a known variety. The latter method would probably be quicker, but it cannot be followed by cultivators who wish to raise new varieties of fruit.

POND "CLEANINGS": Jno. S. If the cleanings bave been taken from the pond recently, it

would be better to put them into a heap and mix with them a similar quantity of roadscrapings, wood-ashes, lime, &c., turning the beap over occasionally. The material would then become valuable as manure, and be less dangerous than it would be, used in a fresh condition, upon borders containing herbaceous plants.

Red Spider on Arums and Tea Roses: L. B. W.
Fumigation with the XL-All vaporiser, if repeated occasionally, will kill the spiders; but that the fumes may have their proper effect, the plants, if in pots, should be put upon a shelf, or otherwise raised, because the fumes will not be so dense near to the floor of the house. They might be syringed with weak tobaccowater, if you prefer this method to that of the vaporiser. That you are so troubled with spider may be due to the atmosphere of the structure being kept too dry. Do not use too much fire-heat, and in proportion to the degree employed damp the surfaces in the house, which will improve the atmosphere.

Saintpaulia ionantha: W. This Gesneraceous plant was exhibited at the Quinquennial Exhibition at Ghent in 1893 by Dr. Wendland, and was figured in the Gardeners' Chronicle for June 10, 1893, p. 685. It is a native of the Usambara mountains in Central Africa, and was discovered there by the son of Hofmarschall St. Paul-Illaire, of Fischbach, in Silesia, then President of the German Dendrological Society. The plant was cultivated in England in 1894. Sir Trevor Lawrence showed a plant at a meeting of the Royal Horticultural Society on July 10 that year, and a Botanical Certificate was awarded. Later, on October 23, the plant was awarded a First-class Certificate.

SITUATION FOR NURSERY: X., Hampton-on-Thames. Send to Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, E.C., and they will send you a copy of one of their registers of nurseries for sale.

TENNIS COURT: Tweedside. You would be able to get York paving stones through a contractor, who would also give you an estimate for asphalting the court. A double court is one that is large enough for the use of more than two players at the same time.

Vines and Peaches in Pots: A. E. C. We do not advise repotting if you intend to force at once, as this would involve a check to the roots. You might leave the plant in the old pot, but knock out the bottom and place the pot on to some rich soil, with drainage provided underneath. Into this soil the roots will soon find their way. If you afford a good top-dressing as well, and plenty of manure-water after the fruits commence to swell, the plants should do well.

White Insects on Fern Leaves: J. Spicer. The minute white objects are the male scales of Chionaspis aspidistræ. By carefully examining the fronds you will also find the palebrown scales of the females. The latter are much larger than those of the males, and they somewhat resemble the common musselscale, but are more pyriform in shape, and rarely curved. This insect is by no means generally distributed in the British Isles, but is abundant where it occurs. The XL-All vaporiser will destroy the active larvæ or young forms, but it has not been known to kill the adult females. Careful and frequent sponging with soft-soap and water at the rate of 2 oz. to the gallon is the only safe application for such tender foliage. In the process of sponging remove as many of the females as possible, and all the old fronds should be cut away and destroyed. Fumigation with hydrocyanic acid gas would be the most effectual remedy, but this treatment has not found favour with the horticulturists of this country, owing to its dangerous nature.

COMMUNICATIONS RECEIVED.—A. W—C. Baltet.—H. G.
—L. R. & Co.—G. M.—C. L. P. Madeira.—S. Deacon & Co.—W. A.—Sander & Sons.—W. M.—Northern Syndicate.—W. A., Dusseldorff.—J. H.—J. R. J.—Anderson & Co.—C. W. B.—W. P. W.—Geo. Dyke—T. G.—A. F. P. —W. J. S.—J. S.—T. H. S.—E. C.—S. A.—C. P.—F. V. T. —H. W. W.—W. C. L.—J. D.—Rev. C. F. T.—W. M.—H. J. C.—A. C. F.—N. E. B.—S. C.—J. A. A.. Johannes-burg—Tree-wash.—J. S. Co. Down—A. A. P.—G. McK.—T. A.—H. Green—Chester Paxton Society—Bristol Gard, Soc.—Hull Hort. Soc.—Croydon Gsrd. Scc.—East Anglian Hort. Club—Beckenham Hort.—Rickard, Usk—Nestor—J. W.—H. & S.—F. W.



Japanese Chrysanthemum, Lady Cranston, a sport from the variety Mrs. Barkley. Flower White, with faint Blush Colour over the uppermost Florets. (*Reduced one-half.*)



Gardeners' Chronicle

No. 892 .- SATURDAY, January 30, 1904.

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RIVIERA NATURE-NOTES.

A SECOND edition of a charming book with the above title has been published by Bernard Quaritch, of 15, Piccadilly, London. It has no author's name on its title-page and only initials to the preface. It is appropriately dedicated to Sir Thomas Hanbury. The notes, we are told, were written at different times and in different moods during a long residence on the Riviera. Twelve summers were spent in the mountains and sub-alpine villages of the Maritime Alps, and lengthened sojourns have been made in the narrow coast strip where strangers congregate. The book deals with the general natural history of the Riviera in a literary rather than in a severely scientific manner, so that the book is eminently readable, but without, so far as we can see, any sacrifice of scientific accuracy. There are chapters on the Palms, the Olives, the Oranges and Lemons, the Pines, the Carob, and other trees so characteristic of the district, some native, others naturalised. We have not met with the word "Ecology' in its pages, but there is much in the book which will appeal to lovers of that old but newly-named branch of nature-study. It is not trees and flowers only that are subjects of comment, but animals, butterflies, shells, and a host of matters which occur to the intelligent visitor or resident who knows how to use his eyes.

Concerning the Arbutus (lay stress on the first syllable and shorten the second, please), the author says:-"It seems to me that certain plants, of which the Arbutus is one, have a perception of the picturesque. Mark well the spot where this tree loves to grow, and you will find it has a special charm. Name the most lovely scenery in the British Isles, is it not where the evergreen foliage and the waxen bells of the Arbutus are reflected in the crystal waters of Killarney? And when you find among the Olive hills some charming nook, and you exclaim, 'Ingulus ille ridet!' be sure that the nymph of the Arbutus haunts that unfrequented spot. She is too wild and too highspirited to be tamely imprisoned by the railings of every suburban villa, like a Lilac or a Laburnum or a Hawthorn. It is difficult to transplant an Arbutus; gardeners rarely attempt it on the Riviera." We sympathise with the author's meaning, but writing within sight of numerous forecourt gardens in a London suburb, in some of which the Arbutus flourishes, as well as another Riviera plant, the Laurustinus, we think the author has allowed his imagination to outrun his facts. Nor can we quite agree that Styrax is not "admitted to rank as a garden plant." It may be rare, but it is certainly not unknown in our gardens in one or more of its forms. But these are trifles which do not in the least interfere with the interest attaching to this volume. Those who do not know the Riviera will find numerous matters to attract their attention; whilst to those more fortunate ones who have some knowledge, however slight, of that lovely shore, the book will supply the most delightful recollections. The Agaves and Palms, excepting the dwarf Chamærops, are naturalised aliens, which give a very characteristic appearance to the landscape. Some purists who object to any but indigenous vegetation would banish these plants. Fortunately, they are not likely to have their way. Equally unlikely is it that that true native and, in its own quaint way, most attractive of plants, the giant Euphorbia E. dendroides, will be banished, for though it is attractive to the connoisseur, it does not appeal forcibly to those who put beauty, as they conceive it, in the first rank, and place every other attribute anywhere or nowhere. If the majestic Olive trees of the coast inspire one with wonder and veneration, the smaller trees up in the hills, with their undulating sea of grey foliage, produce an impression that is not easily forgotten.

We must not linger over this seductive book, but we cannot help calling attention to the amusing chapter on Mosquitos as a test of character. A list of problems to solve is given at the end of the book which might satisfy the craze for competitions, were it not that no pecuniary inducements are held out! As in the case of other competitions, some of the problems are easy enough to solve; but they are lures to draw one on to the consideration of the more abstruse problems.

In an appendix is given a list of "books useful for the study of the flora." To the list given may be added, for the benefit of those who read German, the second edition, just published, of Prof. Strasburger's Streifzüge an der Riviera (Jena, Fischer), illustrated with numerous coloured plates.

FLORISTS' FLOWERS.

THE AURICULA.

A LETTER from the Rev. F. D. Horner reminds me that the Auriculas will soon he commencing growth, and that they need a surface dressing. The plants having made growth during the dullest and dreariest summer and autumn we have known for many years, it is possible that many plants may want bottom as well as topdressing. The cultivator of any pot-plants should see to it that the roots are right. Top-dressing an Auricula may become a delusion and a snare to the inexperienced cultivator if he has no knowledge of the state of the roots. If the soil in which the plants are growing has become of a dense, pasty consistency, it is a sign that something is wrong with the roots, and top-dressing after removing part only of the surface soil will but deceive the unwary. It can do the plant no harm to turn it out of the flower-pot carefully and examine the roots; there may be an earth-worm in it, and the drainage may be choked-this must be remedied by removing all the crocks. Have a clean pot ready supplied with fresh drainage material, and turn the plant into it, pressing the roots down firmly, and finishing off with fresh compost. If the compost is very bad and contains few roots, remove as much of it as may be deemed desirable and replace with fresh material. The surface-dressings ought to be afforded before the end of February, as the plants make rapid growth in March. The dressing should be of yellow fibrous loam two-thirds, and decayed manure one-third; to this a little coarse white sand may be added, or, what is better, ground oystershells. The outer leaves continue to decay, especially after each severe frost, and such leaves must be removed at once.

I keep the ventilators open night and day, except when there is danger from frosts. Those who are desirous of exhibiting Auriculas would do well to keep the self-coloured varieties out in the frames a few weeks longer than the edged varieties, as the selfs have a tendency to flower rather earlier than edged sections; nor will a self Auricula remain in good condition so

The good old grey-edged variety George Lightbody will remain in fair condition for six weeks; but I do not know any self-coloured varieties that will stand good a third of the time. Those who have charge of Orchids know how carefully they must be watered, especially now that leaf-mould is so extensively used in the compost; but during the next three months care in the watering of Auriculas is even more important, and after the surface-dressing has been afforded it is very difficult to know when to give and when to withhold water.

THE QUESTION OF VARIETIES.

There have been a few amateurs added to the Auricula cult during the last few years, and some of them are greatly in doubt as to the best varieties to cultivate. The fact is, there are very few varieties of show Auriculas to be had in comparison with those that were grown thirty or forty years ago. I have been turning over the pages of Gossip for the Garden for 1856, and 1 find one grower states that he possesses 150 varieties. My own collection is a very good one, but does not exceed seventy-five varieties, new and old, of the show section. It is generally thought that there have been no improvements in the Auricula in these forty or fifty years, but it is a fact that none of the varieties which won the leading prizes in 1860 would have a chance now.

Raising seedling Auriculas requires much atience. A seedling may give splendid promise in the first year, but fail the next season, even though it has been awarded a First-class Certificate from the National Society. The following varieties are of proved excellence. I have selected six in each class:—

Green-edged.—Abbé Liszt (Douglas), Abraham Barker (Lord), Mrs. Henwood (Barlow), Gladiator (Simonite), Rev. Francis D. Horner (Simonite), Shirley Hibberd (Simonite).

Grey-edged.—George Rudd (Woodhead), Marmion (Douglas), George Lightbody (Headley), Lancashire Hero (Lancashire), Mabel (Douglas), Richard Headley (Lightbody), White-edged Acme (Read), Conservative (Douglas), Heather Bell (Simonite), Mrs. Dodwell (Woodhead), John Simonite (Walker), Smiling Beauty (Heap).

Selfs. — Black Bess (Woodhead), Heroine (Horner), Mrs. Potts (Barlow), Lord of Lorne (Campbell), Ruby (Simonite), Gerald (Bentley), Favourite (Horner). A new variety will probably head the list as the best self, but it is still scarce.

I believe the above to be the best twenty-five varieties that can be purchased at present. There are now many raisers of seedling Auriculas in the London district, and I am hopeful that during the next few years we shall see some fine varieties. A celebrated cultivator in the North has just informed me that there has not been a single good self-coloured Auricula raised from seed south of Yorkshire. Surely some of the younger cultivators, with the best years of their life before them, ought to do something to remove this reproach.

In cross-fertilising green, grey, and white-edged Auriculas, many of the seedlings will produce self-coloured varieties, but they are always of poor quality. I am sure Mr. Horner and others of the best raisers will bear me out in this. If good seedling selfs are to be obtained it must be by crossing the best selfs at present in cultivation with each other. Black Bess, Heroine, and Mrs. Potts are the three best that are available at present. Favourite might be included, but it is now worth a guinea and a half.

There is still room for much improvement in the green, grey, and white-edged varieties; and the interest in the cultivation of any plant is greatest when the seedlings are flowering for the first time. The seed should be taken from vigorous plants, and the pollen parent should possess flowers of the highest order of merit. A perfect circular tube of a good yellow colour, a clear, dense, white paste, the edge of the corolla circular; if a green-edge it must be a good decided green, free from dots of farina, with a rich black zone well defined between the grassgreen margin and the snow-white centre - a delightful combination of colour. The same remarks apply to the grey and the white-edges. The grey is intermediate between the white and the green.

POTTING AND REPOTTING.

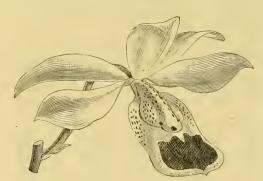
Those who possess small seedling plants should not suffer them to die through being forced out of the ground by frost. I have had much success in flowering them by being careful to prick out a dozen small plants into a 60-sized flower-pot. I let them grow until the leaves meet together, and repot them, three plants this time in the same sized pots. As soon as the plants have grown so much as to need repotting, one plant should be put in each flower-pot, and then repotted as may be required. The seedlings are ready to be potted off as soon as the first leaf is formed after the seed leaves. Some growers may think so much repotting rather tedious. I do not say it is not, and I have noticed that the champion seedling raiser, Rev. F. D. Horner, pricks a large number of seedlings out in seedpans rather thickly at first, and re-pans them a second time, leaving the plants to flower in the seed-pans, or plants them out in the open garden when they are very numerous and cannot be afforded room under glass.

I will only add that the plants must be kept quite free from insect-pests. Green-fly is the most troublesome, and it must be destroyed by using XL-All fumigating material. The Auricula-aphis is also rather troublesome, although it does not do so much damage as green-fly. It can be destroyed by clearing the roots of it when repotting, and keeping it from the neck of the plant by dipping a small brush in tobacco-powder and brushing it off; the insects not brushed out will be killed by the powder. J. Douglas.

ORCHID NOTES AND GLEANINGS.

EPIDENDRUM ELEGANS.

A NUMBER of plants of this handsome, slender-growing Barkeria, as it is more commonly called in gardens, have been in bloom in Mr. H. A. Tracy's nursery, Amyand Park Road, Twickenham, for several weeks past. The species, like all the other Barkerias, has a reputation for being difficult to grow, and the appearance of such a pretty and rare plant so well cultivated is worth recording. The slender-stemmed plants are growing, several together, in small Orchid-pans, which are suspended in a light intermediate-house. They have been watered freely until the flowers appeared, and it is intended to keep them



F16. 28.—EPIDENDRUM (BARKERIA) ELEGANS.

dry and cool like resting Dendrobes until they commence to grow again. The non-observance of the resting season, and the fact that the plants are usually kept too warm and shady at all seasons, goes far to account for the poor condition of the specimens usually found in gardens. These Barkerias in their native habitat in Mexico grow on the twigs and smaller outer branches of trees, often overhanging streams, and always exposed to a large amount of sunlight.

The plants referred to have slender spikes of pretty flowers, each about 2 inches across, white more or less tinged with purplish-rose, the showy labellums having a large crimson blotch in front, and some small purple markings on the base and column. There is great variety in colour, and also variation in form.

ODONTOGLOSSUM X WILCKEANUM ALEXANDRÆ.

A flower of this very fine Odontoglossum from the collection of J. Wilson Potter, Esq., Elmwood, Croydon (gr., Mr. W. H. Young), shows it to be a noteworthy addition to the favourite class of Odontoglossums. The plant was obtained from Messrs. Charlesworth & Co., of Heaton, Bradford, who obtained a First-class Certificate for it at Manchester, January 8. The flower is large and of good shape and substance; the greater part of the sepals are heavily blotched with confluent chestnut-red blotches, the tips being pale yellow, and a small area at the bases white; the broad petals are deeply fringed, white with an irregular ring of reddish spots on the middle. The lip has the spiny yellow-and-brown crest indicative of O. luteo-purpureum; the fringed, apiculate blade white, with a large reddish-brown blotch in front of the crest.

CYPRIPEDIUM × MAHLERIANUM, FEILING'S VARIETY.

A very desirable hybrid between a good Cypripedium villosum and C. x Sallieri aureum, has been raised by C. H. Feiling, Esq., Southgate House, Southgate (gr., Mr. Stocking), and is now flowering there. In its general features and colouring it approaches C. villosum singularly closely, but is much finer in every respect than even the best forms of C. villosum, all the parts being larger and broader, and the substance much thicker than in that species. It has also a strong resemblance to C. × Beekemanni. The fine dorsal sepal is emerald green with a pure white margin a 1 inch wide, a broad purple band up the middle, and lighter dotted purple lines on each side. The broad petals are yellow, the middles having a dark purplish-chocolate band, above which the upper half of the petal is reddish brown, the lower half being yellow slightly tinged with purple. Lip and staminode whitish-yellow slightly tinged with purple.

NOTICES OF BOOKS.

South African Flowering Plants, &c. By Rev. Prof. G. Henslow, M.A. (Longmans, Green & Co.).

This little book is written for the benefit of beginners and of those, whether resident in or visitors to the Cape Colony, who require to know something more than the names of a few plants. The South African flora is very rich, very beautiful, and very peculiar. It therefore offers to the intelligent observer endless sources of interest. The structure and conformation of the plants are such as are met with in dry climates. The modifications and adaptations, though extremely varied, all have reference to the same conditions. The conditions are much the same as in S.W. Australia, and the "adaptations" are similar, but yethow different are the two floras!

Professor Henslow would like to have the pupils taught [or, better still, be enabled to find out for themselves] why one plant is hairy or woolly, why another is quite smooth, why some flowers are "regular," others "irregular"; how it comes about that some plants are spiny, others not at all, and so forth. It is obvious that information of this kind would be very valuable to the cultivator in any country, and furnish him with endless hints by which he might profit.

The Professor begins his book with a detailed examination of Oxalis cernua as a common Cape plant, and then goes on to consider the methods by which the pollen is conveyed from one part of a flower to another, or to another flower. The manner in which stems and foliage are adapted to a dry climate is the subject of a short chapter, wherein the structure and mode of growth of bulbs is explained. The different forms of flowers are then described, and attention called to the circumstances which caused all these modifications.

After an explanation of the system of classification adopted by Bentham and Hooker, the author passes in review several of the principal and more conspicuous natural orders. In the selection of plants for comment, Prof. Henslow has had the advantage of the assistance of Prof. McOwan and Dr. Schonland, and has turned his own visit to the Colony to advantage. The stamens of Malvaceæ are described as numerous, but it would be more consistent with their development to speak of the andræcium of these plants as consisting of five stamens, each one much divided.

In many cases popular names are used, and this is no doubt desirable where such names have the sanction of custom or convenience, but to coin such appellations may be misleading or even dangerous. Thus we find the Amaryllidaceæ called the "Belladonna" family, an appellation that is not required and may be confusing. Again, why call the Aroidaceæ by the name of Trumpet-Lily family? Surely it is no more difficult to speak of the Aroid family, and thus avoid the too prevalent confusion of these plants with Lilies! The sheaths which invest the stalks of the Restiaceæ are said to remain on the stem till the linear blade has fallen; but in these plants it is exceptional for the leaf-blade to be formed at all.

The book is clearly written, freely illustrated, and well adapted for the purpose for which it is written. The examples are well selected, and have the advantage of novelty. Though primarily intended for South African readers, it can, with the necessary modifications, be used anywhere with advantage as an elementary text - book introductory to more advanced treatises.

THE CULTURE OF VEGETABLES AND FLOWERS FROM SEEDS AND ROOTS. By Sutton & Sons, Reading. (London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.)

This is the eleventh edition of a practical book, so often appreciated by us that we have little more to say about it. Suffice it, that it is the work of men of experience both in cultivating and in instructing, and that the present edition has been brought well up to date. The several chapters deal with: The Culture of Vegetables, Year's Work in the Vegetable Garden, Rotation of Crops, Chemistry of Garden Crops, Flowers from Seeds, Flowering Bulbs, Flowers all the Year Round, Lawn and Tennis Grounds from Seed, Pests of Garden Plants, and Fungus Pests.

We are pleased to notice that the vegetables enumerated include not merely the most familiar kinds, but also those less well known to the ordinary grower: Cardoons, Corn-Salad, Chou Tronchuda, Kohl Rabi, &c.; though we find no mention of the Crosnes or Chinese Artichokes, popular in France, and now sometimes obtainable in English markets. They are easily grown, and by many highly esteemed. The agency of bacteria or other microbes in enhancing the fertility of the soil should have a mention in a future edition, as it is more than likely we are on the threshold of discoveries which will be eventually of the greatest benefit to practical horticulture.

ENGLAND'S NATIONAL FLOWER.

"A book for all garden-lovers" needs no introduction, especially when it deals, as this does, with the Rose. It might be thought that the literature of the Rose was already ample, but people never tire of the Rose; and then we must remember, as is well said in the preface, that the Rose is constantly changing. Not our grandfathers only, but our fathers, would be not a little astonished at the changes that have taken place in the Rose. Few, indeed, of the Roses of our childhood remain. Each season fresh beauties are developed, and for the last half-century the Rose has become more than ever the national flower. Up to the middle of the last century our choicest acquisitions came from France; nous avons changé tout cela. England and Ireland have of late years been the sources whence we have obtained most of our best Roses. There was room then for yet another book about Roses, and Mr. Bunyard has supplied the vacancy. No one who knows the author and his Rose nursery will consider him (as he seems to fear) presumptuous in undertaking the task. Indeed, there are cases in which the well-trained, all-round man is likely to be a better adviser to the ordinary Rosegrower than the specialist with exhibitions on the brain. Mr. Bunyard, while in no wise disparaging exhibition Roses, addresses his book more particularly to those who do not grow for exhibition—the majority, in fact. Cultural details are giveu-needless to say they are trustworthy in no ordinary degree. We might think the statement that a well-grown standard Rose "is a very pretty object" requires considerable modification—the flowers are lovely, but the bush! Full lists of varieties belonging to the several sections are given, as well as select enumeration of Roses intended for special purposes, which will be of service to the lovers of the so-called garden Roses. Photographic illustrations are given, which show how very beautiful Roses are when lightly arranged in vases and not throttled in the regulation boxes; but if we have to pick out one portion of this book for special commendation it must be that devoted to cultural details, so clearly and tersely are they set forth. The book is to be had from the Royal Nurseries, Maidstone.

MR. H. TRETHEWY.

At the "George Hotel," Silsee, Bedfordshire, en January 18, the tenantry and other friends on the Wrest estate combined to celebrate the eve of the ninetieth birthday of H. Trethewy, Esq., J.P., the highly-respected agent for Earl Cowper's Bedfordshire estate. Upwards of thirty of the tenant-farmers and friends dined together, and



MR. H. TRETHEWY.

the chairman, Mr. Crouch, of Camhow, the oldest tenant-farmer on the estate, made some observations on Mr. Trethewy's estate management during the past fifty-eight years, and subsequently presented to him, on behalf of the tenantry and other well-wishers on the estates of Wrost and Blenham, some silver-plate bearing a suitable inscription. Mr. Trethewy on receiving the presentation thanked those present for their gift and kind appreciation of his agency. He recalled the many changes he had seen on the estate during his fifty-eight years' stewardship.

Mr. Trethewy is not only a model agent and successful agriculturist, but an enthusiastic arboriculturist, and what is of more interest to the readers of the Gardeners' Chronicle, he has been all his life an ardent herticulturist. His gardens and fruit-trees are tended with no stinted hand, and his principal hobbies are kitchen-gardening and his excellent stock of Apple and Peartrees. Those who have had the privilege of meeting him in or about the garden have found in him an intelligent acquaintance with all the best varieties under cultivation.

It may be mentioned that Mr. Trethewy is still active, and may be seen daily riding about

on his thirty-year-old cob inspecting the stock in the deer park, &c., and it is to be hoped that his remaining years may be free from care. George MacKinlay, The Gardens, Wrest Park, Ampthitt.

FORESTRY.

CONIFERS FOR TIMBER-PRODUCTION IN ENGLAND.

In your remark on The Times correspondent who signs himself "F.R.S.," you mention several conifers as likely to prove of value for timbergrowing in this country. While admitting that little time has elapsed to prove the qualities of many trees introduced within the last fifty years, I think there is little chance of three of those you mention ever turning out superior to our native trees in the way of timber producers, even if they should prove to be their equals. These three are Thuya gigantea, Cupressus Lawsoniana, and Thuyepsis borealis. I believe all of these have been introduced into this country within the last fifty years, and therefore no great time has elapsed to prove their value or the reverse. But compared with the growth of such species as the Douglas Fir, the Sitka Spruce, or the Redwood (Sequoia sempervirens), the growth of those above-named is distinctly disappointing. Probably Thuia gigantea shapes better than the other two, but even that species does not appear to be capable of attaining any great size in this country. For the first ten years it grows rapidly, but after that its growth is very uncertain, and it does not give one the impression of being a long-lived tree even when grown under favourable circumstances. When grown, as all timber trees must be grown, in close order, I do not believe it will ever attain a large size, unless it be on the best of soils. But the worst feature of this tree in my opinion is the shape of its bole. This, in a good timber tree, should be full and round, whereas the bole of most specimens of Thuia gigantea that I have come across are irregular and fissured, partly due perhaps to the presence of branches. That this is not entirely the result of conditions of growth, however, may be gathered from the statement made a few years age by Forst-Meister Punnebaum, in his account of his North American tour. He states that this tree does not possess a particularly cylindrical stem, and is apt to exhibit a spiral growth. Again, in a more recent paper by Forst-Assessor Bohm, on Investigations on the Timber of North American species grown in Germany, while admitting that the timber is durable in spite of its extreme lightness, the author considers that its use is excluded for all purposes where hardness is necessary, and that it does not give any promise of proving more valuable than indigenous species.

In the paper contributed by Dr. Somerville to the Congress of Forestry in Vienna last year, the dimensions are given of two specimens of Thuya gigantea 40 and 42 years of age respectively. The former is 52 feet in height, and 7 feet 8 inches in girth at 4 feet 6 inches from ground, and the latter 69 feet, and 7 feet 4 inches in height and girth. The growth of the former is not remarkable, but that of the latter is fairly satisfactory, being practically an average of 2 feet per annum. But as bearing out to some extent my belief that the tree is not likely to be a long-liver in this country, the fact may be mentioned that this same tree was 65 feet in height in 1891, and therefore has only added 4 feet to its height in twelve years. But the worst feature of these particular measurements is that of the smallness of girth. About 7 feet in girth at 4 feet 6 inches from the ground would not be amiss in a tree with a cylindrical bole, but in one which drops off rapidly as it ascends it cannot be considered a fast growth compared with Douglas' Fir or other species which drop off comparatively

little. I do not know of any tree in this country which would contain, by the ordinary method of timber measuring, more than 25 cubic feet of timber, which, at forty years of age, falls a long way behind many Conifers grown in the open, although it may be a fair growth for trees in a close wood.

With regard to Cupressus Lawsoniana and Thuiopsis borealis, present appearances are still more doubtful of their ever becoming more than ornamental trees with us; although, should that only be the case, this country is the gainer by their introduction.

With "F. R. S.," I agree that the Larch, given the right soil and situation, is the only tree that Is this variety as productive as Lee's Prolific and Champion, which are considered here to be the two best varieties? Black Naples seldom sets a crop of fruit, seeming to be deficient in pollen. John Charlton & Sons, Rochester, N.Y., U.S.

MARKET NOTES.

COVENT GARDEN FLOWER MARKET.

During the previous week trade revived a little, yet the market still presents a rather dull appearance. On Saturday there was a large increase in the supply of Daffodils; the Spur and bicolor sections being very plentiful



Fig. 30.—LEMONS IN LADY PLOWDEN'S GARDEN, ASTON ROWANT. (SEE P. 78.)

can show good returns within a period of thirty or forty years. But to state that it is the only tree worth growing is, as you remark, a little too sweeping, unless qualified by some such proviso as that above. A. S. Forbes.

FOREIGN CORRESPONDENCE.

BLACK CURRANTS.

Boskoop "Mammoth" Black Currant.—In the Gardeners' Chronicle for August 29, 1903, was a communication from Mr. Harrison Weir, speaking highly of this variety, as being superior to all the other Black Currants. Would some of the market growers and others, if they can, give us some information of their experience with it?

also Narcissus Telemonius plenus and the polyanthus Narcissus. The very large importations of paper-white bring down the price of Englishgrown flowers of this variety. Hyacinths, chiefly whites and pinks, grown three in a pot, are now very good, and make about 12s. per dozen. There are very fine Tulips coming in; for those grown and sold in boxes the highest prices would hardly average 1s. per dozen for the best blooms. Good Indian Azaleas, mostly white, make from 2s. 6d. to 3s. 6d. each. More growers are now bringing in Cyclamen, but the best still maintain a good price.

Pot Chrysauthemums are nearly past, but cut blooms were plentiful, though rather high prices were asked for flowers of good quality. Erica hyemalis is still abundant, the prices ranging from 8s. to 15s. per dozen. There are some of good quality, but others are past their best. White Margnerites continue to come in, though they are not quite so plentiful. Begonia Gloire de Lorraine and its varieties may be said to have become thoroughly established as market plants. Several growers continue to bring in good plants, and there are very pretty small plants. Cyclamen, Heaths, and Primulas are among those which may be seen in 3-inch pots almost every market morning, and are popular.

Of Orchid flowers, Cypripediums and Dendrobiums are most plentiful; Odontoglossums are rather scarce. Some fine Pancratium blooms were seen on Saturday, the price asked being 3s. 6d. per dozen; white Camellias are plentiful, also Azalea. Callas are seen everywhere; Lilium longiflorum and L. speciosum are fairly plentiful. White flowers are much more abundant than those of good, bright colours. During the week red Roses were very scarce, and all good Roses command high prices. Carnations continue to make high prices. There are now a few good Malmaisons to be seen. The supply of hardy green foliage is plentiful, but is chiefly confined to Berberis Mahonia and Ivy; this may be had in long trails with the beautiful bronzy leavesthe small, bronzy leaves which are now so much used in sprays and button-hole bouquets; also the short, thick shoots of the Tree-Ivy. Hardy Ferns are good; Polystichum angulare, Blechnum spicant, and Polypodium vulgare all being plentiful. Good green Moss may also be had. A. H., January 23.

THE PUBLIC PARKS IN LEEDS.

[See Supplementary Illustration.]

The whole of the parks and open spaces of this city, comprising an area of 1,200 acres, are under the supervision of Mr. Arthur J. Allsop, who, during the few years he has filled this position, has spared no effort to produce in the city parks the best effects of modern horticulture. That he has succeeded is clearly proved by the general appreciation of the public of the work Mr. Allsop has carried out, and he has justly gained a very high local reputation for his originality in designing flower-beds.

The Property Committee, under the presidency of Councillor Boston, are a progressive body, and thorough enthusiasts in horticulture. The city is exceedingly fortunate in possessing such public parks as Roundhay and Potternewton, which have very favourable positions. The official Handbook or Parks Guide, by Mr. Allsop, is an ideal one to help the visitor to see the most interesting features in the parks, and to know something of their history. I am indebted to the author for permission to copy historical information.

ROUNDHAY.

Roundhay is undoubtedly one of the finest public parks in the Kingdom. It became Corporation property in 1868, at a cost of £139,000; was formally opened September 19, 1872, by H.R.H. the Duke of Connaught in the name of Her late Majesty Queen Victoria. The Copper Beech which flourishes near the mansion was planted to commemorate this event. The present park comprises an area of 370 acres of greensward, timber, and water, and is sufficiently remote from the city to avoid the deleterious effects of its pall of smoke. The name Roundhay (Rundhaeg) implies a round enclosure, and is derived from Anglo-Saxon days. There is no mention of Roundhay in Doomsday Book, but it is stated that King John with his retinue visited Roundhay in 1212 and spent three days hunting. Prior to this, in the reign of King Henry II., a charter was granted by Robert de Laci, Earl of Lincoln, giving rights of timber and pasturage at 'Rundhaea" to the monks at Kirkstall. Coming to more recent years, the estate part of the ancient manor of Roundhay, 770 acres in all, was purchased in 1804 by Mr. Thos. Nicholson, of Chapel-Allerton, a London banker, and by him was laid out as a park.

The mansion, at present licensed as a refreshment-house, is a building of pseudo-classical appearance, and stands at an elevation of 400 feet. From its position and size it derives a certain amount of dignity; but its stone is weathered to a sombre tint, and seems to wear a sullen look, as if resentful of its fall from the position of a

are the paths that meander round the lakes or along the gorge, or lead boldly up to the mansion.

With such beautifully-kept pleasure-grounds and valuable landscape, one may venture to hope that in the near future the mansion may be transformed into a museum, which would be more in keeping with its surroundings.

The numerous flower-beds and borders are fine examples of the skilful taste as well as the originality and ability of the superintendent. The old formal stereotyped methods of flower-bedding these form an attractive addition to the flower-garden during autumn.

Apart from the many floral attractions of the Park are the canal gardens, which form a chief centre of interest to the horticulturist. Near the entrance is a selected stock of Roses, all correctly named, planted in 1901, and furnish a floral picture which cannot fail to command the appreciation of the public.

The herbaceous gardens are well worth the attention of the visitor. Here are to he seen some good varieties of perennials, grown prin-



Fig. 31.—orange-house in messrs. rivers' nursery. (see p. 78.)

family residence to its present democratic use. More of the beauties of the park are due to the handiwork of the landscape gardener. The magnificent lake, which forms such a factor in most aspects of the park, owes its origin to the skilful designer, Mr. Thos. Nicholson. The task of making the lake occupied two years, and was completed in 1815, about the time of the Battle of Waterloo, from which it received its present name of Waterloo lake. The waterfall is a cascade of some 60 feet. The ivy-clad ruins, which wear an air of antiquity, the rustic building dubbed the "Hermitage," are no less he handiwork of the landscape gardener than

have been entirely superseded by a more artistic and natural one of massing together suitable flowering plants, but interspersing them with some well-grown plants of a sub-tropical character.

At Roundhay Fuchsias are a great feature; the colour and general effect of the variety Wave of Life are seen to perfection; other varieties are also used, principally Rose of Castile and Marinka, with suitable varieties of Violas as groundwork, including marginata, Queen Victoria, and Duchess of Sutherland. Scarlet bedding Begonias form a magnificent display, and are very attractive. Several beds were well filled last summer with Hyacinthus candicans;

cipally for stock. Sweet Peas are well cultivated. The most attractive display is to be found in the show-house, which is the principal of twelve glasshouses. Throughout the year are to be seen most attractive displays of various plants.

The drinking fountain presented to Roundhay by Sir John Barran is a piece of work, of which the city is justly proud. To addit more to the educational value of the park, all specimens of trees, shrubs, and flowers are distinctly labelled, as far as possible giving, in addition to the Latin generic and specific names, the common English ones.

POTTERNEWTON PARK.

This magnificent Park is one of the Corporation's latest acquisitions. Purchased from R. B. Jovitt, Esq., in 1901, it has a very pretty parklike character, with a creeper-clad mansion. The purity of the air and its pleasant surroundings add much to its value as a public park, its area being 27 acres. There are some finely developed specimens of timber, Beech, Ash, and Elm being well represented.

A charming and interesting addition was made to this park about a year ago in the nature of an alpine rockery. Already a number of the less exacting denizens of the Alpine regions have found a local habitation in a suitable position near the mansion.

Sempervivums and Sedums, the succulent representatives of the higher slopes, and minute imitators of the tropical Aloes of Southern lands, hardy Saxifrages and Drabas, Primulas and Ericas, are with many other varieties now well established. The rockery is made of rough stone found in the neighbourhood, laid in imitation of the stratification of natural rocks, with suitable crevices and pockets, and sheltered nooks to suit the varying requirements of the different species. There are also some very fine examples of semi-subtropical flower-beds; these have been cut out of the grass with an irregular outline, which gives the flower-beds a more natural character.

In a suitable position on the lawn near the mansion there was a flower-bed last season representing a half-unrolled piece of carpet; this is a carpet-bed in a double sense, and is quite as novel as it is attractive. On the south side of the mansion is a very pretty Antirrhinum garden, studded with well-developed specimens of standard Bays, the whole of which forms an attractive addition to the mansion. C.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Raspberries.—If the canes that fruited last year were cut away after the fruits were gathered, and the young canes then growing were thinned out, these canes may now need a little further thinning, so that they may not be crowded after training has been done. Although there are various methods of training the Raspberry, I prefer to have them in rows 6 feet apart, wires being stretched from end to end and made secure to stout posts sunk well into the ground at either end, being further supported at intervals along the rows with stout stakes. The fruiting canes should be trained at 6 inches apart. The ground amongst: Raspberries should not be dug, as the roots are, or should be, very close to the surface. A good top-dressing and a mulching of manure should be applied annually. If this has not yet been done, but training is completed, scrape off the manure put on last year and a portion of the surface soil to the middle of the alley, and then dig this into the centre; top-dress with good loam and wood-ashes, and cover with a dressing of well-decayed farmyard manure, but rather less if the soil is rich or heavy. There is yet ample time to make fresh plantations. The land should be well trenched and heavily manured, and given some time to get settled before planting. The variety Superlative is first-rate. There are two methods of increasing stock—first by planting one-year-old canes, and secondly by planting young green suckers when about 6 inches high. If young green suckers when about 6 inches high. If young green suckers are planted, and supplied afterwards with sufficient water, some capital fruiting canes will be produced by the end of the growing season.

General work. — Take advantage of frosty enornings to get manure, &c., wheeled to any of the fruit quarters where it will be needed. Any grubbing to be done should be proceeded with when other work is more or less at a standstill. Burn prunings, &c., also rough loamy soil

and other rubbish, so that wood-ashes may be available for use as top-dressings. Get plenty of shreds in readiness for Peach, Nectarine, and any other wall-fruit tree training which still remains to be done. See to the labels upon fruit-trees, and renew them when necessary.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir Trevon LAWRENCE, Bart., Burford, Dorking.

Neottia picta.—Amongst the plants in flower in the intermediate - house Neottia (Spiranthes) picta is conspicuously attractive. It has broad spotted leaves and erect spikes about 2 feet high, with numerous coral-red bracts and paler-coloured flowers. The plant may be easily cultivated, and ought to be added to an Orchid collection if possible. Put the plant into large well-drained pots, and use a compost consisting of fibrous loam with leaf-soil and coarse silver-sand. When the plants are growing abundance of water may be given, and, after the flowers fade, the plant will



MR. A. J. ALLSOP, SUPERINTENDENT OF THE PUBLIC PARKS, LEEDS, (See p. 68 and Supplementary Illustration.)

take a very short rest; but do not permit the compost to become too dry even then. N. picta will thrive luxuriantly if placed with such plants as Miltonia vexillaria.

Epidendrum ciliare is generally despised, but when seen with half-a-dozen good spikes carrying about fifty greenish-white flowers, it is an effective object. The flowers emit a powerful perfume at night, and last a very long time, in good condition. This species succeeds best with Cattleyas and Lælias, and should be treated in the manner generally advised for those species. Several hybrids obtained from E. ciliare, as Epi-Lælia Wallisii-ciliare, Epi-Lælia Eros, &c. are pretty and interesting.

Sophronitis grandiflora.—Nearly all the hybrids obtained from this Orchid should be in select collections. At the present time some of them, as Sophro-Cattleya Calypso, S.-C. Chamberlainiana, S.-C. eximia, Sophro-Lælia Marriottiana, S.-L. heatonensis, and S.-L. Psyche, are starting to grow, and it is a good time to repot them. Pot them in a mixture of fibrous peat, moss, and leaf-soil in about equal parts, with a top-dressing of clean picked sphagnum-moss, never thoroughly soaking the plants, or the roots will be liable to decay; hut instead, frequently moisten the surface-moss through a fine sprayer, and thus keep the moss in a growing condition. After being repotted suspend the plants near to the roof-glass at the coolest end of the intermediate-

house, and where they may be conveniently shaded from strong sunshine at all times.

Two pretty and distinct Orchids from Central America, Miltonia Endresii and Epidendrum Endresii, are in flower; the former species grows well under the same conditions as M. vexillaria. Epidendrum Endresii should be grown in the same house; but unfortunately it is a plant seldom seen in good health, the principal cause being, as I believe, that the stems and leaves are attacked by a species of red-spider. To remedy this we dip the foliage into tepid rain-water every day during winter, twice or thrice each day in summer; and about once a month each stem and leaf is carefully sponged. The same remarks also apply to such hybrids as Epidendrum Endresio-Wallisii, E. Clarissa, E. elegantulum, and E. e. leucochilum.

Plants of Epidendrum Stamfordinum now showing their flower-spikes should be stood or suspended well up to the roof-glass in strong sunlight, which will greatly assist their development. Afford water freely until the flowers open.

Masdevallias.—Afford more root-room to all Chimeroid Masdevallias, as M. Chimera, M. Carderi, M. Houtteana, M. radiosa, M. bella, M. Backhouseiana, M. stupenda, M. trinema (Lowii), M. erythrochete, M. Gaskelliana, and M. Winniana. These plants should be grown in shallow teak-wood baskets, and as the flowers are generally produced in a downward direction no crocks should be used, but a few pieces of Fern-rhizome may be placed across the bottom of the basket merely to prevent the potting material from falling through. Let the compost consist of peat, sphagnunu-moss, and leaf-soil in equal parts, adding a little coarse silver-sand during the potting process. Avoid pressing the soil too tightly about the roots. Masdevallias of this section should be kept a trifle warmer during winter than other Masdevallias. A cool position in the intermediate-house will suit them, but as the days lengthen and the weather becomes warmer remove them to the cool-house. Abundance of root-moisture is always necessary, and the plants must be shaded from direct sunshine. To keep the foliage clean, and free from red-spider and other insects, it is good practice to syringe the under sides of the leaves at least once each day.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Differences in locality.—Knowing how climate, soil, and the situation of gardens vary in different localities, those who read a calendar of outdoor operations should consider their own conditions before carrying out the work recommended to be done, postponing it if necessary for a week or more if needful during the early spring months. To show young men why this may be necessary, I may state that we are situated on a hill, and there is more than a week of difference in vegetation here and that in the valley below (only 3 miles away); I have seen the Chestnuts in full leaf there when the buds upon ours were but bursting. At Torquay (Devonshire) I have seen tender plants put out in the last week in February and flourishing without protection, whilst I have had to protect similar plants from a July frost in Dumfriesshire. Do not get on to the ground to plant or sow while it is in a wet condition and likely to bind together after being trodden.

Shallots.—Plant these in well-prepared ground, in lines 1 foot apart and 5 inches between the bulbs in the line. Garlic, where in demand, may be treated in a similar way.

Chives.—If this hardy old favourite is in the garden at all, it is most likely in some out-of-the-way corner, yet there is nothing more useful for salads and for flavouring. It may be easily forced, and one can cut-and-come-again. By some cooks it is preferred to young Onions Plant now in lines 1 foot apart, and leave 6 inches between the plants in the line, or they may be planted on the edges of alleys.

Horseradish.—Make fresh plantations on well-trenched ground, using roots 1 foot or more in

length. Dibble them in in double lines 9 inches either way, and 18 inches between the double lines.

Peas.—On a border with a southern aspect, in light soil, sow the varieties William I., Ringleader, and Early Sunrise; also some of the newer sorts, as Oxonian and Gradus. Sow the seed in lines a similar distance assunder as the Peas will be in height, and for these early crops smooth over the ground in the line, making a depression 1 inch deep for the seeds, and cover with the soil from the sides, finishing with a light layer of fine ashes over all. The seeds being thus placed above the water-level will not be so likely to rot.

Broad Beans. — Sow the varieties Mazagau, Johnson's Longpod, or Green Windsor, in rich, light soil, on a border facing south.

Forcing French Beans.—Sow the variety Fulmer's Forcing for succession. Assist those now cropping with manure-water. A temperature of 60° to 65° with a buoyant atmosphere is best for these; higher temperatures encourage red-spider and thrip.

Cucumbers. — Sow the varieties Telegraph or Tender-and-True in 3-inch pots three-parts filled with damp fibrous loam. Press two seeds, putting, the long pointed end downwards, into each pot. Cover the seeds slightly, and place the pots in a hed having a temperature of 70° to 75°. Afford no water until the seeds have germinated, unless needful, the seeds being liable to rot if kept too wet.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

The Early Vincry.—It will now be necessary to give close attention to the stopping and tying of shoots. The best practice where space will admit is to stop shoots at two joints above the flower. Remove all laterals below the bunch, but retain the two that will grow from above, stopping them after the first leaf. Close stopping is not good practice, and does not encourage root activity, but the extension system must not be adopted, if there is not sufficient space to do so except at the expense of the principal foliage, which should be fully exposed to the light. Let the temperature at night be 60°, falling 5° if the weather be very cold. Look after the fires early each morning that the temperature may be raised to 70°, and this may increase afterwards by sunheat to 80°.

Early Peaches.—The pollination of the flowers is important at this stage. Let there be a slight rise in the temperature to secure a free circulation of warm air, and the pollen being thus matured, it will be easy to pollinate the flowers by the use of a camel's-hair brush at noon each day. The temperature at night should be 55°, with a corresponding rise by day. Damp the surfaces in the house occasionally; we never syringe until the fruits are well set and visible, and the blooms have nearly disappeared. The border having been watered and mulched with stable droppings previous to the Peach trees being started, we do not afford much at this stage.

Muscat Vines.—The house or houses devoted to the variety Muscat of Alexandria, from which ripe Grapes are expected early in August, should be prepared for starting. Thoroughly cleanse all wood-work and glass; lime-wash the walls, where this is the practice, with newly-slaked lime, to which may be added flowers-of-sulphur. The walls here being of cement, we simply wash them with paraffin and water. The treatment of the Vines themselves should depend upon their condition. If they are infested with mealy-bug, remove all loose outer bark, and thoroughly wash the rods with warnu water and soft-soap, repeating this operation before the buds burst into growth. The brush we have found the most suitable for this purpose is what is termed a pantry or sink-brush, about 4½ inches long by 2 inches wide, and made of the best material. Stop all holes with Gishurst Compound. Muscat Vines delight in a moderately heavy and firm soil, which should be kept in a porous condition by sufficient quantities of charcoal,

lime-rubble, broken bricks, and \(\frac{1}{2} \)-inch bones, to which may be added wood-ashes [supplying potash] and vine-manure. All inside borders here are managed as described in the calendar last week, and in the case of the moderately free-rooting variety Muscat of Alexandria, the treatment is visibly satisfactory. All vines being pruned before Christmas, we bend no rods with the object of securing a more even "break." We use no fermenting materials on the borders, but rely upon mulchings from the stables used in moderate quantities. Allow no traffic on the borders after the addition of the whole turves considered necessary, and the firming of these by treading has been done. The supply of Muscat Grapes will finish here by the beginning of February. They have kept well, although we scarcely expected them to do so after the sunless season of 1903, with a rainfall here of 39.59 inches.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Roses.-Although Roses are best planted in November before the ground is extremely cold, it is sometimes necessary, on wet, clayey soils, to postpone the operation until the soil is in a better condition for being worked. Roses should be ordered in early autumn, as "first come, first served." Any beds or borders that planted next month, or when the soil becomes moderately dry, should be prepared at once to allow the soil to settle. Trench the ground not less than 2 feet deep; if the soil is of a heavy nature freely mix with it some manure from the stable, but if the ground be light or sandy use cowmanure instead, and if clearings from a pond that have been laid up for a few months are available, mix in this material also, using a quantity of \(\frac{1}{2}\)-inch bones and bone-meal. The best effect will be obtained by planting one variety only in each bed, putting the plants 2 feet apart if strong growers, and 18 inches apart if less vigorous. Choose a dull quiet day for planting, so that the roots may not suffer from the wind. If these are at all dry dip them in water. Any broken roots should be cut back cleanly with a sharp knife, and long shoots also may be shortened. Insert the plants to such a depth that the point at which they were budded will be several inches below the surface of the soil, and they will eventually make roots from the scion. Where there are beds of old plants that have been top-dressed occasionally, branches will be found to have taken root. If the plants require more room such branches may be severed with a sharp knife, and planted at once in a fresh bed. Mulch all the beds as soon as they have been planted. Afford Teas and other tender varieties some protection from cold winds. Standard Roses look best when planted in the same bed with dwarfs, provided they are needed, and they should be of the same variety. Place stakes or other supports in the ground previous to planting. In cases of Tea varieties place a little dry bracken between the branches, and tie up securely. Climbing Roses being pruned less severely require more root-room. Dig holes 3 feet wide and 2 feet deep, especially if the soil is not suitable for Roses, and plant in fresh soil. Secure the plants to the wall or trellis as soon as If there is a large iron trellis to be covered, black Bamboos wired on to the trellis 12 inches apart square will be a great help to the plants. They are warmer in winter and cooler in summer than the iron, and the Roses will not be so liable to canker if they get rubbed or blown about by the wind.

Bedding Pelargoniums.—If there is insufficient stock, cuttings may be taken now. Where it is possible to have a thumb-pot for each cutting, this system is best; as an alternative, put several cuttings around the sides of a larger pot. Do not use boxes at this late date. Pot the cuttings on when they have rooted. Do not cut the plants below all appearance of growth, but any that will not afford a cutting may be stopped. They will all be ready to pot-on next month. Do not stop a plant and repot it at the same time. Old plants that were lifted last autumn may be afforded heat if it is necessary to have cuttings from these.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Herbaceous Calccolarias .- It is essential that these plants be afforded a position near the roofglass in a cool and moist atmosphere, where they may make steady and hardy growth. Such a position is found in a low pit provided with a hotwater pipe, into which heat may be turned when water pipe, into which heat may be turned when necessary. Let the night temperature be from 38° to 45°, according to the weather, and afford ventilation when the temperature of the pit reaches 40°, increasing the quantity as the temperature rises, otherwise the growth will be flabby, and will droop with the advent of the brighter days and drighter days and drighter days are discontinuous. brighter days and drier atmosphere of spring. Examine the under sides of the leaves frequently for green-fly, and if necessary fumigate the pit. The repotting of the plants should be so ordered that they will be kept steadily growing, neither performing those operations too soon, which would result in the plants being ultimately overpotted, nor delaying them too long, which would entail the loss of the bottom leaves, and cause the flower-spikes to appear prematurely. A suitable compost for Calceolariss may consist of three-parts loam and one-part rotten manurefrom an old hot-bed, with some coarse silver-sand. If extra-large plants are required, the flower-stems should be removed as soon as they appear, and the plants given a shift into larger pots. In the case of etrongly-grown plants an 8-inch pot will not be too large for the final potting; useful decorative plants may be grown in 6-inch

Richardia Elliottiana. - Tubers which have been well rested and are showing signs of starting into growth should be repotted, affording them a compost of two parts loam, one part peat, and one of leaf-soil, together with sufficient silversand to keep the soil open. Half fill the pots with soil, and upon this place the tuber, and after surrounding it with a little silver-sand, add the remainder of the soil, taking care to keep the top of the tuber well below the surface. Place the pots in a temperature of from 55° to 60°. and afford water sparingly until the roots reach and allord water sparingly than the roots reach the sides of the pots. When growing freely the plants require plenty of water at the root, with manure-water occasionally. When in bloom the flowers will remain much longer in perfection if the plants are removed to a cooler house. As soon as growth is complete and the foliage turns yellow, decrease the supply of water gradually until it ceases altogether. During the winter the pots containing the dormant tubers may be laid on their sides under the greenhouse stage, or placed in any dry structure from which frost is excluded. Those who wish to raise seedlings should sow the seed with as little delay as possible. The seeds may either be placed singly in 60-size pots or sown in 48's, using plenty of drainage, and filling the pots to within an inch of the rim with a finely-sifted compost of threeparts loam, one part leaf-soil, and plenty of sand. Cover the seeds with half-an-inch of soil; afford the soil a good watering, and plunge the pots in the propagating pit. Germination will take placein about a month.

Winter-blooming Begonias.—As fast as plants of Gloire de Lorraine and Turnford Hall pass out of bloom, they should be cut back to within 4 or 5 inches of the soil. This gets rid of the useless flower-stems and encourages the production of young shoots from the base of the plants for propagation. The supply of water to the roots must be reduced until signs of new growth appear. The same remark also applies to the varieties Ensign, Mrs. Heal, Winter Cheer, &c. Begonia Gloire de Sceaux is still in full flower; Begonia Socotrana will shortly go to rest, when it should be placed on a shelf in a stove temperature and be kept quite dry at the root till midsumer.

THE FRUIT CROPS in Belgium last year were as deficient as they were here. Pomological exhibitions and pomological studies were alike restricted to their lowest limits. The Pear Admiral Cecile succeeded in ripening its fruits in spite of adverse conditions.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR. 41, Wellington Street, Covent Garden, London. Communications should be WEITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Newspapers. — Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Special Notice to Correspondents .- The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News .- Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Appointments for February.

Birmingham Gardeners' Mu-

MONDAY,	meet.
TUESDAY,	$\mathbf{F}_{\mathbf{EB},-2}$ Senttish Horticultural Association meet.
THURSDAY,	FER. 4-Linnean Society meet.
SATURDAY,	FEB. 6 Société Française d'Horticul- ture de Londres meet. German Gardeners' Club meet.
MONDAY,	FEB. 8 United Horticultural Benevo- lent and Provident Society's Committee meet.
TUESDAY,	FEB. 9 Royal Horticultural Society's Committees meet and Annual Meeting of Fellows.
FRIDAY,	FEB 12 Royal Gardeners' Orphan Fund, Annual Meeting and Election of Pensioners.
MONDAY,	FEB. 15 Birmingham Gardeners' Mutual Improvement Society meet.
THURSDAY,	FEB. 18 Lipnean Society meet. Brighton Horticultural Society meet.
SATURDAY,	FEB, 20 - German Gardeners' Club.
TUESDAY,	FEB. 23 Royal Horticultural Society's Committees meet.
FRIDAY,	FEB. 26 Royal Botanic Society's General Meeting.
MONDAY,	FEB. 29 Birmingham Gardeners' Mu- tual Improvement Society meet.

SALES FOR THE WEEK,

MONDAY AND FRIDAY NEXT—
Hardy Border Planta Perennials, Azaleas, Roses,
Lilies, &c., at 67 & 68, Cheapside, E.C., by Protheroe
& Morris, at 12.
TUE3DAY NEXT—

TUESDAY NEXT—
sale of Nursery Stock at The Royal Berkshire Nursery, Maidenhead, by order of Mr. E. F. Such, by Protheroe & Morris, at 12.

WEDNESDAY, FEBRUARY 3—
At Stevens' Rooms, at 12 30, Roses, Azaleas Rhododendrons, Begonias, Gioxinias, Carnations, Fruit Trees, &c.—Azaleas, Rhododendrons, Palms, Roses, Hardy Bulba and Plants, Perennials, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12—
Consignment of Japanese Litiums, Palms, Seeds, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 3

FRIDAY NEXT—
Imported and Eatablished Orchids, at 67 and 68,

Imported and Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chlawick

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ACTUAL TEMPERATURES:-

London.—Jan. 27 (6 p.m.): Max. 51°; Min. 48°.

Jan. 28 (noon): Dull, wet, mild.

Provinces. — Jan. 27 (6 p.m.): Max. 49', Dover;

Min. 42', N.E. Scotland.

WE extract from a private letter certain remarks appli-Progress. cable to the country at large,

and specially to the Royal Horticultural Society at this juncture. The writer is a man of eminence, who made his mark in the scientific world here before he migrated to the United States. He is familiar with

the conditions, horticultural and botanical, on both sides of the Atlantic, and, as will be seen, he strenuously backs up the injunction which the Prince of Wales brought as the result of his observation in his tour throughout the Colonies, to the effect that if we are to hold our own, not to say to make progress, we must "wake up":-

"I read lately your vigorous statement regarding the necessity for immediate action and liberal contribution toward the fund for an experimental garden, as well as for the new horticultural hall. The next work I took up was Galloway's Report on the progress of the Agricultural Department here, and the different lines of investigation and experiment now being pursued under direct supervision of the Department.

"Naturally, I could not refrain from making comparison of the two outlooks, even though 'comparisons are' supposed to be odious.' The outcome of the comparison was my resolve. My letter, I am sure, will not be a growl over 'decadent Britain,' for I still love and believe in my country as of old. But possibly a few statements from me, who have seen and can compare both countries and their methods, may encourage you to continue in your work of hammering truth into the minds of those you reach by the Gardeners' Chronicle. A motto often repeated-and neededhere is, 'Eternal vigilance is the price we pay for liberty.' A motto for the much more honest but sluggish old country needs to be, 'Eternal agitation is the only agent for advancement.'

"Needless to say, I read Sir Norman Lockyer's British Association address with the highest satisfaction; and just last night, in glancing over a home paper, I noted that a few Press representatives are still inclined to depreciate, fewer to 'pooh-pooh,' but, mostly-and herein is consolation—to praise.

"With the fairly accurate knowledge I have of the development going on in American universities and colleges, I would emphatically say that at least Sir Norman Lockyer's programme has to be worked out, and that within a short space of time, if Britain is not to decay.

"To cite from our own university, which is nearest to my thoughts, buildings are proceeding at present which will be all finished at different times within the next eighteen months, and whose cost will be about 2,000,000 dols., all contributed from private sources. When I joined the university a dozen years ago there were fourteen buildings; now there are thirty-one, including some of the largest buildings anywhere extant, for library, law, museum, hygiene, medicine, physics, chemistry, engineering, dentistry, &c. They now cover an area of about 60 acres.

"This advance, however, is being equally, or more than duplicated at Harvard, Yale, Cornell, Columbia (N.Y.), Chicago, Stanford, and half-adozen other centres. To be quite honest and plain, much of it comes from continuous exercise of what some would generously call healthy competition, but which others might designate by harder terms. Still, the great result is that genuine education advances by leaps and bounds.

"Fully two years ago I was also fairly impressed with the development going on in many of the German, Swiss, and (to a much less degree) French universities. Sir NORMAN LOCKYER'S proposition, then, is not only sane at the present time—it is necessitous for England.

"A colleague of mine who visited London lately was disappointed with 'the whole outfit,' as they say here. A week or two ago he described to me some of the makeshifts used in laboratory work in one of the London colleges. Now, while the good worker will always manage to evolve his tools, and while fine results can often be got from simple apparatus, as Wollaston and DARWIN showed, Americans are coming to

believe so much—and rightly so—in accurate, handy, and even sumptuous equipment, that only the best satisfies. My friend then slipped over to Germany, and spent most of the time there. 'But,' he exclaimed, 'they can't teach us much, and we can easily excel them when we want to.' This is one illustration of a good many such that have come directly under my acquaintance.

"Now you may ask what are some of the methods that enable rapid advance to go on here. It always seems to me that, contrary though it may appear to the spirit of the 'cute Yankees, they adopt the good old Cromwellian motto, 'Trust in Providence and keep your powder dry. And mark, the latter is not the bit of the motto that bulks most largely. They practise the former by always affirming-and I have had manifold experience of the truth of it-that a good cause will command support if vigorously commended.

"Let me give you a little of the inside history of our small Botanic Garden, which I started eight years ago. It covers nearly 5 acres around our department, and was a dump-heap at that time. We now have eleven greenhouses, abundant vegetation and vistas outside, rich groups of plants, and ponds with aquatics, &c. As a start, our Provost secured 3,000 dols. from university friends, and he-a wealthy man-gave nearly the same amount, so that within three years we had six houses and a good beginning of a garden. Seven years ago I organised a Botanical Society, which attracted many plant-lovers, who became sympathetic friends. We hold weekly meetings, with attendances of 30 to 120, and from some of them the greater part of the money needed for annual support as well as many of the plants have come.

"Our annual garden expenses are about 3,000 dols.; of this amount our Provost kindly undertook to secure donations to the extent of 1,000 dols.; the rest I get by faith and works. Yearly one of our lady members sends me an unsolicited cheque for 850 to 1,000 dols.; yesterday one of them sent one for 20 dols. as a small New Year's gift. When such or the annual fees run out, I 'have to hustle' and beg for what does not come voluntarily; but many of those who are thus begged from develop into our warmest helpers, for they become sleeping partners, so to

"One of our members is an enthusiastic Orchid-grower, and gave us a collection of 230 species, while in his travels over the world he remembers us by a collection of 1,000 Japanese herbarium specimens at one time, a collection of living Sandwich Ferns at another, or of alpine plants from Norway at another. The financial side of it, it must be confessed, is at times worrying, alongside the abundant class work, organisation work, &c., that one has to carry forward; but even this will in time disappear, for one of our douce members has quietly made provision for 50,000 dols. being left to the garden after certain life-contingencies are fulfilled.

"Then, while the garden is being steadily evolved, we are already in possession of a fine botanical library of 5,000 volumes, herbarium, alcoholic preserves, lantern slides, &c., not to particularise superior instruments for all our microscopic and physiological class-work.

"The picture I give you here is essentially that now being worked out in most of the live institutions of this country, and only varies in minor details. The principle on which it proceeds, then, if I may put it in rather militant theological phraseology, is an aggressive trust in Providence and the generosity of the people.

"It would startle Old World University principals to be face to face with an annual deficit of 40,000 to 60,000 dols., but here such is little thought of, for the people are soon persuaded to make it good.

"The principle I have tried to put into words above seems to be what you are emphasising for the Royal Horticultural Society's hall and garden; and persistent effort will surely bring the result. It seems to me that Britons must more and more cease to roll up broad acres into estates that they selfishly keep within themselves, and to invest cash in foreign securities which they could more patriotically and with equal good to their children invest in building up the country's institutions. Not that the Government should be allowed to escape its full share of supporting and extending these. But when taxes fall so heavily, as they now do, on the less wealthy classes, the rich should step in and do the work. You chronicle Lady This and Sir That joining the Royal Horticultural Society. Well and good; but it would be much better if the chronicle recorded that they showed their sympathy in the form of guineas.

"I trust, therefore, that you will steadily and on no uncertain voice proclaim the need for private liberality, as well as, with Lockyer and others, Government support for British institutions. Both are needed, and by persistent effort both will come.

"This is a long yarn, but I trust you will not regard it as an impertinent one. Britain and America have much to be thankful for, but both have many problems that need earnest effort and self-denying spirit. My aim in writing you as above has been to encourage you in your vigorous stand."

LINNEAN SOCIETY.—The next meeting will take place on Thursday, February 4, 1904, at S.P.M., when the following papers will be read:—
1, "Account of Researches in the Physiology of Yeast," by Prof. Sydney H. Vines, P.L.S., F.R.S., &c.; 2, "Further Researches on the Specialisation of Parasitism in the Erysiphacee," by E. S. Salmon, F.L.S., &c.

VEITCH MEMORIAL FUND.—At the annual meeting of the trustees, held on January 26, it was decided to offer the large Silver Medal for distinguished service to horticulture to Sir Thomas Hanbury, K.C.V.O., for valuable services to horticulture in general, and in appreciation of his munificent gift of the garden and estate at Wisley to the Royal Horticultural Society; and a similar Medal to Professor Daniel, of Rennes, in recognition of the valuable results obtained by his experimental researches on grafting. It was also decided to make a grant of £25 to the Lindley Library.

REV. H. H. D'OMBRAIN.—The Journal of Horticulture for the 7th inst. contains once more a "New Year's Message," sent by the veteran florist whose name heads this paragraph. For how many years a similar message has been sent we do not care to recall, suffice it to say that in his eighty-sixth year the message comes to us as distinctly cheery and encouraging. Brain-power and memory are reported to be as good as ever, and it is clear that though sight may be dimmed age has not dulled sympathy. For him, as for others, the charms of the garden, and the entrancing interest of the plants in it, have constituted a solace and refreshment throughout life. So may it be to the end!

THE ACTION OF ETHER ON PLANTS.—
M. Maumené discusses this subject in the Revue Scientifique, t. xx., 1903). The use of ether in the forcing of plants, as has been stated in our columns, was first practised by Johannsen, of Copenhagen. By exposing in autumn branches of Willow and Potato tubers to the vapour of ether, they were immediately thrown into growth. Lilacs subjected to ether in summer lost their leaves, but were soon covered with new foliage and a profusion of bloom. By the methods now in use Lilacs can be brought into flower

much sooner than by ordinary means. Is there any acceleration of the stages of growth, or is the arrest of natural growth prevented? The phenomena can as yet be explained by hypotheses only.

THE SOUTH-EASTERN AGRICULTURAL COL-LEGE.—The Secretary informs us that a meeting of the Governors of the South-Eastern Agricultural College was held at the Westminster Palace Hotel on Monday, January 25, when there were present Earl Stanhope, Col. Holland, the Right Hon. Sir W. Hart-Dyke, M.P.; Prof. Liveing, F.R.S.; Dr. Clowes, and Messrs. G. Marsham, F. S. W. Cornwallis, J. Sayer, W. Ashcroft, J. A. Anderson, G. M. Arnold, W. Chambers, E. J. Halsey, W. Welch. On the motion of Earl Stanhope, Mr. E. J. Halsey (Chairman of the Surrey County Council) was elected chairman for the ninth time, and Mr. Geo. Marsham (Chairman of the Kent County Council) vice-chairman. The Principal (Mr. M. J. R. Dunstan) reported that seventy-four students were at the college, the highest number yet recorded, and the Governors adopted the recommendation for the establishment of a practical course of forestry instruction, which will include the planting up for demonstration purposes a considerable area of land, and the pure and mixed plantation of forest trees, and the provision of the necessary teaching staff.

THE ROYAL BOTANICAL GARDENS at Manchester are not flourishing. The receipts from all sources were lower than in the previous years, leaving an adverse balance on the year's working of £1,518. The total adverse balance now amounts to £9,722. The Society offered to transfer the gardens to the Stretford Council for £20,000, being anxious to preserve the open space from the builders. The ratepayers have refused to accept the offer.

THE NATIONAL POTATO SOCIETY, whose inauguration we chronicled a short time since, has set to work. At a committee meeting held on Saturday last, Mr. HALL, of Rothamsted, presided, and there was a good attendance (especially when the state of the weather is considered) of those interested in the subject. Various suggestions were made, but until these assume a definite form it would be premature to allude to them in detail. Suffice it to say that, among other things, it was resolved to have trials of certain selected varieties, say ten in number, in as many districts as possible, grown on experimental plots. Two plots, each of to acre, are, it is suggested, to be devoted to each of the varieties. The Secretary, Mr. W. P. WRIGHT, of Postling, Kent, to whom the Society owes its genesis, would be happy to receive the names of subscribers and also practical suggestions as to the best means of carrying out the objects of the

PRESENTATION TO MR. A. W. METCALFE.—
On the 19th inst., on the occasion of his leaving
Burghley Gardens, Stamford, Mr. Metcalfe was
presented with a handsome timepiece by the whole
of the garden staff. Mr. H. Turner (general
foreman) made the presentation, and expressed
the respect and esteem in which Mr. Metcalfe
was held by all present. After referring to the
many improvements in the gardens carried out
by Mr. Metcalfe, he expressed the wish of those
present for his success in his new appointment
at Luton Hoo.

POTATOS.—Mr. W. J. Malden, the late Principal of the Colonial College, Hollesley Bay, Suffolk, has published an illustrated account of some of the newer varieties likely to be most remunerative in the immediate future. Eldorado is reported to have produced from seventy-two plants raised from single eyes 436 lbs. of sound tubers. The good qualities of Sir John Llewelyn, Discovery, and Evergood are emphasised.

THE COMMITTEE UPON FRUIT CULTURE.—We are informed that the Departmental Committee of the Board of Agriculture and Fisheries appointed to enquire into and report upon the present position of fruit-culture in Great Britain, and to consider whether any further measures might with advantage be taken for its promotion and encouragement, held their preliminary meeting on Friday the 22nd inst. The method of procedure at future meetings and the nature of the evidence to be taken were discussed.

PROF. SARGENT.—It seems scarcely more than a few weeks since we had the pleasure to see our distinguished friend, and now we hear of him back in Boston after a tour of six months in Russia and Siberia, including the Crimea and parts of the Caucasus, the flora of which is described as enchanting. Twenty-eight days were passed in the train in traversing Siberia. In Manchuria it was observed that preparations for war were being quietly made by the Russians. In Korea large collections of plants were amassed, of which we may expect to hear more shortly. Japan, Java, Singapore, and other Malayan countries were also visited.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

—The annual meeting will take place on Monday,
February 1, at 7 P.M., in Carr's Restaurant, 265,
Strand. Mr. Chas. E. Shea, President, will
preside.

RAMIE - FIBRE (BŒHMERIA) is now being utilised in the manufacture of "mantles" for incandescent gas-burners in place of cotton.

JAPANESE LILIUMB AT THE SALE ROOMS .-Mr. A. HEMSLEY writes :- "On January 20 there was a very large consignment of the above sold at Messrs. PROTHEROE & MORRIS' auction rooms. There have been several sales previously, but they continue to attract large numbers of buyers. Among the buyers on the above date were several from long distances. Some of the bulbs offered were the largest I and others have seen. In the catalogue they were aptly described as "mammoth No exceptionally high prices were made, bulbs." unless it was for L. speciosum album; for bulbs of this there was lively competition, the largest being particularly in demand. In all other varieties it was the largest bulbs that attracted most attention. The medium-sized bulbs were bought in large quantities by market growers. Judging from these sales, it would appear that though the trade may be dull just now, growers anticipate a better time later on. American Pearl Tuberoses were sold in large quantities. In all there were upwards of 200,000 sold. These fetched about 26s. per 1,000. Palm-seeds sold well, especially Cocos Weddelliana and Kentia Belmoreana, but Kentia Forsteriana did not make quite such high prices, although the samples were very good. Lily of the Valley "Fortin's Giant" sold well at about double the prices made by the ordinary Berlin crowns."

CHRYSANTHEMUMS.—The new varieties raised by the Marquis de Pins, which have attracted so much attention in Paris, are to be distributed by MM. ANATOLE CORDIER ET FILS, of Bailleul (Nord), France.

SEED LIST.—We have received a copy of the list of seeds offered for exchange at the Botanic Garden, Cambridge. It is a very full and carefully compiled list, and is signed by the Curator, Mr. R. J. LYNCH.

CANKER IN RUBBER-TREES.—Mr. J. B. CARRUTHERS, lecturing on this subject in Ceylon, advises frequent inspection of the plantations, and the instant removal by the knife of diseased branches, destroying the affected branches by fire, and smearing the wound with sulphate of copper. The fungus (Nectria) is the same as

that which causes canker in Apple-trees. By inoculating healthy trees with the fungus Mr. Carruthers was able to prove the guilt of the fungus.

KEW NOTES.

Brownea Crawfordi X .- This plant is flowering freely in the Palm-house. It is a garden hybrid between B. grandiceps and B. macrophylla, and is by far the most floriferous of all the Browneas. Unfortunately, few gardens can afford the amount of head room required by this glorious plant in a hot-house. The specimen now in flower is some 25 feet high, with long spreading branches that cover a large area. The pinnate leaves ofttimes measure 2 feet in length, having nine pairs of large leaflets. The inflorescence is a dense terminal head, some 6 to 8 inches across, composed of from fifty to sixty bright-red flowers about $2\frac{1}{2}$ inches long; the stamens are of the same bright colour, and almost twice as long as the corolla, giving the ball-like inflorescence a feathery appearance. At the time of writing the plant carries fifteen heads of flower.

CLERODENDRON CEPHALANTHUM

is also flowering in the Palm-house. It is one of the many fine plants introduced from Zanzibar by Sir John Kirk, and was sent to Kew in 1886, and was figured in the Botanical Magazine, t. 7922. The plant now in flower is trained up the roof, and is a very vigorous grower after the blade has fallen away, climbing by means of the stout hooks formed by the hardened petioles; the leaves are dark green, elliptic, and from 4 to 6 inches long. The large terminal heads of flowers are produced freely. The calyx is about \(\frac{1}{2}\) inch long, white when young, turning red with age; corolla white, with a slender tube 3 inches long. It is a handsome stove climber, giving a good show of flowers, and should be more widely known and cultivated.

CYNORCHIS VILLOSA

is an interesting Orchid in flower in the Orchid-houses. It was introduced by M. Warpur from Madagascar in 1901, along with those two fine Orchids Cymbidium rhodochelum and Cynorchis purpurascens. C. villosa is a small-growing species, having usually two or three leaves, some 4 to 6 inches long and 2 inches broad. The spike of flowers arises from the centre, being 6 to 8 inches high, bearing about fifteen to twenty rather small rose-purple flowers, somewhat tubular in form, and covered with stiff whitish hairs; the lip is pure white. Although not comparable with C. purpurascens as a decorative plant, it is nevertheless a pretty and very distinct species. Botanical Magazine, t. 7,845, W. H.

EUPATORIUM VERNALE.

This fine species has been cultivated under several names for about forty years. It appears to be commonly known as E. grandiflorum, under which name it has been cultivated at Kew for some fifteen or more years. this name was looked upon as a doubtful one is shown by the statement in the Kew list of new plants for the years 1876 to 1896, where it is described as "an ornamental species probably known already under some other name." A plant of this species was received at Kew from a nurseryman in the Riviera in the early part of last year under the name of Ageratum grandiflorum. It has also been known as Conoclinium grandiflorum. Lately, however, the whole history of the plant has been investigated by the authorities of the Kew Herbarium, and the plant proved to be identical with the E. vernale of Vatke and Kurtz, figured in Gartenflora, xxii. (1873), p. 36, t. 750, where it is said to be probably a Mexican species.

It is by far the best of the shrubby species of Eupatorium, and as it produces its flowers in mid-winter, its value as a decorative plant for the greenhouse should be more generally known. The plant is of quick growth, forming a large spreading bush with terete stems, covered in the upper parts with a brownish tomentum. The leaves are opposite and decussate, cordate, acute, with serrate margins and vary in size considerably, being frequently 7 inches long and 5 inches broad, in a well-grown specimen.

The flower heads are about $\frac{1}{2}$ inch in diameter, pure white, shortly stalked, and borne in large terminal corymbs. The florets are tubular, about $\frac{1}{2}$ inch long and protrude beyond the involucre for a little over half their length. The styles are also long and give the flowers a somewhat feathery appearance. There are a number of specimens in bloom at Kew at the present time, including one which is planted out in a border in the temperate-house and which has attained a height of 6 feet.

In common with most of the Eupatoriums, the plant is of very easy culture, thriving in most soils, but prefers a light rich compost. Being a gross feeder, copious supplies of liquid-manure should be given the plant during the growing season. Propagation is effected by cuttings of the young growths, which root readily at all times of the year. C. P. Rafill. [Some good specimens of this plant were shown by Messrs. Veitch at the last meeting of the Royal Horticultural Society. Ed.]

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

PUERILITIES.—The article in the Gard. Chron. of the 16th inst. from the pen of Dr. Bonavia, backed by editorial authority, must have amused many a florist. It is true we are getting away from paper collars for Pansies and Carnations, and we are trying to show Dahlias and Chrysanthemums "as grown," but we are returning to clipped shrubs and Japanese dwarf trees. Even so up-to-date a man as Mr. Chamberlain, one gardening journal man as Mr. Chamberlain, one gardening journal assures us, is going in for Japanese dwarfs! I firmly believe that the paper collar and the tweezers had much to do with giving us the splendid Pansies, Carnations, and Dahlias we have to-day, and the time will come again when, I hope, they will be wanted. The dicta of Jeans and Glenny are no more popular to-day than crinolines, but we still wear top-hats and grow big Onions. Let Dr. Bonavia and Mr. Editor think how much genuine love for flowers, especially in the breasts of the working-men of the North, has been nourished on paper collars and tweezers, and they may yet thank heaven for it! It was a phase of floriculture, a most useful one too; and how else did these old-fashioned florists strive for perfection in the form of their flowers than by selection and cross-breeding? Verily, many an individual among them knew more about these processes than many a dozen of their modern successors. What I deplore is, to-day's methods may be new and may be better, but the love—the old kind of love is gone. William Cuthbertson.

must have read with astonishment Mr. Green's statement that "he has never lifted a crop of Potatos that showed any signs of disease in the haulm." What kind of elysium does he grow Potatos in that his tops always escape attacks of the Potato fungus? and how can it be, as is again written, the product of planting early in March? How do his tender Potato tops escape harm from late froats? Also, how is it that others who do plant in March, as many Potato-growers do more or less, either have their early plantings suffer from frost or from some form or other of disease, unless in the case of frosts they give some special protection. Why in one garden planting at the same time as is done in others, or perhaps a week or two earlier, should lead to immunity from disease is difficult to understand. As a rule Potatos are not planted in May, but in April, certainly the best month southwards. A. D.

— Will Mr. H. Green, Nocton Gardens, Lincoln, who appears to have been very successful with his Potato-crops last year, when the majority of others were so unfortunate, kindly state what has been his average tonnage per acre? Interested.

— Your correspondent, "A. D.," stated in the Gardeners' Chronicle, p. 37, "I am tired of the term disease-resisting as applied to any variety of Potato, because the expression has been in use so many years in relation to a multitude of varieties, yet somehow we find ourselves no forwarder." I planted last year thirteen varieties, twelve of which were old standard sorts, and one was a variety called Evergood, which is a comparatively new sort; they were all planted under exactly the same conditions, and on the same land side by side. The result was that without exception the twelve old sorts were so badly diseased that they did not pay for the cost of planting, but Evergood produced an enormous crop, which was entirely free from disease. I would not like to assert that on all soils the same result has been obtained. "A. D.'s" assertion that we are no "forwarder" needs qualification. F. C. Edwards.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—I am ignorant as to the general working of this Institution, but think that if one who could not afford to subscribe a guinea sent a smaller amount, he would merely receive a receipt from the Secretary, whereas for a guinea the subscriber would be given four votes. I suggest that a vote he given for 5s., and one vote for every additional 5s., because four members at 5s. would be more easily obtained than one at a guinea. D. D. [If our correspondent will read the article in the Gardeners' Chronicle, p. 40, and the report in our present issue (p. 87), he will see that the rest of his letter has no application. Subscribers have an immense advantage over non-subscribers.

MANURES FOR NURSERY LAND.—Referring to the very instructive articles by Mr. Willis on "Potash Manuring and Worn-out Nursery Land," which appeared in the Gardeners' Chronicle, December 19, may I ask if Mr. Willis will kindly afford further information through your columns—1st, What mixture of salts would be of service, used either alone or along with a moderate dressing of farmyard-manure, in the case of sandy land just cleared of nursery trees—say Larch, and upon which a crop of Potatos is to be grown, followed again by trees. The object of growing the Potatos is, of course, to clean and prepare the land for the trees, which would remain upon it for two years, and probably some simple compound could be suggested which would not only help the yield of Potatos, but have a beneficial effect upon the trees following them. 2nd, What compound of salts would be of value applied in the spring to Strawberries on similar land? Many of the advertised manures are excellent in their way, but expensive to use on a somewhat large scale, while farmyard manure is costly and difficult to procure in remote country districts, besides entailing a great amount of labour as compared with fertilisers in a more concentrated and portable form. 3rd, Is the use of basic slag advised in the nursery, either for fruit trees or forest stuff? W. H. Bewlay, Hall-Santon Nurseries, Holmrook, S.O.

Reply.—(1) As the greatest deficiency of sandy land is humus matter, and as the production of abundance of surface root-fibres is also largely dependent upon the supply of humus, I would advise a liberal dressing of farm-yard manure, to which should be added the following manurial mixture in quantities per acre: 4 cwt. superphosphate, 3 cwt. sulphate of potash, and 1 cwt. nitrateof soda. The artificials can be mixed together and sown broadcast either by hand or machine; the dung then carted on and spread, and all ploughed in together. The nitrogen of the nitrate of soda would mostly be used up for the Potatos, but the phosphate and potash not so used would be available for the succeeding trees. These minerals acting upon the humus supplied by the dung would provide assimilable food for the young trees. (2) A useful Strawberry manure for such land would be a mixture comprising, 3 cwt. superphosphate, 2 cwt. sulphate of potash, and \(\frac{1}{2} \) cwt. nitrate of soda, per acre. A dressing

of peat moss manure applied between the rows of plants might also be given. It is not advisable to use low-grade superphosphates, but one containing from 30 to 37 per cent. of soluble phosphate. (3) Basic slag is an excellent manure for fruit-trees and shrubs, but it is slow of action. It gives its best results on moist soils, and those containing both humus matter and potash, the latter being especially important. Basic slag should be applied in the winter or very early spring, and be well incorporated with the soil. It is further necessary to use double the quantity of basic slag per acre than of superphosphate, so that when freight and the cost of distributing are a consideration, the superphosphates would probably be the less expensive manure. J. J. Willis, Harpenden.

AN EARLY CROCUS.—I send two flowers of a white Crocus, of which several are now in flower. All of them—the increase of one bulb—have always flowered about this time of year. R. W. Rickards. The Priory, Usk, Monmouthshire, Jan. 19. [The Crocus sent is a garden form of C. vernus. There are too many varieties named for us to say exactly which it is. Probably the warmer climate of Monmouth, and perhaps a very cosy corner to grow in, have induced the early-flowering habit; but unless tested in other localities one cannot be sure, so many plants show a precedity for several seasons, and then suddenly lose it with but slight apparent change of environment. E. A. B.]

THE PROPOSED OARDENERS' ASSOCIATION.—
Not a few critics seem to take it for granted that this talked-of association really exists, and is based on wrong lines. The promoters have gathered up a cartload of stones flung indiscriminately at their airy structure, but hardly a single brick helpful in building it as a solid material erection has been furnished. If the only thing needed to secure its formation were criticisms it might be formed with great success. Something very much more tangible than these airy nothings are essential, and these solidities have not yet been forthcoming. Those who have met on several occasions and thoroughly discussed proposals have not failed to realise that certain things are essential to the formation of such an association. Those are absolute necessity, prospective benefit, and certain unanimity in acceptance. To establish an association without showing absolute need for its existence would be folly. To establish it without its being shown that positive benefit to the garits being shown that positive benefit to the gardening community would follow would also be folly; and, not least, to attempt to do it without certain assurance that the gardeners of the kingdom would unite heartly in supporting and utilising it would still be folly. The fact that not only has there been, on the part of gardeners, a comparative absence of real suggestion, or desire to see an association formed, but, also in spite of the critics, an absence of interest in the proposal, has naturally led the promoting committee to regard the proposal as being materially ahead of the times. It may be well for all to wait until the meeting of those interested in the matter at the Horticultural Club on February 23, when a report will be presented. A. Dean.

TOMATO SUTTON'S WINTER BEAUTY.—Early in the present month, Mr. A. B. Wadds sent me from the Gardens, Paddockhurst, Sussex, a box of fruit of this Tomato. The fruits sent were not quite so symmetrical as some varieties, but the colour was bright, and the flesh and flavour excellent. The fruits were produced by plants raised from cuttings struck in the first week in July, and they have been useful for furnishing a winter supply daily and will do so for some time to come. Mr. Wadds has just potted-on cuttings struck last month into 32-sized pots, and these plants will furnish a spring supply. He finds that plants raised from cuttings fruit earlier than those obtained from seeds, and that they must have some watching in winter, and require more looking after than Grapes. R. D.

FISH-DESTROYING BIRDS. — Many lovers of our most useful and beautiful British birds are greatly indebted to the Gardeners' Chronicle for publishing from time to time notes of great interest upon matters that have appeared in other papers, but which, as in my case, would not otherwise have been seen. The paper of Mr. Marston

on the above subject which you have noticed, and which appeared in the January number of the Nineteenth Century, will surprise many who know anything at all about bird life. I have for nearly forty years studied our birds and their usefulness. What lover of birds does not know that many birds created for our good live on fish, as well as others which live on corn, fruit, insects, and so Sparrows, mentioned as increasing in such large numbers, are not protected by the Wild Birds Act, and can be destroyed as mice, rats, and other vermin can be. They prefer corn, seeds, and scraps, to young live salmon and other fish. As for gulls, which visit the Thames in wintertime, the good these levely birds do as scavengers in clearing the river of scraps, &c., cannot be over-rated, as these scraps which the gulls devour would otherwise become putrid, and poison in some degree the water, the fish, and in many cases the air one breathes. Any expert on birds or fish knows full well that gulls may rob fish of many tit-bits, otherwise they are of great usefulness as well as ornament. I would like to ask Mr. Marston, or anyone else who condemns some birds, if he will state how many of our beautiful birds, if he will state how many of our beautiful insectivorous birds, which never touch corn or fruit, are destroyed annually by hundreds that their feathers may be used to make artificial flies for fishing? The lovely kingfisher, which, by-the-bye, does not fish, is fast becoming extinct, owing to this artificial-fly business; while scores of other species of birds that are, apart from their heavity of the greatest use to make from their beauty, of the greatest use to man-kind, are used by thousands for this purpose. Were the feathers of the common sparrow more attractive, their number would soon decrease. William Charles Leach, Albury Park Gardens,

THE CONSERVATORY IN WINTER.-At this season the plants best appreciated are light in character, that produce brilliant flowers, and continue in bloom for a number of weeks, requiring only small pots for their cultivation. Coleus thyrsoideus is such a plant. Its flowers are of a most cheerful blue colour, welcome at any season, and especially in winter. We make no attempt to grow this plant in the form of specimens, but have three shoots to a plant in a 7-inch pot. The plants vary in height from 3 to 7 fect, and retain their foliage even at the base. The spikes of flowers are from 12 to 18 inches in length. Their persistency in flowering is remarkable, for as fast as the spent flowers drop they are suc-ceeded by others on the same spike. They are ceeded by others on the same spike. They are splendid when intermixed with Euphorbia (Poinsettia) pulcherrima in 6 - inch pots, cultivated upon single stems from 2 to 8 feet in height, with bracts 12 to 18 inches in diameter; and Eupborbia Jacquiniæflora in proportion, the old yet valuable white Arum and Little Gem, Begonia Gloire de Lorraine, Primula sinensis, and Cyclamen in variety. With such plants very bright groups may be arranged in the dullest season of the year. W. Fyfe, Lockinge Gardens.

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 26.—The usual meeting of the Committees took place on Tuesday last in the Drill Hall, Buckingham Gate, Westminster. There was a good display of exhibits, amongst which Orchids formed a prominent feature. The collection of Dendrobiums from JEREMIAH COLMAN, Esq., Gatton Park, Reigate, was remark able, and well deserved the Gold Medal awarded it. There were many Interesting novelties, and the ORCHID COMMITTEE recommended three Awards of Merit.

The FLORAL COMMITTEE recommended two Awards of Merit to varieties of Chrysanthemum only. There were several displays of Cyclamens, one in particular from Messrs. Sutton & Sons, and a large exhibit of Chinese Primulas from Messrs. H. Cannell & Sons. A few more hardy flowers were shown than on the previous occasion, but most of them had been afforded a little protection. Carnation flowers from Messrs. Cuthush & Son; Jacobinias, Eupatoriums, Moschosma riparium, &c., from Messrs. Jas. Veitch & Sons; Chrysanthemums from several exhibitors, and hardy shrubs from Mr. J. Russell, were all interesting.

The Fruit and Vegetable Committee had not a great deal to concern themselves with, but the exhibits included a bunch of English-grown Bananas, some examples of Muscat of Alexandria Grapes, showing how well they are kept until this late date by the Earl of Harrington's gardener, and a most interesting collection of Oranges, Lemons, and Citrons from Messrs. T. Rivers & Son, in illustration of the lecture delivered in the afternoon upon this subject by Mr. H. Somens Rivers. The Committee recommended an Award of Merit to a variety of Orange known as "Egg' Orange (fig. 35).

As many as 116 new Fellows were admitted to the privileges of the Society.

Floral Committee.

Present: H. B. May, Esq. (in the chair); and Messrs. Chas. T. Druery, Geo. Nicholson, R. Dean, J. F. McLeod, Wm. Howe, G. Reuthe, Chas. Dixon. R. Wilson Ker, Chas. Jeffries, J. H. Barr, Chas. E. Pearson, Wm. Cuthbertson, Chas. E. Shea, W. P. Thompson, E. H. Jenkins, Wm. J. James, Chas. Blick, Edw. Mawley, (Rev.) F. Page Roberts, George Gordon, and John A. Nix. Mr. G. REUTHE, The Fox Hill Hardy Plant Nursery.

Mr. G. REUTHE, The Fox Hill Hardy Plant Nursery, Keslon, Kent, exhibited a few nice little plants of Shortia galacifolia, also Saxifraga floruleuta, a very rare species that produces pink-coloured flowers; also the new little Saxifraga Griesbachli, one of which was as regular io its rosette-like growth as a show Dahlia; Iris alata and I. histrioides major were in bloom.

Messrs. Surron & Sons, Reading, made a very large exhibit of Cyclamens, the plants being grouped together in separate colours. Some of the varieties were White Butterfly, a very well-known white variety with spreading segments; Vulcan, the deepest coloured variety amongst the reds; Giant White, an excellent variety with erect segments, large and bold flowers; Salmon Queen, one of the prettiest as it is certainly one of the most distinct varieties; Improved Giant Pink, &c. A few plants were shown of a derk rose-coloured variety, in which the follage was most conspicuously marbled, evidently selected with a view of increasing this characteristic. A few plants of Chinese Primula (Reading Blue) were shown. All of the Cyclamens were beautiful specimens, of good cultivation and excellent strain, and were flowering profusely (Silver Flora Medal).

Chrysanthemum Polar Star, a white flower with reflexed florets, a good decorative variety, was shown from the garden of Lady PLOWDEN, Aston Rowant House, near Wallingford.

Chrysanthemum Winter Queen is a very fine white Japanese, the flowers being 6 ioches or more across, with slightly twisted, drooping florets. Mr. W. J. Gorg Frey, Exmouth Nurseries, Devonshire, exhibited seven huge bouquets of this, the flowers being set up in tubes.

Mesers. W. Cuthush & Son, Highgate, London, and Barnet, Herts, exhibited a number of little Irises in flower, including I. Histrio (yellow), I. histrioides, and the new hybrid I. × Sind-pers, from a cross between I. sindgarensis and I. persica. There were also in flower Sternbergia Flscherlana, several varieties of Snowdrop, Tussilago fragrans, the slender little Corydalls augustifolius, Saxifraga Burseriana, Hellebores, Daffoe dils. &c.: Jasminum nudiflorum, and other shrubs, Messrs. Cutbush also showed a number of plants of Rhododendron Jacksoni in bloom, a variety with white or pale pink flowers. The plants were standards 3 feet high, and had good "heads." A number of plants o Citrus sinensis bore an excellent crop of fruits, but many of them were still green in colour. Cut flowers of Carnations from the same firm looked very bright and pretty. Most of the varieties have been referred to on previous occasions. A new one, named Chas. H. Curtis, is elmilar in colour to Mrs. T. W Lawson, and has longer stems, but the flowers, as shown, are scarcely so good as those of that variety or of Wm. H. Cutbush (Silver Flora Medal).

Six very well-grown plants of a white variety of Primula sinensis were shown by Colonel Webb, Woodfield, Wordsley (gr., Mr. Joiner).

Mesers. H. Cannell & Sons, Swanley, Kent, exhibited cut sprays of Coleus thyrsoideus, arranged in upwards of a dozen vases. The inflorescences were very strong, and the flowers much deeper in colour than they are sometimes seen.

Messrs. W. Seward exhibited a group of Cyclamens, ranging in colour from pure white to rich crimson. They were well cultivated, and made a bold show. A variety named Dorothy Seward had a robust habit and flowers of a light salmon colour (Silver Flora Medal).

Mr. JOHN RUSSELL, of Richmond, again exhibited a collection of ornamental and flowering shrubs in pots (Silver Banksian Medal).

Alpine plants, this time in flower, were again shown by Messrs. Ware, Feltham. Eranthis hyemalis, with its collar of green beneath its golden petals; Christmas Roses, coloured Primroses, Irises. Crocuses. Cyclamens, &c., all presented themselves in their most attractive colours.

Quite a gay appearance was given to Messer. Jas. Veitch's exhibit by masses of flowers of Coleua thyrsoideua and Eupatorium vernale (dwarf plants with large heads of woite flowers), flanked by Jacobinia chrysostephaoa and J. coccinea, the tall heads of Coleus thyrsoideus, with its lovely blue, harmonising well with the red and white of the other members, the whole having a groundwork of small Adiantum Feros. Cheiranthus kewensis, with its more modest display of pale orange flowers, was also staged by this firm (Silver Flora Medal).

Galanthus robustus præcox, Iris persica Heldreichii, and Fritiliaria oranensis, the latter being very pleasing with its pendulous flower of brown-purple striped with broad bands of green.

Awards.

Chrysanthemum Mdlle Louise Charvet.—This is a large reflexed flower, of bold character, produced on stout stems, colour piok and bronze. The variety should make a capital one for market growers. Shown by Measra. H. HENDERSON & SONS, Elmhurst Nursery, Cheshunt (Award of Merit).

Chrysanthemum ll'inter Cheer.—This is a first-class decorative variety, with reflexed flowers, 4 to 5 ioches a cross; colour rich cerise-pink. Shown by Mr. J. E. Low, Hatton, Warwick (Award of Merit).

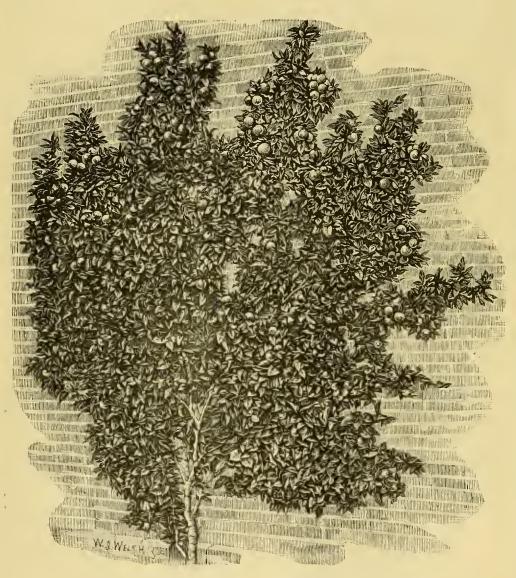


FIG. 33.—ORANGE-TREE IN FRUIT GROWING AGAINST A WALL IN THE KITCHEN-GARDEN AT OSBORNE, ISLE OF WIGHT. (SEE P. 78)

Miss Ethel M. Bablow, floral artist, had present some framed examples of her art. These were very cleverly executed.

Messrs. Cannell & Sons, Swanley, had an exhibit of their well-known atrain of Primulas, running the whole length of one of the centre tables, which included new seedlings and many of their best named varieties. The plants were sturdy in habit, and most of the flowers of good form and colour. Among others we noticed Charming, a free-growing spike, flowers white tinged with purple; Champion, a good white; Swanley Blue, a novelty, having very dense flower heads; Sirdar, flowers large and good form; Eynsford Yellow, a distinct variety with a yellow centre, merging to white outside (Silver Flora Medal).

Messrs, Barr & Co., King Street, Covent Garden, London, had a small group of hardy spring-flowering plants, among which was Sternbergia Fischeriana,

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (Chairman); and Messrs. J. Cheal, Henry Esling, W. Bales, S. Mortimer, Alex. Dean, II. J. Wright, E. Beckett, George Kelf, Geo. Thos. Miles, Hy. Parr, G. Reynolds, F. L. Lane, J. Jacques, J. Willard, J. McIndoe, J. H. Veitch, A. H. Pearson, and H. Somers Rivers.

A bunch of green Bananas was shown by S. HEILBUT, Esq., The Lodge, Hayport, near Maidenhead (gr., Mr. H. B. Westropp). The fruits would have been better in flavour had they been left upon the plant until ripe.

Apple Lake's Kernel was shown by Mr. John Watkins, Pomona Farm, near Hereford. The fruits are of moderate size, rich red in colour over three parts, and yellow on one part. The variety was described as being a free grower and cropper, and the fruits of fine flavour, in season from December to March.

Tomato Winter Beauty was shown well by Sir W. D.

PEARSON, Paddockhurst, Worth (gr. Mr. A. B. Wadds), who had a box full of fully-ripe fruits (Cultural Commendation).

Six bunches of well preserved Muscat of Alexandria Grapes were shown by the Earl of Harrington, Elvaston Castle, Derby (gr. Mr. J. W. Goodacre). They were equal in condition to what could have been expected two months ago (Silver Knightian Medal).

Messrs. T. RIVERS & SON, Sawbridgeworth, Herts, exhibited home-grown fruits of varieties of Orange. These were "Egg" St. Michael's, Sustain, remarkable for delicacy and high flavour; Brown's Orange, Embiguo or Navel Orange, a singular variety with nipple-like depression at the top of fruit, White Orange, having white pulp; Bittencourt, Achilles, Silver or Plata (delicious), Excelaior, and Tangierin (excellent flavour). Fruits were also shown of the White Lemon and of Citron; also trees in pots of Citrus corniculata [Horned Orange], Egg Orange, Seville Orange, and Myrtle-leaved Orange (Silver-gilt Banksian Medal).

Some of these are figured in our present issue, and others will be represented subsequently.

Awards.

AWARD OF MERIT,

Orange "Egg."—This is a variety of the Orange of commerce (Citrus aurantium). The fruits shown by Messra. Rivers were considered to be specially good in texture and flavour of pulp, and the variety is therefore distinguished by an Award of Merit (see illustration at fig. 35, p. 77).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messra. Jas. O'Brien (hon. sec.), de B. Crawshay. R. Brooman-White, Norman C. Cookson, W. Cobb, J. Colman, W. A. Bilney, F. Wellesley. H. T. Pitt, A. A. McBean, H. Ballantine, T. W. Bond, M. Gleeson, J. W. Odell, W. Boxall, W. H. Young, W. H. White, F. Sander, E. Hill, F. J. Thorne, W. Bolton, H. A. Tracy, and J. Gurncy Fowler.

There was a very fine show of Orchids, a magnificent group of Dendrobiums, extending the whole length of the central staging in the hall, came from JEREMIAH COLMAN, Esq., Gatton Park (gr., Mr. W. P. Bound), and secured a Gold Medal, as prothe best collection of Dendrobiums ever shown in January. The group, which was very effectively staged, contained a very large number of varieties of Dendrobium nobile, including the fine D. n. Colmanianum and D. n. Ballianum; a great quantity of forms of D. × Ainsworthii, D. × splendidissimum and similar crosses, including D. x Snowflake, D. × Artemis, D. × Othello glganteum, D. × rubens grandiflorum, D. × Apollo, &c.; also the pretty D. × Juno, D. × Schneiderianum, D: × pallens, D. Curtisii, and numerous others. Arranged with the Dendrobes were some finely-flowered Lulia anceps, of which the best were L. a. Mrs. Jeremiah Colman, L. a. Sanderiana, L. a. Stella, and L. a. Hilliana Enfieldiense; Cymbidium Tracyanum, &c. The whole of the plants were excellently well grown and profusely flowered.

Messra. Charlesworth & Co., Heaton, Bradford, were awarded a Silver-gilt Flora Medal for a very bright group, principally of their hybrids. In the centre were a number of the bright reddish-orarge Lælio-Cattleya × Charlesworthil, one of the showiest plants of the season. Of similar colour was a profusely flowered dwarf Sophro-Lælia × Psyche, and effective were L.-C. × Andromeda, L.-C. × Cappei, L.-C. × luminosa, L.-C. × Sunray, and the bright chromeyellow L.-C. × Myra Charlesworthil (see Awards). Also noted were several good Cattleya × Enid, Cypripedium × Helen II., C. × Lillan Greenwood, C. in signe McNabbianum, C. × Hera varieties, and several Odontoglossums, including O. × Queen Alexandra, a fine yellow heavily marked purple-brown.

Messra, JAS. Vettch & Sons, Chelsea, secured a Silver

Measra. Jas. Veitch & Sons, Chelsea, secured a Silver Flora Medal for a good group of hybrids. including the handsome Lælia × Digbyano-purpurata, L. × Olivis, Lælio-Cattleya × Cappei and its yellow variety aurea, L.-C. × Lucilia, Cattleya × Elvina, two forms of Calanthe × gigas, Dendrobium × Scylla, some showy forms of Cypripedium × Hera, the variety excelleds having a very large white dorsal sapal evenly spottad with purple; C. × Catherine, C. × Gertrude, varletes of C. × Lecanum, C. × Prospero, C. × Clinkabertyanum, C. × Troilus, C. × aureum virginale, and others.

Messrs. Sander & Sons, St. Albans, were awarded a Silver Flora Medal for a group principally hybrids, of which the novelties were Ledio-Cattleya × Dr. R. Schiffman (L.-C. × callistoglossa × C. Mendell), the plant of which, though searcely developed, showed



Fig. 34.—Home-grown malta blood orange. (see p. 76.)

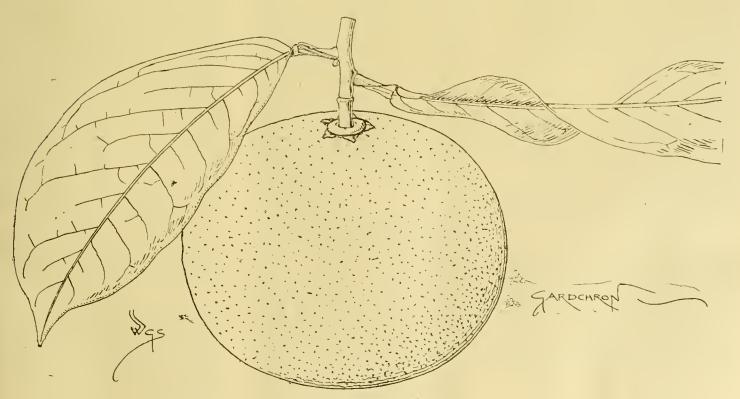


FIG. 35.—HOME-GROWN ORANGE "EGG."
One of the Fruits exhibited by Messrs, Rivers and certificated by the Fruit Committee on Tuesday last. (See p. 76.)

owersapproaching the beautiful L.-C.xcallistoglossa but jwith thicker texture, the front of the labellum being of a rich purplish-claret, the sepals and petals white tinged with purple: Cypripedinm x Leeanum "Purity," with pale flower, the fine white dorsal sepal being only sparsely spotted, and Lælio - Cattleya > Bletchleyensis vivicans, with bronzy-rose sepals and petals and rich dark purple lip. Also in the group were two very fine forms of Odontoglossum × Wilckeanum, the plant with two ficwers being remarkably handsome. Also noted were Zygo-Colax × Amesiana Chrysis × Sedeni, a pretty wax-like white flower tipped with rose, and several good hybrid Cypripediums.

Lady Chicele Plowden, Aston Rowart House, Oxon (gr., Mr. W. H. Clark), was awarded a Silver Banksian Medal for a group of well-grown Lælia anceps, most of the plants having seven or eight

flower-spikes.

Messrs. Hugh Low & Co., Enfield, staged a group in which were Cypripedium villosum Low's variety, a distinct form of the C. v. aureum class; C. × Sallieri Hyeanum; varieties of C. x Hera Euryades; C. Tityus, C. x Minos Low's variety, C. tonsum, and the showy dark-rose C. × Watsonianum (Harrisianum nigrum × concolor). With these were arranged Dendrobium Wardianum, D. aureum, Sophronitis grandiflora, and Oncidium ornithorhynchum.

GEO. SINGER, Esq., Coundon Court, Coventry (gr., Mr. Collyer), showed a small group of Cypripediums, including C. × chrysotoxum var. Earl Leofric (vil-Iosum giganteum x Lathamianum superbum), a very large flower of C. villosum shape, with light greenishyellow lip and petals, the latter tinged with brown on the upper halves, the dorsal sepal being green at the base, and white on the upper half of the middle area, marked with purple. Also C. x Penelope, a dark coloured cross between C. Lawrencianum and C. Charlesworthii; varieties of C. x Lathamianum, C. x Deedmanianum. &c.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), showed Lælia autumnalis alba with a spike of six fine flowers; Cypripedium x Edithæ, and Lælio-Cattleya × luminosa Rosslyn variety.

J. RUTHERFORD, Esq., M.P., Beardwood, Blackburn (gr., Mr. Lupton), sent two Odontoglossum x Beardwoodiense (elegans, Eastwood Park variety x Pescatorei), but which the Committee thought were forms pi O. x Hallio-crispum.

C. J. Lucas, Esq., Warnham Court (gr. Mr. Dunean), showed Cypripedium x Lathamianum Warnham Court variety, a fine large flower; and C. x Almos Warnham Court variety.

W. M. APPLETON, Esq., Weston-super-Mare, showed Cypripedium \times Edithæ bellatulum \times Chamberlainianum); C. x Garret A. Hobart (Lathamianum x insigne giganteum) : C. x Mons. de Curte and C. x Morteni (see awards).

Mr. CHAS. VUYLSTEKE, Loochristi, Ghent, showed two varieties of his pretty Ondontoglossum × Vnylstekei: two 0. \times Loochristiense and a nice variety of 0. \times Wilckeanum named "Argus."

Mons. Jules Hyr de Crom, Ghent, sent Cypripedium × Mad. Jules Hye.

The Right Hon. Lord ROTHSCHILD, Tring Park (gr., Mr. E Hill) sent a fine spike of Phalænopsis amabilis Rimestadiana, with eight large white flowers tinged at the back with Roses and some bnds. It is the finest form of the plant usually called P. grandiflora in

Sir H. SCHRODER, Bart., The Dell, Egham (gr., Mr. H. Ballantine), showed spikes of the beautiful purpleblotched Odontoglossum Pescatorei Schroderianum and Veitchlanum, the fine O. crispum Stevensi and O. Pescatorei melanocentrum.

AWARDS OF MERIT.

Lelia anceps Schrodere Theodora, from FRANCIS WELLESLEY, Esq., Westfield. Woking (gr., Mr. Hopkins). -A fine flower, in advance of the richly-coloured L. a. Amesiana, to which it bears a resemblance, but the flowers are larger. Sepals and petals white flushed with magenta-rose, the tips being the darkest. Front of lip dark claret-purple. The plant was first flowered and named by DE B. CRAWSHAY, Esq.

Lalio-Cattleya x Myra Charlemorthii (L. flava x C. Trial æ), from Messrs. Charlesworth & Co., Heaton. Bradford - A very desirable hybrid, with showy flowers, intermediate in size and form between the true parents. Sepals and petals bright chrome-yellow;

front of lip ruby purple.

Cypripedium x Mirtemi (Lecanum Masercelianum x Chamberlainianum), from W. M. APPLETON, Esq., Weston-super-Mare.—Flowers produced, as in 1.0st Chamberlainianum hybrids, several on a spike, and with the unmistakable characters of C. Chamberlainianum. Upper sepal green at the base, with chocolate lines and white margin; petals greenish, striped chocolate: lip rosecoloured, with yellow upper margin.

MISCELLANEOUS EXHIBITS.

Examples of the cooper's craft were displayed by Messrs. Champion & Co., of Old Street and City Road. in their tubs for planting shrubs, &c. They were admirably adapted for such positions as conservatories and halls, but would be too elaborate for general use. They are made of Teak or Oak, beautifully polished, with bronze fittings.

"LUBROSE," a paint preparation recommended for greenhouse and horticultural use generally, was shown by means of models and samples of colours.

The Partison Patent Lawn Boots for horses, with model of boot attached to the hoof, were shown, as well as details of construction and attachment.

A useful device for the protection of seeds and seedlings from birds, and another for arranging flowers in vases and bowls, the "Floral Aid," were displayed.

A system of shading glasshouses by means of a roller-blind, worked with a cord through pulleys, was shown by Messrs. Walters & Co., of Croydon. The blind was made of laths, and rolled up similar to those in use for shop-fronts. This firm also showed a number of Orchid-baskets of teak-wood.

An improved device for distributing insecticides, MURATORE'S "Improved Automatic Sprayer," has claimed for it that an extremely fine spray can in a short time be diffused over all the plants in a large plant-house. Being made of copper it should prove very durable.

Lecture on Oranges.

In the afternoon, Mr. H. Somers Rivers delivered a lecture on "The Cultivation of Oranges in England," explaining the system practised in the nurseries at Sawbridgeworth. Mr. Rivers commenced by denouncing the mansoleum-like structures that were built for Orange-growing many years ago, and recommended instead a span-roofed orchard-house for the purpose, such as that shown in fig. 3t, p. 69. In this structure trained trees planted in borders, and standard trees in pots, might be cultivated together, and when the brilliantlygreen foliage was studded with golden-coloured fruits the effect was very gratifying. The temperature, when the fruits were ripening, should not be permitted to fall below 50°, and it may rise to 60° or 65° in the day by sunheat. When the fruits have been gathered the temperature may decline to 45° or 50°, but be raised at the end of February to 65° or 70°. The trees should not be syringed when in flower, but afterwards, when the fruits are swelling, they might be syringed. The operation should be done early, and by admitting air assist evaporation to prevent the leaves being scalded by sun. As soon as the fruits commence to colour, said Mr. Rivers, the syringe must be again laid aside.

The matter of affording water to the roots was an important one, and bad results would follow if the soil was allowed to become too dry, or if it was over-watered. The rooting compost should consist of good fibrous loam and leaf soil in equal quantities, with a little charcoal added. Trees planted in borders should be topdressed every alternate year, and pot trees should be repotted one year and top-dressed the next. In re-potting it would be a mistake to give the plants too large a shift. If sufficient space were provided for one inch of fresh soil around the roots that would be ample. The collar of the tree should be kept well to the surface, as the Orange dislikes to have its roots buried deeply. After three days afford water to newly-potted trees. No manures must be added to the soil, for Oranges are not benefited by manures, but when the fruits are colouring, a little soot water or soapy, water, would help, them. Soapy water especially would help to increase the size of the fruits.

Orange trees on trellises should be trained with their shoots 1 foot apart, and the stronger shoots In pots the trees naturally should be "stanned." become half standards. In Messrs. Rivers' House (see illustration at fig. 31). 54. excellent fruits are grown The house is 60 feet long, and runs from east to west.

If a house cannot be devoted to Oranges, said Mr. Rivers, they may be grown perfectly on the back wall of a plant-house, where the temperatures already mentioned can be maintained. Such plants as Encharis, that are specially liable to mealy-bug, should be excluded. Ferns would be congenial.

The sooty gloss that was frequently seen on the leaves, said Mr. Bivers, was a fungus growing on the Honeydew exuded by scale-insects. By vaporising the

plants they could be kept perfectly clean of insects, then there would be no black on the leaves. Mr. Rivers proceeded to speak of some varieties of Oranges, Lemons, and Citrons, the best of which are mentioned above as exhibited by Messrs. Rivers. In conclusion, Mr. Rivers said that experiments were bein? made in America with a view to obtaining Orange-trees that will iruit in a temperate climate. They are crossing the sweet Orange (Citrus aurantium) with C. trifoliata. Some day perhaps we may have Oranges that will produce crops of fruit in England under the same conditions as Pears fruit now.

A few remarks were made by Mr. A. H. Pearson (Chairman), Mr. Roupell, and Dr. M. T. Masters.

In connection with Citrons growing in Lady Plowden's garden, the following particulars kindly supplied by the gardener, Mr. W. H. Clarke, are interesting:—

Citrons are successfully cultivated here. Two large plants covering the back wall of a cool greenhouse each year carry good crops of fruit, and it is seldom we are without ripe fruits. Directly the ripe crop is finished a successive crop of green fruits follow, and at the same time there are fruits just set and commencing to swell, and flowers in abundance. A Cultural Commendation has been awarded by the Royal Horticultural Society for fruits exhibited from these trees; and a dish of fruits was amongst the collection of fruit exhibited at the Drill Hall from these gardens, and which gained a Silver Banksian Medal. The fruits far surpass in size and quality those obtainable in the shops, and are always pronounced 'excellent' for cooking and other purposes. Citrons can be grown in any house just frost-proof, the chief points being to keep the foliage clean and the growths thinned-out.

ROYAL CALEDONIAN HORTICUL-TURAL.

JANUARY 14.—The annual general meeting of this Society was held in Dowell's Rooms, Edinburgh, on the above date, Mr. D. P. Laird, Vice-President, in the chair. The Secretary submitted the report of the Council, which stated that being satisfied with the result of having held the spring show last year in the third week of May, they had resolved to hold the spring show of least at the same time of the month. The net gain in membership during the year was 120.
The report also referred to the five international exhibitions already organised by the Society, and stated that the Council were making arrangements for holding another International Exhibition in September, 1905, at which they hoped to be able to offer about £1,500 in premiums. Advance particulars of some of the principal competitions are in preparation, and will be shortly issued. His Majesty the King hadaccorded his patronage to this exhibition, and had given a valuable Silver Cup to be awarded at it. The abstract of accounts showed considerable improvement in the position of Society, the excess of income over expenditure for the society, the excess of income over expenditure for the year being £126 182. 2d., and the funds of the Society £928 5s., compared with £115 172. 7d. at the close of the previous year, this result being attained without restricting the scope of the Society's exhibitions. The prize-money paid at the spring show amounted to £176 3s. 6d., and at the autumn show to £328 13s. 6d. The retiring President, Lord Balfour of Burleigh was nearly regulated. Mr. W. Burleigh, was unanimously re-elected. Mr. W. H. Massie, nurseryman, was elected a Vice-President in room of the retiring Vice-President; and Messrs. Daniel Kidd, The Gardens, Carberry Tower, Inveresk; Mr. James Grieve, Redbraes Nurseries; and Conncillor Mackenzie, Edinburgh, were elected Councillors in room of those retiring.

GARDENERS' ROYAL BENEVOLENT INSTITUTION,

ANNUAL MEETING.

JANUARY 21 .- The sixty-fifth annual meeting and election of pensioners took place on the above date at Covent Garden Hotel, Covent Garden. The meeting was presided over by Mr. Harry J. Veitch (Treasurer). The Chairman, in moving the adoption of the Annual Report, referred briefly to the present circumstances of the Institution, stating that at the beginning of the year 2014 persons, being fourteen more than at the corresponding period in the previous year, viz., 116 men and widowa, were receiving life annuities of £20 and £16 respectively. There were thus at the close of the year 192 pensioners on the Funds. The Committee much regretted that they were unable to recommend a larger number of candidates for election that day, but it should be remembered that in 1992 no fewer than twenty-eight new pensioners were put upon the Funds in honour of the Coronation of the

The Committee has distributed during the from the Samaritan Fund £-1, and from the Victorian Era Fund £135 10s.; more money was required for this Fund. Mr. Veitch on behalf of the Committee thanked Mr. N. N. Sherwood for his generous gift, on the occasion of the last election, of £5 to every unsuccessful candidate who had been a subscriber or was a widow of such. Thanks were also given to the Earl of Warwick, who presided at the Annual Festival Dinner; and to Lord Ilchester for his kindness in throwing open his Lord Ilchester for his kindness in throwing open his beautiful gardens at Holland House for the benefit of Gardening Charities on the occasion of the Royal Horticultural Society's exhibition there. The Bristol, Worcester, Devon, Walverhampton, Reading, and Liverpool suxiliaries were spoken of in most apprecisive terms, and the Institution has evidently benefited much from their work. The alterations made in the rules had worked well; there had been few complaints, though some thought that they might have done better. Rules, however, were not made to last "for ever and a day," and if it seemed desirable in the future, the Committee will ask the subscribers to again future, the Committee will ask the subscribers to again alter them.

after them.

Since the alteration had been made in the rules each year's subscription counts, so that if a gardener commences to subscribe whilst young, and continues to do so, he would be nearly certain to be put on the funds if in his oid age he required help, for a subscriber is now credited with 100 votes for each year's subscription, and thirty years would therefore entitle him to 3,000 votes before election.

Mr. Veitch announced that since the Committee had decided to recommend the election of twelve pensioners that day, two of their pensioners had died, and they therefore recommended that the number to be now elected be increased to fourteen. The Committee had also taken into account the circumstances of Thomas Cridland and had decided that the their conditions of the committee had also taken into account the circumstances of Thomas Cridland, and had decided that if this candidate was not amongst those elected the Committee would exercise the privilege they have, and place him upon the funds. The reasons that led them to do this were (1) he was 74 The reasons that led them to do this were (1) he was 74 years of age; (2) he was totally blind; and (3) he had sought election and help for seven years past. Later, Mr. Veitch announced that Mr. Arthur W. Sutton (Reading), having regard to the large number of disappointed candidates there would be this year, had generously offered to subscribe sufficient to place another candidate upon the Fund, and the candidate was to be the one the Treasurer (Mr. Veitch) thought to be most deserving. There were therefore sixteen new pensioners added during the day.

The report and baisnee-sheet baying been accented

The report and baisnoe-sheet having been accepted with satisfaction, the next business was to elect or re-elect the officers. All were re-elected, except that Mr. J. A. Laing and Mr. J. H. Veitch have retired from the Committee, and Mr. J. McIndoe and Mr. H. W. Nutling were elected in their stead.

The several resolutions were proposed and seconded by Mr. A. W. Sutton, Dr. M. T. Masters, Mr. Vailance, Mr. Baker, Mr. S. M. Segar, Mr. Geo. Mouro, Mr. Denning, &c.

RESULT OF THE BALLOT.

The result of the election was declared at 5 45 P.M., to

HENRY CROSS			 3923 v	otes.
WILLIAM CHAMBERS		***	 3545	22
ABRAHAM STANSFIELD			 3444	2.2
FREDERICK SMITH			 3300	9.7
ELIZA E. DOHERTY			 3297	7.2
RICHARD NISBET			 3224	2.2
JANE EDWARDS			 3156	2.7
HENRY RABBITTS		***	 3091	
WILLIAM TURNER		4	 2966	22
JAMES WORTHINGTON		• • •	 2955	3.7
RICHARD SKINNER	***		 2902	* 9
EDWARD FOSTER		***	 2842	9.9
ANDREW ARMSTRONG			 2838	20
GEORGE DALE	•••		 2796	34

The Committee's decision to elect the unsuccessful candidate, Thomas Cridiand, was then ratified, and the candidate selected to benefit by Mr. Sutton's liberality was William Smith, whose votes (2784) were the highest polled by the thirty-nine unsuccessful candidates.

CONTRIBUTIONS FROM AUXILIARIES.

We believe the actual sum contributed by the auxiliaries during last year were as follows:—Devon and Exeter, £60; Bristol and Bath, £105; Liverpool, £50; Reading, £109; Wolverhampton, £2t; and Worcester, £75. In addition £55 has been received since from Worcester, which amount will go into the accounts for the following year. the following year.

THE FRIENDLY SUPPER.

THE FRIENDLY SUPPER.

In the evening the Committee and friends of the Institution met in the same Hotel on the occasion of the Annual Friendly Supper. Mr Leonard Sutton (Reading) presided, and there were about sixty gentlemen present. The Royal toasts were honoured, and then the Chairman proposed "Continued success to the Institution," and suggested that more auxiliaries should be formed. That at Reading was instituted upon the suggestion of Mr. H. J. Veitch. Mr. Sutton thought that at present the bulk of the amateurs have not been properly canvassed for support. He emphasised this, and suggested that if the Committee will think the matter over and adopt a scheme for advertising the

Institution that would have this effect, he would be

happy to pay the cost of same.

Mr. H. J. Veitch responded, giving some interesting particulars of the death-rate among pensioners; and in the course of his remarks alluded to the fact that the Committee had invited him to preside at the annual Festival Dipper, and begged those present to help him

Festival Dinner, and begged those present to help him to make the event a greater success than ever.

Mr. Geo. Monno proposed "Our Country Friends and Supporters," and spoke in the highest terms of the value of the auxiliaries, all of which have been established during the past ten years. Since their institution, Bristol had sent £951, Worcester £750, and Reading (in one year) £110. Mr. Vallance (Bristol) responded. Mr. Geo. Paul proposed the toast of "Committee and Honorary Officers," and said that forty-four years ago he used to carry the pension-money to two old pensioners in his district, and the joy it gave them he remembered still. His toast only meant. "thanking men who have done thoroughly well the work entrusled to them." Other toasts included "The Chairman," "The Secretary," &c.

EAST HAM AMATEUR CHRYSAN-THEMUM.

This flourishing Society, the last new creation of the kind in the East End, which was started in January, 1903, has proved so successful that, after defraying the expenses of the year's working, which included a successful exhibition, the Committee have handed over to the East Ham Hospital the sum of £18158, 3d., and carry forward a balance of £278, 2½d. Evidently there is no misgiving as to the future of the Society.

BRIGHTON AND SUSSEX HORTI-CULTURAL.

THE report for 1903, presented at the annual meeting held on January 21, showed a substantial increase in the list of members. There was a profit on the year's working of £32 128. 9d, leaving a total balance at the hankers of £193 148. 6d. The Committee deeply regret the loss, through death and other causes, of several the loss, through death and other causes, of several Vice-Presidents and subscribers. New features were introduced into the summer show, but the weather was detrimental to the receipts.

GARDENERS' DEBATING SOCIETIES.

CHESTER PAXTON .- The opening meeting of the CHESTER PAXTON.—The opening meeting of the present session was held in the Grosvenor Museum on January 16, when Mr. J. D. Siddail delivered a lecture, with illustrations, entitled, "Living Pictures of Living Organisms." The American Water-Weed (Anacharis Alsinastrum, Bab.) was described very fully. By the aid of sides and pictures the lecturer was enabled to show the plant in all its stages of growth; but the cause of its gradual disappearance from Great Britain was admitted to be an unsolved mystery. The freshwater Hydras were dealt with in a similar manner. cheese-mitesand mites generally came next. concluding cheese-mites and miles generally came next, concluding with chameleons and toads.

BRISTOL AND DISTRICT GARDENERS' .- A meeting BRISTOL AND DISTRICT GARDENERS.—A meeting of this Society was held recently at St. John's Parish Room. Lientenant-Colonel Cary Batten presided. there being a large attendance. Mr. Davy, of the Cardiff Gardeners' Association, read a paper on "Orchids." He spoke of the increasing love for Orchids amongst horticulturists, and gave much valuable information as to the kind of structure best suited for their culture—shading, heating, ventilating, and temperature alike receiving attention; also dealso and temperature alike receiving attention; also dealing with many of the varieties in cultivation, and giving directions with regard to potting, watering, and treatment generally.

HULL AND DISTRICT HORTICULTURAL.-DEC. 12. -A paper was read recently before the members of the above Society by Mr. Picker, of Hessiewood, on "The Herbaceous Border." His hints on the selection of a Herbaceous Border." His finite on the selection of a suitable site for the ground, the form of the border, preparation of the ground, sowing of seed, planting, and after-culture, were replete with practical suggestions, especially as coming from one who has proved himself successful in this branch of gardening. Herbaceous successful in this branch of gardening. Herbaceous subjects suitable for being planted in beds, and accomsubjects suitable for being planted in beds, and accompanied, if desired, with bulbous plants, were Asters, Phlox, Anemones, Tritomas, Genista præcox, Doronicums, Philadelphus, Spirieas (shrubby), double Gorse, Deutzias, Hydrangeas, Hollyhocks, Syringas, Berberis Darwinii, and Delphiniums. A good top-dressing of farmyard manure was advocated as heing by far the best manure for the border. Mr. Picker recommended a reserve ground, in which pot plants could be plunged in coal-ashes, and used as required to fill vacancies.— The discussion which followed showed general agreement with the paper. W. R.

BECKENHAM HORTICULTURAL.—At a meeting on January 15, Mr. J. Lyne, "Foxbury," Chisleharst, lectured on "The Strawberry. He advocated deep cultivation, a good, stiff, chalky loam being the best

soil to grow them in. Never keep a bed more than three years. In forcing, start with a temperature of 40° to 50°, increasing to 60° to 70°. When the plants are in bloom keep the atmosphere dry, and avoid draughts from north-east wind. When the fruits have set, feed the plants with some approved chemical manure, and if large fruits are wanted, thin them out to four fruits on each plant. Mr. Lyne recommended having a special house for Strawberries—alow, span-roofed one like the market men use being best. The lecturer said it was best to ascertain which varieties were best suited to the locality. Royal Sovereign was the only variety of Strawberry he himself forced.

CROYDON AND DISTRICT GARDENERS.—we have received a programme of meetings to be held by this society during the coming season in the "Sunflower" Temperance Hotel, George Street, Croydon. The sylvania comprehensive and interesting. The chair labus is comprehensive and interesting. The chair will be taken at 8 P.M. Members are invited to bring exhibits to the meetings, for which purpose the room

will be open at 7 o'clock.

At the meeting on Tuesday, January 19, a paper was read by Mr. H. J. Jones, of Lewisham, his subject being "Chrysanthemums." An excellent attendacce of members assembled, and followed the lecturer through all details of cultivation of this popular flower. Time would only allow a short discussion, but what questions were asked Mr. Jones replied to clearly. Mr. W. TARNEY, Station Road Nurseries, staged wellgrown Primulas; and Mr. P. F. Bunyard exhibited a new plant label, the "Eclipse."

EAST ANGLIAN HORTICULTURAL CLUB. - In presenting their report for the year ended November 27. 11843, the Committee record a busy and important year. Thirty-three members were enrolled during the past year, the net membership now being 279. The balance to the credit at the last audit was £112 168. 4d., the receipts during the year amounting to £83 38. 10d. The receipts during the year amounting to £83 3. 10d. The figures relating to the monthly exhibitions show an increase in entries, number of exhibitors, and points awarded. Mr. C. Burtenshaw was the leading exhibitor, winning 15s points. The Silver Challenge Bowl was won by Mr. Hines, who holds the prize for the first year. The schedules for the mouthly exhibitions for the coming season include prizes for fruits, flowers, and vegetables, and for special classes. The list of lectures include subjects of general interest to gardeners. The fourteenth annual dinner took place at the Club Room on the 13th inst.

SUTHERLAND MUTUAL IMPROVEMENT .- Accordto the thirteenth annual report of the above Society, the past year has been the most successful since its inception. The financial conditions of the Club are in a satisfactory condition, with a useful balance in the hands of the Treasurer. They have held about twenty six meetings during the year, the exhibits being more numerous and of better quality than previously. Mr. T. W. Bolam was re-elected chairman, this making the twelfth year he has occupied the position. Mr. A. Brunston, gr. to Joseph Short, Esq., was again successful in winning the 1st prize for the greatest number of exhibits in the competitive classes during the year. The Annual Dinner was held on the 10th inst, Alderman Burns, J.P., presiding, over 100 guests being present. The secretary, Mr. J. T. Richardson, was the recipient during the evening of several presentations.

READING MUTUAL IMPROVEMENT.-The annual meeting was held on the 11th inst. The Committee, in submitting the annual report for 1903, congratulated the members on the continued prosperity of the Assothe members on the continued prosperity of the Association. The meetings throughout the year have been well attended. Particular mention was made of the display on April 20, when more than 100 bunches of cut flowers were staged. The balance-sheet showed a credit to the Society of £26 78. 6d.—The first fortnightly meeting in the new year was held on the 18th inst, when Mr. J. Woolford gave a paper entitled "A Chat on the Small Border System for Fruit under Glass."

FRUIT REGISTER.

PEAR, CHARLES DE GUELIN.

THE January number of the Bulletins d'Arboriculture contains a coloured figure and a description of this Pear. The fruit is described as of large size, turbinate in shape, of a smoky-brown colour externally, with yellowish-white, melting, perfumed, and juicy flesh. It ripens in January and February. M. Burvenich speaks highly of it for its cropping qualities and its general excellence.

CALIFORNIAN HOLLY .- For decorative purposes the scarlet berries of this tree or shrub are very largely used in California. The shrub producing them is no Holly, but a Rosaceous plant, Heteromeles (Photinia) arbutifolia.

Obituary.

WILLIAM RATCHELOUS .- This well-known and highly-respected townsman of St. Neots, Hunts, died there on the 22nd inst., after a long and painful illness, his age being about fifty-eight years. For thirty years he had filled the post of manager of the branch nurseries of Messrs. Wood & Ingram, of Huntingdon, at St. Neots, and was a man of remarkable energy and active habits. For many years he was the Secretary of the St. Neots Horticultural Society, and at the time of his death Hon. Sec. of the Chrysanthemum Society there. A native of the district, and a member of a much-respected family residing in it, he appears to have commenced his gardening career under his father, who was the gardener at Priory Hill; he eventually became gardener at Waresley Park, and from there he assumed the post of manager for Messrs. Wood & Ingram, and became particularly successful as a cultivator of Cucumbers for seed. Mr. Thomas Lockie, the well-known raiser, always spoke of him as "probably one of the best seed Cucumber growers in England." He leaves a wife and grown-up family. R. D.

BENJAMIN WELLS.—We regret having to record the death of this old-established nurseryman of Crawley, who, while suffering from a fit of depression, ended his life by drowning himself in a well on Saturday last.

SEED-SOWING.

WHATEVER may have been the difficulties incidental to seed-saving out-doors in 1902, it is certain that those troubles were even greater last year, for a worse season for seed-production has rarely been experienced here. This is but one more evidence, if such were needed, of the disastrous effects ungenerous weather can produce on the products of the soil. Practically horticulture has rarely been worse hit for many years by climatic conditions than it was in 1903. It is but natural therefore that seeds purchased this spring may to some extent show the ill-effects of an adverse summer and autumn. They may be less plump, be indifferently matured, be stained, show lack of germinative quality, and much may be rather old. That our seed trade will do its utmost to supply its customers with the best seeds obtainable there can be no doubt, and it is well for all who sow to obtain crops, that great quantities of seeds are raised for our use in distant lands where sunshine generally prevails, and where conditions exist which are eminently favourable to seed-maturation. Here at home a warm, dry summer is very favourable to seed ripening, but if it be very hot and dry, as sometimes is the case, then drought at the roots checks growth, and a crop of finely-matured seed is often much reduced in bulk because quantity is absent. We have not many ideal seed-producing seasons. If in anticipation of a dry season ground be deeply worked and well manured, and a dripping summer follows, growth is excessive, whilst seed-production is restricted. But if the season be a dry, warm one, the special preparation the soil has received is then well repaid. As we cannot possibly have seasons to order, and sometimes, as last year, we must suffer severely from bad ones, it is indeed a matter for the greatest satisfaction that under conditions that otherwise would be productive of much trouble in garden cropping, we have the whole world ready to produce for us the best seeds to supply our needs. But it will be wise for all who garden to remember that much seed may have inferior germinating power, and that in consequence it will be well to wait until the soil has become fairly warm ere sowings are made. Where the soil is naturally stiff or clayey,

it will greatly help germination if some fine gritty soil, old pit soil, wood ashes, soot, and other material, be mixed, screened, and kept ready to top-dress seed-beds or drills. It may even be desirable to sow a little thicker than usual. Still, any gardener having glass and a little heat can soon, by counting 100 seeds, sowing them in a shallow pan of fine soil, and then counting the resultant growth, test for himself the germinative capacity of the seeds he has to sow. A. D.

TRADE NOTICES.

Mr. George Watson, who has managed the business of Messrs. Edmondson Brothers, Dublin, for the past nine years, has become a partner of that firm.

Messes. Fava & Radl, Naples. — Owing to the death of the late Mr. Giuseppe Fava, on September 28 last, the above firm has taken into partnership Mr. George Trache, and will be known henceforth as Messes. Trache & Radl, San Giovanni a Teduccio, Naples.

STOP-PRESS NOTE.

THE PROPOSED ALTERATION OF THE SUB-SCRIPTION AT THE ROYAL HORTICULTURAL Society.—As a member of the Council of the Royal Horticultural Society when the Guinea Fellowship was first adopted, and having been a strong advocate for it at the time, I was ill-pleased to see in the report of the recoumendation of the Council that in future only Fellows paying two guineas should be accepted. The new class of Fellows have not only brought funds for the use of the Society, but they bave added to its strength by their number and enthusiasm. It is true that they get exceptional value for their money, though the picture is somewhat overdrawn, few Fellows attending all the meetings or going two or three times to the large shows, or, indeed, making use of all their privileges. The question of crowding, which is the ostensible excuse for the measure, will be met by the larger space in the new Hall, and the room required for lectures being found elsewhere. It may be that the cost and postage of the Journal to guinea Fellows may over-tax the Society. If this is so, would it not be better to allow the future Guinea Fellowships to remain, with the understanding that the Journal be not sent except upon the payment of an additional guinea, which it is well worth? I ventured on Tuesday to suggest this to one or two members of the Council. As a trade member of the Society and frequent exhibitor, I also deprecate the step. George Paul.

ANSWERS TO CORRESPONDENTS.

CHINESE PRIMULA: H. F., Swansea. The flowers of a pink-coloured variety of Primula sinensis are very good, being of extra size and substance, and much fimbriated. From their appearance, and that of the leaves also, it is obvious the plants have been well cultivated in rich soil. Why address the Publisher on a matter so obviously one belonging to the Editor?

CHICKEN AND SHEEP MANURES: Chicken. These manures are of very great value for all kinds of fruit-trees. They are both of considerable strength, and if used in a fresh state should not be applied too liberally. If soaked in a tub of water they will afford capital manurewater for any crop.

Cupressus: B. S. H. The two sprays you send represent immature forms of some Cypress. It is difficult or impossible to say which from the specimens sent, but probably they are juvenile forms of C. sempervirens. If so, after a short space the trees will show their true character.

CUBE FOR ANTS: J. M. "The Ballikinrain Ant Destroyer" is a good exterminator of these pests, and may be obtained from the horticultural sundriesmen. Remember it is a violent poison to other creatures as well as to ants.

DRESSING FOR FRUIT-TREES: Tree-wash. A good wash for spraying Apple-trees can be had readily and cheaply by mixing four parts of lime (quick or unslaked), and one part of flowers-of-sulphur; break the lime into small pieces, then mix the sulphur with it in an iron vessel, pour on them enough boiling-water to slake the lime to a powder; cover in the vessel close as soon as the water is poured on. It should be used fresh. Some recommend ½ oz. of carbolic acid to each gallon of liquid. It may be applied at once.

MARGUERITE (CHRYSANTHEMUM FRUTESCENS):

Butler Bros. There is no fungus present. The
fading and disfigurement of the foliage seem
to be due to the punctures of some insect.

Spraying with an insecticide or fumigation
would be beneficial. We have the plant still
under our observation, and will refer to the
matter next week.

MUSHROOM BED: Amateur. Your difficulty is in keeping the atmosphere of the house in a suitable condition. There is no fault in the bed, or the Mushrooms would not show so plentifully, but in future it would be as well to spawn the bed when the temperature has declined to 75°. But above all give sufficient ventilation to keep the atmosphere pure, and avoid excessive dampness, which in itself is frequently a cause of the young Mushrooms decaying.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number. — Frank Welstead. Azolla Caroliniana.—Nestor. Phylica ericoides.—J. H. B. Chimonanthus fragrans.—Zola. Sophronitis grandiflora rosea.—H. S. S. Not Ceologyne cristata, but Ceologyne lactea of the Ceologyne flaccida section.—Green Tree. 1, Cupressus dolabrata; 2 and 3, forms of Cupressus Lawsoniana; 4, Prumnopitys elegans; 5 and 6, forms of Juniperus virginiana; 7, Cupressus, perhaps C. Goweniana.—G. H. 1, Photinia serrulata; 2, Cupressus sempervirens; 3, Cryptomeria japonica; 4, Tsuga canadensis; 5, Polypodium cambricum. Abies Pinsapo is spring-tender; perhaps the roots are too dry, or the soil too sodden; either cause would bring about such results.

PLANT ENQUIRY: P. Madeira. Randia Fitzalani an Australian Rubiaceous plant; Buckinghamia celsissima, an Australian Proteaceous tree; Harpullia pendula, an Australian Sapindaceous tree; Hernandia bivalvis, an Australian Lauraceous tree. All the above-mentioned are described in Bentham's Flora Australianis. Cedrela fissilis, a Brazilian Meliaceous tree, in cultivation at Kew: Lincciera is a genus of Oleaceous trees, natives of eastern tropical regions. One species is Brazilian. With the exception of the Cedrela, which is mentioned in the Kew Hand-List, we are not aware that any of the plants named are in cultivation here.

Propagatino Potatos: A. G. The report may be true; but the methods of propagation are not exhausted, as you seem to suppose, when the tubers have been cut into pieces. When trying to increase the stock in the smallest possible time, each "eye" is taken from the tuber with a little flesh attached, and a plant is grown from each "eye" the tuber possessed. This is done in the winter, and the plants so raised are "topped" the tops are inserted as cuttings, and these make roots readily. Further cuttings are afterwards taken from the plants that were topped, &c. Procure a copy of the Gardeners' Chronicle for October 3, 1903, and you will see such methods described and illustrated.

COMMUNICATIONS RECEIVED.—Hobbies, Ltd. (letter has been forwarded)—D. R. W.—G. S. B.—J. M., Kew—W. P. W.—W. Peters—W. J. B.—J. D. G.—A. A. P.—M. M. N.—J. C. & Sons—G. S.—E. R.—J. C. & Co.—Chloris—J. R. W.—J. S., Co. Down (next week)—Constant Reader—E. S.—A. H.—C. H. D., Actoo—W. P.—J. W.—D. D.—Tab—D. W. W.—A. J.—W. J. L.—H. W. W.—H. M.—F. M.—E. R.—Z. & Co., Haarlem—J. W.—J. Mep.—T. H. W.—W. H. D.—Rose—F. T.—F. M.—C. R.—G. McK.



THE DELL, IN THE ROUNDHAY PUBLIC PARK, LEEDS.





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THE GARDEN RUBBISH-HEAP.

SOME of the readers of the Gardeners' Chronicle may wonder what any one can have to say on this subject, but perhaps I may be allowed to present it in an aspect in which it has not been looked at before. It has been suggested by the fact that private gardening has to be conducted on much more economical lines in these days when almost all garden products are brought to our doors as cheaply as or even more so than we can grow them, and often of better quality.

The garden "rubbish-heap" has been and still is a great institution in most gardens, but is probably the most wasteful and expensive of any. I was brought up in the idea that the rubbish-heap was indispensable, but later experience taught me differently, and for many years I have done away with it altogether as a receptacle for garden refuse of any kind except in the case of ashes.

What caused me to do that was the difficulty of procuring sufficient manure for a large kitchen-garden, of keeping expenses within the desired limits, and the labour and waste involved in having such a heap

outside the garden. Let me give the readers some idea of what I mean.

In the garden where I was a learner, the kitchen-garden was about 10 acres in extent and had to supply a very large establishment in the North for two or three months in the antumn only. All the usual crops were grown extensively, and of course there was annually a great amount of what is usually called "rubbish" produced, consisting of weeds, Peaand Potato haulm, quantities of old Brassica tops and stumps, loads of shearings from the long herbaceous borders in autumn. leaves and much other vegetable refuse of various kinds. All these bye-products were carefully collected at much labour, and wheeled a distance of about 400 yards to an out-of-the-way corner where the heap would not offend the eye or the nose. Here they lay for a long period till more room was wanted, by which time the heap had rotted away until the largest portion of its manurial value had disappeared. In fact, a ditch had to be cut to carry the soakings of the heap away to the nearest stream. When the heap got to this stage of decomposition and waste it was wheeled back again into the garden for what it was worth; but much manure had to be bought as well to make np. What the making and unmaking of this heap cost to the proprietor I could not exactly say, but I have often roughly calculated since that the mere labour attending it would alone have gone far to have supplied all the vegetables needed at the mansion when the actual quantities consumed were reckoned up. One of the most striking facts, when one looks into it, in a kitchen-garden, is the exceedingly small proportion the vegetables actually consumed bear to the quantity of refuse produced along with it in the shape of straw, tops, leaves, stumps, stems, and roots, &c. In reckoning up this matter years ago, I made out that from a three-acre kitchen garden, closely cropped all the year round, the amount of plant food taken out of the ground by the vegetables and out-door fruits removed for use was, when reduced to its essentials, comparatively almost infinitesimal. The most exhaustive crops were Peas, Beans, Potatos, Cabbage, Cauliflower, and Strawberries, and of these a large portion of their food was derived from the atmosphere as well as from the soil, and a large portion of their substance left in the garden to be returned to the soil again unless it went to the rubbish-heap.

Viewed in that light, therefore, and considering the expense of the "rubbish-heap," I calculated that if I could return to the soil that portion of each crop that was not needed for consumption, such as stems and leaves, &c., and in the green state if possible, I should be putting back almost as much, if not more, than had been taken out of it, and that next to no other manure would be needed. I acted on that principle, and for over twenty years I never allowed a barrowful of weeds or other vegetable refuse to be removed from the quarter where they grew, or if it was not convenient to use it in that place it was used on the next plot for another crop. The saving in labour alone, by not having to collect this refuse and wheel it a long distance to a rubbish-heap and wheel it back again, or cart it away as waste, amounted to a considerable sum, and good mannre was saved.

Of course, in conjunction with such a system, it is advisable to follow some kind of rotation system, but that cannot be done in anything like the periodical way that rotation is carried out in agriculture, for the variety of crops required in a garden and the limited space at disposal prevent a very systematic rotation. But putting back into the soil an equivalent for what is taken ont of it makes rotation of less importance, as I found in the application of garden

I had one long north border, not of much use except for winter Greens and Turnips. and these crops were repeated year after year for some fifteen years without any appreciable difference in the quality and weight of the crops, and all the mannre applied consisted of the stumps and tops left on the borders of the previous crop, the difference, if any, being made up from the pleasure-ground compost heap, consisting mainly of grass and leaves and cleared off frequently, everything in the shape of prunings and sticks being converted into wood-ashes, and used mainly for the Strawberry quarter. In restoring this vegetable refuse to the soil again, I was careful not to bury it too deeply, as I considered it pure waste to trench rough green manure deeply into the soil. If a very rough lot of old vegetable refuse had to be dug in, the plan was to take out a good single-dig opening and bury the refuse as the digging proceeded. This was done in autumn, or early winter, and when the ground was cropped the following season the soil was not turned over again but only deeply loosened by the fork and sown or planted. At other times the ground was donble-dug, if the refuse was too rough to dig in one spade deep, but this double-dig rarely exceeded an actual rooting depth of 18 inches. During the number of years stated above I never bought any manure for kitchen-garden crops, except once or twice that I tried a little of a special manure on Potatos and Strawberries. I had also a very small share of stable litter, from which the droppings had been carefully sifted for mushroom beds, but that was hardly worth mentioning, and reliance was placed on the carefully-husbanded refuse annually returned to the soil.

There is one other important economical consideration, however, in the culture of shallow-rooting vegetable crops of all kinds that must be taken into account. The roots are always near the surface, and the soil between the plants being always bare, the evaporation is far greater than is generally imagined. No matter how richly the ground may be manured, if the moisture is deficient the crop will be deficient also. It was the culture of Celery that first drew my attention to that fact. Celery is usually a very heavily and expensively manured crop, often it is far too heavily manured, for, after all, the plant only demands a certain quantity of food, and to put more than that into a celery trench, in the form of a thick layer of good dung, as is usually done, is waste. What the Celery does not use is washed into the subsoil and lost. It is moisture in abundance that Celery wants more than anything else, and the rain will usually provide sufficient after the first waterings, and be more than equivalent to a large amount of rich manure, and will save the cost of providing it. To prove this I once planted two rows of the same kind of Celery in the

ordinary soil at the same time and otherwise under equal conditions except that one row was liberally manured from an old compost heap and the other was not manured at all. The manured row was left bare on the surface between the plants, and the unmanured row was thickly mulched with short grass from the lawn. Both rows grew fairly well, but the mulched, unmanured row certainly took the lead at the beginning, and kept it for the greater part of the season, the roots being always cool and moist under the grass, while the other was often parched, unless watered, which meant expenditure of labour and wages. Towards autumn, when the weather was more moist, the manured row began as I like with. It is three years since I took it in hand, not an inch of it is vacant. not a weed has been carried out, and not a morsel of manure brought in. came there was a good supply of garden rubbish of all sorts, including sticks and wood. I burned what I could, scattered the ashes on the plots, and buried all the rest in the first winter, and have had a record crop of Strawberries and Potatos, &c.

Included, I should state, under the head of garden rubbish are soap-suds and suchlike slops, which are all emptied at once on any quarter that happens to be vacant, and though the quantity may be small it is invaluable as a manure. J. Simpson.

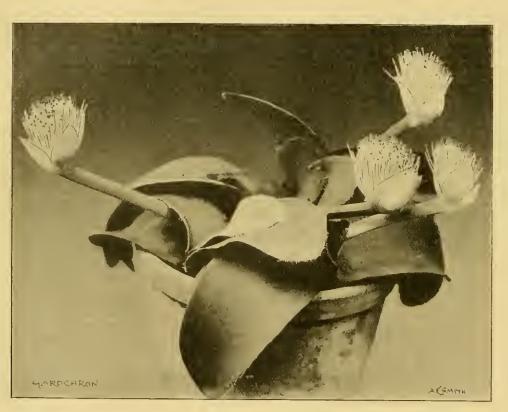


Fig. 36.—Hæmanthus virescens var. albiflos, trinity college botanic garden, dublin. (Photograph by Mr. G. E. Low.)

to make headway; but there was not much difference in the two at the end, only the mulched row eost considerably less. After that I gave up heavy manuring, and mulched all the rows, thus saving much artificial watering and manure.

Then there are the weeds. My plan of keeping all the rubbish where it grew and digging it in green or dead, I was told, caused more weeds to grow, but my experience was that it did not do so; although I was not one of those who were always hunting after every weed as fast as it appeared, because I think the cleaning and raking among vegetable crops are often overdone when much more important work is waiting. Once a member of one of our agricultural colleges, looking round, made the remark to me. "I see you have all the gardener's prejudices against weeds," and on my replying that I might have a worse fault, he added, "Yes; but it is overdone.

I find my system very useful and economical now that I have a garden I can do

HÆMANTHUS VIRESCENS VAR. ALBIFLOS.

ALL the South African Blood Flowers are very interesting greenhouse plants, varying considerably in size and habit; and several of them, such as H. cinnabarinus, H. insignis, H. Kalbreyeri, H. Katherinæ, H. multiflorus, H. natalensis, H. punicens, H. sanguinens, and H. tigrinus, have scarlet or crimson-red bracts or flowers. H. incarnatus has flesh-coloured flowers, and the plant illustrated, as well as H. hirsutus, has white flowers. All endure fresh and fair a long time in flower, and it is rarely that one can visit the greenhouse devoted to Cape bulbs, Heaths, &c., in the T-range at Kew without seeing some one or more of these species in bloom. We have heard these plants when in bloom irreverently referred to as "Paint-brush" or "Raddle-brush" flowers, but "Blood-flower" is even a more appropriate name. Even when out of flower their foliage is as a rule very distinct and effective, especially in the case of the larger-growing kinds. They grow freely in well-drained pots of fibrous loam intermixed with coarse sand or grit, and require plenty of water when growing or flowering; but

the deciduous kinds may be dry at resting time, or when the leaves turn yellow and decay. our old friend the Scarborough Lily (Vallotta purpurea) the Blood Flowers flower most freely and regularly when root or pot-bound; and I have seen both H. sanguineus and the variety now illustrated do well for years in a sunny window-garden near the sea. H. albiflos was originally introduced from the Cape of Good Hope in 1791, and was figured in the Botanical Magazine, t. 1239. The accompanying illustration is from a photograph taken by Geo. E. Low. Esq., in the College Botanical Gardens at Dublin, and shows the plant about two-thirds its natural size. F. W. Burbidge.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM.

THE question, before asked in the Gardeners' Chronicle, "When is a crispum not a crispum?" is being frequently revived, the large importations of Odontoglossum crispum from different localities and their complications with other species growing with them supplying ample material to enlarge upon. Approaches to O. × Wilckeanum are the commonest; varieties with a snggestion of O. × Andersonianum have also flowered, and now F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, sends a very pretty spotted form about which, after asking the question above referred to, he says, "In my opinion it is a true crispum; but experts differ very widely as to when a flower is a crispum and when it is an Adrianæ. The flower is off a miserable little bulb, and is no sort of guide, I imagine, to what it should be if we can grow the plant strong; but it has some obvious merits even now; the shape is very good, and the spots stand out very distinctly against the nearly pure white ground."

The flower is of that neatly-formed class of which a small importation, some of which flowered with Sir Trevor Lawrence, Bart., appeared several years ago. It has a profusion of reddish-purple blotches, and when perfected will be a very handsome flower. The only suggestion of O. × Adrianæ is in the crimped and fringed lip, which also bears a row of small reddish spots on the upper edges. It is a very pretty flower, and appears to be as good a "crispum" as some others

to which the name is accorded.

CYMBIDIUM GRANDIFLORUM.

The fine flowering of a moderately-sized plant of this grand Cymbidium by Mr. W. P. Bound, gr. to Jeremiah Colman, Esq, Gatton Park, especially after such a protracted spell of dull weather, is a commendable cultural event. The plant, which is often called C. Hookerianum in gardens, is one of the finest of the genus, but it has always had a bad reputation for being difficult to flower, and for coming deformed when flowers have been produced. It often sends out the inflorescence in autumn or early winter, and buds appear which seem to remain in the same condition for several months, and then do not develop properly. The delay in expanding the flowers is due to the absence of the necessary sunlight in all probability, and the consequentimperfect development of the flowers.

The specimen shown by Mr. Bound in Mr. Colman's Gold Medal group at the Drill Hall on January 26 was also a very fine variety, the lip being large and finely spotted. .The basal flowers, from which the pollinia had been removed, also showed a great difference in the colour of the lip, which was changed to a reddishpurple tint. The change of colour in fertilised flowers is not uncommon.

It is a native of the Eastern Himalaya, altitude 5,000 to 7,000 feet, and it grows well in an intermediate-house.

MUSA SUPERBA.

Mr. W. S. Millard, writing from Malabar Hill, Bombay, obligingly sends us photographs of the Wild Plantain of the Western Ghats (figs. 37, 38). The Palm in the background is Caryota urens, about 40 feet in height, and covered with Bignonia venusta. The second illustration shows the flower-stalk with its enveloping bracts. The photographs were taken by Mr. N. C. Macleod. Musa superba is fully described in Hooker's Flora of British India, vi., 261; and in Schumann's monograph in Engler's Pflanzenreich (Musaceæ). (1900). It produces no stolons, and dies after flowering. The flowers are ten to twelve in number in the axil of each bract, the bracts themselves being dull red; see Bot. Mag., t. 3849. The fruit is not edible.

NOTICES OF BOOKS.

THE FLORA OF THE SUNDRIBUNS.*

THE name given to the immense area forming the delta of the Ganges and the Brahmaputra

ward to Chelmsford, St. Albans, Oxford, and Bristol, the whole nearly covered with forest, and traversed from north to south by a dozen large rivers or, in some instances, arms of the sea, connected and cut up by innumerable rivulets and creeks, and you will have an idea of the Sundribuns. Practically the whole area, which Prain estimates at 7,000 square miles, is under tidal influence, and large tracts are submerged at every tide. The banks of the rivers and the margins of the islands are the highest land. Frequently spring tides break through the banks and open fresh channels, and sometimes tidal waves devastate large tracts. Thus in October 1876, a wave 10 feet high swept over the islands at the mouth of the Megna, the eastern boundary of the Sundribuns, and 98,000 persons were drowned. The river Hughli, on which Calcutta is situated, forms the western boundary of the Sundribuns.

Major Prain has brought together the data and materials of previous explorers, and consolidated them with the results of his own investigations.

shrubs, and herbs, common on other parts of the Bay of Bengal, is not so easily accounted for. Prain gives a list of 35 species of this category, most of which have a very wide range on tropical shores and are characteristic throughout tropical Polynesia, both on volcanic and coral islands. Calophyllum Inophyllum, Heritiera littoralis, Suriana maritima, Sophora tomentosa, Guettarda speciosa, Scævola Kænigii, Cordia subcordata, Tournefortia argentea, Hernandia peltata, and Cycas Rumphii are among the absentees Possibly they will only thrive in shingle or sand, of which there is comparatively little on the surface of the delta, though Prain describes a line of low sandhills as existing on various parts of the coast where it is subject to the influence of the waves.

The composition of the forest varies considerably in different parts, and offers some anomalies of interest to the cultivator. For example, Heritiera minor, which abounds almost throughout the Sundribuns, except in the coast-belt, does not thrive so well in the Calcutta garden as



FIG. 37.—MUSA SUPERBA, THE WILD PLANTAIN OF THE WESTERN GHATS.



FIG. 38.—MUSA SUPERBA, SHOWING THE END OF THE SPIKE WITH THE BRACTS ENVELOPING THE FLOWERS.

has as many variants as Maulmain, otherwise Moulmein, &c. Most of us of the older generation learnt to write it "Sunderbunds," but Mr. C. B. Clarke, who dealt with the subject in a presidential address to the Linnean Society, discusses the derivation of the word, and explains that it is from Sundri, the Bengali name of Heritiera minor (syn. H. Fomes), and bun, a forest—that is, Sundri-forest. He transliterates it "Soondreebun," which, in his opinion, more nearly expresses the native pronunciation, and he rejects the terminal "s" as a spurious and unwarrantable addition: but Major Prain retains it.

So much for the name; now for the place. Imagine the south coast of England, from Beachy Head, in Sussex, to Start Point, in Devonshire, as that throughout as Pevensey Marsh, between Eastbourne and Bexhill, and extending north-

If his "Flora" is not absolutely exhaustive, it is sufficiently so, I believe, for all practical purposes and theoretical deductions. The total number of species of flowering plants and Ferns is 334, belonging to 245 genera and 75 natural orders. The number of species, small as it is for so large an area, would be considerably reduced by the elimination of those intentionally or unintentionally introduced by man. Prain estimates these at 36 and 58 respectively, which leaves 240 species only in the natural flora of the delta. It is assumed that these 240 species arrived by various animate and inanimate agencies; aquatic and frugivorous birds being responsible for 30 and 23 respectively; winds for 50; rivers, 41; and tides, 96. The preponderance of species from tidal-borne seeds is interesting, and may be accounted for by the fact that of the numerous seeds brought down by the rivers, and just as likely to be cast ashore at the meeting of the waters, few would grow in the brackish mud of the delta. The absence of a very considerable number of essentially or exclusively littoral trees, H. littoralis, a species more tolerant of salt water. Again, Phenix paludosa, the only palm of the district, and common everywhere on or near the banks of the tidal rivers, grows much taller in the Calcutta garden than in a wild state.

Excecaria Agallocha grows equally well in the Mangrove and Sundri forests and at Calcutta. Sonneratia apetala, which practically ceases where the Mangroves begin, survives, but does not thrive at Calcutta. Major Prain's paper abounds in information of this kind. A section on "root-suckers" and their functions is specially interesting.

The most remarkable feature of the Sundri forest is the crop of vertical, blind root-suckers emitted by the roots of various trees, notably by those of the Sundri (Heritiera minor) itself, but also by Amoora cucullata, Carapa gangetica, Sonneratia acida, S. apitali, Avicennia officinalis, and Phenix paludosa. The root-suckers of different trees vary considerably. In Phenix paludosa the roots, which pass almost vertically downwards, give off numerous branches that pass

^{*&}quot;Records of the Botanical Survey of Iudia," Vol. ii., No. 4, with a map. By D. Prain.

[†] Proceedings of the Linnean Society of London, 1894-5, pp. 16-29.

vertically upwards. The vertical branches are usually small and somewhat inconspicuous, differing little in appearance from those growing downwards; but their structure is peculiar, and it is supposed that their function is respiratory. The root-suckers of Avicennia are also small, but more conspicuous as they appear in lines from the long horizontal roots. They are soft and pith-like, and much too flexible to serve either as mechanical supports to the tree, or to any great extent in arresting silt or rubbish. They rise well above the mud in which the true roots are buried.

The root-suckers of Sonneratia apetala and the rest of the trees named above exercise a decided mechanical effect. They appear in long, close lines, stretching 150 feet or more from the trunk of the tree, and they vary in size and height according to their position. When roots and suckers are buried by accumulations of silt, fresh roots and suckers are developed at a higher level, and the buried ones decay. In all cases it seems their tips are above high-water level, and it is assumed that they always act as respiratory organs. IV. Botting Hemsley.

"WHO'S WHO" is a very serviceable publication, as it not only tells us who's who, but what he is. It now forms a thick volume of of 1,700 pages in double column. In addition to this volume the publishers, Messrs. A. & C. Black, now issue a Year-Book at the price of 1s., containing the tables formerly inserted in the larger volume, but deleted to afford more space for biographical details. It contains all that any one ordinarily wants of the information found in the various Year-Books, Parliamentary Annuals, the Foreign Office, Colonial and Indian Lists, besides including much miscellaneous information usually only to be gathered from very many different sources. Among the contents are tables of pseudonyms, peculiarly pronounced proper names, professors, societies, academic degrees, Government officials, and many others.

THE ENGLISHWOMAN'S YEAR-BOOK AND DIREC-TORY, 1904. Edited by Emily Jones. (Adam & Charles Black, London.)

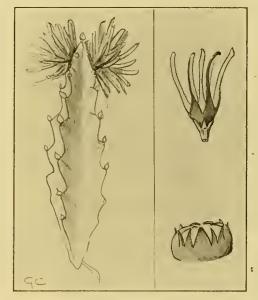
This is the twenty-fourth annual issue of this useful publication, concerning which it is truly claimed that no other handbook covers the same ground. It deals with women's work in education, medicine, science, literature, art, philanthropy, &c.; and, as a reference book, should be in the hands of every working woman. Under the heading of "Agriculture and Gardening" we find enumerated the various institutions admitting female students and workers, including the Horticultural College, Swanley, now wholly devoted to the instruction of women; the Royal Botanic Society of London's Practical Gardening School for Ladies, and the Royal Botanic Gardens, Glasnevin, Dublin, where two ladies are admitted to work, no payment being given or received. The examinations of the Royal Horticultural Society are also mentioned, as are the Edinburgh School of Gardening for Women, the Women's London Gardening Association, the Countess of Warwick's Agricultural Scheme for Women, and the Women's Agricultural and Horticultural International Union. All these Associations do but prove what we have frequently said before, that for the lighter work of horticulture and agriculture, for delicate experiments and florists' work, there is an excellent opening for women. Heavy outdoor labour in all seasons and under all conditions is not a fit occupation even for the strongest woman, though a short experience of it may be necessary for those who intend to make their living by such branches of the subject as are within their capability.

ONE AND ALL GARDENING.

This publication for 1904, edited by Mr. Edward Owen Greening, is now ready, and is procurable from 92, Long Acre, W.C. The contents are, as usual, very varied, and include practical information on gardening as well as articles and notes of more popular interest. The pages are profusely illustrated, and as the price asked for the book is but 2d., it may be considered to be cheap as well as attractive.

A TREATISE ON MANURES.

A third edition of Dr. Griffith's work on this subject has been published by Whittaker & Co. It is intended as a practical handbook for the agriculturist, manufacturer, and student. The gardener too will find it a useful book of reference. Dr. Griffith is, as will be remembered, a great advocate for the use of iron sulphate in proper proportions as a fertilising agent, when used together with artificial manures or farmyard manure, and with lime when that substance is deficient in the soil. As a preventative of Potato-disease, Dr. Griffith recommends a top-



F10 39 —CARALLUMA MUNBYANA AND PLOWER.

dressing, consisting of $\frac{1}{2}$ cwt. iron sulphate per acre mixed with five or ten times its weight of sand, when the haulms are a few inches above ground; or a solution may be used containing from 1 to 5 per cent. of the iron salt, and distributed by means of a Strawsoniser at the rate of 2 gallons an acre. If this result is confirmed, the use of the iron sulphate would be much more convenient than the employment of Bordeaux-mixture.

CARALLUMA MUNBYANA.

THE drawing I am sending you represents a single stem of this species in natural size, which grows in patches, like most Stapeliæ. The stems are 4-angled, the sides between the angles flatly canaliculated, and the angles are serrato-dentate, each tooth being terminated by a well-formed though very little cordate triangular leaflet. The colour is pale greyish-green. The flowers spring from near the top of the stems, about 4-6 together, from an extremely short extra-axillar peduncle. The buds are cylindrical obtuse, and the open flowers do not differ greatly. The pedicels are very short and angular; the sepals more than half as long as the tube, but not reaching the sinus between the segments of the corolla. Corolla very shortly campanulate, deeply divided into very narrow linear segments with replicate margins, glabrous throughout, chocolate-brown. The form is shown in the drawing; it is cupular, the inner lobes are triangular, incumbent, and shorter than the anthers; between them rise two other smaller lobes, which are upright. The smell of the flowers is very disagreeable.

It is a native of Algiers, where it grows on rocks near Oran, &c. Prof. Trabut, Algiers, told me that the natives eat the stems of this plant. It usually flowers at La Mortola at the beginning of October. Alwin Berger, La Mortola, Italy.

TREES AND SHRUBS.

ERICA LUSITANICA.

Whilst this Heath is only suitable for the warmer parts of the British Isles, it is, in places where it succeeds, perhaps the most beautiful of all the taller species. In some parts of our south-western coasts—South Dorset, for instance—it thrives to perfection. In parts of that county it has become almost naturalised, reproducing itself from self-sown seed. But owners of gardens farther north will find it a charming plant to have. In most districts south of London it is hardy, surviving all but the severest winters if given a sheltered place—protection, that is, from north and east winds. It is a native of Spain and Portugal, but has also become naturalised in parts of France.

From the remainder of the hardy Heaths this differs in the beautiful plume-like character of its branches, these being thickly furnished with rather pale but vivid green leaves, linear, as are those of all Heaths, but finer and less rigid than those of the other species. The branches are erect, and the shrub growe to be 6 to 8 feet high in time, unless cut back by exceptionally hard frosts. The flowers usually commence to open about the present time, perhaps earlier in the south-west, and, being produced in astonishing profusion over all the small twigs, they transform the whole branch into one enormous panicle of blossom. The flowers are white, touched with rose, individually small and campanulate. They remain in beauty till well into April. It should be mentioned that this Heath is also known in gardens by Lindley's name, E. codonodes (see fig. 41, p. 91).

PHYLLOSTACHYS CASTILLONIS.

During the past two or three years several hardy Bamboos have flowered, but I do not remember that any record has been made of the flowering of Phyllostachys Castillonis. It flowered during the past autumn in the Bamboo-garden at Kew. The distinctive characters of this Bamboo are its frequently variegated leaves (which are striped with yellow); and still more, its beautiful yellow stems. These latter are more decidedly yellow than those of any other Bamboo we cultivate in the open air, the yellow being relieved by a broad band of dark green, which traverses the flat side of the stem from one node to another on opposite sides of the stem alternately. Having had hitherto only vegetative characters such as these to distinguish most hardy Bamboos one from another, their real affinities could only be guessed at. Now that several have flowered we find (as has, indeed, been all along suspected) that several of the so-called species are in reality merely forms of one species in the eyes of the botanist. Thus, Phyllostachys nigra, P. nigra punctata, and P. Henonis are exactly alike in floral characters; and now that P. Castillonis has flowered, it proves, according to the determination of Dr. Stapf, to be one of the same group, the flowers being indistinguishable from those of P. nigra and P. Ilenonis. W. J. Bean, Kew.

THE MANGO (MANGIFERA INDICA).

THE Mango (Mangifera indica) is almost as well known by name in this country as though it were a native plant, a fact due to the reputation the fruit has in India, not only amongst the native population, but also amongst Europeans. To an ordinary Englishman, however, the taste of a Mango is quite unknown, as it is one of the tropical fruits that has still to take its place in the English fruit-market, though in small quantities it may be had preserved in syrup. Its appearance as an imported fruit in its fresh state may be anticipated when it is considered how widely spread the tree has become in the tropics. Of the varieties of cultivated Mangos in India, Mr. Maries states, as quoted by Dr. Watt in his Dictionary of Economic Products, that they have arrived at a great stage of perfection, and consist of very numerous races, although these are unknown to most people except as Bombays, Lungrahs, and Maldas. The many dozens of sorts sold in the bazaars under these three names have given rise to the idea that there are only three kinds of Mangos fit to eat. These three names really represent three distinct strains of cultivated fruits. It is interesting to note the changes that have taken place in these fruits. The form or shape has continued almost the same as that of the wild varieties, but the flavour has developed from "toward turpentine" to something too exquisite to express in words, each good variety having a flavour of its own. Of the cultivated sorts of Mangos, as many as 500 have been collected, from which a selection of 100 good kinds has been made. Besides the value of the Maugo as an edible fruit, it is also used in curries, salads, for making chutney and for various other uses.

The Mango is mostly propagated in India by grafting, and bearing upon the importance of this system of cultivation, we may draw attention to the following paragraphs from some recent numbers of the Agricultural News of the West Indies: "The regular and permanent improvement of West Indian fruit of all kinds is a matter of the utmost importance. It is desirable in these days we should steadily keep in view that to continue to grow from seed such fruits as Mangos, Oranges, Avocado Pears, Sapodillas, Guavas, Star Apples, and the various fruits known in the West Indies as Plums and Cherries, is not only a waste of time and opportunity, but it is a contession of our want of appreciation of the advantages to be derived from the skilful utilisation of our surroundings. It is hoped that at all botanic stations, agricultural schools, and experiment plots throughout the West Indies special attention will be devoted to budding and grafting fruit-trees, and that only budded and grafted sorts of known merit will be planted-out at these institutions.

"The Mango is possibly the most popular of West Indian fruits, and when of really good quality the most highly esteemed of all tropical fruits. There is no difficulty in propagating the best sorts, and we trust to see the day when budded and grafted Mangos will occupy the place of the thousands of useless Mango-trees that now cover the land. We are led to these remarks by the receipt, from the Curator of the Botanic Garden at St. Vincent, of a delicious grafted Mango known as the Peach Mango. It is a large plump fruit weighing 10 to 12 oz. yellow when ripe, juicy, of a delicate flavour, and free from fibre. It well answers its name of Peach Mango."

On the subject of extending the Mango season, the following remarks further occur in the same journal: "Sufficient attention does not seem to have been directed to efforts for extending the Mango season by selecting early and late sorts, and cultivating them with the special view of producing fruit earlier or later than the ordinary sorts. It is suggested that a list be prepared of early and late varieties of Mangos, and when this

is done it would be well in grafting them that early-fruiting sorts be grafted only on seedlings of early-fruiting sorts, and vice versa, instead of promiscuously, as at present. We commend the business of raising grafted Mangos to some of the more enterprising of the small proprietors in the West Indies. Grafted Mango plants of first-rate quality and true to name would readily sell for a dollar a-piece."

It is to be hoped that these endeavours to improve the Mango cultivation in the West Indies will be fraught with success, and lead to a large shipment of the fruits to this country. John R. Jackson, Claremont, Lympston, S. Devon.

THE BRUSSELS BOTANIC GARDEN.

THE LATE M. CREPIN.—It is proposed to place in the Brussels Botanic Garden a bust of the late Professor, who did so much for the flora of his native land, and who will be long remembered for his indefatigable researches in the genus Rosa. A summary of his classification was given



M. LEO GENTIL,

CURATOR OF THE BRUSSELS BOTANIC GARDENS.

in our own columns, and it is thought that some of our rosarians, to whom his stores of knowledge were always at command, might like to contribute to the memorial. The minimum subscription is fixed at 5 francs. Those who subscribe 10 francs and upwards will receive a photograph of the bust when placed in position. M. Durand, the Director of the Botanic Garden, is the treasurer to the fund, and we shall be happy to transmit to him any sums we may receive for the purpose.

We take the opportunity of presenting to our readers a portrait of M. Leo Gentil, who has recently succeeded to our old acquaintance, M. Lubbers, as Curator of the Botanic Garden. M. Gentil has many friends here, where he passed some time in the propagating department of the Royal Botanic Gardens at Kew. For some time he held an important post as chief forest inspector in the Belgian-Congo provinces and was successful in promoting the culture of rubber and other useful trees, and in enriching the Brussels garden with numerous introductions, some of which have been described by M. De Wildeman.—The effects of ether in the forcing of plants have lately been tested with success in the Brussels Botanic Garden.

VEGETABLES.

POTATOS.

Mr. II. Green (p. 54) is certainly to be congratulated on his experience. I have a lively recollection of a promising patch of Ashleaf in a southern county, planted on a south border early in March, that when well advanced in growth was greatly checked by frost. A few years back, in Northamptonshire, the main crop planted in April was cut down twice by frost, the couse-quence being a poor crop and small tubers.

I have a pleasaut remembrance of some Potatos grown in a garden near the downs, a few milee from the south coast, the produce of which played a creditable part at the first show of the International Potato Society held at the Alexandra Palace. The sets were carefully selected and prepared, the ground well worked by trenching. They were planted in the first week of April, the rows 3 feet apart, and not so close in the rows as Potatos are ordinarily put. The crop was a good one, and the tubers were of clean skin, large in size, and good in quality, being free from disease. I think that close planting, superabundance of haulm, and unfavourable climatic influences are conducive to disease, which, if spraying will check, is labour well expended. Geo. Potts, Streatham, S.W.

AMERICAN GRAPES.

I was interested some time ago in the discussion in the Gardeners' Chronicle as to the merits of the "Strawberry-Grape," but was in hopes some abler pen than mine would have given Dr. Bonavia information upon the less known varieties, that he rightly assumed must be grown in private gardens in this country.

I have grown about ten of the American varieties for some years, and have no doubt that the liking for them has to be acquired, as all have that peculiar flavour and aroma which some gentleman so facetiously described as like that of a "scented slug."

My own opinion is that they are not to be compared with our best flavoured English Grapes; but all tastes are not alike, and anything that makes an addition to our dessert should be welcomed. They are much appreciated here by my employer and the numerous visitors, and every season I am ordered to send some to my employer's friends by special request. A well-known Baronet some three years ago was so much taken up with them that he wished to procure canes to plant a new vinery, but though his gardener appealed to all the leading nurserymen in England, I believe he had eventually to get them from America. The following are the varieties I grow:—

Blacks.—Worden, Concord, Emmelan, Isabella, and Strawberry. These differ very little in flavour, bunches and berries (with me) smaller than the Hamburgh, but vary in the order of ripening, Worden and Concord being considered the earliest. All carry a rich bloom.

Reds.—Delaware, Brighton, and Iona. I have put these in their order of ripening. Delaware is very small in bunch and berry, but will crop at every joint. Brighton and Iona are larger in bunch and berry than Delaware, and I consider the last-named variety one of the best to grow, as it will hang longer fit for use than any of them.

Whites.—Winchell (or Green Mantain), similar to Delaware in size, but colour of a greenish-white. Niagara I consider the best in appearance and size of berry and bunch; in appearance similar to Foster's Seedling.

All these I have grown for several years in an unheated lean-to house with a west aspect, and considering the bad season last year, I think it speaks volumes for their constitution when I say that most of them set and ripened crops without showing a speck of mildew or other disease. Of course they grow much better and finer under more favourable conditions; but I have given my experience to show that they may be grown by any novice. If I remember rightly, there used to be some planted on one of the outside walls at Chiswick, but I could find no Grapes on them at the time of my visit. I remember reading at the time of the Phylloxera scare that the French growers were experimenting with them as stocks for their Vines, to ward off the attacks of the unsect at the roots (these being of a more fibrous nature than our own). It would be interesting to know if this was successful. [Eminently so.—Ed.]

Perhaps Messrs. Veitch, of Chelsea, will correct me if I am wrong; but I believe they are now stocking most of the varieties, and would no doubt be able to supply anyone with plantingcanes. W. Peters. Givan Gardens, Leatherhead.

FRUIT PROSPECTS FOR 1904.

FRUIT trees of all kinds in these gardens look very promising for fruit-buds. Our trees are greatly improved by the rains of last season, judging by present appearances; but they may suffer yet, if severe weather comes later and injures the wood, which in some trees is not so hard as one would wish. During the last four or five years, in gardens not provided with an abundant supply of water, and where the trees have cropped heavily, the more than average rainfall must have considerably benefited fruit trees. A very heavy rainfall has been recorded in many districts during 1903, yet from the various returns which I have seen it appears to have been partial to some districts. Many times last year rain fell within two or three miles, when we had none. Our measurements for the year are 32.55; the wettest months being January, March, October (5.77), and December. I find, on referring to data, that in 1899 we registered 32.75, but at stations a few miles distant from Poltimore several more inches are recorded for last year.

A noticeable circumstance among our trees, and in others which I have seen, is the absence of strong shoots or exuberant growths; many trees have not made more than 6 inches of growth. Where this is the case I find fruit-buds more abundant. I think the small quantity of wood made in proportion to the amount of moisture received is due to lack of sun, the land not having been warmed sufficiently. The fruit-trees that suffered most with us were the Peaches and Nectarines on the walls; many of the trees had quite half of the branches killed back by the severe weather last spring. They have, however, made plenty of shoots since. But they grew until quite late in the season, and though there is plenty of buds I fear the wood is too soft and unripened to yield a large crop.

Last year many of our Pears never grew larger than Walnuts, they attained to that size and there stopped, and although they remained on the trees, no further swelling of the fruits happened. exception was Pear Charles Ernest, and at the risk of digressing may I be allowed to say another word in favour of this variety, which I think may be aptly described as a late Doyenné in flavour, size, and appearance? I had it up to twenty ounces in weight.

While established fruit-trees of all kinds made no extraordinary growth during the past season, those planted in the autumn and winter of 1902 and 1903 made still less. The principal shoots of such young trees never started into growth, nor was there much lateral growth; all these trees appeared to do was to plump up the buds of the previous season. T. H. Slade, Pollimore Gardens, Exeter.

The Week's Work.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Hotbeds.-Prepare hotbeds for Cucumbers and Vegetable Marrows if early supplies are needed. We have had Marrows fit for use in the last week in April. If brick pits are not available, adopt the method explained in a previous Calendar for erecting frames for Peas. Take out the soil 2 feet deep over a space 2 feet longer and wider than the area covered by the frame. Make a bed of manure and leaves in the frame, making the back 5 feet deep, the front of the bed 4 feet deep. Beds made in this way retain the heat longer, and the frames are not so difficult to manage.

Seakale.—When taking up crowns for forcing there are usually several long roots broken off. These should be collected and cut into lengths, then dipped in dry lime and put thickly in boxes of sandy soil with the thick end of the roots up. Remove the boxes to a cold frame, and protect them from frost. These cuttings will be useful for making fresh plantations. Introduce fresh batches into heat as required to maintain a supply for the table. If it is intended to force any roots where they are growing in the beds, put a few shovelfuls of ashes or cocoanut-fibre round each crown, and, after putting pots over the crowns, cover with a few barrowfuls of manure, sufficient only to generate a mild heat, as this will be sufficient to excite them into growth at this season.

Parsley.—If the supply is not sufficient, sow seeds in boxes or on mild hotbeds, and seeds may also be sown out-of-doors in favourable localities. also be sown out-or-doors in invourance localities. If frames have been placed over plants which have been "hard pulled," bank sufficient stablemanure round the frame to raise the temperature. Ventilate the frame sufficiently, but "husband as much sun as possible in the afternoons. Such herbs as Parsley and Mint, which are almost in daily demand, should be grown in sufficient quantity to meet any requirements that may arise. Plant new beds of Mint out-of-doors on well prepared soil. Should the soil be of a heavy nature, afford a covering of used soil from the potting shed.

Thyme, Common and Lemon.-Should the stock of these be short put a few plants in a box or in pots of sandy soil, spreading the shoots well out, and work the soil amongst them. Afford a temperature of about 55°, when they will soon produce cuttings, which may be taken off and rooted in the usual way. Prick out the rooted cuttings into boxes of soil, and gradually harden the plants for putting into beds, or "edgings" to beds containing other plants.

Sweet Basil is another favourite with cooks-Never allow the supply to run short. Sow seeds in boxes at intervals. Provide these boxes with Sow seeds good drainage, covering the crocks with rough material. Then fill to within $\frac{1}{2}$ inch of the top with a porous compost. Sow the seeds and cover them 1 inch. Afford a temperature of 60°, and let water be given carefully, for although of easy culture under proper conditions, Basil soon becomes yellow and sickly if kept too moist.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Apricots.—As Apricot-trees flower very early in the year, they should be pruned early, that the branches may be trained before the buds become too advanced. Use planks for the men to stand upon when doing this work, especially if it is done when the soil of the borders is wet. Training a sufficient emptity of suitable shoots to make in a sufficient quantity of suitable shoots to make good any gaps there are, and to replace worn-out, unfruitful branches. Prune back to a couple of visible huds all fore-right shoots, shorten leading growths to a point where the wood is thoroughly ripened, and endeavour as far as possible to secure plenty of fruiting spurs close to the wall. In securing the branches and young shoots to the walls or wires, let the shreds or ties be sufficiently large to allow the shoots to swell without be-coming pinched. Avoid bruising the bark with

the hammer. Old walls should be thoroughly "pointed," and all crevices, &c., made good, to prevent harbour for woodlice and other insects destructible to ripe Apricots. When the training of the trees has been done, clear away the prunings, and pick up old shreds and any nails. Afterwards remove a portion of the top soil, and then afford the border near to the roots of the trees a good dressing of bone-meal and woodashes, pricking this in lightly among the roots with a fork, and finally top-dress with sweet pasture loam cut a year ago, and old mortar-rubble and burnt earth. If the trees are young and very vigorous, no bone-meal need be applied. Young trees may still be planted; but before planting see that the borders are well prepared by being provided with good drainage, and made of brown, fibrous loam, with additions of old mortar-rubble and a little well-decayed manure. The soil should be made moderately firm previous to planting the trees. Good useful varieties of Apricot will be found in Moor Park, Blenheim, Grosse Pêche, St. Ambroise, and Large Early.

Plums.—We have still a few of these left unpruned, but they will be attended to without delay. Probably the most profitable system of training these on walls is that of the fan, for gaps caused by branches dying may be more quickly refilled if trained in this manner. Prune weak shoots not required for training to a couple of eyes, but preserve any that will be required to fill up bare spaces, shortening such in a more or less degree as appears desirable. Wood two years old usually fruits best when nailed close to the walls. Do not hesitate to grub out any trees that are unfit for hearing crops, and replace them with young trees of useful varieties. Monarch is a grand kitchen variety, and a sure cropper; Coe's Golden Drop should be grown for dessert in any collection.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Moschosma riparium.-Plants that are out of bloom should be cut back slightly, at the same time reducing the supply of water to the roots, and they may then be placed in a greenhouse to rest for the next two or three months. May or June is quite early enough to propagate this winter-blooming plant, in fact this year we shall put in a batch of cuttings even later than that. This species makes growth and roots very freely, and when propagated too early becomes root-bound, and consequently loses its foliage.

Bouvardias and Fuchsias.—Let some strong plants of these be placed in heat to produce cuttings. After pruning the Bouvardias sufficiently to remove the dead portions of the shoots, place the plants in the stove or propagating-house and afford a watering. When the young shoots are 2 inches in length, cut them off with a heel and insert them around the sides of pots filled with sandy soil. Afford a watering, and plunge the pots in the propagating frame. Bouvardias may also be propagated by means of root-cuttings, but for this purpose two-year-old plants with strong roots are necessary. The soil plants with strong roots are necessary. The soil should be shaken from the roots, and the strongest of these cut into lengths of an inch and a half. The pots for root-cuttings should be filled to within au inch of the rim with sandy soil; lay the cuttings on this and cover them with $\frac{1}{2}$ inch of soil, then plunge the pots in the propagating-frame. A few Fuchsias should also be pruned slightly and placed in gentle warmth, and they will soon make growths. Remove the best of these when about 2 inches in length, and insert them in pots filled with a light sandy soil, then place the pots under a handlight or in the propagating-frame.

Allamanda nebilis .- If plants are required to bloom early, some that have rested should now be cut back and introduced into heat. Let the cut back and introduced into heat. Let the current season's growth be shortened to within 12 inches of the old wood, except where longer shoots are required for furnishing the trellis, when the unripened portions of the shoots only need be cut away. Place the plants in a temperature of 65°, and plunge the pots in bottom-heat if this is convenient. When the plants have made 2 or 3 inches of growth turn them out of their pots, and reduce the size of the ball considerably; then put them into pots sufficiently large to afford the plants a good shift. A suitable soil may consist of three parts good loam and one part leaf-soil, adding some silver-sand and crushed charcoal or burnt ballast, and a 6-inch potful of bone-meal to each barrowload of compost. The smaller-flowered variety of A. cathartica, known as Williamsii, may by frequent stopping he made to grow in bush form without the aid of a trellis. If young shoots be taken off with a heel at this time, when about 3 inches in length, and inserted in small pots filled with light sandy soil, they will root freely if the pots be plunged in a hotbed or propagating-frame; and if when rooted they are potted into larger pots, and the points of the shoots taken out several times during the season, nice bushy plants will be formed by the end of the summer that will afford a truss of flowers on each shoot. Six-inch pots are sufficiently large for the final potting. When fully established the plants should not be shaded.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking

Temperatures .- During the month of February the night temperatures of the various divisions may range as follows: East Indian-house 68°, Cattleya-house 63°, Mexican-house about 55°, Intermediate-house 53°, and the Odontoglossum-house 50°. These figures should be adhered to in mild weather, but sharp frost or cold piercing winds prevail the warmth may be allowed to decline a few degrees from the temperatures indicated If by early morning the thermometer in either house shows a fall of 5°, the temperature should be raised by small sharp fires, so that should the sun make its appearance during the morning the fires will be small that they may be easily cheeked. It is a mistake to make up large fires in the furnaces during the early hours of the day at this time of the year, because if the sun shines out suddenly the increased warmth in the houses is not at all suitable for the plants. In such circumstances it will be necessary to draw out some of the fire as speedily as possible, and throw in a moderate quantity of damp ashes. Afford a little extra air also to every department through the hot-water-pipes. those ventilators nearest When it is felt that the heat in the pipes has declined, let the fires be thoroughly cleaned, and restart them again gently. The day temperatures must be maintained to the above figures so far as fire-heat is concerned, but a rise of several degrees by sun-heat is beneficial to Orchids generally, and at the same time a good opportunity is given to gradually increase the amount of ventilation in every house.

Atmosphere.-In the stove or East Indian-house the paths and stages should be damped down in the morning as soon as the proper temperature is reached, always thoroughly soaking the ground immediately under the hot-water-pipes. Damp well between the pots of all plants that are in full growth, as Cypripediums, Vandas, Aërides, Angræcums, Anæctocbilus, &e., both at morning and evening. The atmosphere near such plants as the deciduous Calanthes, Habenarias, and Dendrobiums that are at the flowering stage should be kept comparatively dry. Since the beginning of November the floors of the Cattleya and Mexican-houses have not been damped, the usual watering of the plants being sufficient to keep the pseudo-bulbs and leaves plump and healthy; but as the days lengthen and the weather becomes warmer, a gradual increase of atmospheric moisture will be afforded. Young seedling Cattleyas and Lælias, which are nearly always in a growing condition, require rather more heat and moisture. The intermediate-house, which contains such plants as Cymbidiums, Epidendrums, Sobralias, Cœlogynes, Maxillarias, Cypripediums, Vandas of the tricolor section, and numerous other species, will require a thorough damping between the pots in the morning, but less will suffice in the afternoon; plants of Miltonia vexillaria also occupy a position on the stage in this house, but during dull or wet weather we do not damp between them, as by so doing the leaves are apt to damp off at their points. The cool or Odontoglossum-house with a northern aspect will require but little damping at present; but where a considerable amount of fireheat is required to maintain the correct temperature an occasional damping-down will be necessary. A span-roofed house running north and south will require a light or heavy damping according to the state of the weather outside.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Melons.-In planting Melons at this season a regular and lasting bottom-heat is necessary, and it should be provided by hot-water-pipes. Before making a flat bed 2 feet wide upon the grating over the hot-water-pipes we place whole turfs 4 inches thick, grass-side down, and upon these are spread lime-rubble with some approved fertiliser. Then a layer of one more turf is made, which makes the bed 8 inches deep. Along the middle under the wires single turfs are placed 2 feet apart, into which the balls of the plants when turned from the pots are halfway inserted when the bottom-heat has reached 75°, distances of 2 feet separating each plant, and they are trained on the one-stem system. If the loam is moderately moist it will not be necessary to water the plants until the roots have obtained a "hold." as roots may be seen, afford them a light covering of warmed loam, and repeat these applications each time the roots make their appearance on the surface until the original bed is 12 inches deep, with the ball from the pot standing 2 or 3 inches The night temperature after the plants are planted should range from 70° to 75 the house with sun-heat equal to 85° to 90°. Cover the roof-glass at night. I can recommend no better all-round variety than Hero of Lockinge.

Cherries.—Trees placed under glass during December will now be unfolding their buds. Furnigate the house at intervals of a few days to make sure that the trees are free from insects before the flowers are fully expanded. Give attention to pollinising the flowers on fine days with the camel's-hair brush. Ventilate the house freely, as few fruit-trees are less able to endure a close atmosphere or high temperature raised by artificial means. Do not let the roots suffer from drought. A night temperature of 40°, rising 10° or 15° with increased ventilation by day, will be sufficient. We are now taking under cover for starting gradually the following varieties: — Empress Eugènie, May Duke, Black Bigarreau, Governor Wood, Frogmore Early Bigarreau, and Bigarreau de Schreken. We thoroughly clean both trees and pots before removing them.

Early Fig-trees in Pots.—A bottom-heat of 70° to 75° should be maintained, and an atmospheric heat at night of 60°, which may be increased by day to 75°, and with sun-heat to 85°. Syringe the trees frequently, but let it be done early in the day. Afford the border a watering if necessary, attend to disbudding, and stop the shoots at the fourth or fifth leaf, but if here is room for further extension the fruit will be finer.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Carnations.—Where these were not planted-out last autumn owing to unsuitable weather, let the beds or borders be prepared for them at once. They should be raised slightly above the ground-level if the situation is a wet one, and some mortar-rubble, bone-meal, old spent Mushroombed, and a little soot may be forked into the ground. The varieties Gloire de Nancy and the old Crimson Clove keep best during winter if potted-up and put into a cold frame. Carnations that were planted-out last autumn should be looked over and all decayed leaves cut away. Afford a slight dressing of soot, and loosen the surface-soil by the use of a hoe. A somewhat sheltered position is best for such beds; ours are surrounded by a Yew-hedge, which suits them admirably.

Anemones and Ranunculus that were planted last autumn and were top-dressed with some

suitable compost, will require assistance to break through the soil as soon as the young growths appear. These may still be planted.

Gladiolus and Lilium auratum may be planted now in beds or borders, or the Gladiolus may be planted in new beds of Ghent Azaleas, and bulbs of Lilium auratum amongst Rhododendrons, where they will succeed for years, if not disturbed, continuing to throw up spikes 6 to 8 feet high. A bed of L. lougiflorum is very effective in summer. Good sound hulbs should be planted at about 12 inches apart.

Dahlias.—Seeds of single Dahlias may be sown. Ground intended to be planted with Dahlias in May or June should be thrown up roughly. If it is in good condition, and was manured last-season, none will be required now, as its use would tend to make the plants grow very strongly and produce coarse flowers. It will be better to feed them occasionally in summer. When the ground has been dug, afford a good dressing of lime and soot, which, when the rains have washed in, wilk keep slugs and grubs at a distance. Dahlias require shelter from strong winds.

Cannas may be sown in heat, but the seeds should first be well soaked in water. Old roots may be divided up where the stock is short.

Hollyhocks that have been wintered in a cold frame should be planted in ground previously prepared for them; offsets may be taken from any old plants, and they will soon make roots if afforded bottom-heat. Seeds may be sown, and the consequent plants will flower well in the autumn.

Planting.—Finish planting deciduous trees and shruhs during this month, mulching them and making them secure against the winds.

Swect Peas may be sown round the sides of pots or in narrow boxes shaped like a V, with one side that will take out. The plants may be transferred from these without suffering much root disturbance. Place the boxes in a cold frame. Seeds of Everlasting Pea (Lathyrus sylvestris) can be sown in a sunny position. This plant may also he increased by dividing the roots. Seeds of this variety that had been kept five years, and were sown last summer, germinated without exception.

THE APIARY.

By EXPERT.

Purchasing Becs .- More than ordinary care nust be exercised in purchasing bees in winter season. As the bees are clustered up together it is not convenient to take out the frames for examination in cold, frosty weather. A warm day should be selected, so that each comb can be examined carefully. In doing this In doing this slide the dummy back as far as possible without upsetting the bees, to allow of more freedom in examining the frames. I would strongly recomintending purchasers, if they are not mend to well up to bee-keeping, to secure the services of a good bee-keeper. He will have a better idea of the cost of each stock, which must of course depend on the strength of the colony and the condition of the hive; he will also be able to say if the bees are healthy, a most important factor to a beginner; and where possible, have a written guarantee that they are free from disease. stocks may die, however good they may seem to be, and the cost of removing bees, which is sometimes considerable, should be considered.

Re-place all wel quilts as soon as old ones have become wet and show mildew. These can be dried in the oven and brushed ready for further use. Traps should be set for mice, and if any are in the hives have them removed at once, and place a piece of wire over the entrance to prevent them re-entering. Replace candy-cake in stocks where stores are getting short, but do not disturbthe bees in doing so.

Honey.—Unsold sections should be sold without delay, unless they are being kept for exhibition next season. In all cases they should be earefully gone through, and placed in a warm room to prevent them from getting candied. When they are becoming so, it will be best to sell them off a little cheaper.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London.

Communications should be WHITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Newspapers. — Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself re-sponsible for any opinions expressed by his correspondents.

illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

 $\begin{array}{lll} \textbf{SATURDAY,} & \textbf{Feb.} & 6 \\ \begin{cases} \textbf{Socié} : \text{f-rançaise} & \textbf{d}' \textbf{Horticulture} & \textbf{de Londres meet.} \\ \textbf{German Gardegers' Club meet.} \end{cases}$ FEB. 8 United Horticultural Benevo-lent and Provident Society's Committee meet. MONDAY. FEB. 9 Royal Horticultural Society's Committees meet and Annual Meeting of Fellows. THESDAY. FEB. 12 Royal Gardeners' Orphan Fund, Annual Meeting and Election of Penstoners at Cannon St. Hotel, City, at 3 P.M. FRIDAY.

BALES FOR THE WEEK,

BALES FOR THE WEEK,

MONDAY AND FRIDAY NEXT—
Perennials, Border Butbs and Plants, Roses,
Azaleas, &c., at 67 & 68, Cheapside, E.C., by Protheroe
& Morris, at 12.

WEONESDAY NEXT—
Palms, Plants, Azaleas, Roses, Fruit Trees, Herbaceous Plants, Liliums, &c., at 67 & 68, Cheapside,
E.C., by Protheroe & Morris, at 12—At Stevens'
Rooms, at 12 30, Roses, Lilacs, FruitTrees, Palms &c.

THURSDAY NEXT—
Sale Nursery Stock at Woodville, Kirkstall, near
Leeds, by order of Mr. J. Wood, by Protheroe &
Morris, at 11.

FRIDAY NEXT—
Orchids in variety, at 67 and 68, Cheapside, E.C.,
by Protheroe & Morris, at 12 30.

[For further particulars see our Advertisement columns.]

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswlck -39.2'. ACTUAL TEMPERATURES :-

London. -Feb 3 (6 P.M.); Max. 48°; Min. 41°. Feb. 4 (noon); Fige.

PROVINCES. - Fe Feb. 3 (6 P.M.): Max. 45°, Dover; Min. 35', N.E. Scotland.

More than usual interest is Horticultural felt as to the proceedings at the annual meeting to be held Society. on Tuesday next. It is the Centenary year. The new Hall is more than half completed. Possession has been entered into of the new garden at Wisley. These are all matters of the first moment. As to the Hall, a large sum is still needed for its completion; and it is suggested

that those members of the trade who avail themselves so freely of the exhibitions held by the Society at the Drill Hall, the Temple, and Holland House, and who have not already subscribed, should contribute handsomely to the Hall Fund, or pay for the space allotted to them. As the space is occupied mainly for advertising purposes, this suggestion is not unreasonable. Some few of the exhibits are novel and of great horticultural importance, whilst others, though adding to the attractions of the Show, are mainly of commercial interest. Whilst the Society exists specially for the purpose of fostering the former class of exhibits, there is no reason why the others should not be treated on the same commercial lines as those which are followed by

the exhibitor himself. It might be difficult in some cases to draw a definite line, but where, on the one hand, an exhibitor occupies the whole length of a table in the hall with specimens the like of which can be seen at any time in Covent Garden Market or at the nearest florist's shop, it is not unreasonable that he should be asked to pay for the space occupied. On the other hand, the Society cannot do too much to encourage the exhibitor of promising novelties or of objects calculated to promote the progress of the science and art of horticulture and their applications to the benefit of humanity.

At Wisley we cannot expect everything to be done at once, but some trials should at once be instituted, if only for the purpose of settling the nomenclature of synonymous varieties, and an earnest effort should be made to give a more useful and especially a more progressive aspect to practical horticulture by the institution of carefully conducted experiments.

The question of the value of ether in operations of foreing could have been settled at Chiswick in a few weeks at an expenditure of five or ten pounds, but we are content to let Danes, Germans, Americans, French-any one, in fact, get in front of us and reap the reward. On this subject we commend to the notice of the authorities the letter published in our last week's issue from one who has had exceptional opportunities of seeing and taking part in what is done here and in the United States. It is clear that the Society must at the beginning of its second centenary avail itself much more largely of the aid which definite knowledge gained by experiment is calculated to give.

As to the proposed change in the amount of subscription, alluded to in a letter which appeared in our columns last week, we hear nothing in favour, but everything in deprecation of such a scheme. There is, of course, no doubt that the advantages offered in the aggregate far outweigh the amount of the subscription, but then it must be remembered that very few, if any, can avail themselves to the full extent of their privileges, and that the great majority of the Fellows would not care to do so if they could.

Lastly, we would allude to the financial condition of the Lindley Library, in the hope that some of our readers who appreciate the value of that fine collection and the necessity of keeping it in proper order and of developing it as it should be, will help the Trustees and the Society by substantial aid. From this point of view the action of the Trustees of the Veitch Memorial Fund, who at their last meeting contributed the sum of £25 to the Library Fund, was as praiseworthy as it was acceptable.

LÆLIO-CATTLEYA X BLETCHLEYENSIS RUBY KING .- Our Supplementary Illustration represents this beautiful Lælio-Cattleya, for which Sir H. Schroder, Bart. (gr., Mr. Ballantine), received a First-class Certificate at the Royal Horticultural Society, November 10, 1903. Like its companion, L.-C. × Bletchleyensis Illuminator, which has also received a First-class Certificate, and is included in Baron Schroder's collection, it was raised by Messrs. Sander & Sons, of St. Albans; and the pair, although differing widely in point of colour, form two of the showiest of the now numerous Lælio-Cattleyas. These two hybrids, in their relation to the original form, point to the usefulness of re-raising out of

finer parentage a cross which, when made with ordinary varieties, did not give very good results. The original hybrid, raised from crossing ordinary varieties of Lælia tenebrosa and Cattleya Warscewiczii, by Mr. A. Hislop, gr. to H. S LEON, Esq., Bletchley Park, was shown at the Royal Horticultural Society, August 29, 1899, but the Orchid Committee did not give it an award. At the meeting of the Orchid Committee, October 21, 1902, however, J. Gurney Fowler, Esq. (gr., Mr. J. Davis), showed a much finer and stronger plant, which was awarded a First-class Certificate. This plant was of the original type, but with much larger flowers. In 1903 Messrs. SANDER flowered out of their cross between a fine reddish - petalled Lælia tenebrosa and Cattleya Warscewiczii Sanderiana several hybrids with much broader segments and very rich colours, two of the best being those mentioned above, and which are in Sir H. Schroder's collection. Lælio-Cattleya \times Bletchleyensis "Ruby King" has the sepals and petals of a clear light purple, darker on the veining, and with a slight golden-yellow glow. Lip ruby-purple coloured at the base, changing to rose-purple towards the front. Lælio-Cattleya × Bletchleyensis "Illuminator," which secured a First-class Certificate July 21, 1903, has flowers in shape similar to Ruby King, but with the sepals and petals orange-salmon with a purple glow. Lip dark velvety-purple with maroon veining.

ROYAL HORTICULTURAL SOCIETY. - The next meeting of the Committees will take place on Tuesday, February 9, in the Drill Hall, Buckingham Gate, Westminster. The annual general meeting of the Fellows of the Society will also he held in the Drill Hall, at 3 P.M., on the same date. Fellows attending the meeting are invited to inspect the new Hall now building in Vincent Square. At a general meeting held on Tuesday, January 26, 119 new Fellows were elected, making a total of 172 elected since the beginning of the present year.

THE EARL OF DEVON .- The death of this nobleman, in his ninety-third year, is announced. He was much respected in Devenshire as a clergyman and a citizen. Powderham Castle, the seat of the Earl, has often been mentioned in these columns, but has not been tenanted by the Earl of late years. The fine specimen of Eucalyptus coccifera in the grounds of the Castle has often been illustrated.

DR. GARCKE.—The death of this gentleman, in his eighty-fifth year, is announced in the Garten Flora as having taken place at Berlin on the 10th inst. He was the author of a Flora of Middle and North Germany, and other works of a like character. Originally in the Berlin Botanic Garden, he became subsequently an assistant in the herbarium, Extraordinary Professor of Botany in the University, and Keeper (Custos) of the Royal Botanical Museum.

THE NATIONAL CHRYSANTHEMUM SOCIETY. -Mr. R. DEAN has sent us revised dates for the exhibitions of this Society at the Crystal Palace. They are as follows: -- October 5 and 6, November 2, 3, and 4; and December 7 and 8. As these alterations have been made since our Almanac went to press readers would do well to make a note of them, or we may be unjustly blamed later in the season for sending folk to the Palace on fruitless journeys. A report of the successful annual meeting appears on p. 94.

ROYAL BOTANIC SOCIETY OF LONDON .- We have received the following letter from the Secretary:-"It is proposed that a grand Horticultural and Gardening exhibition shall take place in the month of June this year under the auspices of the Society. It is intended that the exhibition shall be held in the New Exhibition Grounds of the Society, situated in the centre of the beautiful gardens in Regent's Park; the exhibition to be open for one week, or possibly longer. The proposed scheme embraces Horticulture, Forestry, Botany, Educational Methods, Nature Study, and a special section for Colonial produce. In addition to the exhibition, lectures, conferences, and conversazione are in course of arrangement. The President of the Royal Botanic Society is Major His Serene Highness the Duke of Teck. All communications respecting the gardens and exhibitions, &c., should be made to Mr. J. Bryant Sowerby, the Secretary."

MR. JOSEPH KENT.—Visitors to the Floral Fêtes held annually in the Public Park, Hanley, Staffordshire, and other readers will sympathise with Mr. Joseph Kent, the Secretary for those fêtes, who had the misfortune to lose his wife on January 25. Mrs. Kent, whose death was caused by a trap accident, was buried in Hanley Cemetery, there being a number of horticulturists present.

A CROSS BETWEEN AN AMPELOPSIS AND A VINE .- M. MILLARDET, to whom we owe the introduction of the Bordeaux-mixture, made sundry attempts to cross the Vine with the pollen of the Virginian Creeper (Ampelopsis kederacea). None of the resultant seedlings, fifty in number, showed any external trace of the action of the pollen parent. All were true Vines. M. GRILLE has repeated the experiments, and gives an account of them in a recent number of the Comptes Rendus. He fertilised some Chasselas Grapes with the pollen of the Ampelopsis. Five of the seedlings showed no sign of the crossing; they were what MILLARDET called "false hybrids"; but the sixth showed itself as a true hybrid by the production of leaves of varied character and colour. The growth of the hybrid was very slow, and no details other than those relating to the foliage are supplied.

INFLUENCE OF THE POLLEN ON THE MOTHER PLANT.—The action of the pollen on the embryo plant is of course well known, but the question is often asked whether the pollen exerts any influence on the mother plant. M. Leclerc de Sablon says that flowers of white Grapes fertilised with pollen of black varieties may produce black berries. M. Leclere du Sablon, leaving aside the morphodogical question, has endeavoured to ascertain whether by crossing varieties of Melons and Cucumbers he could bring about any variation in the chemical constitution of the fruits. Melons orossed reciprocally with Melons or with Cucumbers, and varieties of Vegetable Marrows reciproeally intercrossed, produced no change in the appearance of the fruits, but on chemical analysis it was found that the fruits fertilised by the foreign pollen suffered a diminution in the proportionate quantity of reserve material, starch, &c., so that their nutritive value would be im-These experiments show the desirability paired. of isolating particular varieties and of not cultivating others in the immediate neighbourhood.

STROPHANTHUS.—A monograph of the African species of this genus of Apocynaceæ has just been published at Leipsig, by Wilhelm Engelmann. It has been elaborated in the Berlin Herbarium by Prof. Gilo, and is enriched with ten lithographed plates. A few species are in cultivation, but the genus is most remarkable for its poisonous qualities.

MANURE IN NATAL.—It is pleasant to note that the efforts of the Agricultural Bureau in Natal to secure for farmers and others what they pay for in the matter of manure have during the past year been very successful. Out of a total of sixty vendors only two or three have neglected to have their wares tested officially, and all manures tested have been found to be what they were sold as. Price also has been lowered, and so

it is satisfactory to know that the example set by our Royal Agricultural Society so many years since continues to benefit imitators in the Colonies.

THE CONGO FLORA .- M. DE WILDEMAN has published on behalf of the Congo State Notices sur des Ptantes intéressantes de la Flore du Congo. In it we find numerous details relating to the botany and economic uses of various plants, such as Bosqueia Angolensis, used for its timber and also for dyeing purposes; Musanga Smithii, the fruits of which are edible, whilst the wood is so light that it is used instead of cork. It is so full of watery juice that large quantities exude when the roots are cut-a property of which the natives and travellers avail themselves when water is scanty or not readily obtainable. Numerous Orchids are mentioned, but none of them, so far, of much horticultural value. Many other plants are mentioned which we cannot further allude to on this occasion, though we may refer to some of them, such as the species of Musa, at another time. It is unfortunate that neither table of contents nor any index is given. On p. 199 an absurd printer's error has escaped notice. The Jute fibre is referred to as the product of various species of Corchorus, a genus belonging to the Tiliaceæ, and not to the Liliaceæ, as published. Numerous illustrations add to the value of a very interesting publication, prepared with all the completeness and accuracy of detail which M. DE WILDEMAN has led us to expect in his monographs.

RAINFALL.—Our correspondent, Mr. W. CORNFORT, has sent us particulars of the rainfall in the gardens at Kylemore Castle, County Galway, during 1903. As we have stated in a former issue, our space will not permit us to give the details for each district; but we are glad to publish the total amount for the year, which in this case was no less than 92:17 inches.

Our correspondent, Mr. S. W. FITZHERBERT, of Kingswear, S. Devon, has obligingly sent us particulars of the rainfall for last year, the total of which was 50.09 inches, or 15 inches above the yearly average for the district. The fall during the month just closed (January) was 7.28 inches, and this is said to constitute a record.

— The aggregate amount for 1903 at Alton, llants, was 46'85 inches as registered by Mr. F. Crowley, the average being 325 inches. More than 10 inches fell in October; but in November only 1'92 inch was recorded. At Eveley the total measured in the year was 47'12 inches, as recorded by Mr. T. Carter. At Headley Park 42'92 inches, was measured by Mr. Glayshyer, gr. to Mr. Justice Wright.

CHRYSANTHEMUM RUST.—At the meeting of French Chrysanthemum growers at Lille a brisk discussion arose as to the best methods of preventing the Chrysanthemum-rust. Some speakers advocated sulphide of potassium (liver-of-sulphur), some pinned their faith to precipitated sulphur. When the question was put to the vote the majority of growers pronounced in favour of sulphur as a preventative. The method of employment is to fill a pail with water, and throw in a quantity of precipitated sulphur. Cuttings of the Chrysanthemums are then dipped in the water and allowed to remain for some minutes. When they are taken out they are covered with a fine film of the sulphur, which is allowed to remain on the foliage.

ACTION OF RADIUM ON FUNGUS MOULDS.—
M. DAUPHIN relates in the Comptes Rendus the results of experiments with radium on the growth of a mould, Mortierella. The growth both of the threads (hyphæ) and of the spore is arrested, but not entirely annulled, so that when placed under normal conditions growth is renewed.

HORTICULTURAL CLUB.—The annual dinner of the Club will be held on Tuesday, February 9, at 6 P.M., at the Hotel Windsor. Ladies are specially invited. After dinner there will be music by the Georgian Singers, under the direction of Mr. H. Stubes, of St. Paul's Cathedral. The annual meeting will take place at 5 P.M., and it is hoped that all interested in the Club will be present. Mr. E. T. Cook is the Hon. Secretary.

Messrs. Geo. W. Bellorove & Co., Hammersmith, inform us that they have been entrusted with the entire contract for laying-out the grounds at Earl's Court for the Italian Exhibition. The scheme is entirely sub-tropical, and the effect of the Palms, some of them upwards of 20 feet in height, is described as calculated to eclipse anything ever attempted before at Earl's Court.

CARRIAGE OF FRUIT BY SHIP.—The screw steamer Matona, designed for the carriage of fruit to Manchester, per Canal, was launched recently at Wallsend. The whole interior space will be devoted as a cool-chamber, through which cooled air will be perpetually driven by means of properly-designed engines. Three years since the export to this country of Bananas was some million and a half bunches, now the export is about five million bunches. This is surely sufficient encouragement for the future of Eltons and Fyffes, who are very sanguine of the success prophesied for them.

THE PROPOSED GARDENERS' ASSOCIATION.

—We continue to receive a large number of letters upon this subject, so numerous indeed that it would be quite impossible for us to print them in full in these pages. One of the letters is from a correspondent in France. The tone of most of them is not encouraging, and little or nothing is added to what has already been said; and in view of the meeting to be held shortly at the Hotel Windsor, to discuss the question, we have thought it better to await the decision that will then be made.

THE KINGFISHER.—By a printer's mistake on p. 75, Mr. Leach was made to say that the lovely kingfisher "does not eat fish." It is, of course, very well known that this bird does eat them, and in quantity. Though most of our readers would probably conclude that an error was made, we desire to make it clear that it is not claimed that the kingfisher goes fishing for mere love of the sport.

SURVEYORS' INSTITUTION.—At the ordinary general meeting held on January 25, a paper by Mr. RALPH NEVILLE, K.C., entitled "The Garden City Scheme and First Garden City, Limited," was read by the Secretary in the absence of the author through illness. A discussion ensued, and was adjourned to the next meeting, which will be held on Monday, February 8, 1904, and the discussion will then be resumed at 8 o'clock.

TRINITY COLLEGE, DUBLIN: CHAIR OF BOTANY.—The Provost and Senior Fellows will proceed to the election of a Professor of Botany on March 19, 1904, in succession to Dr. E. PERCIVAL WRIGHT, who has resigned. Applications for the Professorship should be sent to the Registrar of Trinity College, Dublin, and to the Registrar of the Royal College of Physicians in Ireland on or before March 7, 1904. Dr. HENRY DIXON is a candidate for the appointment. Irish Times, February 1, 1904.

SEED LISTS.—We have received a copy of the Index Seminum, or list of seeds available for exchange at the Paris Museum. Applications should be made to Prof. COSTANTIN, Jardin des Plantes, Rue Cuvier, Paris. We have also received a similar list from M. POIRAULT, the Director of the Villa Thuret.

BROWN ROT OF SWEDES AND CABBAGES.—Prof. Potter, in the Journal of the Board of Agriculture for December, gives an account of a disease affecting Swedes, Turnips, and Cabbages, and caused by a bacterium. This microbe has been isolated, and when healthy Swedes were inoculated with it the disease was shown in them by a brown discoloration, beginning along the course of the vascular bundles. Cruciferous crops should not be taken from the same land for several years, the rotting plants should not be given to stock, nor should the manure from animals who have eaten the plants be used.

WARTS ON VINE LEAVES .- We frequently receive specimens of these productions, which are not unlike the outgrowths caused by the Phylloxera. They are usually attributed to a too humid atmosphere and to defective ventilation. Messrs. Viala & Pacottet have lately studied the subject exhaustively, and have come to the conclusion that they are induced by excess of light in a hot damp atmosphere. They further state that the palisade layers are increased in number. In a healthy Vine, beneath the skin of the leaf, is one single layer of palisade cells, so-called, because they are of elongated form, and placed vertically like palings in a fence; these cells are usually full of chlorophyll. In the warts there are two or three layers of these palisade cells formed at the expense of the spongy cells which occupy the greater part of the substance of the leaf, and the interspaces between which are usually filled with water. In addition to a freer current of air shading therefore is necessary to prevent the formation of these warts. As a rule, however, they are not productive of serious mischief, nor do we as a rule in this country suffer from excess of light.

EUCALYPTUS.—The beneficial effect resulting from the plantation of these trees in marshy localities is now generally recognised, and is attributed to the way in which, by their rapid growth and powerful transpiration, they effect the removal of the superfluous water from the soil. The balsamic emanations from the leaves have no real effect in counteracting the malaria poison, and it has also been ascertained that they do not drive away the gnats that are the carriers of the poison. Now M. GRIFFON tells us (Académie des Sciences, January 18) that the leaves individually have no special evaporating power, but they are produced quickly and in large quantities. In any case the fact remains that swampy localities are really rendered more wholesome by the growth of Eucalyptus.

LAWNS.—Messrs. Sutton & Sons, of Reading, have published a small treatise on the formation of Lawns, Tennis, Croquet, and Cricket Grounds, Bowling and Putting Greens. The booklet is as elegant in appearance as it is useful in its practical directions. Of the need for such a work we have frequent opportunity of judging from the numerous enquiries we receive, so that we hail with pleasure the receipt of so trustworthy a book of reference and commend it to the notice of all concerned.

THE FORMATION OF TUBERS. — Some time since we called attention to the experiments of M. Noel Bernard, which seemed to show that the production of tubers in the Potato was in some way connected with the presence of "microbes" or of fungi. It has since been shown by M. Bernard himself that tubers can be formed without any such agency. M. Molliard in the last issued part of the Bulletin of the Botanical Society of France, while asserting that he had induced the swelling of the caulicle of the Radish by the agency of microbes, details some more extended experiments in the case of the Onion, bulbs of which were produced under aseptic conditions—conditions, that is, by which the presence of

microbes was prevented. It would seem then that for the present it is desirable to "keep an open mind" as to the agency of these minute organisms in the development of tubers and bulbs.

PUBLICATIONS RECEIVED. — The Culture of the Chrysanthemum, New Edition: W. Wells. — Journal of the Department of Agriculture of Western Australia, December, 1903. Contents: Among the French Vineyards, Parasites, Garden Notes, &c.—The Queensland Agricultural Journal, December, 1903. The contents include a botanical paper on Indigenous Queensland Grasses, and many notes on agriculture, forestry, &c.—The Agricultural Journal of the Cape of Good Hope. January, 1901. Contents: Rural Cape Colony, No. III, (illustrated), Meeting of Western Province Horticultural Board, Orange Culture without Irrigation, &c.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

WHITE GROS COLMAR AND LADY HASTINGS GRAPES.—I shall be much obliged to any practical gardener who cultivates Grapes that can be appreciated at a nobleman's table if he will state whether or not he thinks the above Grapes are worth growing. I well remember the late Mr. Barron bringing White Gros Colmar from Chiswick to the Drill Hall in October, 1892, and before it was placed before the Fruit Committee he asked me what I thought of it. I told him "it was much inferior to Mrs. Pearson or Muscat of Alexandria." Nevertheless it was awarded a First-class Certificate; but from that day to the present time I have never seen or heard of that Grape. Like many other so-called late Grapes, the White Gros Colmar was shown in the month of October, instead of in March or April. "The good old sort, Lady Downes of our boyhood," of splendid flavour, can be kept until April and May. Among white Grapes Mrs. Pearson and Muscat of Alexandria, if the fruits are well grown and ripened, can, with great care, be had in April. I ask, therefore, whether White Gros Colmar and Lady Hastings, in table or keeping qualities, surpass Lady Downes, West St. Peters, Mrs. Pearson, and Muscat of Alex-andria? Upon their cultivation or value for market and for retailing to the general public, I require no particulars. W. C. Leach, Albury Park Gardens, Guildford.

CHRYSANTHEMUM NELLIE POCKETT.—I send you a photograph of a Chrysanthemum plant (Nellie Pockett) grown by me. This variety is better than any I have tried as a hush or specimen plant. The cutting was rooted in January, and was stopped twice, the last time in the middle of June. I took three shoots from the first stopping, and the last time I took three from each of the first three, making nine shoots. My idea was to get large blooms in preference to a quantity of moderate size. The photograph does not do justice to the beauty of the plant, which had foliage from the top of the pot up to the blooms. On the average the blooms would be about 8 inches in diameter and 6 inches deep, some, no doubt, a little more. The only chemical manure I used was a little of Thomson's Vine and Plant Manure at the final potting, and a small top-dressing of the same manure in August. Manure-water was given composed of sheepdung and soot at intervals. The plant developed nine splendid blooms, and it keeps its foliage better than any variety I have grown. H. Green, Nacton Hall, Lincoln. [An excellent specimen of a bush Chrysanthemum. Ed.]

BEGONIA GLOIRE DE LORRAINE. — Growers have from time to time described their methods of cultivating this plant, and the methods have varied from cold frame treatment during the summer months to confinement in a stove temperature. I have grown the plant this season in several ways to note results. The best and most useful plants were those struck from cuttings rooted between the months of February and June. Three cuttings were put into a 3-inch pot, and when well rooted they were potted into 5-inch and 6-inch pots without dividing them, using a compost of two-parts fibrous loam and one of leafmould, with plenty of sharp sand. They were grown in a temperature ranging from 65° to 80° with sunheat, being slightly shaded from the

direct rays of the sun. A moist atmosphere was maintained by syringing morning and afternoon. All the plants were dipped twice each month in a solution of XL-All to prevent attacks of mite. No plant was pinched or stopped. The flowers were picked off until a month before they were required to be in bloom. The flowers should expand in a temperature not exceeding 60°; they will then be found to last a much longer time than if kept in a greater degree of heat. Plants in 5-inch pots so treated are now flowering and are over 2 feet in height, and nearly the same distance through, the foliage almost hiding the pots from view. T. A., January.

STRAWBERRY BEDS (See "Hardy Fruit Garden," Calendar, on p. 54). — If Mr. Markham's advice were followed I think slugs would have a safe refuge in severe weather. The treatment I give my beds is just the reverse to that Mr. Markham advocated, and few of my Strawberries are slug-eaten. As soon as there are frosts sufficiently severe to allow manure to be barrowed between the rows of Strawberry plants (generally in December), I have the mulching done, in place of doing the work when the plants have finished fruiting. I try to get short, rotten stable-dung, and spread it from 1 to 2 inches thick from the harrows. It is allowed to lie on the surface until an opportunity occurs for digging it in. The manure is then forked-in 2 inches deep, which just allows of its being covered with soil. This is all the work necessary in the Strawberry quarters until the flower-trusses begin to appear, except hoeing once in fine weather. Then, and not until then, do I apply clean straw, or long strawy stable-dung, which I always use for a two-fold purpose, viz., for the fruits to lie on as they mature, and to prevent the plants suffering from drought. When all the fruits have been gathered, and a sufficient number of runners has been layered for a new bed, the remaining runners and bad leaves are cut off, and the soil between therows well hoed. This year it was forked to allow the rain to pass away quickly. Nothing is done further until manure is applied again in December. If possible, I shall dress the beds with soot previous to putting on long dung, with the view of checking the slugs this season, as I anticipate an extra quantity this year. A. Jefferies, Moor Hall Gardens, Essex.

Reply: My advice to dress Strawberry-beds with manure as soon as the fruits have been gathered, is the result of many years' experienceand close observation. Unless plants which have borne a heavy crop of fruit are afforded encouragement to build up strong crowns before the growing season has passed, very poor results will follow, especially if the soil contains much sand or gravel. To put on a thick layer of manure as soon as severe frosts occur, and then to bury it 2 inches deep in the soil, is, I submit, to provide excellent shelter for slugs. If slugs, &c., are numerous, a thorough dressing of fresh lime and soot should be applied before affording a mulch. When the winter has been mild, I have in spring frequently raked from the beds all the loose manure that was applied in September, dressed the beds with lime and soot, and then bedded down with fresh litter; but every details cannot be explained in a weekly calendar. H. Markham.

ORANGES.—Were the general body of fruit consumers in this country familiar with the excellence and high flavour found in home-grown Oranges, such as Messrs. Rivers & Son produce, a considerable demand for them might grow up. It would not be possible to-make Orange-culture under glass profitable here unless the fruits could command high prices. But the imported Oranges, up to the end of the year at least, are, as a rule, so acid, and to a large extent so lacking in softness of flesh and flavour, that one marvels they should find sale at all except as blood purifiers and preventers of scurvy. When the Fruit Committee were the other day privileged to taste fruits of the Egg and Achilles Oranges, the members found that they had in the first-named unwonted rich flavour, and in the other exceeding sweetness. Probably in a mercantile sense these qualities would not be regarded as meriting the payment.

for them of high prices; hence even with the most successful forms of culture the best of Oranges may not prove financially profitable. But there seems to be good reason for asking that some of the wealthy patrons of horticulture should encourage Orange culture here at home cylerecting and planting houses for that purpose.

NECTARINE "CARDINAL."—In the Gardeners' Chronicle for January 23 appeared a report of Mr. Bunyard's lecture on "New Fruits" to the "Beckenham Horticultural Society," in which he mentions the above variety of Nectarine, and says that it is grand, and certainly one of the best. [After reading 'favourable notes upon the

the fruits split at the stone during the stoning stage, and some of the least cracked which I left on the tree were, of course, scarred, and in most cases decay set in as soon as they commenced to ripeu. Many of those that were without a blemish up to that time would then split, in some cases nearly to the stone, and before they



FIG. 41.—ERICA LUSITANICA (CODONODES): NAT. SIZE.

A, Flower enlarged; B, Section of flower; C, Transverse section; D, Pollen-grain magn. 380 diam. (See p. 84.)

Mr. Somers Rivers in the interesting paper (see p. 78) described Orange culture in houses as conducted on much the same lines that Peaches are grown on wires or trellises near the glass. At present Orange culture generally is not culture at all. It is more often Orange stunting and starvation. Too often grown with other plants and not kept clean, they are far from being attractive objects, whether florally or pomologically. A. D.

variety when it was first introduced, seeing two or three nice dishes of fruits exhibited, and knowing that it was certificated by the Royal Hortzcultural Society, I planted a tree in a house to be started in the second week in January. I hoped its earliness would be a distinct gain, and helieved that it would, at least, be moderately good in other respects. The results were not as I anticipated. It grew into a very nice tree and fruited in 1902 and 1903, and each year a third or more of

could be gathered had commenced to decay. The tree was planted at the warmest end of the house, and there was always a little warmth in the pipes. The trees were not syringed after the fruits began to ripen. The flesh is very soft, and in many cases where the base of the fruit rested hard on the branch, decay had set in by the time they were ripe; thus, in neither year was there more than about a third of the crop of any use. I cannot account for the stone-splitting and the splitting of

the fruit when ripening in any way, except that it is a failing peculiar to the variety. It is moderately good in flavour, but not equal to Early Rivers. It does not set well, and requires to be fertilized with foreign pollen as it makes but little of its own. True, it ripens ten or twelve days earlier than Early Rivers, its earliness being the one and only merit it possesses, according to my experience; and except where earliness is the all-important object in view I should consider it would be far more profitable and satisfactory to plant Early Rivers and start the house a fortnight earlier. Apart from the disappointment one feels, after setting a moderate crop, to find the fruits finally dwindle down to about a third of the number one expected to have, anyone must know that it is a somewhat serious matter where glass is not extensive and a full crop is little enough. An experienced gardener once said that its only value was to get a "somewhat doubtful" early crop in places where glass is extensive, and that it was not one to plant where the loss of a crop would be seriously felt. I regret that I was not told this in time to prevent my planting it. If I ever grow it again it will be in a pot, and not as a permanent tree. Perhaps others have had similar experience. J. Gibbons.

DISEASE-RESISTING POTATOS.—I may add to what was stated on p. 74 by F. C. Edwards, that the variety Findley's Evergood was largely grown in this neighbourhood last season, and I have not seen or heard of its having shown disease, while other varieties can be as Positon. During the while other varieties, such as Puritan, Duke of Alhany, &c., were very badly diseased. I can also speak highly of Sutton's Discovery as a disease-resister. Although the season was a wet one and much against Potato-growing, Discovery is perfectly sound. The same is true of Northern Star. S. G. Randall, Skegness.

SQUIRRELS.—Having noticed a quantity of buds on the garden-paths underneath Sycamoretrees I looked out for the cause. I found it was squirrels. It is surprising how quickly they go about the work. To-day I stood for about three minutes watching one, and the mischievous rodent cut off close upon thirty buds in the time. No doubt it is the total above the time watching one, and they was of their ordinary. is the total absence this year of their ordinary food, nuts and seeds, that has driven them to this extremity, as from the movement of the jaws of the one I saw showed it was getting something. For many years squirrels have gnawed off a quantity of the young shoots on Horse-Chestnuts when about a foot in length, in each case scolloping out the pith in their centres. I have not seen them cut off Sycamore-buds before. H. J. Clayton, Grimston, Tadcaster, Jan. 28.

EARLY CROCUSES.—I note the interesting remarks on p. 75 in last week's Gardeners' Chronicle about the early white Crocus. Here we have had the yellow variety in bloom for the last ten days at least, and growing in an ordinary open border without the least protection. What more remarkable, I cut last week some beautiful heads of Rhododendrons to send to my employers in London. Further, our earliest Snowdrops opened here in the last week of November. They are growing in a sheltered corner. H.P. Rosebuds are at present plentiful on our borders, some of them even making an attempt to open. J. Jeffrey, St. Mary's Isle, Kirkcudbright, N.B.

FOREIGN CORRESPONDENCE.

NEW PINK CARNATION ENCHANTRESS.

THE great forward stride in Carnations is made more manifest in this variety than in any other since the advent of the Mrs. Thos. W. Lawson. It was raised by the same grower, and he pronounces Enchantress superior to it. flowers are 31/2 to 4 inches across when well grown the stems are strong, and from 2 to 3 feet long; the colour is a superb shade of rosy-blush-pink, richer and warmer towards the centre. It is an early and continuous bloomer, a strong, healthy grower, an ideal Carnation in every way. Ten thousand dollars were paid for the stock of it by a cut-flower grower—the best evidence of its value. J. Feser, Dayton, U.S.A.

[The photograph is quite unsuitable for reproduction. Ed.]

FLORISTS' FLOWERS.

SWEET PEAS AS POT PLANTS.

To what the Rev. David R. Williamson has said, on p. 47, in favour of the Sweet Pea as a garden [flower and for exhibition, something further may be added in regard to its value for pot culture. There are many forms of decoration for which the plants may be used with great effect. When well managed they flower freely, and combined with the soft green foliage they make effective plants (or rather pots of plants), and may be flowered well from 2 feet high upwards. The same plants may not last in flower for a very long time, but it is easy to keep up a succession of plants; or if wanted for any particular date, the early flowers may be taken cffany which begin to show colour—up to about a week before the plants are wanted to be at their best. Or if plants are very early they may be stopped back; and this is the best method when they are required to be kept dwarf. Almost any of the varieties may be used for pot culture, but I have found such sorts as Coccinea, Blanche Burpee, Gorgeous, Earliest of All (or Blanche Ferry), Stanley (or Black Knight), Lady Nina Balfour, Salopian, Oriental, and Triumph do well; and Miss Willmott, Hon. Mrs. Kenyon, Lady Grizel Hamilton, and Navy Blue, which grow rather taller, may be added.

Culture.-Sweet Peas may be sown any time from now until the end of March, and they will be ready for the Sweet Pea Society's show. Or if wanted later they may be sown in April. They may be sown in 5-inch pots, which should be filled firmly with a good rich loamy compost. Six to nine plants may be grown in each pot, but it is best to sow a few more seeds, and to thin out if all the seeds grow. If started under glass, care must be taken to afford them plenty of air as soon as they begin to germinate. The tops may be taken out once at least, and no further stopping will be required unless they have been allowed to become drawn, but I may add that by frequent stopping a single plant will form a good bush. I have grown them singly, and had quite bushy, well-flowered, dwarf plants of sorts which under natural conditions would run up tall. They may be potted-on into 8-inch pots as soon as well rooted, or they might be cultivated in smaller pots, but to finish them off well I have found the 8-inch none too large. After they are in the flowering pots their chief requirements are watering and tying; the latter is not a difficult matter, one good stick in the centre, and a few small ones round the pot to keep them up when young being all that is required. As they advance the tendrils will, with the aid of the one stick, keep the plants up with but little tying.

If water he afforded in excess it will prove ruinous, and they will suffer nearly as much if they get too dry. Liquid-manure of moderate strength may be used freely.

Beautiful as the cut blooms are, Sweet Peas can never be seen to such advantage as in a group of well-grown pot plants. I may also point out that Sweet Peas planted out from the pots, and round clumps supported by a few neat sticks are far more attractive than when grown in rows and where the ordinary Pea-sticks are used. A. Hemsley.

ENQUIRIES.

SEA BUCKTHORN.—Are sheep likely to eat Sea Buckthorn? J. C. & S. [Probably not. Ep.]

ACETYLENE GAS REFUSE .- Would the refuse of acetylene gas be safe to use for garden crops, and serve in the same manner as gas-lime? Has it any manurial value? Acetylene.

COVENT GARDEN FLOWER MARKET.

DUTCH bulbs are now over-plentiful, especially Tulips; these are selling for a very low price Large quantities were left on the stands at closing-time. Daffodils are coming in freely, and prices are much lower. There is a plentiful supply of these in pots, the prices varying from 6s. to 12s. per dozen. Very good Indian Azaleas are-more abundant, and there are some good mollis... Poinsettias still hold out. There were some very good dwarf plants with excellent heads of bracts. Callas in pots were very good, and cut blooms were more than plentiful, good flowers selling for 3s. per dozen. Lily of the Valley in pots may be had at about 12s. per dozen, and cut flowers from 6s. to 10s. per dozen bunches; good white Azaleaat about 4s. per dozen bunches. Cyclamon arelower in price. Erica hyemalis is plentiful, and there are some well-flowered plants of E. melanthera. Chrysanthemums, though few, may still be seen in some good flowers. The variety Mile. Louise Charvet, which gained an Award of Merit on Jan. 20, is one of the best; good flowers of this. were sold at 6s. per dozen. Framfield Pink is still good; scarlet Pelargoniums are more plentiful. Roses and hest Carnations continue to be scarce; Lilium longiflorum is quite equal to the demand; L. speciosum (lancifolium) and L. auratum arevery good. There is plenty of English-grown white lilac.

There is a good supply of Asparagus, Smilax, and other foliage plants; but best Maidenhair Fern is rather scarce, but of second quality there is plenty. Cycas leaves vary in price from 6d. to 1s. 3d. each, but there is little demand for these just now.

FRUIT MARKET.

Supplies seem plentiful, but there are not quite so many Grapes on sale, and retail prices were a little higher. A very good sample of Gros Colmar was priced at 4s. per lb., and Alicantes at 3s. 6d. Peaches, Apricots, and Plums from South Africa are now coming in; of Plums there are several sorts. Apples are very plentiful, and those from Nova Scotia very good. They have English names, such as Ribston, Golden Russet, Baldwin, &c. The Newtown Pippins from California are well-ripened, sound fruits; and a larger sample labelled Oregon Newtown Pippins are very fine Apples. There are some fine samples of stewing Pears. A. H., January 30.

THE ROSARY.

" LA DETROIT."

This is the name given to a new Rose to be sent out this spring by Messra. Breitmeyer, of Detroit, Michigan. It is said to have originated as a cross between Caroline Testout and Bridesmaid. The flowers are cup-shaped, fragrant, shell-pink in colour. In French, "detroit" is a masculine noun: why the feminine article is added we do not know. It would surely be better to drop the article, and call the Rose simply "Detroit."

MADAME MAURICE FENALLIE.

The Journal des Roses gives a coloured illustration of this new Rose, the result of a cross between a Bourbon and a Tea. It is very vigorous, and produces large flat flowers resembling those of Her Majesty in colour, and becoming ultimately nearly white. It was raised by M. Boutigny, Rue des Ursulines 4, Rouen.

The Rozenzeitung illustrates in colours two Tea Roses—Madame Jacques Charreton, creamcoloured, with deeper yellow centre; and Madame Bodin, pink, with paler centre.

SOCIETIES.

LINNEAN.

JANUARY 21.-Professor S. H. Vines, F.R.S., President, in the Chair.

Dr. Eric Drabble, F.L.S., exhibited a lantern-slide showing diagrams of blearpellary fruits of the French Bean. The specimens of Phaseolus vulgaris, Savi, were obtained from a garden on the Middle Coal measures of North Derbyshire. In the simplest case there is present on the posterior aspect of the normal carpel a second smaller carpel with reversed orientation and without seeds. In other cases the second carpel attains to at least one-half the size of the normal anterior one, and is fused with the latter proximally in such a manner as to give rise to a unilocular fruit with parietal placentation, the earpels being free from one another in their distal portion. In other cases the two carpels are of approximately the same size, and both bear seeds. They are completely fused below to form a unilocular ovary, while above they divaricate from one another.

from one another.

It was pointed out that although the Leguminosce are typically monocarpellary, certain members of the

Court with a view to the show being held there in 1901. The Chairman pointed out that almost without an exception the whole of the supporters of the Union were members of the National Dahlia Society, and their object in holding a show about the middle of September was to afford an opportunity for the new Cactus Dahlias, then at their best, to be seen to the greatest advantage. There was no thought of antagonism to the National Dahlia Scelety.

the new Cactus Dahlas, then at their best, to be seen to the greatest advantage. There was no thought of antagonism to the National Dahlia Scelety.

Mr. John Green was re-elected Chairman, and Mr. R. Dean, Secretary and Treasurer. It was resolved the show should take place during the third week in September. Several special prizes were announced.

THE ROYAL HORTICULTURAL SOCIETY OF IRELAND.

MR. T. SMITH, of Newry, so well known for the number of interesting plants he has introduced to our notice, thus writes in the Iriah Times:—

There are always reasons, and, no doubt, there are good reasons—or, perhaps, reasons which are not good—for the present condition of the above Speiety, but we need not go into them now. It occurs he me that no matter how successful the proposed floral fee.

ing state, and the Royal Caledovian Horticultural Society finds itself in a position strong enough to embark on an international exhibition, it is sad to find our frish Society in difficulties; and I trust that some of your Irish readers may be induced to come to its assistance. That the Royal Horticultural Society of Ireland has done good work in the past is known to all gardeners, and the Council finding that in recent years there has been a distinct increase in the interest taken in gardening in Ireland and in the work of the Society, are determined to make a special effort to wipe but the debt due by the Society, and to place it in a position to entitue its good work in the future. This end they hope to attain by means of a large floral lête and Daffodil show to be held in Dublin on April II and 15 next; and also by being enabled through the generosity of individuals to claim Mr. Smith's cheque."

GARDENERS' DEBATING SOCIETIES.

DEVON AND EXETER GARDENERS'. — The spring session of this Association was opened on January 27 with a paper by Mr. Wm. Amery, entitled. "Incidents of a Trip to America." Mr. Wallis Mackay, of the



Fig. 42.—the "silver" or "plata" variety of orange, from a fruit cultivated by messrs. t. rivers and son, and shown at the drill hall on january 26.

Pulp juicy, flavour delicate. (see p. 76.)

order are bi- or even polycarpellary; but in these eases the polycarpellary fruit is of an apocarpous nature. It would appear, therefore, that the specimens described in some sense revert to ancestral conditions in so far as their bicarpellary nature is concerned, but that their syncarpous nature is anomalous. Comparison with related orders, e.g., the Connaraceæ, confirms this opinion.

THE LONDON DAHLIA UNION.

JANUARY 26.—The annual meeting of the supporters of the Union met in good numbers under the presidency of Mr. John Green, the Chairman of the Committee, at the Hotel Windsor on the above date. The Secretary read a large number of letters promising support to an exhibition in September next. A balance-sheet was submitted by the Secretary, Mr. R. Dean, showing the receipts from all sources to be £58.88.6d, and the expenditure £38.68.1d; but since the accounts were made up and audited, an additional sum in the way of unpaid subscriptions had been inceived, showing a balance in hand of £2 10s. The Chairman said that the Secretary and himself were in communication with the authorities at Earl's

may be, enough money could scarcely be made to both pay off the existing debts and provide a working balance for the future. The best way, I think, would be to pay off the present debts at once, and relieve the anxiety, if there be any; to make whatever sum is raised at the fete available as a working balance; and with this view I am prepared to subscribe £100 if two other persons will do the same, or £50 if five other persons will do the same, or the balance be raised in any other way, and so enable the Society to pay what they owe, and have done with it.

T. SMITH,

Daisy Hill Nursery, Newry.

In reference to this matter we have received the following letter from Mr. F. W. Moore, the highly-respected Director of the Royal Botanie Gardens, Glasnevin:—

"In the issue of the Gardeners' Chronicle for Jan. 23, p. 58, you were good enough to draw attention to a meeting summoned and presided over by Lady Ardilaun, with the object of devising means to strengthen the position of the Royal Horticultural Society of Ireland. The meeting was a success, and the resultshave been eccouraging. So far two promises of £50 each have been received in consequence of Mr. Smith's proposal At this juncture, when the Royal Horticultural Speicty of England is in such a flourish-

Royal Nurseries, Exeter, presided. The lecturer, referring to the Central Park, New York, pronounced it a splendid specimen of the skill of the engineer and landscape gardener. Green lawns, shady groves, fine drives and walks, expanses of water, &..., had taken the place of what was once a waste. Boton Market, 48 aeres in extent, was another fine open space. A characteristic feature of the residential parts of the city was the luxuriant Vines of Boston Ivy (Ampelopsis Veitchii).

LEE, BLACKHEATH AND LEWISHAM.—The monthly meeting was held at the Church Street Schools on January 29, when Mr. H. J. Jones, Ryecioft Nurseries, Lewisham gave a lecture on "The Cultivation, Growth, and Description of the various varieties of Sweet Peas." The subject was made highly interesting. Mr. Jones offered to provide a Silver Medal to be competed for at the next Winter Session.

DULWICH CHRYSANTHEMUM.—At a special meeting of the above Society Mr. Percy Waterer read a most interesting paper on "Sweet Peas," in which, after dealing with the history of the flower, he referred to the great variety of colour, and many other good qualities possessed by the improved forms introduced since Mr. Eckford first began to take interest in them

in 1879, and a few years later, Mr. Burpee. The lecturer dwelt on the necessity for a standard in form, for example, the bold upright standard of Black Knight and the hoeded standard and wings of Lady Grisel Hamilton. The double form was hardly desirable, but the Cupid and bush varieties would no doubt become popular. The importance of four flowers on a stem was over-estimated, as they were seldom evenly developed. Early planting was strongly advised, good root action being encouraged by cool weather, and deep trenching was important. It was doubtful if change of soil was so important as was generally considered, but a change of seed was consignally designed. sidered; but a change of seed was occasionally desirable. Natural manures were advised in preference to artificial, especially in a liquid state. After giving a list of desirable varieties the lecturer suggested a selection of eighteen, consisting of Dorothy Ecklord, Blanche Burpes, King Edward VII., Hon. Mrs. Kenyon, Blanche Burpes, King Edward vii., Hob. Mrs. Kenyon, Prima Donna or Lovely, Coccinea, Navy Blue. Lady Grisel Hamilton, Black Knight, Dorothy Tennant, Miss Willmott, Lord Rosebery, Prince of Wales, Triumph, Prince Edward of York, Lord Kenyon, Salopian, and America. The lecturer advised planting seeds in pots first week in February, growing on and planting out after first week in April. after first week in April.

HULL HORTICULTURAL. - On Tuesday, January 16, HOLL HORTICULTURAL.—On Tuesday, January 16, the subject of "Theory and Practice Irom a Cultivator's Standpoint" came up for discussion. Mr. Barker, of Hessle, introducing the subject. In an address, which naturally divided itself into two parts, Mr. Barker strongly favoured the opinion that practice was all-important for the gardener, and it was only when he was well grounded in this that he should turn towards theory. towards theory. The man relying absolutely on theory was not the man to earn his livelihood in the prolession. Many arguments were brought forward by the speaker in support of his contention. Several members joined in the interesting discussion, but each and all appeared to favour a happy combination of the two factors. If, R.

CHESTER PAXTON. - At the usual fortnightly meeting, held in the Grosvenor Museum on Jan. 30, an animated discussion took place upon "Suggestions for the Next Exhibition." Although past exhibitions held under the auspices of the Society have always been successsful, it was thought by several of the members present that the time had arrived when additions might be made to the prize schedule, as follows :-

- (1) To make the exhibits of Apples and Pears more educational by asking exhibitors to give particulars of the stock upon which the trees have been grafted as as the class of soil and situation in which they have been grown.
- (2) To make a special class for bottled fruits, in which those who do not grow fruit themselves may compete.
- (3) To offer prizes for collections of vegetables, as well as for winter-flowering Begonias, Cyclamens, &c.
 (4) To offer prizes for the impromptu naming of
- hardy fruits by young gardeners and others.
- (5) To encourage Chrysanthenium specialists to exhibit new varieties of merit.
- (6) To still further encourage table decorations by Tadies resident in the Society's district.

Mr. G. Lyon presided, and Mr. E. Stubbs, Bache Hall, introduced the discussion.

LIVERPOOL HORTICULTURAL. — On January 30 the annual meeting was held in Victoria Street, Liverpool. The report was presented, and adopted after some discussion. Several new members were elected on the Committee; and donations of three and two guineas voted to the Gardeners' Royal Benevolent Institution and Gardeners' Orphan Fund respectively. Various suggestions were made on "How to make our flower-shows more attractive for the masses," but dower-shows more attractive for the masses," but mothing definite was decided upon. Mr. Thos. Foster presided. J. S.

NATIONAL CHRYSANTHEMUM.

ANNUAL MEETING.

FEBRUARY 1.-The annual general meeting of the National Chrysanthemum Society was held in the newly-erected Carr's Restaurant, Strand, on Monday The lofty dining-room proved to be a very suitable place for such a meeting. The new President, Mr. Chas. E. Shea, presided, and there were about sixty members present, all of whom appeared enthusiastic. After the minutes of the last meeting had been adopted, &c., the Chairman proposed the adoption of the report and balance sheet, from which we make the following extracts:

EXTRACTS FROM REPORT OF THE EXECUTIVE COMMITTEE.

"The effect of the display made on that occasion [November exhibition] was distinctly lessened from the fact that the space placed at the disposal of the Committee was far too contracted, by reason of other exhibitions occupying a considerable portion of the building. A promise has been made that this defect

will he remedied in the future. The Executive of the Crystal Palace Company made the best arrangements they could under the circumstances, and your Committee are under an especial debt of obligation to Mr.

Geo. Caselton, the Superintendent, for his most valuable help in many ways.

"The Floral Committee held six meetings during the year—three at the Crystal Palace and three at the Essex Hall, the suitability of the last-named place being acknowledged by Committee and exhibitors alike. Nineteen First-class Certificates of Merit were awarded. Arrangements have been made for continuing the meetings of the Floral Committee at Essex Hall in the

present year.
"A Catalogue was issued during the past year, and will be supplemented by carefully-prepared lists which are to appear in the annual report.

"The annual outing of the Society took place in July

last, a party of 207 persons spending a delightful day at Park Place. Henley-on-Thames, by the kind permis-sion of Mrs. Noble.

"The annual dinner, at which the President occupied the chair, was held on November 25, a goodly number of members and friends being present.

"A deputation from the Committee attended the exhibition of the French National Chrysanthemum Society at Lille during November, and were most hespitably entertained. The report of the deputation will appear with the schedule of prizes.

The financial position of the Society continues satis-"The financial position of the Society continues sausfactory; there is a balance in hand of £69 98. Itd., with liabilities amounting to £5 98. The sum of £4 78. 8d. has been paid during 1903 on account of 1904. The Reserve Fund amounts to £115 158. 11d., £100 of this being on deposit. The Committee regret the loss by death of Mr. E. J. Bentley, who subscribed annually to the Fund. this Fund.

Special prizes were given by the President, who continues his Special First Prize of £5 58, in 1904; by Messre. Mackenzie & Moncur, Messrs. E. Wehb & Sons, Mr. G. H. Richards, Mr. W. J. Godfrey, Mr. H. J. Jones, and Mr. Robert Sydenham, all of which proved very helpful. Mr. P. Waterer's Silver Cups were won outright, and are now the property of the winners.

"Four officers acting as a deputation from the Committee have interviewed the General Manager of the Crystal Palace Company in respect of the arrangements for 1904. The Company are willing to allow space for three exhibitions, as in 1903, and there is reason to believe the sum given for the November show will be augmented in the present year. It is also hoped that some arrangement may be come to with the Crystal Palace Company, by which cheap railway and admission tickets may be provided for members and exhibitors. Should such an arrangement be made, a special circular will be dissued to members and exhibitors cetting forth these advantages, and giving as forces pressure the these advantages, and giving as far as possible the times of departure of trains from London. The matter of entrance fees will be considered, and on the re-commendation of the Finance Sub-Committee, the sum of £50 will be added to the November Schedule of Prizes; a considerable number of new Special Prizes will also be added It is the intention of the officers to seek the co-operation of the Secretary and Manager of the Crystal Palace, in endeavouring to secure better lacilities for the conveyance of exhibits to and from the Palace.

"The suggestion that an exhibition of market Chrysanthemums he held shortly before Christmas, is reto the Schedule Revision Sub-Committee for consideration and report.

"The present number of Societies in affiliation is 125; a few have ceased to exist owing to lack of local support. The present number of Members is 631, viz., 75 Fellows and 556 Ordinary Members, in addition to the Foreign Subscribers. An increase in the membership of the Society is urgently needed.

ELECTION OF OFFICERS, &C.

After a little pleasant discussion the report was adopted with unanimity and satisfaction; but it was agreed that a few lines should be added in respect to the visit of the deputation to the Ghent Quinquennial

Show in April last.

The President, Vice-President, and Officers were reelected, and Mr. Lake was elected to be an auditor in place of Mr. C. J. Ingram, who retires according

Several alterations were made in the constitution of the Committee, and Mr. J. W. Moorman, who retired last year, was re-elected a member of that body.

One-third of the Committee retires annually, and in addition two vacancies were caused by Mr. A. Newell (deceased) and Mr. George Little, who had failed to attend. Messre, W. Weeks and T. J. Berridge declined nomination. All the others were re-elected, and the new members included J. W. Moorman, Geo, Cuthbert, F. G. Oliver, Geo. Gover, and H. T. Wooderson. Six new Fellows were elected, and one Society was admitted to affiliation.

On the proposition of Mr. witty, and elected an honary Fellow of the Society.

A discussion took plece in regard to the proposal to hold an exhibition in December of Market Chrysanthemums, and the Chalrman elicited from the market growers present that they thought the exhibition

should be held in the Essex Hall, Essex Street, Strand. and that a suitable date would be Wednesday, Jan. 14.
Mr. H. J. Jones announced that he would be pleased,
should the Committee permit him, to provide one of the Society's Small Gold Medals to be awarded on that

In respect to the November exhibition, it transpired that the proposal to offer prizes of 5s. for the premier bloom of certain varietles has met with unexpected support. It is now thought that there will be upwards of one hundred such prizes. All of this money is offered in the form of special prizes by private individuals, who select any variety they prefer.

It was thought by some of those present—and we think with good reason—that the judging of these flowers will be a considerable task, as flowers may be shown exclusively for these prizes; but any flower shown in any class will also be judged with them, in the same way that the National Rose Society select their "medal" flowers.

Mr. Harman Payne explained that the promoters of the Turin Exhibition would be glad to have exhibits from members of the Society, and Italy was particularly in need of garden appliances.

The meeting concluded with a vote of thanks to the Chairman, which was passed before 9 o'clock P.M.

ROYAL HORTICULTURAL. Scientific Committee.

JANUARY 26. - Present: Dr. M. T. Masters, F.R.S. (in the chair); Messrs. Gordon, Odell, Shea, Worsdell, Saunders, Michael, Bowles, Massee, Holmes, and Fraser; Dr. M. C. Cooke; Revs. W. Wilks and G. Henslow (Hon. Sec.).

Codlin-moth in May .- Mr. SAUNDERS made the following contribution to this subject, discussed at the last meeting :- "I cannot find that more than one brood of the Codlin-moth has ever been noticed in England, though two hroods are common on the Continent and in America; and on the other side of the Atlantic three broods have been known. In this country the moth leaves the chrysalis in May, and lays her eggs very soon alterwards. The caterpillars are hatched in the course of a week or ten days, and remain in the Apple three weeks or a month; being fully fed, they leave the Iruit to Iall to the ground, and make their way to the nearest tree stem, and crawl up it until they find a suitable place to pupate in. If they cannot find a tree, a post or paling or even dead leaves will provide them with a shelter. The object in putting bandsround the trees is to provide the caterpillars with hiding places, where they may be found and destroyed. They are not sticky, but made of folded canvas or sacking, or even hay or straw bands, and should be put en as soon as any 'wind-falls' are found."

Maggots in Moss Litter .- Mrs. Horseley sent samples with enquiries. Mr. Saunders reports as follows: "The grubs found in the moss-litter manure were those of a fly belonging to the genus Bibio, but I cannot tell the name of the species, several of which are very common; perhaps the one hest known is the St. Mark's fly (Bibio Marci), so called from its generally appearing about St. Mark's day (April 25). These flies are quite black, and are rather more than half-aninch in length; their bodies are rather thin, and the wings are not very transparent; they measure about 14 inch from tip to tip. They fly in a very clumsy manner, and may be found crawling over plants, &c., in great numbers for a day or two, and then they disappear altogether. The flies may be easily caught in a butterfly-net. If Iowls are kept, I should spread the manure about and let them pick and scratch it over, for they will soon pick out the grubs. Mixing nitrate of soda with the manure might be tried, but I am not sure whether it would have much effect upon the grubs, as I have not heard of any experiments having been made on them. They are undoubtedly injurious to the roots of plants at times."

Coloured Photographs of Orchid .- Mr. ODELL exhibited a colour-photograph of Cypripedium insigne Sanderæ, executed by a new method. The yellow colour was very characteristic. It was received from Mr. A. S. Hickley, Kelso House, near Southampton.

Ixia diseased -Mr. SHEA showed leaves of I. crateroides, as being the only species with the foliage discoloured. There was no fungus present, the appearance being thought to be due to hereditary predisposition.

Eucaluptus with nodules .- Mr. SAUNDERS showed small plants with nodules on the stem close to the ground. Nothing could be found inside. Mr. Massee observed that ants can cause similar ones on Roses, the formic acid acting as an irritant; and knots can be produced artificially.

MARKETS.

COVENT GARDEN, February 3.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only irom day to day, but often several times in one day. Ep.]

CUT FLOWERS, &O .: AVERAGE WHOLESALE PRICES.

	s.d. s d.	s.d. s.d.
Anemones, per		Narcissus Solcil
doz. bunches	1 6- 2 6	d'Or, per dozen 30-40
Azalea mollis, per		Orchids: Cattleya
bunch	1 0- 2 0	per dozen 12 0-15 0
Azaieas, per doz.	4 0-6 0	Orchids: Odonto-
Bouvardias.bnch.	0 4- 0 6	glossums, per
Callas, per dozen.	40 -	dozen blooms 20-30
Camellias, box	1 6 - 20	- Cypripedium
Carnations, buch.	0 6-3 0	insigne, per
Chrysantbemums,		dozen 1 6-2 0
doz. bunches	9 0-18 0	Pelargoniums,
Daffodils,dz. bun.	26-80	zonal, dozen
Eucharis, per doz.	1 6 2 0	bunches 6 0- 8 0
Euphorbia, bun.	1 0-3 0	- white, dozen
Ferns, Asparagus,		bunches 4 0- 6 0
per bunch	$1\ 0\ 2\ 6$	 doublescarlet,
- French, per		p. doz. bunches 4 0- 6 0
doz. bunches	03.04	Roman Hyacinths,
- Maidenhair,		per bunch 4 0- 5 0
doz. bunches	4060	Roses, Mermet,
Freesla, per doz.	1 6- 2 0	per bunch 3 0- 6 0
Gardenias, box	40-50	- white, bunch 1 6- 2 6
Lilac (French),		- French, per
per bunch	2 0- 3 0	bunch 1 0- 2 0
Lilium auratum		Smilax, per doz.
per bunch	2 6- 4 0	trails 1 6- 2 0
- longiflorum,		Snowdrops, doz. 1 0- 1 6
bunch	4 0-8 0	Spiræas, bunch 10 —
— lancifolium	16-26	Stocks, per doz 20-26
Lily of the Valley,		Tuberoses, strong,
p. doz. bunches	6 0-15 0	per bunch 1 0- 1 6
Marguerites, yel-		— per dozen 0 6- 0 9
low, doz bunch.	$1 \cdot 0 \cdot 2 \cdot 0$	Tulips, Red, per
Mimosa (Acacia),		bunch 0 6- 0 9
bunch	0 9-1 0	bunch 0 6- 0 9 - various, per bunch 0 6- 1 6
Narcissus, dozen		bunch 0 6- 1 6
bunches	1 6-2 0	Vlolets, p. dozen
— Pheasant Eyc,		bunches 1 0- 1 6
per doz	4 C- 6 0	— Parma, p. bun. 3 0- 4 0

PLANTS IN POTS, &c.: AVERAGE WHOLESALE PRICES					
s, d, s, d,	s.d. s.d.				
Acacias, per doz. 12 0-50 0	Ferns in variety				
Adiantums, doz. 40-80	doz 4 0-30 0				
Aralias, per doz. 40-80	Genistas, per doz. 6 0-10 0				
Arbor Vitæ, doz. 9 0-18 0	Hyacintus, Roman				
Arum Lilies, per	(48-pots), dcz. 8 0- 9 0				
doz 10 0-12 0	- Dutch. p. doz. 8 0-12 0				
Aspidistras, doz. 18 0-36 0	Lycopodiums,per				
Aucubas, per doz. 40-80	dozen 30-40				
Azalea mollis, pot 1 - 3 0	Marguerites, per				
Azaleas, each 26-50	_dozen 60-80				
Begnnia, per doz. 8 0-18 0	Orange-trees, each 3 6-10 6				
- Gloire de Lor-	Palms, var., each 3 0-20 0				
raine, per doz. 8 0-24 0	Poinsettlas, doz. 8 0-12 0				
Cinerarias, p.doz. 8 0-12 0	Primulas, perdoz. 4 0-60				
Coleuses, per doz. 4 0- 5 0	Pteris tremula,				
Crotons, per doz. 12 0-24 0	dozen 4 0- 8 0				
Cyclamens, doz. 9 0-12 0	- Wimsettl, per				
Cyperus, per doz. 3 0- 4 0	dozen 40-80				
Daffodils, per doz. 60-80	- major, dozen 40-60				
Dracænas, variety,	Solanums, dozen 40-60				
dozen 12 0-48 0	Tulips, red, doz.				
Ericas, per dozen 6 0-12 0 Euonymus, vars.,	roots 10 -				
per dozen 40-60	- yellow, dozen				
Figure lastica doz 9 0.24 0	roots 0 9-1 0				

ricuseiastica, doz. 9 0-	24 0	- vario	us	1 0- 1	6
VEOETABLES: AV	ERAGE	WHOLES	ALE PRIC	FS.	
Artichokes, Globe,	a.d.	Muchan		_8.d. 8.0	L,
per dozen 3 6-		Mushroo	ms(nous	e) _ ^ _	
per dozen 3 6- - Jerusalem, p.					
sieve 1 0-		Onlons,	per case.	6 0- 6	
Asparagus, Sprue,	1.0	- per o	ag	3 0- 6	
bundle 0 9-	0.10	- picki	ers,sieve	3 0- 5	Ü
	6.0	- Lugi	ish, cwt.	76 -	
- English, bun. 60		Parsley,			
Beans, dwarf, lb. 26		- sieve			
- Madeira, per		Parsnips			6
basket 26	20	Potatos,			
	3 6		ed, lb		2
Brussels Sprouts,	. 9 11	- New.	Feneriffe.		
	29	perc	wt	14 0-16	0
	3 6	Radish			
Carrots, per doz.	. 90		bunches		0
	9.0	Rhubarb	, rorks,		_
	26		zen		0
		Salad, sn			
Celery, doz. bun. 10 0-	2 6		er doz		
		Savoys, t	any	3 0- 4	0
	100	Seakale,	per doz.		
Endive, per doz. 16			s		
Garlie, per lb 0 3		Shallots,			
Horseradish, fo-	_	Spinach,	p. bush.	3 6- 4	0
	- 1 6	Tomatos	, Canary		
Leeks, doz. bun 1 0-	1 6	Deep	S	3 6- 4	
Lettuces, Cabbage,	10	Turnips,	doz.bun.	1 6- 2	
	13	- per c	ag	1 6- 2	6
	10 0	watercre	ss, per		_
0 0-	10.0	unzen	bunches	0 6-0	8

FRUIT: AVERAGE WHOLESALE PRICES.

a.d. a.d.	8.d. 8.d.
Apples, home-	Grapes, Alicante.
grown, cookers.	per lb 1 0- 2 0
per bushel 3 0- 5 0	— in barrel 180 —
barrel 18 0-24 0	- Muscats, A., lb. 6 0- 8 0
- American, in	- Almeria, doz. 4 0- 8 0
cases 7 6-14 0	- Gros Colmar,
Bananas, per	A., per lb 1 9- 2 6
bunch 7 0-12 0	— — B., per lb., 1 0-1 6
- loose, dozen 1 0- 1 6	Lemons, per case 8 6-10 0
Chestnuts, per	Oranges, per case 6 0-37 0
bag 17 6 -	Pears, per case 14 6 -
Cobnuts, per lb. 0 6-0 7	- stewing 9 0-11 0
Cranberries, per	Pines, each 2 6-4 6
case 10 6 -	Strawberries, lb. 10 0-15 0
REMARKS Cape Apri	cots. per case, 4% to 68.;

REMARKS. — Cape Apricots, per case, 4s. to 6s.; Peaches, per case, 8s to 15s.; Plums, 2s. 6d. to 6s.; some of the Plums are very fine. Lychees, per packet, 1s. 2d. Turnip Tops, per bag, 1s. 6d.: Sprout Broccoli, per bag, 1s. to 1s. 6d. Onions are firm in price; Potatos are essier. A few English Wellington Aoples, 12: per bushel. Cherbourg Broccoli, per dozen, 1s. 6d. to 1s. 9d. Italian Cauliflower, per basket, 3s., 6d. to 4s. Bitter Oranges, per case, 8s. 6d.

POTATOS.

Home-grown, 85s. to 110s. per ton; foreign, 80s. to 110s. do.; Dunbars, 120s. to 120s do. John Bath, 32 & 34, Wellington Street, Covent Garden.

(For continuation of Markets and Weather, see p. xiv.)



Angle for Lean-to Vinery: Ivy. For ordinary purposes an angle of 40° to 45° is best, but it will vary according to the situation, height of wall, &c. The angle of a roof is found by taking that formed by the rafters and the top front plate of the house, and measuring with an ordinary protractor.

Apprentice to Florist: H. P. In small business establishments it may be usual to send the girls out occasionally to deliver purchases, but if the girl be apprenticed to the business it is certainly not fair for the employer to keep her at such work during half her time. In your case, having paid a premium you describe as "heavy," we think you have a legitimate ground for complaint if you find that your daughter is not taught the details of the business as she should be. We are afraid employers frequently overlook the responsibilities that belong to them in respect of the education of their apprentices.

ASPARAGUS BEDS: A. H. In a fortnight's time afford the beds a little superphosphate, about 3 to 4 lbs. to the rod; and in May sow 3 lbs. of nitrate of soda to the rod, repeating the dressing of nitrate of soda in July. In November you may apply kainit at the rate of 6 lbs. to

BEGONIAS: T. H. W. The leaves are attacked by mites (Tarsonymus), invisible to the naked eye. Dip the leaves into tobacco-water, or dust them with tobacco-powder.

BIRDS AND FRUIT BUSHES: Amateur. A correspondent, "J. W.," has found the following method of protecting fruit blossoms from birds to be perfectly satisfactory. Take 8 ozs. of to be perfectly satisfactory. Take 8 ozs. of bird-lime and 8 ozs. of linseed oil. Melt them together by heating, and stir till cold. Paint this over Bamboo-canes, and place them in the fruit - bushes. If a bird once touches one of these canes, you will see very few birds in your garden afterwards for a long time. The adoption of this method will not injure the birds, but it will save your crop of fruits.

BOOKS: K. L. M. N. The botanical book most likely to suit your requirements is A Text-Book of Botany, by Dr. E. Strasburger, &c., published by Macmillan & Co. A new edition has just been issued.—A Young Gardener. The last edition of Hogg's Fruit Manual, Barron's and Vine Culture. The Book of Shrubs, George Gordon (John Lane); Trees and Shrubs for English Gardens. by E. T. Cook (Newnes); Schlich's Manual of Forestry, in five volumes.

BOUVARDIAS: G. Yes, we think it much better to allow the plants to commence growth before shaking them out of the soil, and re-potting them. If they have commenced growth before they are re-potted, the roots will quickly enter into the new soil, but otherwise there would be a delay, and in the meantime the soil would deteriorate in quality. See note under "Plants under Glass," on p. 86.

CARNATIONS: Old Subscriber. Your leaves are affected with the Carnation-rust, Helminthosporium echinulatum (we did not invent the terrible name). Burn the affected plants, and spray those still healthy with a solution of liver-of-sulphur, ½ oz. to the gallon, as a preventative.

CELOGYNE CRISTATA: S. W. Ewell. The number of flowers named as being on your plant of Ceelogyne cristata in a 6-inch pot is equal to any we have had brought under our notice, and is a proof of successful cultivation. Seven or eight flowers on a spike is more than the average, and your plants have developed an unusual number of flower-spikes.

CORRECTION.—Mr. W. Hinton writes that in respect to the Arbutus he described on p. 46, Gardeners' Chronicle for January 16, as growing at The Oaks, Hanworth, the word "circumference" is used instead of "diameter." This applies to both of the shrubs mentioned. Not-withstanding this the shrubs mentioned. withstanding this, the shrubs are good specimens of this species.

CRAMBE TATARICA: W. E. G. The plant is well known, but we have no personal experience of its qualities as a vegetable. You will find a reference to it in the Treasury of Botany under "Crambe."

CURRANT-BUD: W. W. The swollen buds indicate the presence of mites in the interior. answer to several correspondents, p. 48, Gardeners' Chronicle., January 16.

DENDROBIUM NOBILE, D. PHALENOFSIS SCHRODERÆ, &c.: C. H. D., Acton. See that all the plants are thoroughly clean, and the pots or pans in which they are growing should be clean also. which they are growing should be dean also.

The Dendrobiums should be afforded the warmest position, suspending them from a roof or placing them on a shelf near the roof-glass.

Afford water sparingly till the plants are in active growth, when a more liberal supply should be given. Cologyne cristata should be stored to all shediest position and kept in the coolest and shadiest position, and be kept moist during all the year. When growing actively too much rain-water can scarcely be given. The Oncidium requires a-situation in clear light.

DOUBLE CYCLAMEN: W. & Son. This condition is not very common, but we have seen it many times. It is not nearly so attractive as the ordinary type.

FOREMAN: C. S. We are afraid you demand only a week's notice, but in respect to the house you might consult a lawyer.

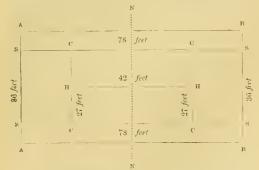
GARDENER IN LODGE: Tab. In the absence of an agreement to the contrary, you cannot be legally dismissed without a month's notice, unless for misdemeanor.

Head Gardener: E. H. S. Your employer is not obliged to give you three months' notice, but presumably he knew of the expiration of the lease, and in your interests he should have let you know.

IRIS UNGUICULARIS (STYLOSA): Constant Reader. This species may be replanted directly after the plants have flowered, which will be in this month or next. Plant them on a sheltered border under a south wall if possible, and the results will be better if you afford them the protection of a handlight when about to flower, as the weather is usually bad at the time.

IVY BASKET: J. R. W. Large basket-beds are sometimes constructed of stone, and Oakboughs are used for the same purpose. By raising the soil and shaping it to a suitable basket form, you could form an object most appropriate for the situation, and by turfing the sides make a very pretty structure. Use a dwarf wire trellised edging—preferably with the top inclined ontwards—for the rim of the basket, and bend over an iron rod for handle, or use a rustic design of Oakboughs, according to taste. The whole could be planted with Ivy, which, entwined in the rim and trained up the handle, would give an effect almost immediately.

LAWN TENNIS COURT: W. E. S. If you keep the accompanying diagram and explanatory details, where you may refer to them, you will not need to write us upon this subject at a future time. In regard to laying-out a front garden and carriage drive, we are not in a position to recommend particular firms, but any nurseryman who carries out landscape work at all would be able to do this. The persons you may approach for tenders would also submit plans for your approval. The dimensions for a single and double tennis court are as follows:



A B, B A, double court for three or four players; s s, s s, single court for two players. A A and B B are the base lines; A B, A B, and S S, S S, side lines; C c and C C, service lines; H H, half court line; N N, net. A court for the single game is 27 feet wide and 78 feet long; and for the double game, 78 feet long and 36 feet wide. The posts for supporting the net should be placed 3 feet beyond the sides. The service lines run parallel to the net, and arc 21 feet distant from the same.

MEALY-BUO ON GRAPE-VINES: J. S., Co. Down. The directions given on p. 366 of Gardeners' Chronicle for November 28, p. 16, may be carried out without causing injury to the canes. The mixture should be applied before the Vines commence to grow, and the buds need not be coated to the same extent you will paint the rods. Shield the top of the buds as much as practicable, and no injury will be likely to follow. Gas-tar and coal-tar are alike useful.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. McP. Are you playing us a trick, that you send such wretched specimens?—W. H. D. 1, Pinus pinaster; 2, Pinus densiflora; 3, Aspidium acrosticoides, often called Polystichum acrosticoides, a distinct North American Fern, and quite hardy. The peculiar manner in which the fertile, upper third portion is contracted is interesting, as it is a compromise between the separate fertile frond and the more common class, in which the sori are distributed more generally over the frond.—E. W., Durham. All good varieties of Dendrobium nobile, 1 and 5 especially. Every importation brings great variety, and already a large number representing every section have received varietal names.—Reader. Billbergia Burchellii.—E.W.R. 1, Celogyne cristata; 2, Oncidium flexuosum; 3, Passiflora racemosa.—G. S. H. Cattleya Percivaliana.—Tulip. We cannot undertake to name varieties of Tulips. The slight disfigurement of which you complain is caused by the plants having received a check when the flowers were expanding. It is not due to disease.

Nature's Greatest Curiosity: Correspondent.
The fruit or seed-vessel of Trapa natans, the Water Chestnut. Of course the statements made are more curious than true; but who could say what is Nature's greatest curiosity? Nobody but a vendor of quack medicines, and we are afraid we should not believe him.

NEGLECTED VINE: R. P. Assuming the vine to be growing out-of-doors, and that the rods are aged and the spurs several inches long, and consequently some distance from the wall, an endeavour should be made to replace this old wood with young canes as quickly as possible. Select young shoots that appear in the hest positions near the base of the rod, and train them to the wall, and these will ultimately serve instead of the worn-out rod, now 25 feet long.

Prune back the remaining shoots of last season's growth, leaving only two buds at the base of each. Wash the rods with a solution of soft soap and sulphur mixed well together in warm water. See that the surface of the wall is made good, if any pointing is needed, and then clean the walls thoroughly. Secure the rods to the wall, and should the young growths during the coming season be strong and of good length the old rods may be cut away at the end of September. The roots may need attention by affording them fresh soil, but it is not prudent to grow outside vines too strongly. Short-jointed shoots of medium strength are best, and should be kept as near to the wall as possible that the shoots may benefit from the sun-beat absorbed by the wall and afterwards radiated from it. If you require a cheap book upon the culture of vines in houses and out-of-doors, you might select The Book of the Grape, by H. W. Ward, published by John Lane, London, price 2s, 6d

Oncidium Papilio: Vallota. The temperature you mention, 65° to 70°, suits this plant. It may be grown either on a block, or in a basket or pot. The plants require to be kept moist at the roots all the year, as they are not deciduous, but, as with most other evergreen Orchids, the supply of water at the root should be reduced when the pseudo-bulbs are fully made up. It is not unusual for flower spikes sent up in winter to remain inactive for a long period, waiting for brighter weather, more favourable to development. Probably, if your plant were suspended near to the glass of the roof it might develop its inflorescence more quickly.

PEACH-TREE DROPPING ITS BUDS: W. G. The causes of this have been discussed again and again; but we think that it is most frequently due to improper ripening of the wood, or to the roots having suffered at some period from an insufficient supply of water. You will know hetter than we can which of these causes is most likely to apply in your own case.

Poinsettia "Bracts": R. H., Belgrave. The brilliantly-coloured leaves in the Poinsettia are called "bracts," because they are modified leaves interposed between the flowers and the normal leaves. In gardeus, the bracts upon one stem are sometimes collectively described as a "head." The correspondent meant that he had 200 "heads," and that some of these heads were composed of as many as forty-eight modified leaves (bracts). We do not share your disbelief in regard to the number of bracts in a head. It is seldom there are so many, but there is no reason to suppose our correspondent was guilty of exaggeration; doubtless those of all sizes were counted.

POTATO MAGNUM BONUM: J. E. J. This variety was introduced in 1876 by Messrs. Sutton & Sons, and was extremely popular for many years.

Removal of a Gardener's Effects: F. A. P. It is a matter for arrangement between the contracting parties; but very frequently the new employer defrays the cost of removal; and this appears to us a reasonable thing to do.

ROYAL GARDENER'S ORPHAN FUND: George MacKinlay. Thanks for 2s. 4d. received for this Fund.

SCARLET THORN SHOOTS WITH EXCRESCENCES: F. H. M. The knots are caused by a fungus called Gymnosporangium clavariæformo. One stage of this fungus grows on species of Juniper, bursting through the bark as gelatinous orange masses in the spring. It is the spores from the fungus on the Juniper that infects the Thorn, consequently no pains should be spared to find the diseased Juniper and cut away the diseased branches.

SEED-TESTING IN TWO HOURS: Correspondent.
We do not believe that the germinating power of all seeds can be tested in two hours by any chemical means; but a competent botanist would probably be able to tell you by careful examination whether a seed was alive or not in less than two hours.

TREE WASH: J. H. H. If your trees are growing over lawn grass, and you apply by means of a

syringe strong winter dressings that may render the grass unsightly for a time, it would be well the grass advantage of water over the grass by means of a garden engine directly each tree has been syringed. By thus diluting the insecticides and washing them into the ground, the illeffects will be hardly perceptible, if they are at all. A good winter dressing for trees affected with American blight is made as follows; take $\frac{1}{2}$ lb. of caustic soda, and $\frac{1}{2}$ lb. of crude commercial potash, dissolving them in 5 gallons of water. Spray this over the trees, taking care that every shoot is reached by the liquid. On the main stems you might use a solution of Calvert's carbolic soap, and rub this well into the bark by the use of a painter's brush. The best preventive of winter moths is by adopting the common practice of putting brown-paper bandages round the trunk of the tree in winter, and smearing them occasionally with tar, or any sticky substance (as cart-grease), which will prevent the female moths from ascending the trees, as the females are incapable of flight. When the buds commence to open in spring, syringe the trees with a solution of Parisgreen at the strength of 1 oz. to 20 gallons of This must be kept well mixed during its application, and use it with great caution, as it is violently poisonous.

Verbenas: D. D., Royston. Sow the seeds in March in a temperature of 60° or thereabouts, and when they have germinated place the pan in which they are growing as near to the glass as possible. When the seedlings are large enough. prick them out into shallow boxes, or pot them up singly into small pots. They should be grown as sturdily as possible, and they will be ready to put into the flower-beds at the end of May. Named varieties like Miss Willmott, &c., must be propagated by cuttings, which are generally taken in the month of August; but if you have stock plants you have kept through the winter, you may take cuttings from these early in March and root them in a temperature of 60°. Put them into pots of light, rich soil, and pot them on as may be required, stopping the shoots occasionally to induce a bushy habit.

Vines Bleeding: A Subscriber. We fear that the fact of your canes bleeding to the extent you describe, is due to their having failed to become properly matured during last autumn. The absence of sunshine in 1903 has resulted in many fruit trees indoors and out-of-doors being less "ripened" (as the gardener uses the term) than usual, though in large establishments, where every means are at hand, the skilful gardener has assisted the vines to a considerable extent by a freer use of fire-heat than usual and carefully-adjusted ventilation. You should cover the ends now bleeding with a coating of "styptic," or with the "knotting" recommended on p. 51 of the Gardeners' Chronicle for January 23.

VIOLETS: J. W. We are unable to state the cause of your Violets dying off. We find no fungus or insect.

YEW-TREES: E. R. Your trees are remarkable specimens, one 27 feet 6 inches in girth, and the other 18 feet 5 inches, both measured at 4 feet from the ground. In The Yew-trees of Great Britain and Ireland, by Dr. John Lowe, there is information of many of the big specimens in this country. But generally the measurements were taken at 3 feet from the ground. There is one described as being in your own village (Hambledon) 39 feet at 3 feet from the ground; another at South Hayling (Hants), 38 feet; one at Buxted (Sussex), 39 feet; another at Tisbury (Dorset), 37 feet. Many old specimen Yews have been illustrated in the back volumes of the Gardeners' Chronicle.

COMMUNICATIONS RECEIVED.—Alwyn Berger, La Mortola—3. W. F.—D. E. H., Cape Town—F. W. M.—Prof. Daniel—A. C. R.—O. H.—W. P.—P. D.—P. S. & Cn., Chicago—F. W. B.—J. F., Ohlto—M. Durand, Brussels.—G. B. D.—H. H.. Kiel—W. E. G.—C. P., Ghent—G. G., Parls—A. M. Paris—Board of Agriculture—A. A. P.—Geo McK.—B. W.—S. B. D.—J. S. T.—J. B. D.—S. T.—T. G., Wenlock—F. P.—Dicksons', Ltd.—L. Maurer—koyal Hurticultural Society—Dendrologist—Abinger Gardeners' Society—M. N. Mell—Anxious—A. E. S., Blufield—W. H. C.—Y. W. W.—J. F.—W. Mahon—W. E. Gumbleton—W. H.—R. P. B.—T. H. C.—C. P.—W. J. B.—T. H.—A. Worsley.



Lælio-Cattleya × Bletchleyensis "Ruby, King": Segments light purple: Lip deep purple.





THE

Sardeners' Chronicle

No. 894.—SATURDAY, February 13, 1904.

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PRIMROSES AT READING.

THERE is a special interest attaching to the Chinese Primrose, the so-called Persian Cyclamen (C. latifolium), to the Sweet Pea, the China Aster, and some other garden flowers, which occupy the attention of the flower-lover and of the hybridist. Each of the plants we have named represent distinct species. Great as is the range of variation among them, it is the expression of the capacity to vary within the limits of the species itself, as there has been no crossing with other species. We naturally expect variation when two distinct species, as we so esteem them, are crossed, but we are not prepared for the vast amount of variation which occurs when no interspecific crossing has been effected.

In the Chinese Primrose, omitting for our present purpose all reference to the relative length of the stamens and style and their great significance, we have all shades of colour, from pure white to pink, rose, deep crimson, and in other cases to various shades of lavender and slaty-blue. In some there is a pale pink or lilac ground, thickly spotted with minute dots of a richly purple colour, and in one form the flower is pure white, without any yellow eye round the

mouth of the tube. This flower is a thrumeyed form, that is, the stamens are so placed that the anthers occupy the mouth of the tube. So brilliant are the colours that the traveller by the Great Western Railway, as he approaches Reading, wonders at the particoloured stripes which he can see in the large range of glasshouses of Messrs. Sutton. A nearer inspection increases the wonder and enhances the admiration. All these thousands of plants are grown for seed, and so well grown are they that each plant is the counterpart of its fellow. In some cases the variety is fixed, and comes so true from seed that it receives the honour of a name for distinction's sake, and the seed is sold in confidence that the whole or a very large percentage will come "true." The beautiful "Duchess" varieties, with their compact habit and pink flowers with a deep rosy-purple eye, come true from seed, and suggest the way in which new species may be evolved out of old. In other cases the plant does not prove so doeile, its seeds cannot be depended upon to reproduce the variation, and these remain unnamed, and their seed is sold in "mixtures." even degenerate so that incessant vigilance is required, not only to develop new variations, but to keep the older ones up to the desired standard. On a sunny day recently the operators were busy with their camel'shair pencils, taking measures in some cases to fertilise the flower with its own pollen where fixity is desired, or to make crosses where "improvement" and variation are required. For the houses not only afford a brilliant spectacle for the flower-lover, but they are the scene of physiological experiments carried out on a vast scale, and the details are recorded with the precision of those in a stud-book. From this point of view it is satisfactory that Mr. Bateson is watching and noting the results, so that we may look forward to some further expositions from his pen as to the problems of heredity, and as to the validity of the Mendelian hypothesis and its probable application to practical purposes. We may confidently look forward to the time when cross breeding and artificial fertilisation will be regulated by rule, rather than, as now, by accident or caprice. Mr. Bateson is to read a paper on the subject before the Linnean Society on Thursday evening next.

It is not only the flower that varies, but the foliage and the inflorescence. The leaves vary in colour from light yellowish-green to rich purple, at least on the under surface; they are palmate or oblong (Fernshaped), slightly indented at the edge, or deeply crimped and fringed at the margins. Then there is the Ivy-leaved or Holly-leaved variety, originally figured in these columns. It still preserves it characteristics without much variation, and its flowers are always malformed.

As to the inflorescence, the most remarkable "break" has occurred in the Star varieties, where the flowers, instead of being in compact trusses, are borne aloft in light loose panicles bearing tier upon tier of flowers. Among the Star Primroses variations in colour are showing themselves just as in the older forms. One is of a very pretty shade of rose-pink, and Ruby Star is of the brightest red; and double forms are making their appearance, and there are certain "giant" forms of this section which

are not only larger than the rest but later to flower. And all this variation in detail (and it is much greater than we can now specify) is manifested in the one uncrossed species.

The first Chinese Primroses brought over were from plants cultivated by the Chinese. The original wild plant has been discovered of late years in the mountains of Central China. We have so often given the history of its discovery, and so often described and figured the plant as found by Dr. Henry and by the Abbé Delavay, that it is not necessary to do more than give the reference to the pages where these details may be found (see Gardeners' Chronicle, April 26, 1902, p. 269). We may also refer to the detailed description of the varieties as seen at Messrs. Sutton's establishment in 1889, given in Gardeners' Chronicle, January 26, 1889, p. 115, details which it would be interesting to compare with those that could now be supplied, did time and space permit.

Nor can we say more now with reference to the Cyclamen than that it shares with the Chinese Primrose in the display at Reading of pure white or brilliantly-coloured flowers. Great as is the range of variation, it is somewhat less marked than in the case of the Primrose, though if one were confronted with the pure white of the giant forms and the very deep ruby-red of Vulcan, one might have to modify one's opinion.

FLORISTS' FLOWERS.

A NEW GOLD-LACED POLYANTHUS.

This variety, which bears the name of Mrs. Holden, is being offered for sale this year. It was raised by Mr. G. Thornley, Middleton, Manchester, from seed taken from a variety named Mrs. Brownhill; it has a black ground, and palegold centre and lacing, which is well defined and proportionate; the pip stout, and the truss-stem erect. It was raised a few years ago, and Mr. Thornley has been working up a stock. It must not be supposed the culture of the Gold-laced Polyanthus is a lost art in the North, for the Northern and Midland growers are eagerly buying up this new variety. It will probably be seen in good form in April next.

P 1 N K s.

Judging from the appearance of my own bed of Pinks, the position being a slightly raised one, facing the south-west, the persistent rains are acting injuriously upon them. They are being continually drenched, and the Pink is one of those plants which appear to be more adversely affected by wet than by frost. Some varieties of Pinks are more vigorous of constitution than others; some of the best, whether laced or border varieties, are among the most delicate, and they suffer in such a wet season. I hear from growers about the country that plants in the most carefully prepared beds show signs of weakness. In such a season as this the plants, if in a bed, may be assisted by drawing the soil up to them in the form of a ridge, but the soil is so saturated with moisture that it is of little avail. As soon as drier weather comes and the soil becomes workable, it will prove advantageous to remove some of the surface-soil of the bed, as far as it can be done with safety, what remains be gently stirred, and a good surface dressing of a suitable compost given. It may be said, "Why not winter the plants in pots and put them out in the open in early spring?" But it has been abundantly shown in the case of Pinks, as also of Carnations, that the best results follow autumn planting.

Some of the old Pink growers who grew plants in cold and exposed localities, subject to hard

frosts and killing winds, used to adopt the practice of covering their beds with sprays of Spruce Fir, the trimmings of young plantations. They were laid by for one year until they had lost their leaves; the sprays were then light in structure, and having a natural curve upwards, they were well adapted for protection and served a useful purpose. Some green sprays stuck in the bed about and around the plants make a serviceable protection also, especially when cold and sweeping

THE BEECH FERN

(POLYPODIUM PHEGOPTERIS).

Although this pretty little Fern is rarely seen in good form in cultivation, the accompanying photograph (fig. 43) shows that under congenial conditions it forms a really charming picture; and since it finds these conditions in damp, shady woods and rocky glens, it would clearly repay wider introduction. In the illustration we see it

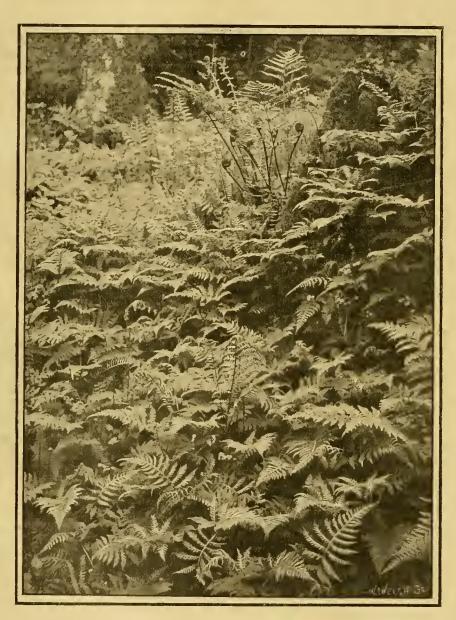


FIG. 43.—BEECH FERN IN CO. DONEGAL.

blasts abound. The beds of choice Pansies also can be protected in this way with advantage.
New varieties of border Pinks obcasionally appear, but rarely has there been seen of late a new variety of laced Pink. Time was when an interesting collection could be seen in the gardens of the Royal Horticultural Society at Chiswick growing and flowering freely; it is almost quite as good a town plant as the Carnation. I hope that in planning the new garden at Wisley space will be reserved for a representative collection of laced Pinks in common with other old favourites, which have lost something of their popularity, but which should not be allowed to become utterly lost. R. D.

associated with the Lady Fern and Shield Fern, and it is very often found in company with its near relative the Oak Fern (P. Dryopteris), both delighting in precisely the same conditions of an open, leafy, stony compost, in which their thin, black, spreading root-stocks find congenial harbourage.

Although belonging to the same genus as the common Polypody of the hedgerows, the Beech Fern differs very markedly by being quite decidnous, having thin, creeping root-stocks instead of thick, fleshy ones; and its spores, although borne in the naked dot-like heaps peculiar to the family, are much smaller, both in themselves and the size of their heaps, and are furthermore

dark-brown instead of golden-yellow. On the other hand, there is a greater similarity in the form of the frond than is seen in either the Oak Fern, or the remaining member of the family in these islands, the Limestone Polypody (P. calcareum), in both of which the frond is broad and triangular; while in the Beech, as we can see by the illustration, they are broadly lanceolate, with (and this is a very characteristic feature) the two bottom divisions turned downwards. Under culture it makes very pretty clumps, if grown in shallowish pans filled with an open compost, say, half loam and half leaf-mould, with a liberal admixture of coarse silversand. It has produced very few varieties, and obviously, like its cousin the Oak Fern, it is sufficiently self-satisfied to refrain from vagaries. Its long, fragile stalks are very brittle, and hence it cannot display itself to advantage in exposed positions, which dwarf it. On a sloping, rocky bank, however, protected by trees and facing the north, it speedily establishes itself and spreads, and in such positions may easily be enabled to rival the picture which has suggested our text. Chas. T. Druery, F.L.S., V.M.H.

NOTES FROM ISLEWORTH FOR 1903.

The subject which interested gardeners during the year under review, to the exclusion of most other subjects, was the weather. It was the wettest year, and incomparably the wettest summer, ever recorded in the London district. In the months of May, June, July, and August, I measured 20 91 inches of rain, thus exceeding the rainfall of the remarkably wet summer of 1879 by no fewer than 4·13 inches. It is possible that such continuous rainfall will never occur again round London, yet we must not calculate upon this, and gardeners will be well advised to take special notice of the few flowering plants which gave success during the past season.

AGAPANTHUS AND ARCTOTIS.

In this garden two plants stood out prominently as successes amid the general wreckage—one a very old favourite in suburban gardens, and the other an older plant still, but rarely seen outside botanic gardens. The first of these, Agapanthus umbellatus, is too well known to need any advertising, yet it is seldom given that very liberal treatment necessary to produce the finest blooms. During the growing season it is one of the greediest feeders and most moisture-loving plants in British gardens. The best forms of this type are superior to any other species or hybrids that I have seen. The other plant to which I refer is Arctotis aspera. The foliage of this plant is a silvery-grey with an olive subshade, and the astonishing brilliance of the orange-coloured flowers makes it a most effective "lawn" plant.

Even when it has rained for a week, the firstglint of warm sun will cause numerous flowers to expand, and the flowering season lasts until quite late in the autumn. This year the lawns wore an ideal carpet of the most lustrous green throughout the summer, and with a background of sombre Conifers or laughing Bamboos, such plants as these will prove a source of great delight to the eye. Arctotis aspera requires just the same culture as the garden Cineraria, except that it wants full exposure to the sun. Both plants are best grown in large pots or tubs (not under 14 inches diameter), and arranged on the lawn towards the end of May. Neither will stand frost without injury, and a temperature of 28° will kill the Arctotis outright.

Among specimen Pelargoniums for outside decorative purposes only two kinds faced the rains bravely. These were the well-known single scarlet Plutarch and the less-known Achievement. This latter bears large stiffly-erect umbels of pink flowers, and is said to have

been raised by a cross between the Ivv-leaved and zonal sections. It is certainly a plant of fine constitution.

FAILURE OF FLOWERING PLANTS.

Although flowering plants suffered terribly from the rains of 1903, quite the reverse was the case with hard-wooded trees, which luxuriated in the cleansing influence of the heavy falls and the meister atmosphere.

Many Conifers, which were undoubtedly dying or becoming unsightly objects, took a new lease of life in 1903, and gladdened the hearts of those who admire the varying effects of light and shade and the gradations of colour which can be produced in gardens without having recourse to flowering plants. The year 1903 has certainly been a lesson, and should be a warning, to those who rely mainly upon showy and brilliant flowering plants for their garden delights. This has been a year in which the beauties of foliage and of the serene expanse of lawn and grass-walk have triumphed over all competitors.

The polar blast of mid-April not only destroyed the fruit crops, but completely defoliated the Japanese Maples and spoiled them for the whole summer. The beautiful Platanus acerifolia variegata (of Russell) was also ruined. In fact the only Japanese Maple that held its foliage was the type, A. palmatum, a plant of no great beauty, except in its autumnal tints, but which is worth growing under the shade of other trees, where little else will grow. Even under glass foliage plants did better than flowering plants. My Colous quite out-blazoned anything the Cannas could do, these latter suffering from mould in the petals.

It astonishes me that this beautiful section of decorative greenhouse Coleus should be so entirely overlooked in British gardens, but I believe that the system of judging by "points" at flower-shows is partly to blame. By this means no Coleus is considered "good" unless it will grow to a particular shape and size in a certain sized To attain this end the plants must be constantly pinched and manure-fed. As a result, coarse green foliage, with a minimum of colour, and a deformed shape, are the gardener's ideals, and every plant with any sign of good blood must be cast to the rubbish-heap. Who can wonder that the public, seeing such hideous monstrosities put ferward as prize plants, decline to cultivate Coleus?

My own experience is that carefully selected Coleus are the best decorative (summer) conservatory plants that we possess. The only difficulty I find is that the extraordinary brilliance of their foliage "kills" every flowering plant put near them. I raised three new varieties in 1893. C. thyrsoideus is, in my opinion, not worth growing, except as a novelty; it will soon be cast aside.

Among exotic Amaryllids flowering in the open, the season was a complete failure, only Crinums Powelli and Moorei doing any good; and these were generally too late in coming into bloom. An odd Brunsvigia flowered well in August.

Under glass, Nerines had a good season, and Amaryllis a fair one. Lachenalias "lifted" better from their summer beds than perhaps ever before. A. Worsley, February, 1904. (To be continued.)

MARKET NOTES.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS.

The following are good market varieties:
Soleil d'Octobre, pale yellow (October); Souvenir
de petite Amie, white (October); Source d'Or,
bronze coleur (November); Phœbus, yellow
(November); Queen of the Exe, pink (November);
Madame Philippe Rivoire, white (November);
Miveum, white (December); Lord Brooke, bronze
and yellow (December); Western King, white
(December); W. H. Lincoln, yellow (December);
Framfield Pink (January); L. Canning, white
(January). E. Molyneux.

CYMBIDIUM EBURNEUM.

Our illustration (fig. 44) gives a representation of a fine specimen of Cymbidium eburneum which flowered in the gardens of J. Miller Mundy, Esq., Shipley Hall, Derby (gr., Mr. J. C. Tallack). The plant, which has been grown at Shipley Hall for some years, bore thirty-one flowers, eight of which are on twin-flowered stems. It was photographed by Mr. E. A. Seaman, of Ilkeston, just as it was in the house, and without staking or otherwise arranging the flowers. The flowers are white, the labellum having a yellow disc and a few purple spets, and it is certainly one of the most beautiful of the genus. The species was discovered by Griffith at Myrung, on the Khasia Hills, India, alt. 5,000 to 6,000 feet, in 1837, and first flowered in England some ten years later. Since that time it has been frequently imported from various localities it can be used in situations where the latter will net thrive.

There is one tree that I have never seen mentioned as a probable timber-tree, and that is-

TSUGA MERTENSIANA (Anies Albertiana).

I do not altogether recommend this, as I know very little of the value of its wood in this country; but in America its timber is said to be equal or even superior to that of the Hemlock Spruce (Tsuga canadensis). A few small trees I have seen have shown a fairly hard, closegrained wood, but these were practically little more than stout poles. It is, however, one of the fastest-growing hardy Conifers we have in this country, and thrives quite as well on a poor hillside as in the deep, moist soil of a valley. I have known young trees make from 3 feet to 5 feet of growth in a season. Our largest specimen here is nearly 80 feet high, and is not an old tree by



FIG. 44.—CYMBIDIUM EBURNEUM, AS GROWN IN SHIPLEY HALL GARDENS.

in the Himalayas, and has always been a favourite in gardens, though rarely seen in such a fine specimen as that grown by Mr. Tallack. It thrives in a shady position in a cool intermediate house, and requires to be kept moist all the year, and watered very liberally while actively

FORESTRY.

In reference to the note on p. 59 respecting Larix leptelepis, I may mention that it grows well here on our sandy soil, one batch in particular having made a growth of from 3 feet to 4 feet in two years. They were planted in their present position in January, 1902, and are now about 8 feet high, and much thicker in the stems than common Larch of the same size. Their rate of growth is the more remarkable as they were not at all well reoted at the time of planting. Some Sycamores of the same size (when planted) that are close to them have been overtopped by a couple of feet by the Larch; and the Sycamore is not a slow-growing tree in a young state. L. leptolepis grows in a moist place better than its European relative, so that

any means. It is, however, the finest specimen Conifer I have ever seen, being perfect in every

A plantation of Tsnga Mertensiana, Pseudotsuga Douglasii, and Ahies concolor mixed would, I believe prove a paying investment in course of time. They should be at least 4 feet in height when planted, as smaller plants, though cheaper to buy at first, are usually the dearest in the long run. Many planters make a mistake in planting forest-trees too small, as small plants are more liable to be cut by spring frosts than larger ones. The werst part is that the leader gets cut, which means a loss of time before another leader is properly formed. The wood of

ARAUCARIA IMBRICATA

is valuable for some purposes when the tree has attained a fair size. A specimen about 21 feet in diameter was cut down here about seven years age, and the wood, after being seasoned, was used in the making of a fence. No tar or paint whatever has been used on the fence, which is in as good condition now as it was when first put up. Of course, the Araucaria is of no value as a foresttree, but its wood, where it can be obtained, is very hard and durable. J. C., Bagshot.

ORCHID NOTES AND GLEANINGS.

VARIATIONS OF A LÆLIA ANCEPS.

IT has been stated that truth is stranger than fiction. My note will seem incredible to many, but I am certain that it is correct. Soon after my taking charge of the Orchids at Gatton, in January 1900, a specimen plant labelled L. a. Sanderiana flowered, and the flowers had no colour on the front of lip. I was told that previously it had always showed the blotch of colour peculiar to the variety Sanderiana, yet I altered the label to L. a. Stella; in 1901, 1902, and 1903 it came the same as in 1900; it was shown and commented upon at the Royal Horticultural Society's meeting as true This year it has come again L. a. L. a. Stella. Sanderiana, having a well-defined blotch on the tip of the lip. By no chance can it be that there are two species in the pan, for each year it has produced four spikes annually previous to this year, and the flowers on all the spikes were the same; this year it had three spikes from the same lead that flowered last season and previously, and the flowers on each spike are true to L. a. Sanderiana. I shall be interested to know if anyone else has experienced a similar case. W. P. Bound, Gatton Park Gardens, Reigate.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

In the issue just to hand, and which completes the numbers for 1903, M. Alfred Cogniaux, from drawings by M. A. Goossens, illustrates and describes thirteen species, among which are several old favourites:—

ANGRECUM FILICORNU.—A graceful species, long known by the figure in Thouars' Orch. des Iles Aust. d'Afrique, but of which little was known in gardens until it was exhibited from Sir Trever Lawrence's garden, in July, 1900. The plant, which is of slender habit, has narrow, channeled leaves, and produces flowers singly from their axils. Flowers about Juches across, white, and furnished with slender greenish spurs about 4 inches in length.

BRASSIA BRACHIATA.—The figure is lettered Brassia brachiata, but the description is of Brassia verrucosa; and no explanation is given for the contradictory naming. The two species form the showy members of the class "verrucose" of Eubrassia, and it has been suggested that they are members of the same species, the B. brachiata figured being much the showiar, and with petals much longer than in typical B. verrucosa. The species used in the early days of Orchid growing to form one of the leading exhibition plants. Sepals and petals narrow, pale green, the former 6 inches and the latter 4 inches in length, the sepals with a few and the petals with a cluster of chocolate-purple spots at the base. Lip white with wart-like green spots.

CALANTHE VERATRIFILIA.—An old garden plant of the evergreen section of Calanthe, with broad darkgreen leaves and erect spikes of numerous pure white flowers. It is an excellent stove house plant, and lasts in flower for many weeks.

CŒLOGYNE SPECIOSA ALBICANS.—The species was figured in the Botanical Register in 1847. The variety, like several of the other species figured, flowered in the collection of M. Louis Fournier, Marseittes. The large flowers have greenish sepals and petals and white labellum and column, both marked with reddishpurple.

COLOGYNE PANDURATA. — A hothouse Bornean species, almost a swamp plant. Flowers large, on stout stams. Sepais and petals green, lip whitish marked with blackish-purple.

CYPRIPEDIUM INSIGNE FORSTERMANI. — A showy variety of the C. nitens class. Upper sepal greenish at the base, white above, and bearing large chocolate blotches. Petals and lip striped and tinged with purple.

CYPRIPEDIUM × LEEANUM. — The familiar, useful hybrid originally raised in Sir Trevor Lawrence's gardene, and described in the *Gardeners' Chronicle* in 1884. Some of the better varieties are among the favourites still, and all are showy, easily-grown plants.

DENDROBIUM LOWII.—Arare yellow-flowered Bornean species of the nigro-hireute section, and still rare, although it was described in the Gardeners' Chronicle in 1861, and frequently imported since. The finest plant we have seen recently was quite a bush, growing in the Nepenthes-house in Sir H. Schroder's gardens, The Dell, Egham.

EPIDENDRUM POLYBULEON.—A pretty dwarf species producing numerous reddish flowers with white labellums, the variety luteo-album, which flowered at Burford, being yellow-and-white. The best form comes

from Jamaica, but the species is also found in Mexico and Guatemala.

LELIO-CATTLEYA × FREDERICK BOYLE VAR. KER-CHOVF.E (C. FRIAN.E ALEA × L. ANCEPS ALEA).—One of the gems in the fine collection of Mr. A. A. Peeters at the last Gheat Quinquennial Exhibition, and duly reported by us at the time. One of the finest of L. anceps crossas. Named in honour of M. le Comte de Kerchove de Deuterghem, the popular President of the Société Royale d'Agriculture et de Botanique de Gand. Flowers pure white, with yellow disc to the lip.

PHAIUS ALBUS.—The plant figured is more commonly called Thunia is gardens, that variely being known as Thunia Marshalliana. It is reed-like in growth, and readily propagated by cuttings of the stem. Flowers in short nodding racemes; white, with fringed orange-coloured ridges on the lip. The Thunia section of Phaius require a prolonged dry rest, like deciduous Dendrobes.

SELENIPEDIUM X NITIDISSIMUM (CAUDATUM X CONCHIFERUM).—While collectors eagarly sack for novelties in what are called Cypripediums, the Selenipediums are but coldly received. Nevertheless they are very ornamental plants, and will thrive in an ordinary heated conservatory. Their bright green leaves always render them ornamental, and the white, rose, and brownish flowers are continually produced. The variety figured has green flowers; the petals and lip striped and tinged with red-brown.

STANHOPEA LANGLASSEANA.—This was described by M. Cogniaux in the Gardeners' Chronicle, December 14, 1901, p. 426. Flowers white, spotted with crimson, the segmenta, epichile included, tipped with yellow, the epichile being orange colour. A note on the native habitat was given by M. Micheli and M. Ed. André in the Gardeners' Chronicle, January 18, 1902, p. 38, and by the late Mr. F. C. Lehmann, whose obituary notice we are sorry to have to give in the present issue, in a very interesting article, February 21, 1903.

COVENT GARDEN MARKET.

Good Poinsettias, Erica hiemalis, and a few pot Chrysanthemums, may yet be seen, and Solanums are still plentiful, but there is little sale for them. Erica melanthera is very good, and E. fastigiata, an old species which I have seen little of previously, is good, the bushy plants being well covered with tiny white flowers. Acacia Drummondi is well flowered, also Boronia megastigma. Cyclamens continue very plentiful, and there are some good Cinerarias to be seen; those of bright colours sell well. Azaleas are good, the pink "Oswald de Kerchove" is particularly fine. Callas, Daffodils, Tulips, and Hyacinths in pots are plentiful. All the Hyacinths now seen in the Market are grown three or more in a pot; white and pink flowered varieties are very fine, and they are more effective than when grown singly. There is certainly some signs of improvement in the trade for pot plants. There are still many empty stands, but a little bright weather would fill them again.

CUT FLOWERS.

Daffodils are most plentiful. Chrysanthemums still hold out, and there are some very good blooms to be seen. Tulips are abundant, and may be bought at very low prices. Roman Hyacinths are good and plentiful. Lily of the Valley is over plentiful and some very fine samples are to be seen. White Azalea is also over-abundant. Roses are still scarce, especially red flowers, and I learn from one of the largest growers that it will be fully a fortnight before many can be cut, excepting of the white Niphetos. Carnations are scarce, but a better supply is expected soon. Of Orchid blooms, Dendrobiums are more plentiful. Cypripediums are still coming in good. There are also some good Cattleyas, and Odontoglossum blooms are scarce. Double scarlet Pelargoniums (F. V. Raspail) are coming in better now. There are also some good pink flowers (Robert Hayes).

There is little to be said about the new French Market, except that there is a great lot of stuff coming in just now. After 9 o'clock, when the ordinary market is closed, this one becomes crowded, chiefly by hawkers, and a tremendous lot of produce is cleared off; Violets, Daffodils, Paper-white Narcissus, "Mimosa" (Acacia), and Snowdrops are the chief items. A. H., February 6.

BOOK NOTICE.

A GUIDE TO NATAL.*

THERE are guide-books and guide-books; this is one that should be spelt with a capital G! For few that we have seen can compare with this in the thoroughness with which the promise of the title-page is fulfilled, and those who wish to obtain a good general idea of this much-talked-of Colony cannot do better than peruse this book, which is full of information of general interest as well as of that particular kind which the traveller needs. The work is admirably planned, brightly written, and readable from cover to cover. It contains 300 pages, six maps, and is profusely illustrated with over three hundred beautiful photographic representations of the scenery, buildings, natives, places of interest, animal and vegetable productions, &c., which give an excellent idea of the many beauties nature has bestowed upon this goahead Colony of ours. For the convenience of those who use it, the work is divided into two books, which are again sub-divided into parts. In the first book the various towns and places of interest along the Natal Railway systems are dealt with. Here we are reminded that it is only sixty-eight years ago that the town of Durban was founded and named after Sir Benjamin D'Urban, then Governor of the Cape. At that time Durban "was mere sand and bush, the haunt of elephants and the abode of serpents; now there is not a fairer or more progressive town in all South Africa,' possessing fine broad streets, grand ornamental buildings, and some 22 miles of electric tramway around the town and extending to the suburbs. The population is over 60,000, and the town is growing so rapidly that although it has a fine and spacious Town Hall (in which the Museum and Picture Gallery are contained), it is insufficient for present needs, and the erection of another is contemplated. Like London, it has an Embankment, which is over a mile in length, and picturesquely bordered with Palms and trees; there is also a cricket "Oval," a racecourse, a "Lord's," and many other attractions. The Observatory and picturesque Botanic Gardens are situated in the suburbs; the latter are under the able management of Mr. J. Medley Wood, who has done much to bring them to their present state of perfection. Leaving Durban, the reader is conveyed to all

Leaving Durban, the reader is conveyed to all the principal towns and places of interest throughout the length and breadth of the Colony; and, if one may judge from the profusion of charming photographic pictures, there is no lack of beautiful and picturesque scenery. Pietermaritzburg, the capital of Natal, is a smaller town than Durban, but equally provided with attractions, commercial and other up-to-date conveniences, and fine buildings. The magnificent Town Hall is said to contain the fourth largest organ in the world. A picturesque view represents the "Cathedral Bells," which consist of four bells hung upon a tree—doubtless a relic of

more primitive times.

Among the many beautiful views of scenery are several charming waterfalls, one, near Howick, being 360 feet high; whilst the views of the mountains and valleys (or kloofs) make one long for a holiday to be among them. Especially grand are some parts of the Drakensberg Range, which at its highest point rises nearly $2\frac{1}{4}$ miles above sea-level. The views also convey a good idea of the general character of the vegetation of Natal, and several interesting pictures of the Kaffirs in their native costumes, their huts, and ceremonies, also embellish the book.

As giving some idea of the character of the wilder parts of Natal, the following may be

^{*} Natal: an illustrated Official Railway Guide and Handbook of General Information. Compiled and edited by C. W. Francis Harrison. Quarto. Published by Payne Jennings, Regent House, Regent Street, London. W.

quoted:—"Before leaving Verulam and its environments, it may be alike interesting and relieving to peep at the wild and romantic

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into a veritable wonderland of beauty, where foaming rivers, black forests, cañons, and long, lonely plains are woven together into a mass

is by no means large, it makes up for it in foam, sparkle, and dash. It is environed by lonely forests, whose silence is seldom disturbed by

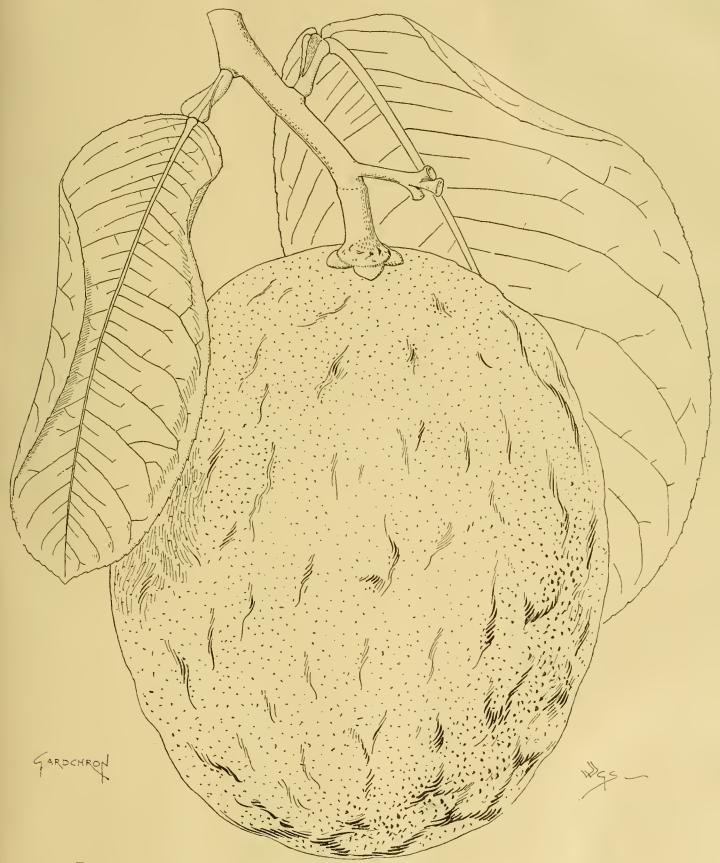


FIG. 45.—CITRON FRUIT (CITRUS MEDICA), CULTIVATED BY MESSRS. T. RIVERS AND SON, SAWBRIDGEWORTH, AND SHOWN AT A MEETING AT THE DRILL HALL ON JANUARY 26.

country round about the Inanda range of mountains, which adjoin the Mission Station. These bold and bluff-like buttresses of Nature jut out

which only a trained pedestrian will care to traverse. The Umzinyati River here plunges over a sheer cliff of over 200 feet. Though this river

aught save the barking cry of the baboon or the wail of the isinkwe (night-walking lemur). On the sandstone cliffs and in the recesses of the

thickly-wooded chasm—the haunt of the 'dassie' or rock-rabbit—many beautiful plants may be found. Within a few miles' circuit, about six native tribes are located. Here the tourist, having studied the Christianised native, can revel to his heart's content in barbarism as dense and unsophisticated as he could find in the depths of Matabeleland. Women toiling in the corn-fields, warriors in all the glory of plumes and spears, chieftains dwelling in semi-royal state, war-dances and barbarous festivals. If his temperance principles are not unalterable, he may partake of Kaffir beer out of a real calabash, and recognise in it the flavour of stale yeast."

Of course, the recent war is freely alluded to, and many pictures of what are now historic spots are given. Notably among them are two views of the renowned Spion Kop; another showing one of the famed Boer trenches at Colenso; one of the crossing of the Tugela by General Buller's forces on January 27, 1900, for the final attack and relief of Ladysmith; and there are several views of the tombs of soldiers who fell in the war, besides others giving the respective positions of the British and Boer forces; together with two excellent coloured maps, giving bird'seye views of the entire war district of Natal, with explanatory details. All these are really interesting and instructive, and give a far better idea than mere words can convey of the many difficulties our brave soldiers had to contend with. A brief account of the Transvaal is also included. Statistics, distances, and cost of railway journeys are given throughout in a concise, unobtrusive manner.

The second book deals with the physical geography, geology, forests, flora, vegetable products, fauna, game laws, climate, population, natives, government, industries, and many other details. Like the first book, it is well illustrated; among the pictures are some very useful photographic plates of a complete collection of the horns of Natal animals, all named, and two plates of Natal butterflies. Two views also represent the Laing's Nek tunnel before and after it was wrecked by the Boers.

Throughout the Colony farming seems to be extensively carried on; whilst fruit, Mealies, Sugar, Tea, Tobacco, and other products are largely grown.

If we put faith in this gnide-book then, it is clear that those who are under the impression that Natal partakes of the character of some parts of South Africa in being so much useless ground, will find themselves agreeably enistaken; while the numerous photographs show that it is not destitute of the grandeur of mountains and waterfalls, or of peaceful little spots "far from the madding crowd." It gives us evidence that not only is Natal full of natural and other attractions, but is a thriving and prosperous community, that intends to be thoroughly up-to-date, and is, therefore, a desirable land for the emigrant.

But Mr. Harrison points out in his preface "that while Natal realises the desirability of attracting to her shores farmers, traders, manufacturers, miners, mechanics, and other suitable emigrants," adds, "Although the Colony wants new blood, it must be accompanied by bodily muscle and mental grit. The battle of life may not be so fierce as it is at home, but it is equally arduous, and demands the utmost virility and moral stamina, ability, energy, and enterprise."

To all those who desire to know something more of this Colony, so often spoken of yet by the majority so little known, or to those who merely like to look upon some charming views of natural scenery, this guide-book can be thoroughly recommended, for, if the indices be omitted, there is not a dull page in it. N. E. Brown.

FRUIT REGISTER.

A PROLIFIC FIG-TREE.

WE have a Fig-tree planted out in one of the vineries here, covering about 40 square feet of trellis, which during last season ripened three crops, the total crop amounting to about The variety is Reculver, which, 400 fruits. according to Messrs. Bunyard & Co., is "one of historical fame, being cultivated by the Romans when located in the Isle of Thanet, B.c." They describe the fruits as being small, purple, and sweet. The tree under notice was planted originally as a standard in the open, but as such was not a success, so at the beginning of 1902 we removed it under glass, training it to the wires. We commenced to pick the first crop last year on May 12, and gathered on sixty-six days, thus averaging about six fruits each day. The fruit began to ripen on the upper part of the tree, and there was only a very short interval between the finish of one crop and the commencement of the next. The house in which it is planted is a new one, with a span-roof. Vines are planted on one side, to go up and halfway down the other side, the other half being devoted to Figs, an arrangement which seems likely to be successful. R. W. Dean, Wainsford Gardens, Lymington, Hants.

The Week's Work.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Rotation and Position of Crops.—Arrange where each crop of the season shall be sown or planted. Consider the situation of the garden, whether surrounded by walls or hedges, or shaded by trees on certain sides, and arrange the crops accord-ingly. Horseradish, Rhubarb, Jerusalem Arti-chokes, Spinach, Beet, Curled Greens, Celery, Brussels-Sprouts, Potatos, Turnips, and Seakale may all be grown satisfactorily on east, west, and north borders, putting the five first-mentioned crops where there is the most shade, not that they require this, but in gardens of limited dimensions it is necessary that every yard of ground should be occupied by the crop most suited to the situation. North borders are often utilised for late crops of Potatos, to be dug when young for sending to table at once, and during a hot and dry season they will be found suitable also for Turnips, Spinach, &c. The height of the wall or hedge and the breadth of the border will also affect the decision as to what crop should be planted. Utilise all the most sheltered and sunniest parts for early and late crops. In a well-managed garden such spaces are seldom vacant. The rotation of the various crops also requires forethought, but as each succeeding crop may require more or less space than the previous one occupied, no hard-and-fast line can be drawn, except that crops of Brassicas should be followed by roots and catch crops, and vice versa. Plant Celery after a crop of Brussels-Sprouts, Onions after Celery, autumu-sown Peas or Broad Beans after Onions, following with Cauliflower or Broccoli. Arrange the crops so that a similar crop will not be on the same ground oftener than every three years. If there is any vacant ground not yet turned up, let it be done at the first opportunity.

Seeds.—Owing to the wet condition of the soil, those anxious to sow seeds had better wait for a week or so, unless in very favourable districts. Our rainfall for the first four days of February has been 0.74. Place frames on a border having a south aspect, and, having prepared seed-beds in these, make a small sowing of Dalkeith, President Carnot, or Scrymgeon's Dwarf Brussels-Sprouts. Also make sowings of Radishes, Lettuce, and Cauliflower. When the seedlings are up, admit air to the frames on all favourable occasions, and when the weather will permit remove the frames elsewhere. Look to all seedlings, and thin them out where required. Keep Tomatos and Cucumbers well up to the light, and afford them

proper ventilation. Avoid high temperatures, by which many plants are ruined in the early stages of their growth.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Nuts.-In Kent and other localities where there are many acres of Filbert and Cobnuts cultivated for market, the pruning as a rule is commenced with the beginning of the year, and extends over a period of three months; but where there is only a moderate quantity of bushes grown, this operation need not be com-menced until February, when the tiny pink-coloured female blossoms are visible. In pruning the Nut-bush the object should be to keep the main branches clothed well with small, twiggy, fruitful growths. Remove all coarse wood and suckers springing up from about the stems, &c., but preserve sufficient male catkins to afford pollen for the fertilisation of the flowers. In some gardens Nuts grow with but little restriction, and in instances fruit very well; but the method practised by the Kent growers is undoubtedly the best, and induces fruitfulness and preserves neatness. Cut out all growths in the centres of young trees, which should always be kept well open; then select four to six of the best-placed shoots to form the main fruiting brauches of the future tree or bush. Shorten these back to an outside bud, and repeat the operation annually. Keep the stem clear, and bend the young shoots downwards to form the shape of a vase or basin, and when once these have been formed others may be left at each annual pruning until the proper dimensions have been reached, which should not be higher than 6 feet. The soil for Nuts should not be too rich. I have seen heavy crops produced by trees growing on poor, stony soil on banks unsuited to the growth of other kinds of fruit-trees. Trees or bushes that have fruited many years may be benefited by a heavy dressing of old woollen rags or fur-waste. Manure which is thoroughly decayed will also be helpful; but avoid strong farmyard dung in a green state.

General work.—The weather of late has been against outside work, and the land in some instances has been under water, rendering work impossible. Advantage must be taken of favourable opportunities to complete pruning operations. Any Apple and other fruit-trees it is intended to graft may now be headed back to within a reasonable distance from the main stems. Keep all the young shoots intended for scions embedded in the soil under a north wall till such times as they are wanted to be placed on the stocks. It is a good practice to re-graft healthy trees of useless varieties, or of such as will not succeed in the locality. There are few Apples that crop so well as that useful variety Lane's Prince Albert; another good but old Apple is Round Winter Nonsuch; Tom Put also crops well at Wrotham; Gooseberry Apple is one of the best keepers. The stems of young trees should be examined, and, if found to be infested with the mussel-scale, scrape the bark and thoroughly wash and dress it with a mixture of strong soapy water and paraffin, at the rate of a small 60 flower-potful of paraffin to 4 gallons of soapy water; after which paint the stems with limewash and soot, made to the thickness of ordinary paint.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Shrubs.—Top-dress beds containing "American" shrubs with rough peat or leaf-mould. Some will require to be thinned, and the growths of the shrubs regulated. Long straggling pieces should be cut away. Diplopappus chrysophyllus edged with Juniperus tamariscifolius make a neat bed of attractive foliage. These should be pegged down to about 15 inches, and the hedges to 12 inches. Ledum palustre with a groundwork of Erica alba; Kalmia latifolia, edged with Euonymus radicans variegatus, also are good combinations. Dwarf hybrid Rhododendrons are very pretty in spring edged with dwarf Golden Yews. Pernettyas are bright just now with berries; Yuccas in a large bed with a ground-

work of Skimmia japonica, Andromedas, Olearias, and all this class of shrubs are best in a garden by themselves, and should be planted this month. The hedges of these beds should be kept neatly and squarely cut.

Bedding Plants.—Those that were placed in heat last month will now have good short-jointed growths, a few of which should be taken off with a "heel" attached, every few days. Nepeta Glechoma variegata (ground Ivy), also Campanula isophylla, and its variety alba, are two very useful summer plants. The former may be used for covering rough places, or as a ground-work amidst Lobelia cardinalis pegged down neatly. The Campanulas are useful in the rock garden and are hardy. Cuttings of bedding Verbenas may be taken and seeds sown.

Tuberous-rooted Begonias required for bedding will now be starting into growth. Lay the tubers in boxes containing a little fibre and place them in a warm frame, syringing them daily. Seedlings from seeds sown last summer may be placed in a warmer temperature to encourage growth; seeds may also be sown now. The erect-flowering varieties are most suitable for bedding. Let the beds to be planted with these be afforded some fine peat, leaf-mould, and a little soot, forking them into the soil.

Fibrous-rooted Begonias.—As soon as the seedlings have germinated, place them in a good position near to the glass in the same temperature. Old plants may be divided up and cuttings taken.

Chimney Campanulas and Canterbury Bells that have been wintered in a cold frame may be removed out-of-doors previous to planting them in the borders.

General Work.—Specimen plants of Fuchsias, Heliotropes, and Ivy-leafed Pelargoniums required for the terrace and other parts of the flower-garden may be cut back and cleaned previous to putting them into fresh tubs or pots. Oak tubs are the best for out-door work. If plants of Hydrangea Hortensia are not to be re-potted, examine the drainage and make it perfect. H. paniculata should be cut back previous to repotting. Violas rooted last autumn may be planted in their summer quarters. Clean Myosotis, Wallflowers, and all spring-flowering plants, and use the hoe amongst them when the ground is dry. In the wild-garden or elsewhere the Clematis is commencing to grow; keep a look-out for slugs and mice. A 2-inch drain-tile, split in half and placed round the stem, will protect young plants until they become strong and of good length.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Figs in Borders. — We have just completed cleaning, tying, and top-dressing. The latter eperation implies the addition of whole turves where the roots upon the surface are most numerous, having well watered the border with diluted drainings from the stables. Syringe the trees daily, and afford a temperature of 50° at night and 55° by day, which may be increased to 65° with sun-heat.

Strawberries.—Introduce successional batches at intervals of about ten days in quantity according to the demand. Examine the drainagematerial in every pot, and remove the dead leaves from the plants. Afford a top-dressing to the plants if the pots will allow of this being done, and place the plants near to the glass and in a position where they will be under the influence of a freely circulating atmosphere. If the plants can be induced to produce stout flower-stalks and leaves, a crop of good fruits will follow. Syringe the plants morning and afternoon, and afford them sufficient water to keep the soil in the pots moist. The temperature at night should be from 45° to 50°. Plants about to flower will require a little extra heat, but even when they are in flower the atmosphere should not become severely dry. Distribute the pollen at noon by means of a brush, and on bright afternoons spray the trees slightly with the syringe as a prevention against red-spider. Examine plants on which fruits are set each morning and afternoon, and afford sufficient water to plants requiring some that it will run through the drainage. Liquid manure should be afforded

to increase the size of the fruits. Remove deformed or badly-set fruits, leaving six or eight fruits on each plant. Prevent cold draughts, and let the temperatures range from 60 to 65°, increasing this by day with moderate ventilation to 75°. Royal Sovereign is the principal variety grown here.

New Vine Borders.—In the making of new borders, the provision of drainage should be given first attention. Yet on some soils, such as given first attention. Yet on some soils, such as we have here, where the foundation is of chalk rock, little artificial drainage is required. But in order that a free circulation of air may pass under and through the border, which is neces to keep the soil and roots in a sweet condition, and to prevent the roots from resting on an unsuitable subsoil, or on concrete, which I consider little better, open out drainage to the depth of not less than 12 inches, putting about 3 inches of road-metal over the surface. This answers admirably here, with turves about 4 inches in thickness placed grass side downwards over the whole surface. The horder need not exceed 3 feet in width and 12 or 16 inches in depth, which will be about four turves deep, and in addition a layer of charcoal, half-inch bones, wood-ashes, limeor charcoal, half-inch bones, wood-asnes, lime-rubble, broken bricks, and cow-manure, between each layer of turves. The border should be made as firm as soil in good condition will permit, so that the Vines will produce short-jointed, well-ripened wood. Vines planted here in March, 1896, in a border as described, to which three additions in width have been made and a top-dressing added wearly is now made, and a top-dressing added yearly, is now 6 feet wide and 2 feet deep, with sufficient soil outside the arches to encourage the roots to work outwards, and to allow of a free circulation of air passing through the border. The border is covered inside or outside except when the frost exceeds 15°, when the outside border is covered with litter.

THE ORCHID HOUSES.

By W. H. White Orchid Grower to Sir Trevon Lawrence, Bart., Burford, Dorking.

Sophronitis grandiflora.—In the cool division, several well-flowered plants of this epecies produce a brilliant effect at this season. For many years we had a fine specimen (see Supplement to Gardeners' Chronicle, April 20, 1895), which produced from forty to sixty flowers annually. Probably through the plant's carrying so many flowers each year, it commenced to deteriorate; but about two years ago it was repetted into the new leaf-soil mixture—viz., equal parts of leaf-soil, peat, and sphagnum-moss—and is again quite up to its old form, having at the present time about sixty flowers open.

Miltonias.—The various Brazilian Miltonias, M. Jubbersiana, M. Peetersiana, M. Bluntii, M. festiva, M. flavescens, &c., should now be examined to see if any of the plants require more space, as this is the proper season to repot them. These dwarf-growing varieties should be grown in shallow pans, and as the young growths spread rapidly in every direction, they require a considerable amount of surface-room for their extension. Any old specimen plants that have become bare in the centre may be divided up, cutting away all diseased and useless pseudo-bulbs; the living pieces should then be made up again into neat, compact plants. Those pieces which have but few roots to hold them steady must be secured with pegs stuck into the compost, as they will not thrive if the least loose. The following species, M. Clowesii, M. cuneata, M. Russelliana, M. Regnelli, M. candida grandiflora, and the sup-posed natural hybrids M. Binotii, M. Joiceyana, M. Veitchiana, M. Lawrenceana, M. Crashleyana, M. Travassosiana, M. belula, and M. Lamarckiana, being stronger-growing plants, are best accommodated in the ordinary flower pots. These plants which may have their flower-spikes well advanced should not be disturbed at the root now, but may be attended to immediately the flowers fade or growth recommences. The pots or pans used should be at least half filled with fern rhizomes for drainage. Then use a compost consisting of good fibrous peat, ehopped sphag-num, and leaf-soil in equal parts, with a little coarse silver-sand, well mixing the whole together. Top-dress with living sphagnum-moss. These varieties that are in shallow pans should be lightly sprayed over whenever the surface-moss becomes in the least dry, while those in pots should be carefully watered with a fine rose watering-can, taking care not to afford too much water at one time, as the young growths are liable to decay from this cause. The whole of the Miltonias mentioned will thrive best in a rather cool, shady part of the intermediate-house. If grown in a very light position the foliage becomes thin and more yellow than is desirable. Cockroaches and woodlice are very fond of the small roots that are now pushing out. These insects must be exterminated with beetle poison, and pieces of Potato may be set for traps, which should be examined frequently.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Eucharis grandiflora (amazonica).—Plants that have flowered and need repotting may now be taken in hand. Let as much of the old soil aspossible be carefully removed from among the roots, and take away all small bulbs which, if required, may be placed in pots by themselves. The pots for Eucharis should be provided with perfect drainage, and the compost should be warmed to the temperature of the house in which the plants are growing before the operation of potting is commenced. Use good fibrous loam and a little rotten manure, together with sufficient coarse silver-sand and charceal to keep the soil porous. Press the soil firmly into the pots, and insert the bulbs so that they will be just covered with soil. Water sparingly until the roots have become active, which stage may be hastened if it is possible to plunge the plants in mild bettom-heat.

Gardenias.—Repet young plants raised from cuttings last autumn and now well established in 3-inch pots, into others 2 inches larger, using a compost of three parts loam, one part leaf-soil, a little rotten manure, and some coarse silver-sand. Pot firmly and place the plants as near to the light as possible in the stove or hothouse. It is well to raise young plants annually, and throw away an equal number of the oldest plants, it will thus be easier to keep the stock healthy and clean. Insert cuttings at the present time and they will make nice little plants by the autumn. To avoid disturbing the roots in potting, it is best to put the cuttings singly in small pots, using a light sandy soil. Place the pots containing cuttings under a handlight in a stove temperature, or in the propagating frame, where they will quickly make roots. Syringe the plants freely during favourable weather, and keep them in a stove temperature. The points of the shoets on young plants should be pinched out once or twice to make them bushy.

Libonia floribunda and L. pcnrhosiensis ×.—These useful winter-blooming plants will soon pass out of flower, and they should then be cut back and introduced into heat to produce new growths for making "cuttings." These will root easily, and should afterwards be potted into small pots and grown-on in heat for a time, taking the points of the shoots out occasionally.

Justicia carnea and Jacobinia chrysostephana.— Let cuttings be inserted as soon as procurable, placing them singly in small pots previously filled with a light sandy soil. The Jacobinia is a very showy and useful winter-flowering plant that will last a long time in flower, and the plants stand well when used in pots for house decoration. The flowers are rich orange-coloured, and are produced at the ends of the shoots similarly to those of J. carnea.

Coleus thyrsoideus.—A clear blue colour such as characterises the flowers of this plant is rare in winter, and for this reason it proves to be a useful addition to the plants available for conservatory decoration, from the middle of December to the middle of February. The flowers last well in the cut state, and are then useful for filling vases. As the plants go out of bloom they should be rested in an intermediate temperature until May or June, as, being a quickgrowing species, nothing is gained by commencing to propagate too early.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR,
41, Wellington Street, Covent Garden, London, Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

FEB. 15 Birmingham Gardeners' Mu-tual Improvement Society meet. MONDAY.

THURSDAY, FEB. 18 Brighton Horticultural Society meet.

SATURDAY, FEB. 20-German Gardeners' Club.

SALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT— Herbaceous Plants and Perconials, Azaleas, Roses. Begonias, &c., 67 & 68, Cheapside, E.C., by Protherce & Morris, at 12. WEDNESDAY NEXT—

WEDNESDAYNENT—
Greenbouse Plants, Palms, Azaleas, Roses, Fruit
Trees, Hardy Bulbs and Plants, &c., at 67 & 68,
Cheapside, E.C., by Protheroe & Morris, at 12—
Consignment of 1032 cases of Japacese Lilums,
Palm Seeds, Tuberoses, &c., at 67 and 68, Cheapside,
E.C., by Protheroe & Morris, at 3.—At Stevens', at
12.30, 300 cases Japanese Lities, 110 cases of Japanese
Iris, Fern Balls, &c.—At Stevens', at 1.20, Roses,
Lilles, Rhododendrons, Azaleas, Lilacs, &c,
FRIDAY NEXT—
Orchids in variety, at 67 and 68, Cheapside, E.C.,
by Protheroe & Morris, at 12.30.

(For further porticulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick -39'2'.
ACTUAL TEMPERATURES:-

TOAL TEMPERATURES;—
LONDON, - Feb. 10 (8 p.m.); Max, 47°; Min, 44°,
Wellington Street, Feb. 11 (10 a.m.); Temp., 42°;
Bar,, 29°1. Dull.
PROVINCES, - Feb. 10 (8 p.m.); Max, 50°, S.W. Counties;
Min, 36°, N.E. Scotland.

Society.

WE have already published the The Royal Morticultural more important portions of the Annual Report of the Society for the past year, and in another

column we give detailed particulars as to the Annual Meeting held on Tucsday last; our present comments may therefore be brief.

The chief interest at the meeting centred round the proposals for increasing the amount of the subscription. There were three courses open-the one to let things remain as they were, which would probably have been the best; but the Fellows present did not think so-at least, they did not say so. Secondly, came the proposal to raise the subscription to a minimum of two guineas, with exception in favour of gardeners and of Fellows living abroad. In the third place was the amendment proposed by Mr. HARRY VEITCH, to the effect that no alteration in the rate of subscription should be made, but that an entrance-fee of one guinea should be charged in future new Fellows electing to pay but one guinea yearly, and that gardeners and Fellows resident abroad be exempted from this payment. This amendment was carried by a large majority, and was afterwards confirmed when it became a substantive motion.

The suggestion made in our columns by Mr. George Paul, that the Journal should be paid for separately, found no exponent, though it is obvious that under existing circumstances there must be a great waste, for excellent as the Journal is, the number of Fellows who appreciate it is comparatively few.

Turning to financial matters, the Fellows have to thank Mr. Gurney-Fowler for his particularly lucid statement. Grave apprehensions had been felt in many quarters at the very inadequate response made by the Fellows to the appeal for help in building the Hall and offices which are so imperatively necessary. We earnestly trust Mr. FOWLER'S statement may awaken the Fellows to a sense of their responsibilities, and that a vigorous effort will be made to meet the deficiency, estimated now at £11,399. The amount required for fitting up the new building is not included in this sum.

Mr. Fowler pointed out the necessity for further subscriptions, and stated that the building might be completed by means of a mortgage or by a loan, and that some of the investments of the Society might be sold at a future time, so as to provide funds for paying off the mortgage or the loan. It will be remembered that the idea entertained when investments began to be made during the Treasurership of Sir Daniel Morris, was that they should be made use of for building the Hall.

In the course of the discussion it was stated that the Council are still hoping to obtain a sum of £5,000 for the surrender of the lease at Chiswick.

The proceedings were rather remarkable for their omissions. Little or nothing was said about the Centenary year. Chiswick, the historic glory of the Society, was barely mentioned. No details were made public as to the progress of the Hall, and very few as to the state of affairs at Wisley. Probably the conditions of the Drill Hall were so uncomfortable that the Fellows were even glad to exchange them for the amenities of the strects!

HICKLETON HALL .- Our Supplementary Illustration to the present issue affords a view of Hickleton Hall, the seat of Viscount Halifax Hickleton lies about 6 miles from the ancient town of Doncaster. The estate comprises 2,000 acres of park, garden, and farm land, and is noted for its fine forest trees. Standing at a good elevation, the site commands an excellent view of the Dearne Valley to Conisboro' Castle, and Wentworth, the Yorkshire seat of Earl Fitz-WILLIAM. Our illustration shows a view of the pleasure-grounds and flower-garden, comprising about 30 acres of ground. Two Yew-hedges, 150 yards in length, are very fine features. Roses succeed well on the strong soil of the gardens, and are planted extensively. The same may be said of Carnations. The hall is a substantial building of grey stone. A few minutes' walk from the Hall is the kitchen-garden, consisting of 3 acres, enclosed within a substantial brick wall. A range of fruit-houses 100 feet in length is built against the south wall, also a range of plant-houses. Peaches succeed well on outside walls heated by flues. The borders round the kitchen-garden are devoted to flowering plants, and are enclosed with neat Boxedging. Hickleton being in the centre of a colliery district, choice Conifers will not succeed there, and only the hardier sorts have been planted. Mr. H. WENMAN, the gardener, has been there for a quarter of a century, and for twenty-one years

past has been head gardener. He is treated by his employer as a friend rather than as a servant.

LINNEAN SOCIETY.—There will be an evening meeting on Thursday, February 18, at 8 P.M., when the following papers will be read:—
1. "Mendel's Laws as Illustrated by Wheat Hybrids," by Mr. R. H. BIFFEN; 2. "Heredity and Variation as seen in Primula sinensis," by Mr. W. BATESON, M.A., F.R.S.; 3. "Formation of Secondary Wood in Psilotum, by Mr. L. A. BOODLE, F.L.S.

"BOTANICAL MAGAZINE."-The February number contains coloured figures, together with descriptions of the following plants:-

Lysichitum camtschatcense, Schott, t. 7937 .- A half-hardy Aroid with bold oblong foliage and stalked yellow spathes enclosing a cylindrical spadix. It was figured in the Gardeners' Chronicle, April 7, 1900, p. 219. At Kew it is not successful in the open-air, but it does well in a wet, shady corner of the temperate-house.

Bulbophyllum auricomum, Lindley, t. 7938.—An elegant species, throwing slender flower spikes 4 to 10 inches long from the base of the pseudobulbs. The fragrant flowers are about 3 inch long with linear white or yellowish segments; lip small tongue-shaped.

Corydalis Wilsoni, N. E. Brown, t. 7939 .- A very handsome species from Central China, described in the Gardener's Chronicle, 1903, ii., p. 123.

Sauromatum brevipes, N. E. Brown, t. 7940 .- A curious Aroid producing from the tuber, spathes, and leaves. The spathes are tubular at the base, extended into a very long linear lanceolate blade and enclosing a long linear spadix; the leaves are pedately cut into linear divisions (see Gardener's Chronicle, 1903, ii., p. 93). Cambridge Botanic Garden.

Melaleuca uncinata, R. Brown, t. 7941 .- An Australian myrtaceous shrub with long linear leaves terminating in a curved hook; flowers minute pale yellow in dense globose heads about the size of a cherry, near the ends of the shoots.

MR. T. W. TURNER, who has been well-known for a number of years as an efficient general foreman in the Royal Horticultural Society's Gardens at Chiswick, has been appointed Superintendent of the grounds at the Royal Hospital,

WINTER-FLOWERING CARNATIONS AT SAND-RINGHAM .- Several weeks ago, when referring to the display of winter flowers made at Sandringham in December, we stated that some of the Carnation plants, raised from cuttings rooted in the previous January, had produced fifty or more flowers and buds. This statement has caused surprise to some of our readers who cultivate these same varieties of Carnations, and who invariably thin out the flowers, leaving one only upon each shoot. They have very rightly considered it to be impossible to raise plants in one year that would have as many as fifty shoots. It is necessary therefore to say that at Sandringham the operation of disbudding is not carried out with such severity on every plant. The disbudding varies a little upon different varieties, and according to the purpose for which individual plants are required. To obtain large flowers with long stems, only one bud is left at the apex of each shoot, the vigorous-growing varieties from America being especially suitable for furnishing such long-stemmed, large flowers. The variety Winter Cheer and several others, however, have a somewhat different habit, and in these varieties it is possible to obtain four moderately-good blooms upon each stem, if the plants are very vigorous and the growths well matured. We have several such specimens before us as we write, and though the flowers are

smaller than those in cases where more rigorous thinning has been practised, they are nevertheless of sufficient quality for many decorative purposes. The centre flower is always largest in size, but it is sometimes an advantage to be able to associate flowers of this class with opening buds, as they are in the bunches before us. It seems hardly necessary to explain that it was such plants that Mr. Cook described as producing fifty or more flowers and buds, and he had no intention of implying that there were fifty good shoots upon plants less than a year old. The oultivation of winter-flowering Carnations is increasing, and it will increase very much more now that such excellent varieties are obtainable for the purpose, therefore the practical hints given by Mr. Cook in his article on p. 18, January 9, may be studied with advantage by those who are not yet familiar with the details of cultivation.

FRUITS FROM BRITISH COLUMBIA.—We have received the following letter from the Office of the Agent-General for British Columbia, Salisbury House, Finsbury Circus, E.C.:—

"At the direction of Mr. J. H. Turner, Agent-General for British Columbia, I am sending you a few Apples grown in that Province It cannot be said that they are in the best of condition, as the small shipment received was greatly delayed in transit. However, I think it proves that a good quality of Apple can be grown in British Columbia and shipped to this country. The demand from the North-west Territories for this year's crop of British Columbian Apples could not be fulfilled.

"The Agent-General will be glad to supply all information possible on fruit-culture in British Columbia.

J. A. TURNER, Secretary."

The half-dozen Apples received with this communication were very well developed specimens, though becoming mealy. The climate of British Columbia is less cold in winter and less bright in summer than that of Nova Scotia, whence excellent Apples are sent to this country, being somewhat nearer to that of the British Isles.

PALM SEEDS. - Mr. A. HEMSLEY writes :-For the past two or three years the seeds of Cocos Weddelliana have been scarce, but there seems likely to be a plentiful supply this season. Already there have been some sold at Messrs. PROTHEROE & MORRIS'S auction rooms. The first consignments sold freely at 18s. per 1,000, but last week some were sold at about 15s. per 1,000. Good samples of Kentia Fosteriana have been selling at about 6s. per 1,000. K. Belmoreana has been making rather higher prices. We do not often see seeds of Geonoma gracilis at the auction rooms, but some were sold last week. They made 20s. per 1,000. Messrs. W. Bull & Sons have just received a large consignment of seeds of Phænix rupicola, the samples being very

ORCHIDS AT DÜSSELDORF. — We have already announced the great International Horticultural Exhibition, which is to be held this year at Düsseldorf from May 1 to October 23. Two special exhibitions of Orchids will, we learn, be arranged—viz., from May 1 to 3 inclusive, and from October 21 to 23. The Orchids will be exhibited in a special building. The committee undertakes to pay the carriage of exhibits from and to England, and to put every facility in the way of exhibitors. Prizes to the amount of £700 will be awarded. Cut flowers will be welcomed where it is not convenient to show plants. Phylloxera certificates must in all cases be sent. Schedules in English may be obtained from Mr. Jas. O'Brien, V.M.H., Harrow-on-the-Hill.

THE CHRYSANTHEMUM. — Mr. Wells, of Earlswood, Redhill, has published a third edition of his little book on The Culture of the Chrysanthemum for Exhibition, Decoration, Cul Flower, and Market. Mr. Wells writes from an experience of thirty-six years, and his "whole time is spent among Chrysanthemums, studying their

growth and noting their innumerable interesting peculiarities." He ought, therefore, to have something valuable to tell the novice; and everyone who notes his directions, from the cutting-pot to the exhibition-stage, will admit the clearness and value of his teaching.

STOCK-TAKING: JANUARY. - Very pleasant would it be to have to record an increase in both imports and exports for the first month of the year, but instead there is a small decrease. In Lancashire, all localities depending upon cotton for labour, wages, and profits, are affected most deeply by the trade-wrecking tactics of "bulls" and "bears" so-called on the United States markets, in which scenes are enacted by men who usually pass as sane, but whose mental condition may well be questioned. But to a few figures. According to the Trade and Navigation Returns the value of the imports for last month is put at £45,993,863, against £46,226,515 for January last year-a decrease of £232,652. Here may be takeu a few figures from the usual "summary" table as follows :-

IMPORTS.	1903	1904.	Difference.
Articles of food	£	£	£
and drink—duty free	9,136,016	9,037,657	-98,359
Articles of fond & drink—dutiable All other Imports	8,309,214 28,781,255	5,587,088 28,369,118	+277,844 -412,137

Here is the state of things in regard to fruit for the past month and the same period last year:

IMPORTS.	1903,	1904.	Difference.
Fruits, raw-	Cwt.	Cwt.	Cwt.
Apples	297,893	337,528	+39,635
Apricots and Peaches	8	224	+216
Bananas bunches	170,132	148,520	-21,612
Grapes	5,052	318	-4,734
Lemons	95,613	112.777	+17,164
Nuts-Almonds	7,711	7,854	+143
Others used as fruit	31,909	30,930	- 979
Oranges	850,716	819,402	-31,314
Pears	1,276	447	-829
Plums	19	154	+135
Unenumerated	6,586	3,562	-3,024
Vegetables, raw-			
Onlonsbush.	775.922	556,472	-219,450
Potatos cwt.	210,424	932,077	+721,653
Tomatos ,,	26,275	38,341	+12,066
Vegetables, raw, un- enumeratedvalue	£ 29,578	£37,256	+£ 7,673

It may be noted that since our last "stocktaking" there have been received from the Cape (per three Union Castle Company's steamers) 3,781 cases of Plums, 544 of Peaches, 223 of Apricots, 8 of Pears, 7 of Pineapples, and 26 of Nectarines. A correspondent states that the Agricultural Department at Pietermaritzburg is of opinion that fruit-growers in Natal might do better than they are now doing if they would but try. Perhaps care in selection of sites, in the varieties planted, and the preparation of shelters of various kinds would render the effects of hailstorms less pronounced, and Natal fruit be ultimately found on home market-stalls competing with those supplied by Cape growers. Perhaps our friends in the highlands of Natal may "tak' a thocht and mend."

EXPORTS

elaim final attention. In the month just closed, their value was entered at £24,083,365, against £24,903,636 for the same period last year—a minus difference of £820,271.

AZALEA INDICA "ROSE DE NOEL."—With us a Christmas Rose is white; but we have now to do with a rich rose-coloured Azalea, which, judg-

ing from the plate in the Revue de l'Horliculture Belge for February, has flowers of a good shape, fine colour, and an early-blooming tendency. It was raised by M. DE SMET-DUVIVIER as a sport, and flowers in December.

RAINFALL IN CO. DOWN.—Mr. A. F. GRUBB, gr. to Major FORDE, Seaforde Gardens, Co. Down, has sent us particulars of the rainfall in 1903, the total of which was 48.69 inches, as compared with 42.68 in 1902, 34.56 in 1901, and 44.07 in 1900.

BOARD OF AGRICULTURE.—The President of the Board of Agriculture and Fisheries has appointed Mr. Robert Burnard to be a member of the Departmental Committee on the working in Great Britain of the Fertilisers and Feeding-Stuffs Act, 1893, in the place of Mr. Thomas Elborough, who has resigned on account of ill-health.

AFRICAN MUSAS. - In an enumeration of certain useful or interesting plants belonging to the Congo flora, compiled by the indefatigable M. DE WILDEMAN, we find mention made of two species of Musa (one of which is cultivated in the Brussels Botanic Garden), each characterised by the presence of a tuber at the base of the stem, viz., Musa Gilletti, a species described by M. DE WILDEMAN himself, and M. religiosa, previously studied by M. Dybowski (see Revue Horlicole, 1901). The name "religiosa" was applied because the seeds are supposed by the natives to possess supernatural properties; and a like remark applies to the seeds of M. Gilletti. In M. religiosa roots spring from the whole surface of the tuber, while in M. Gilletti they proceed from the top of the tuber exclusively. Another Musa allied to M. Ensete, and also introduced to cultivation in Paris, is named and described as Musa Arnoldiana. It received a First-class Certificate from the National Horticultural Society of France when exhibited by Messrs. VILMORIN, ANDRIEUX ET CIE., October 10, 1901. M. DE WILDEMAN also in the course of his article on African Musas refers to the beautiful red-leaved form considered to be a form of M. paradisiaca. The plant, it appears, comes from the Congo. It does not ripen its seeds, although it bears fruit. It produces suckers freely, by means of which it may be propagated.

PLANT NOTES.

A FINE VERY LATE-BLOOMING NERINE.

Towards the end of last autumn I received from a leading nurseryman in the West of England a bulb of Nerine under the designation "N. new species." It had then only quite recently gone to rest, and at the commencement of December showed its flowerspike, which slowly developed and opened the first of the six flowers it carried about three weeks later, when it proved to be a very large flower of a pleasing shade of light-pink, with a darker line down the centre of each petal. On sending this flower for identification to the herbarium at Kew, I was informed that it was Nerine excellens, figured from Mr. Bull's garden in the October number of the Florisl and Pomologist for 1882, to which plate I was referred. Through the kindness of the Editor of the Gardeners' Chronicle, I have been enabled to compare this plate with my plant, and find that while the colour is exactly identical, the flowers of my plant are at least one-third larger than those represented on the plate; and as it comes into flower quite three months later than the ordinary type form of N. excellens, which blooms with me every year in September, I propose to name my plant N. excellens major Whether this name will be accepted by the nurseryman who holds the stock of this fine variety

or not I cannot say, but in any case it is, in my opinion, a very ernamental plant, and a most valuable addition to our stock of easily-flowered cool greenhouse bulbs. W. E. Gumbleton, Belgrove, Queenstown, Ireland.

Obituary.

F. C. LEHMANN.—The news of the unfortunate death of our esteemed correspondent, Mr. F. C. Lehmann, which we published some time since has been verified. He was drowned on Nov. 23 last, in the river Timbique, in Colombia, whilst crossing the river in a small beat to visit a gold mine in which he was interested. This well-known botanical traveller and explorer, who has done very much to increase scientific knowledge of the flora of Colombia and Ecuador, spent the greater part of his life in South America.

Mr. F. C. Lehmann was a betanist and explorer fer the leve of natural history and of seeing untravelled countries, and no man could be better adapted for such an adventurous career. He was a highly educated man, careful and far-seeing. A clever betanist and great lever of plants, and especially Orchids, to whose history he has added many useful and entertaining pages, and with his records and dried specimens enriched European herbariums. His drawings and descriptions of his new plants were most accurate and have appeared in the Gardeners' Chronicle repeatedly. He was associated with Miss Woolward in the production of the Marquis of Lothian's fine menegraph of Masdevallias, and in 1893 the British Museum purchased part of his herbarium and some of his drawings, chiefly Orchids. His most important work in connection with England began with his collecting for some years in South America for Messrs. Hugh Low & Co., to whom he sent many fine plants. About twenty-five years ago he settled at Pepayan, and has ever since, until his death, been German Consul there, a duty specially arduous in such a country where political disturbances are continual. Some light on that subject, and also an insight into the estimable character of the writer, and his leve for his work may be get by quoting a letter from Mr. Lehmann, from the Kaiscrliche Deutsches Konsulat in Popayan. general remarks about the failure of getting his papers in many cases, he says, under date March 24, 1903, "we have been several times without any communication for several months. Even te send letters by post was so uncertain that the last let of important papers I sent by express mule-rider all the way down to Buenaventura, to make sure that they would get on board a mail steamer. Orchid collecting and travelling have been altegether hampered during the time of the civil war. Officially it has been prenounced ended over and over again, but while reading the anneuncement, if were favourably situated, you would still hear the cracking of the rifles. I have been tied down by my consular duties, and also by having to rebuild the house on my country estate; but the latter seen will be finished new, and then I shall be able to ream over hill and valley again and look up some of the many pretty new things which I would like to get into European gardens, especially my discoveries in Masdevallias, most of which are as yet undescribed, for I am an enemy of making new species, and this eften carries me to the ether extreme. How careful and slow I am before I publish a new species you may derive from the fact that I have in my herbarium net fewer than about ferty-two species of Masdevallia, all with drawings and detailed descriptions, which I am sure are new, many quite extraordinary in construction, of which I have not published one. But I would like to get some of them into gardens, and though

my power of endurance is not quite what it was many years ago, for it is no trifle to travel twentyseven long years in these climates, I am still resolved to do something if it pleases the Lerd." The Masdevallias are specially difficult to import, and to Consul F. C. Lehmann's skill and untiring energy, gardens owe some of the prettiest, rarest, and most difficult to import, some of them his own discoveries, and others, known plants never before get over alive. Among his most interesting which we call to mind are Masdevallia ventricularia and its variety longicaudata; M. trinema (Lewii), M. angulata and its showier ally M. burfordiensis, M. deorsa, M. Lehmanni, M. Tubeana, and M. rosea. named plant Mr. Lehmann considered his hardest task, for in 1880, when travel was far more difficult than it is new, he, after great privations, reached its habitat at a very high elevation near Lexa, in Ecuader. The plant, which had been knewn from the time it was discovered by Hartweg in 1842, was successfully collected and packed; but all sorts of expedients had to be reserted to, to preserve a part of the specimens



THE LATE F. C. LEHMANN.

while passing through the hot valleys to the port. Once shipped the trouble did not end, for although daily tended by their collector the stock got smaller, and finally the Para, by which Mr. Lehmann was bringing them, got wrecked off St. Michael, Azores. But at the risk of his own life, Mr. Lehmann got some of the plants off alive, and landed them in England.

Other of his discoveries new represented in gardens are Cryptophoranthus Lehmanni, C. hypodiscus, Restrepia tricheglossa, Sievekingia suavis, S. Reichenbachiana, Stanhopea impressa. Maxillaria fractiflexa, M. scurrilis, and other singular Maxillarias; the rare new genus Tre-voria chloris, named by him in honour of Sir Trever Lawrence, Bart.; Pescaterea Lehmanni, Luddemannia Lehmanni, and L. trileba; Polycycnis Lehmanni, Oncidium xanthocentron, and many others, specimens of which will be found in the all-absorbing Reichenbachian Herbarium, for Reichenbach published some sets of "Orchideæ Lehmannianewa" in his Otia Botanica Hamburgensia, and often commented on Mr. Lehmann's excellent material and details of habitat, for in every case where not known he tested and recorded the altitudes and local peculiarities. He married a Colembian lady, and deveted a good deal of his energies of late years to the development of the estate, although necessarily

in such a country under difficulties. Gold, however, was found on it, and measures were taken to develop that interest, but with what result we know not. The last time he was in Europe he brought his son, who is about ten years of age, to be educated at Berlin.

Mr. Lehmann's rules of conduct and living he summed up in a few words once in a conversation about his adventurous life, and they are worth recording for the benefit of prespecting travellers. He said:—

"I attribute my good health, and even my life, mainly to two things. First, when in danger either from natives er, worse still, from lawlesswhite men, I never produce a revolver or other weapen. Scores have lost their lives for showing a revolver, for when guns are about it is always the aim to get the first shot in; so instead of terrifying, the production of a revolver may be your ewn death-warrant. Secondly, I never drink water without first beiling it. Often I have gone thirsty for hours befere I could get achance to beil water, but I preferred that to the risk. If I had coffee (and coffee has had to bebeiled over and over again semetimes), I would stir in a pinch or so, or more if I thought I could replenish the store soen. But in any case the water had to be beiled unless I was satisfied itwas beyond suspicion."

A very large number of his new plants of all descriptions collected in Guatemala, Costa Rica, Colombia, and Ecuador, have been published in Engler's Bot. Jahrbüch, under the title of Planto-Lehmannianeo. His Passifleras and Aristolechias were described by the Editor of this journal

The fellowing note is from Dr. Kranzlin, Berlin:—

"I know very little of Herr Lehmann's life. Atthe time of his death he was fifty-three years of age, and he had spent the greater part of his life in South America.

"His early bringing-up was of a most simple-kind, for, being of humble parentage, he received ne education beyond such as was afforded by the-village school. His accemplishments, his acquaintance with several languages, his botanical-knewledge and his skill as a draughtsman—alb these he acquired by his own indemitable energy and perseverance. Of his success as a collector-much more is known in England than in Germany. He travelled much for English herticultural firms, and was very seldem empleyed by German dealers. In Germany, so far as I know, only Herr Haupt in Brüg ever received Orchids-directly from Lehmann.

"He married Señera Maria Jesefa de Mosquera, a lady belenging to one of the old families ef Colombia. In consequence of this marriage hesettled altegether in Cauca, and especially in Pepayan. The landed preperty owned by the Mosquera family there is very important, and in order that he might have trustworthy people in responsible posts, Lehmann sent to Germany for one of his younger brothers and a sister, while he himself managed the gold-mines of Timbique. So far as I knew he sold these mines to a French company, but under conditions which necessitated his keeping the superintendence for a term of years. There, in fording the Timbique river, he met with his death, whether by an unhappy accident or by malice is not known.

"His successes as a betanical collector will-secure him a lasting memorial, and especially se as far as Orchids are concerned. If—only tomention one genus—all the Masdevallias he drew were to be published, they would eccupy more than double the well-knewn work of Lord Lothian. The best of the exquisite plants that he occasionally sent to Europe are in the possession of Sir Trevor Lawrence at Burford Lodge. His betanical collections are to be found in several European herbaria. The Herbarium

Boissier at Chambesy, near Geneva, owns a good collection; and another, nearly if not quite so complete, is in the Natural History Museum at South Kensington. Many of his plants have lately gone to Berlin, and the remainder, which are still in Pepayan, will also be sent to Berlin. His personal possessions naturally remain in Popayan with his family.

Details of his life are but few, and although I had friendly relations with him for eighteen years, I heard nothing of his earlier experiences. We had more than enough to discuss in botanical questions, and he told me nothing about himself. After his marriage he only came to Europe two or three times."

CHARLES VAN EECKHAUTE.-The death of this famous horticulturist, in his seventy-fourth year, is announced as having occurred on the 16th ult. He entered Louis Van Houtte's nursery at Ghent as long ago as 1844, and was well known to mest visitors to that famous establishment. He was fermerly a Professor in the Ghent School of Horticulture. Latterly he was connected with Mr. Sander's nursery at Bruges.

JOSIAH HOOPES .- From America we learn of the death of an old correspondent, Mr. Josiah Hoopes. He was a nurseryman in a large way of business, and published some years ago an excellent little manual of Conifers under the title of the Book of Evergreens. We were indebted to him for various interesting specimens. Mr. Hoopes was born at West Chester, Pennsylvania, in 1832, and died in the same city on the 16th

CATTLEYA MOSSIÆ.

WE are indebted to Norman C. Cookson, Esq, Oakwood, Wylam (gr., Mr. H. J. Chapman), for a photograph of a fine specimen of Cattleya labiata Mossiæ, fig. 47, which recently flowered in his gardens and which appears to be one of the most profusely flowered of any which have appeared. The species is an old favourite in gardens, and when well grown is one of the finest of its class, continuing the flowering of the largo-flowered Cattleyas throughout May and June. Many fine varieties have been distinguished by varietal names, the albino C. Mossiæ Wagneri being one of the finest of white Cattleyas. The variety illustrated is a large form of typical C. Mossia, with fine golden - yellow disc, and rich erimson markings on the labellum. The plant illustrated has been grown in a compost of leafmould, peat, and sphagnum moss, and it promises to be finer next season than it has been this.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

DISEASE-RESISTING POTATOS .- Although in a trial of thirteen varieties, twelve were very badly diseased, yet Evergood was quite free from disease therefore Mr. Edwards asserts that we have a real disease-resisting variety at last (see p. 74). I grew Evergood last year in a trial with some twenty-five ether varieties. It gave a very fair average crep, but when a few good-looking tubers, selected for the cooking test, were peeled, disease spots were found in the flash in a marked degree. spots were found in the flesh in a marked degree. One experience no mere justifies the assertion that any Potato is disease-proof than does the statement that one swallow makes a summer. Tests, such as I trust the new Potate Society will be able to promote in different parts of the kingbe able to promote in different parts of the king-dom and on diverse soils, should not only be numerous each season, but should extend over five years at least. Any variety that is then found to be absolutely disease-resisting, may even be termed "disease-proof." The Petato world, evidently as rabid after sensations as are the financiers, politicians, or credulous treasure-hunters, has of late been dosed with paragraphs with respect to the astounding prices paid for tubers of Eldorade Potato. To me, it is astonishing that these prices have really been paid. I find in your own advertising columns offers from growers of the Eldorado of tubers at so "mederate" a price as 63s. per lb. How does that price compare with the reputed 150? A. D.

—— An acre of land was planted with Potatos here last season. The ground was prepared as follows:—In the autumn of 1902, 30 loads of farmyard manure were ploughed-in; in March following it was recedible bounded. following it was roughly harrowed, and pleughed-out ready for planting. In the first week in April 6 cwt. of Bentley's Potate Manure was sown broadcast, and the ground was then planted with the varieties Up-to-Date and British Queen. At the end of June the same quantity of soot was applied, and earthed up with the plough. The result was 9 tons of Potatos, and until now we have only found I bushel of bad tubers; the

reputedly good quality and in possession of natrepresent good quarty and in possession of natural vigour. Last year I grew thirty varieties of Potato, some new and some old, and my experience is exactly similar to that of Mr. Edwards. Some of the varieties were so badly diseased as to be hardly worth lifting, whilst in the case of others there was hardly a speck to be found on the tubers, and amongst the latter were the following, all comparatively modern varieties:—
Sir John Llewelyn, Evergood The Factor, King
Edward VII., Chiswick Favourite, British
Premier, and Cigarette. Experience of this wind has led growers to pay more attention to modern Petatos. How much of the disease of last year may be traced to heavy application of rank manure is an open question, but I am of the epinien that those people who grew their Potatos on land that was manured the previous season not only came out with less disease, but obtained produce of higher table quality. Though



Fig. 47.—CATTLEYA MOSSI.E, AS GROWN IN THE COLLECTION OF NORMAN C. COOKSON, ESQ.

remainder are sound. The ground slopes to the south, and is heavy, sticky loam. Our rainfall for 1903 was 46 16 ins. A. B. Wadds, Paddockhurst Gardens, Sussex.

- I was much interested in the note from Mr. F. C. Edwards which appeared in the Gardeners' Chronicle for January 30, in which he stated that out of thirteen varieties grown, twelve old and one new, the solitary instance in which he had ne disease was in the case of the modern variety, Evergood. This fact supports a contention that I have urged in various quarters that though we have not got a disease-proof Potato, and probably never shall have one, some varieties are much more liable to disease than others, and with a few exceptions those that suffer the worst are old Potatos that have had their constitutions weak-ened and worn down by the strain of years of cultivation; while the varieties that repel the disease in seasons like that of 1903 are of modern introduction, and possessed of youthful vigour in constitution. The deduction is that our hope in the fight against disease does not rest in search of the phantom Potato that is disease-proof, nor yet in the Bordeaux-mixture, which was practically useless when pitted against the continuous rain of last year, but rather in sinking sentiment by weeding out and discarding old and worn-out varieties and growing only those of modern introduction that are of

it has been grewn now for centuries in the country, we hardly knew our Potato. We guess at this and that, and advance theories that are quickly upset, but the Potato remains a plant of numerous peculiarities, and is continually affording opportunities for investigation and research. G. H. Hollingworth.

NECTARINE CARDINAL.—My experience of this variety is not quite that of your correspondent, J. Gibbon, p. 91. At the same time, I should hardly describe it as one of the best. It is useful where there is accommodation for several early Nectarines, and also if a few days in the time of ripening is a consideration, but I have not yet found it ten or twelve days earlier than Early Rivers. Growing in the same house as the lastnamed variety, it ripens with me about five days earlier. Our house is started on December 1. Even with this difference, it is worth growing when early fruits are required for a particular When it is immaterial whether such early date. fruits are Peaches or Nectarines, I should prefer it to Hale's Early Peach for private consumption; it is a better and surer cropper when forced. The fruits of Cardinal have not cracked with me. Cracking may be due to several causes, but the exact one could only be pointed out by semeone on the spot. Cardinal, when ripening its fruit, requires a drier atmosphere than do some Nectarines, and a freer circulation of air. In this

respect it resembles Précoce de Croncels. I shoul l not plent Cardinal where only one Nectarine was required, but rather Early Rivers, this, in my opinion, being far the finest and best of the early Nectarines. T. H. Slade, Poltimore Gardens, Exeter.

- Having grown and fruited this Necfor several years, I consider Mr. yard did not speak too strongly in favour of the variety, neither did Mr. Rivers when he described this variety in his catalogue in the following words: "The fruit is of good medium size, very brilliant colour and exquisite flavour, flower large. Cardinal forms a most compact, sturdy tree, and bears very freely ten days before Early Rivers." I can corroborate this. The tree is planted-out at the warmer end of the house; the hot-water-pipes pass directly over its roots. When ripe the fruits are perfect in colour. I bave never known a fruit to drop, and until last summer it has never produced a cracked or blemished fruit. The roots being so near the flow-pipe from the boiler, the man in charge was given instructions not to allow it to become too dry whilst the fruits were swelling; so, to be on the safe side, as he thought, he gave the tree some water every day. The result was that the fruits began to crack in the same manner as Mr. Gibbon's fruits did, just as they were getting over the stoning period. Water was then withheld, and the cracking stopped. The wounds healed up, and when the fruits were ripe the scars were hardly noticeable, there being only two that were not fit for the table. The fruits were ripe in May. If Mr. Gibbous has a well-drained border, and will keep the roots of the tree on the dry side whilst the fruits are swelling, the fruits will not be likely to crack. The variety sets freely without being fertilised with foreign pollen. It is, however, important that the temperature of the house be kept up to 60°, with little ventilation during daylight; but no fire-heat should be used at night unless there are 8° or 10° of frost. Peaches treated in this manner will set many more fruits than are required. Geo. Summers, Sandbeck Park, Yorks.

ACETYLENE GAS REFUSE. — In reply to the enquiry on p. 92 of the Gardeners' Chronicle for the 6th inst.: If the calcium carbide used is pure, the chemical formula is—

 CaC_2 (calcium carbide) $+H_2O=C_2H_2$ (acetylene gas) +CaO (lime). Commercial calcium carbide is not usually absolutely pure, but I think that for all practical agricultural purposes the waste may be considered as lime. Anyhow I use it as such. $C.\ J.$ Andrew, Southview, $St.\ Martins,\ Guernsey.$

THE NATIONAL CHRYSANTHEMUM SOCIETY .-In respect to our paragraph on p. 88 of last issue, Mr. R. Dean, Secretary, writes:—"The dates originally selected by the Committee and published were intended as suggestions to the Crystal Palace Company, who had of course to be consulted as to their appropriateness. Then some of the leading exhibitors made a representation that the November show should open on a Wednesday instead of Tuesday, in order to minimise Sunday labour. The opening day of the October show was changed from the 4th to the 5th, in order not to clash with the fruit show of the Royal Horticultural Society on the former date; and finally, as the October and November shows had thus been arranged to be opened on a Wednesday, it was finally resolved that the December show should, in the interest of uniformity, open on a Wednesday also. By doing so this year, and as I hope in the future, all danger of clashing with the fixtures of the Royal Horticultural Society will be avoided. It was only recently that I obtained the confirmation of the foregoing dates from the Crystal Palace Company (who have other important fixtures of exhibitions to arrange for), and I at once communicated them to the Gardening Press. I am obliged to you for giving them publicity," [We are not unnaturally, but still not justly, blamed when the dates given in our Almanac as correct are afterwards altered. Ep.]

THE NATIONAL CHRYSANTHEMUM SOCIETY'S NEW CATALOGUE.—I notice in your report on p. 94 of the annual meeting it is said that the recent catalogue issued by the National Chrysanthemum Society is to be supplemented by carefully prepared lists, which are to appear in the

annual report. I am sure all who are interested in Chrysanthemums will welcome this announcement, as I look upon the catalogue as an absolute failure in giving desirable information, although the price charged for it is not a small one. Let us hope the next issue will be better. E.[Molyneux.]

ERICA LUSITANICA.—I can endorse Mr. Bean's remarks on p. 84 of the Gardeners' Chronicle. It would be difficult to find a more charming effect than that of a large bed of this Heath, especially at this dull season. Our plants are about 4 feet high, and are in an exposed position. They were in flower on New Year's Day, and are now approaching their full beauty. Heaths do well in this district, the soil, being of a sandy nature, seems to suit them admirably. J. Murray, Sopley, Christchurch.

GRAPES WHITE GROS COLMAR AND LADY HASTINGS .- It is many years since I saw White Gros Colmar. I do not know one garden in which it is grown, neither have I ever heard a grower speak well of it. The variety is not mentioned in Mr. Barron's book on Vines. As to the variety Lady Hastings, I have seen it every year in its home at Melton Constable since it was raised, and have had good opportunities of testing its value. It is undoubtedly a very finely-flavoured black Grape. It originated as a sport from that highly-flavoured Grape Muscat Hamburgh. In appearance it is much like Madresfield Court in the shape and colour of its berries, as well as in the formation of bunch. The flavour of the parent is preserved in its progeny to a remarkable degree. The berries "set" quite evenly and easily, and the skin does not crack—a defect that Madresfield Court shows in some gardens, though it is generally admitted to be the fault of cultivation. The only fault I find in Lady Hastings is its somewhat tough skin. This defect, however, is not so noticeable in fully ripened specimens. As a Grape for use in September and October, Lady Hastings is worthy of cultivation where Grapes of high quality are required. E. Molyneux.

— My advice to Mr. Leach is not to grow Grapes such as White Gros Colmar or Lady Hastings for late supply, but to try Lady Hutt, one of the best white Grapes in cultivation. The fruits keep in splendid condition nearly as long as those of Lady Downes, and the quality is at its best here about Christmas. It is a much better Grape for late use than Mrs. Pearson, and is a good companion for Lady Downes, as it can be grown in the same house. It has a grand constitution. I have Lady Hutt grafted on Alicante, and also on White Colmar, which improves the lateness of the Grape, but does not improve quality or flavour. I have also White Coimar grafted on Trebbiano, but consider it the most worthless Grape in my possession. A. Kirk, Norwood Gardens, Atloa, N.B.

—— In reply to Mr. W. C. Leach's enquiry respecting the White Gros Colmar Grape (p. 90), I may say that I received a small bunch of this Grape from the raiser, the late Mr. Roberts, the first year he fruited it in the vineries at Charleville Forest, Tullamore; and so far as I can remember at this distant date, I was more favourably impressed with the flavour of the White Gros Colmar Grape than I was with its appearance, which was of a dull white colour. And I came to the conclusion that the Charleville seedling, being credited with good keeping qualities, might make a useful companion in the way of a large white-berried late Grape to its prototype, but nothing more. The White Gros Colmar is assuredly inferior to Mrs. Pearson in appearance, flavour, and keeping qualities, and it certainly falls far below the Muscat of Alexandria in every respect. Notwithstanding the great number of fruitshows that I have attended in various parts of the country during the interval of time that has elapsed since I received the small bunch of the White Gros Colmar, I have never since seen it. Speaking from my own experience, which I venture to say is also the experience of the majority of private Grape-growers, Black Hamburgh, Madresfield Court, Black Muscat, Muscat of Alexandria, Canon Hall Muscat, Mrs. Pearson, and Mrs. Pince's Black Muscat, are the

varieties of the Grape which are most highly appreciated by the owners of gardens in which the fruit is cultivated for their own tables. The flavour of the Frontignan Grape, black and white, is very good, but the berries, like the bunches, are very small and poor in appearance. H. W. Ward.

SOCIETIES.

ROYAL HORTICULTURAL.

FEBRUARY 9.—So far as the constitution of the Committees is concerned, and in other respects, the Royal Horticultural Society commenced another year (1904-1905) on Tuesday last, when a meeting was held in the Drill Hall, Buckingham Gate, Westminater. The Hall was nicely furnished with exhibits, but was not quiteso full as we have seen it on many similar occasions. The atlendance throughout the day was likewise less than usual on "Annual Meeting" day, but the heavy and continuous downpour of rain on the morning of that day was doubtless the reason of this.

The Orichid Committee recommended four Awards of Merit.

The FLORAL COMMITTEE recommended three Awards of Merit, and the FRUIT AND VEGETABLE COMMITTEE would have had a holiday but for Mr. George Woodward's having brought again some wonderfully fine examples of the Passe Crassane Pear.

The annual meeting was held "behind the curtain" in the Drill Hall, and a report of the proceedings is given below.

Floral Committee.

Present: W. Marshall (Chairman), and Messrs. H. E. May, George Nicholson, W. G. Baker, R. Dean, Jne. Green, E. Molyneux, G. Reuthe, John Jennings, C. R. Fielder, Charles Dixon, W. Bain, C. J. Salter, Chas. Jeffries, H. J. Cutbush, Jao. A. Nix, R. W. Wallace, R. C. Noicutt, Charles E. Shea, W. P. Thomson, R. Wilson Ker, and R. Hooper Pearson.

Mesers, J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, London, exhibited a group of Ferns, including varieties of Davallia, Gleichenia, Gymnogramma, &c., all of them very clean and of healthy appearance, although the growths on Ferns at this season have been made some months ago (Silver-gilt Banksian Medal).

Messrs. Sutton & Sons, Reading, made a fine display of Chinese Primulas, of which we have written on p. 97. The Duchess was particularly attractive and distinct. This variety, with reddish pink ring around the greenish-yellow eye, was shown in a large batch, and the Double Duchess shows the characteristic transferred to semi-double flowers. Other good varieties were Brilliant King, Terra-cotta, Giant Blue, &c. (Silvergilt Flora Medal).

Messrs. Cannell & Sons again demonstrated their abililies as cultivators of the Primula by showing an entire table of well-grown plants of this genus. They were of a different type to their last meeting's exhibit, being of the etellala family and Chinese mixed. The introduction of the stellata blood has given them a less stiff panicle of bloom, and the splkes rise with greater freedom and height. The colours are pleasing, and many of first class quality. Miss Doris was a beautiful clean-cut white, the flowers large and numerous; Red Rover and Triumph were nice dark varieties, the latter rather lighter than Rover; Fashion, Fairest of the Fair (very proliferous), Queen Alexandra, and Lady E. Dyke were good varieties noticed. Firefly is a good dark red, but appears to deteriorate as the blooms become older. The group was given the Society's Silver Flora Medal.

The entrance end of the Hall was quite gay with flowering shrubs, grouped by Messrs. Russell, of Richmend. Lilacs, including the white variety; Azaleas mollis and indica, Daphne, and Hamamelis, were effectively grouped with tall Palms, Araucarias, &c. (Silver Flora Medal).

Messrs. Geo. Jackman & Sons' exhibit of Alpineplants from Woking, though not large, was not lacking in quality. A pan of coloured Primroses deserves aword of mention, they were of a rosy-mauve celour with pretty eye. Irises were also good; Clematis cirrhosa was again displayed by them.

Mesars. W. Cuthush & Son, Highgate, London, N., exhibited some forced shrubs, such as Prunus trilobafi. pl., Lilacs, &c., faced by a lot of hardy Irises In flewer, such as I. Tauri, I. histrio, I. reticulata Krelagei, I. Heldreichii, &c., and other bulbs. Messrs.

CUTDUSH also staged a tasteful group of cut Carnations, making a pretty effect, to which these plants so readily lend themselves (Silver Banksian Medal).

A collection of Cyplameos was staged by Messrs. Buch Low & Co., Bush Hill Park Nurseries, Enfield; there were some good colours, some varieties fimbriated others feathered.

The Fox HILL HARDY PLANT NUBSERY COMPANY (Mr. G. Reutte) had a small collection of alpines, included in which were some nice Irises and Colchicums.

Both Messrs Veitch and Messrs. Cannell again brought up Colcus thyrsoideus, the former grouping with Eupatorium vernale and Cheiranthus Kewensis, the latter with a white stellata primula "Lady Emily;" both were very pretty, Messrs. Veitch gaining the Silver Banksian Medal.

Messrs. Godfrey's stands of Chrysanthemum Winter Queen were beautiful, the flowers, for the season, being perfect, large, and well cultivated. They were much admired.

Roses, always pleasing, are specially so at this dult season. Mr. GEO. MOUNT had some very lovely specimens, and won the Silver Bankslan Medal. Liberty, a very rich dark colour, was good; as were also Mrs. W. J. Grant, Mrs. J. Laing, and Mme Gabrielle Luizet.

Mesers. WALLACE & Co., Kilnfield Gardens, Colchester, contributed to the alpine section with three trays of plants, their Primula megascefolla being a nice acquisition. The group included Irlses, Crocuses, Snowflakes, &c.

From the Royal Horticultural Society's new gardens at Wisley came sprays of berried shrubs and hardy spring flowers as, Primroses, &c. The large crimson berries of Oxycoccus macrocarpus were most effective, but well-berried sprays of varieties of Pernettya mucronala were very pretty.

Mr. H. T. DIXSON, Woodslde Nursery, Polegate, Sussex, showed a few large plants of a white-flowered Cyclamen the flowers of which were large and of bold appearance.

A variegated variety of Ivy named Queen Alexandra was shown by the Duke of NORFOLK, Arundel Castle, Norfolk (gr., Mr. Burbury). The leaves are small in slze, green, with broad white margin, and the variegation is constant throughout the year. A few plants of a semi-double white variety of Primula sinensis were shown from the same garden.

Mr. W. PALMER, Andover Nurseries, staged Primula Queen Alexandra. These bad tall spikes of faintly flushed flowers, semi-double. The plants were well-grown and robust, and were awarded the Bronze Flora Medal.

Messrs. CHEAL & SONS, Crawley, staged a group of alpines, the exhibit being relieved at the back with fancy shrubs and small plants of Pinus cembrs. There were blue Primroses, Acoultes, and Anemones, Anemone corrules blands being very pretty.

The Misses Hopkins, of Knutsford, also presented a group of these little plants, among which we noticed some good Primroses; one labelled "double mauve" was very uice.

A more comprehensive group was that exhibited by Messrs. BAHR & Sons. This display would delight any enthusiast of these flowers. The blossoms were abundant, the individuals clean-grown, well-formed, and the whole effectively staged. Hellebores of alt colours, Irises, Snowflakes, Primulas, including P. obconica, Crocuses, Saxifrages, were well represented; also Narcissus minimus, a tiny member of the family, yet standing out boldly with its brilliant yellow. The whole was interspersed with a mossy groundwork relieved at the back with Yuccas and Bamboos (Silver Flora Medal).

Still more alpines were in evidence, this time in the collection sent by Messrs. Ware, of Feltham. This was another good exhibit of these plants. They had Primroses, Saxifrages, Cyclamens, Anemones, &c. Anemone blanda atro-corulea was of a splendid colour; and a pan of Cyclamen Coum was nice. Other plants noted were Veltheimia viridifolia, Primula oheonica and P. obconica kermesina, Lachenalia Rector of Causton, and Adonis amurensis.

Awards.

Begonia Mrs. H. T. Disson.—This flowering Begonia was obtained from crossing B. Smithit alba with Goliath, a very strong-growing variety with pink-coloured flowers, sent out by M. Lemoine, of Nancy. The new variety is of more shrubby habit, being also shorter-jointed than Goliath, but the flowers are rich pink-colour, like those of Goliath. The variety appears very free-flowering. Shown by Mr. H. T. Dixson, Polegate (Award of Merit).

Tulipa Kauffmanniana aurea.—A very early-flowering species, with long pointed segments, red with yellow

margine on the outside, and wholly yellow or orangeyellow coloured inside. Shown by Messrs, W. Cutbush & Sons, Highgate (Award of Merit).

Eupatorium vernale. — A capital wioter-flowering plant with white flowers. A description was given on p. 74 of the Gardeners' Chronicle for January 30. From Messrs Jas. Veitch & Sons, Chelsea (Award of Merit).

Orchid Committee.

Present: Harry J. Veitch, Esq., In the Chair, and Messrs, Jas, O'Brien (Hon. Sec.), de B. Crawshay, J. Douglas, E. Hill, J. G. Fowler, F. Wellesley, J. Colmar, F. W. Ashton, H. T. Pitt, W. A. Bilney, F. A. Rehder, W. Cobb, R. G. Thwaites, H. J. Chapman, A. A. McBean, J. W. Potter, W. Bolton, J. Charlesworth, H. Ballantine, M. Gleeson, W. Boxall, H. A. Tracy, W. H. White, W. H. Young, F. Sander, and H. Little.

There was a very fine show of Orchids, the place of honour being taken by Messrs. SANDER & SONS St. Albans, who received the Society's Gold Medal for a very fine group extending the whole length of the Hall, and containing many fine hybrids. The most prominent novelties were Lælio - Cattleya x Lucasiana Hindeana (L. tenebrosa x C. lablata alba). a very fine hybrid with white sepals and petals, and rose-purple lip veined with dark crimson; Cyprlpcdium x Lamontianum (Calypso Oakwood variety × Rothschildianum), a distinct flower with ovate. acuminate, purplish-chocolate upper sepal, freckled on the upper half with green and margined white; and greenish-white extended petals and lip, whitish lined and tinged with purple; and C. x Brilliant (Buchanl anum × Calypso), a model flower with dark rose upper sepal, with a broad dark band, and pure white upper half, the glossy petals and lip yellow tinged with purple. There were also ten fine forms of C. x Lecanum. four good varieties of C. x sureum, the handsome C. x Transvasl, C. x Chas. Richman nigrum, C. x Sallieri aureum; an interesting lot of fine Odontoglossums, including a rose purple blotched O. crispum Pacho variety; two distinct varieties of their new strain of O. × loochristyense, the new O. × Harryano-crispum brugense, very finely marked; O. × Wilckeanum Illustré, O. nevadense, good O. × Wilckeanum, a number of good forms of Lælio-Cattleya x Bletchleyensis, an example of their new type of L. C. x Warnhamensis, in which the purple-lipped C. Trianæ Backhouslaua was used, and which has similar purple tips on the petals; the curious natural hybrid, Cymbidium × Ballianum; Miltonia × Bleuana, varietles of Zygo-Colaxx, Phalenopsis, Masdevallia polysticta with many splkes, and numerous other showy Orchids.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman), was awarded a Silver Flora Medal for a very pretty group of rare Odontoglossums and Cypripediums, among which were noted Odontoglossum crispum Grace Ruby, a handsome purple spotted variety. O. c. xanthotes Oakwood variety, in which the orange coloured spots are confined to the labellum: O. c. Lowize, O. c. Brilliant, a very showy white variety with large bright reddish-brown blotches; a grand plant of typical O. crispum with seventeen flowers on one spike-an excellent example of cultural skill; O. Pescatorei Prince of Orange, yellow finely marked with brown; O. × Adrianæ aureum, O. A. Oakwood variety, O. Pescatorei albescens, Cattleya chocoensis alba magna, Lælla anceps Schroderiana, Cyprlpedium x Juno, C. × Wm. Lloyd superbum, C. × Calypso Oak. wood variety, &c.

Messre. Charlesworth & Co., Heaton, Bradford, secured a Silver Flora Medal for a bright and effective group, in the centre of which were a number of the showy orange and red Lælio-Catileya x Charlesworthii, one of the best and freest-flowering plants of the At one end was an interesting selection of "botanical" Orchids, including the slender spiked reddish-yellow Mystacidium Hariotlanum, the shaggylipped Bulbophyllum Dayanum, the pretty Coelogyne sparsa, and several others. Several varieties of the showy Cattleya x Enid, the pretty Lælio-Cattleya x Lilian, a very handsome variety of L.C. × Gottofana, a clear yellow form of L.-C × Andromeda with reddish lip, L.-C. \times Myra, and other Lælio-Cattleyas also appeared. Among the Cypripediums the best were C. villosum auriferum, fine in shape and substance, and with almost wholly Indian-yellow-coloured flowers; C. x Cardosianum, C. x Hitchinsiæ, C. x Sallieri, and various Odontoglossums, among which were a peculiar form of O. grande, named "Fascinator," in which the markings were purplish instead of b. own.

G. F. MOORE, Esq., Chardwar, Bourton-on-the-Water (gr., Mr. Page), was awarded a Silver Banksian Medal for a group of specially fine Cypripediums, for the

three best of which see Awards. Among the others noted was C.×Miss Amy Moore, a very showily-marked flower; C. × Mons, de Curte, Swinburne's variety, with large dark blotches on the upper sepal; C. × Beekemanni, C.×Sallierl aureum, C.×Evenor, C.×Euryades, Chardwar variety; and the handsome C.×Mooreanum.

Mr. J. Cypher, Cheltenham, received a Silver Banksian Medal for a group of Dendrobinms, Cypripediums' &c., among which were noted a good form of Dendrobium × Schneiderianum; D. nobile giganteum, one of the best and roundest-flowered forms; D. × Dominia num; several good D. × Cybele; a white Dendrobinm of the D. × Ainsworthii class; several hybrid Cypripediums; Phalo-Calanthe × nívalis, Lælio-Cattleya × Hippolyta, &c.,

Messrs. Hugh Low & Co., Eush Hill Park, were awarded a Silver Banksian Medal for a group comprising Phalmenopsis Stuartlana, P. Aphrodite, P. Schilleriana, a grand specimen of a fine variety of Cattleya Trianæ, with sixteen flowers; Cypripedium × Thompsoni, and the varlety inversa; Epidendrum elegans, Cyperorchis elegans, Hæmaria discolor, Cattleya Trianæ alba, and good Dendrobium Wardianum and crassinode.

Messrs. Jas. Veitch & Sons, Chelsea, showed a group of Cypripediums, &c., in which were C. × Miss Louisa Fowler, a very pretty and distinct hybrid of C. Chamberlainianum and C. insigne Chantini; C. × Euryades excellens, finely spotted; C. × aureum virginale, similar to the Certificated plant; several Zygo-Colax, &c.

Sir H. SCHRODER, Bart. (gr., Mr. H. Ballantine), sent Odontoglossum × elegaos, Eastwood Park variety, and two Cypripedium × Lathamianum.

Mesers. B. S. Williams & Son, Hollowsy, showed a group of a large number of varieties of Cypripediums, for which they were awarded a Silver Banksian Medal. Eighteen varieties of Cypripedium were represented, C. × Pitcherianum, Williams' variety, being the host. Calanthe bella, Lycaste Skinneri alba, and L. lasiog'ossa were also noted.

M. C. BERANEK, Rue de Babylone, Paris, sent two hybrid Cypripediums, sald to be between Lawrence, anum and Godefroyæ leucochilum, and Spicerianum and Godefroyæ leucochilum.

J. TAYLOR, $E \colon q$, Margery Hall, Reigate, sent three fine spikes of Dendrobium speciosum.

J. T. RENNETT-PÜE, Esq. (gr., Mr. Downes), again showed Ipsea speciosa, finely flowered.

H. T. Pitt, Esq., Stamford Hill (gr., Mr. Thurgood) showed Cypripedium × Pittianum, a finely-spotted flower of the C. × Hera class.

H. LITTLE, Esq., Iwickenbam (gr , Mr. Howard), showed flowers of Lycaste costata.

Mr. H. A. TRACY, Twickenham, sent two hybrids of Cypripedium Charlesworthii and Cattleya Trianæ Bessle, a good flower.

DE B. CRAWSHAY, Esq , Sevenoaks (gr., Mr. Stables), showed Odontoglossum × Wilckeanum Argus, a large yellowish-white, heavily blotched flower.

M. CHAS. VUYLSTEKE, Loochristi, Ghent, sent two fine and distinct forms of Odontoglossum × Wilcke-anum, a very handsome O. × Vuylstekel, and a showy Lælio-Cattleya of the Bletchleyensis class.

Awards.

AWARD OF MERIT.

Cypripedium × Œdippe (parentage unrecorded), from Captain G. L. HOLFORD, Westonbirt, Tethury (gr., Mr. Alexander), and Messrs. Charlesworth—A grand hybrid with the shape and substaces of C × aureum, and the rose-tinted upper sepal of C. × Madame Jules Hye. Upper sepal clear dark-rose with a green blotch at the base. Petals and lip yellow marked with purplebrown.

Cypripedium × aureum virginale (Sallieri Hyeanum × Spicerianum), from G. F. MOORE, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. Page)—Dorsal sepal large, white with green base; petals and lip greenish, the petals tipped with white.

Cypripedium \times Thompsoni (villosum aureum \times Calypso), from G. F. MOORE, Esq. (gr., Mr. Page).—A pretty flower, with the lower half of the dorsat sepat rose-purple, the upper half white; petals and lip yellowish tinged and veined with purp.e, and with a glossy surface.

Cypripedium × W. II. Page (niveum × Boxalli atratum), from G. F. Moore. Eiq —This is a form of C. × Gracece. Flowers white tinged and striped with dark-purple, the upper sepal being the darkest, and giving strong indication of C. Boxalli.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., Chairman; and Messrs W. Balderson, Jos. Cheal, W. Bates, George Woodward, S. Mortimer, Alex. Dean, W. Pope, H. J. Wright, W. Fyfe, Jas. Gibson, Ed. Beckett, H. Parr, Geo. Reynolds, F. Q. Lane, Jno. Lyne, J. Jaques, Owen Thomas. Jas. H. Veitch, George Wythes, A. Herrington (US.A.), and A. H. Pearson.

ROGER LEIGH, Esq., Barham Court Estate, Maidstone (gr., Mr. Geo Woodward), exhibited excellent fruits of Passe Crassane Pear, and was awarded a Cultural Commendation.

ANNUAL MEETING.

The Annual General Meeting of the Fellows of this Society was held on Tuesday, February 9, at the Drill Hall, Buckingham Gate, Westminster. Sir Trevor Lawrence, Bt., the President of the Society, occupied the chair. There was a large attendance of the Fellows. The Secretary, Rev. W. Wilks, M.A., read the notice convening the meeting, the minutes of the last annual meeting, and the names of 75 new members; all of whom were duly elected.

COUNCIL VACANCIES.

"The following gentlemen were elected to fill the vacancies on the Council-Sir Trever Lawrence, Bart., Mr. J. Gurney Fowler, and Mr. James Hudson, V.M.H.

VICE-PRESIDENTS.

. The following were elected Vice - Presidents: - The Right Hon. Jescph Chamberlain, M.P., The Right Hon. the Earl of Ducie, The Right Hon. Lord Rothschild, Sir Frederick Wigan, Bart., Sir John T. D. Llewelyn, Bt.

OFFICERS.

The following Officers were elected:—Sir Trevor Lawrence, Bart., V.M.H., President; J. Gurney Fowler, Esq., Treasurer; Rev. W. Wilks, MA, Secretary Alfred C. Harper, Esq., Auditor.

PRESIDENTS ADDRESS.

The PRESIDENT, in moving the adoption of the Report and Accounts, said: Ladies and Gentlemen,-The Report is so full and so complete that there is, in my humble opinion, very little for me to add to it. The present is, as we all know, an epoch of very great interest to the Society, which was founded, as has been stated in the Report, in the year 1804, in the back premises of Messrs. Hatchard's hoek-shop in Piccadilly; and the fact that Messrs. Hatchard still carry on husiness at the same premises, and that this Soclety is now flourishing in a way in which, perhaps, it has never flourished before, bears testimony to the durability of English institutions. Now the present posttion of the Society is one which I think everybody in the British Empire who is interested either in it or in horticulture must view with great satisfaction. I know of no period in which the Society had so large a surplus income. As shown in the Accounte, that surplus is £3 641. That is a larger surplus, at all events, than has been secured during recent times; and when we look back to the position of the Society, and remember the comparatively few years that have passed since we left South Kensington, it is impossible not to see that a large number of people who are devoted to horticultural interests have come together determined, I might almost say, to create the Sectety de novo. As an indication of the change that has taken place I may mention one figure alone which has been supplied to me from the office, and that is, that last month, January of this year, we received in denations and subscriptions £5,757-more than double the income (several hundreds more) than we received during the whole of 1900-only four years That alone shows the growth of the Society; and although for some reasons, perhaps, it may be regretted that the Society has grown as very rapidly, for other reasons we must all be exceedingly glad, because it shows that we have a vast number of Fellows -our countrywomen and countrymen - who are interested in the pursuit in which we are engaged; and there is not the smallest doubt that at no period in the history of horticulture have gardening pursuits been so popular and so successfully prosecuted as at the present time, and I venture once to repeat, the prosperity of the Society is due to nothing but one fact, and that is that the Society has made up its mind to stick to the prosecution of horticulture. and that only, and as long as it pursues that course I believe its prosperity will never flag.

There is one matter I must refer to which is in the report, and that is the question as to whether the minimum subscription to the Society, which is now one guinea, should or should not be raised. That is a matter

which has been very carefully considered by the Council, and I should like to say that the Council thought it was a matter not for the Council in any way to decide, but for the Fellows to deal with as they think proper. Now if you will remember what has taken place, you will see that the position of the Society has altered very much from what it was when the guinea Fellowship was first started. In dealing with this matter it is likely some may say, "Why not leave well alone?" I freely admit that that is a very strong argument. But you must remember when the guinea subscription was started there was no Temple Show, no Holland House Show, no Crystal Palace Show, and practically no Journal [?]; so that the increased advantages which are now given to the Fellows of the Society represent a considerable pecuniary figure. This is set out in the report, although it ought to have been put in this way: For every guinea subscribed a Fellow can get, not necessarily does get; because it is obvious that if a gentleman does not live within easy reach he will not be able to enjoy the advantages which he might otherwise have in regard to the Society. When last year I expressed some surprise that a certain very prominent member of the House of Commons should be a member of this Society, he said this was the only Society where he got anything for his money. All I can say is, he not only gets something for his money, but very good value. With regard to raising the subscription, I may repeat that is a matter upon which we may have very different opinions, and it is one upon which the Council does not take any stand. The question of expediency is another matter. You could not have had a very much worse day than to-day, yet the 'hall has been so crowded that it has been difficult to see the plants, or to give the exhibits close inspection. It is thought by some that new Fellows should pay an entrance fee as well as the guinea subscription. I think an amendment is likely to be proposed to that effect, and that probably would meet the requirements of the case. The report enters fully into the state of the Society, its finances and position. In moving its adoption I shall be very pleased to answer to the best of my ability any question which may be put to me.

Mr. ALEXANDER DEAN seconded. The Society had, hessid, arrived at an important period of its history. Its progress had been very great, and their income had greatly increased; but they must not forget the enormous responsibilities which they had taken upon themselves in regard to their new Hall and the garden at Wisley-a garden which they should all be proud of, and which should become a credit to the Society and to British horticulture. Let them rejoice that the Society had, developed so, and that its prospects were so brilliant; but these were matters which must have the close attention of the Council. He could very well understand the Council's desire to see an addition made to the annual income from fellowships which would help them to meet their responsibilities, and he understood that the Council proposed that the one guinea should be doubled. That was a very important matter for consideration, and it had occurred to him that the Council had in view the possible danger of a large number of persons joining the Society, not for the splendid return they got for their money, but because they might belong to a fashionable body with its great social functions. If that were the case there would be a great danger of the Royal Horticultural Society's becoming a mere adjunct to society. He hoped such would not he the case, and that they would guard against the danger of their own Society's being flooded with people who were not horticulturists. He was told that gardeners were excluded from the Council's proposition-i.e., that gardeners would not be charged an additional fee; he hoped they would not be, but there would be considerable difficulty in determining who came under that designation. He thought they ought te say also "members of the horticultural trade." When they got these guineas from entrance fees, the money should be ear-marked to be spent on the Wisley Garden, or in liquidating the debt which must arise from the new Hall which was being erected.

Mr. Elwes said the value of the Journal to each Fellow was put down as 30s. It seemed to him that they might very well follow the plan adopted by other Societies, viz, that of making those gentlemen who wanted to receive the Journal pay extra for it. It must be obvious to those who received the Journal, that it had greatly increased in bulk and in scientific interest. Fellows should not get it for nothing, and he felt confident that a very large number of Fellows who had joined the Society in recent years would not really take the trouble to subscribe extra for it. As to the

question of the inadequacy of the subscriptions, seeing that £16 000 remained to be found to pay the estimated cost of the new Hall, would the Council consider the propriety of taking any part of the £17,500 balance which appeared to be their accumulated funds at that moment, so as to wive off that deficit? He did not know what was anticipated from any addition to the present subscription list; but it seemed to him that they should not start another debt of £16,000 when they had accumulated funds representing £17,500 lying idle or at any rate not required.

He knew there were some members—he hoped he would not be considered one of them—who thought that in the Wisley garden they had a White Elephant. That was not his opinion, but they must look forward for a considerable expeoditure, and it was because he did not wish the Council to become further burdened that he had ventured to ask his question.

The PRESIDENT said he was informed by their Secretary, Mr. Wilks, that the correspondence showed that a not inconsiderable number of Fellows joined the Society for the purpose of obtaining the Journal, and he believed that was the case. He quite agreed with all that Mr. Elwes had said about the Journal, but there might be some difficulty in getting the Fellows who did not wish to pay for it to forego taking it.

TREASURER'S STATEMENT IN RESPECT TO COST OF BUILDING THE HALL.

Mr. GURNEY FOWLER, the Treasurer, at the request of the President, made a ststement as to the Hall capital. The total amounts received up to the present time from donations was £22 561, or with added interest, sale of old materials and odds and ends (£451), £23,012. Then the subscriptions promised and which would come in when they wrote for them were £2,113, making £25,000 in all. Of that sum they had spent altogether £12,124, leaving a balance of £10,888 in hand. So that they must add £2,113 promised donations, making £13,001 to pay their liabilities as they exist at the present time. They had entered into a contract for building the Hall, £31 780; they had paid to the contractors £10 379, which left a balance of £21,400 still to pay, and £13,001 to pay it with. That left an absolute deficiency of £11,399, and that was without allowing anything for furnishing. This amount would have to be met either by further donations, by a mortgage, or by realising the investments of the Society. These amounted to £15 000. He would suggest (1) that so much of the investments as may be required should be lodged with the bank as security for a temporary loan until it could be seen what donations might ultimately be expected. On that point, although Mr. Elwes secmed to think the matter had hung fire, during the month of January they received over £1,500 which had not previously been promised. Therefore, he had great hopes that the Fellows would help to see the matter through. His second suggestion would he to obtain a mortgage after a time for so much of the deficit as was necessary from an insurance company, one of which had already offered favourable terms. His other suggestion was that at a favourable opportunity some of the investments of the Society be sold in order to pay off the mortgage or the loan as the case might With regard to the Hall it was a question of capital, and also a question of income, because, as they were all aware, when they were building a large hall of that description they would have certain increased expenses to meet annually. He had made a careful calculation from the facts before him, and he made out that the position would be something like this They had a surplus income of £3,641. They had had 250 new members this year in excess of last year, therefore they might assume that the surplus income was an income on which they might falrly depend, Out of that surplus they had additional annual expenditure to meet in connection with the new Hall (and interest on the £16,000 loan) of £2,389. Deducting from that rent of present offices and rent of Drill Hall £332, left £2,057. So that, without taking credit for any extra rentals which might be received from letting the Hall at times when it was not in use by the Society, their snrplus income would be reduced by over £2,000. The PRESIDENT then expressed the Council's

The PRESIDENT then expressed the Council's acknowledgment of the excellent work done by everyone for the good of the Society. The Committees of the Society were composed of men prominent in horticulture, who gave their services without any charge. Then it was perfectly impossible to exaggerate the obligations of the Society to their Secretary. There was nobody more loyal or more indefatigable, often a great sacrifice to himself, as Mr. Wilk's health was he no means what they all desired it should be. He was

glad to inform the meeting that the Council hoped to have in the future an assistant-secretary. That had been found absolutely necessary in order to carry out the work, which had grown to an enormous extent. Then he should not be doing justice to his own feelings if he did not say how admirably the staff worked, both in Victoria Street and at Chiswick, under Mr. Wright; and only that day the Council had given the staff an honorarium.

The Report and accounts were then adopted.

THE QUESTION OF GUINEA FELLOWSHIPS.

Mr. J. GURNEY FOWLER then rose to move the resoution relating to the fees to be paid in future by Fellows joining the Society, The full text of this resoution was given in the Report of the Council, and its effect was to abolish for the future the guinea Fellowhip, except in the case of professional gardeners and oreign members.

Mr. FOWLER said he understood that Mr. Veitch would move an amendment which would add an entrance fee of one guinea to the present guinea subscription. If the meeting preferred the amendment he would not press his resolution. Neither the esolution nor the amendment would affect the present 'ellowship, therefore they could all approach the natter with open minds. One of the Council's reasons or desiring to increase the income was, as had been tated, to meet the very large expenditure on the new fall. If the subscriptions remained as at present, and he members increased, more tickets would have to be ssued for their shows, and of course if all lovers of horiculture were members of the Society, the shows, intead of proving a remunerative investment, would prove eason was that the clerical work was so exceedingly eavy, and it was thought the time had arrived when ew Fellows eajoying the privileges built up by the old 'ellows should pay rather more than those who had orne the burden and heat of the day.

Mr. HARRY J. VEITCH moved the following amendment: "Provided that every Fellow, not being (I) a ond-fide working gardener, earning his own living by he pursuit, or (2) a Fellow permanently residing outide the British Isles, who in pursuance of the abovenentioned option, elects to pay an annual subscription f one guinea only, shall with his first subscription iso pay an entrance fee of one guinea." The question, e said, was not a Cabinet question, but one for the ellows. They were now all proud of their Society, nd it was only fair that any new Fellows should pay an dditional fee for the privilege of joining them.

Surgeon-Major INCE seconded the amendment. He referred it to the resolution because he feared if they oubled the guinea subscription there would be a great iminution in the number of new Fellows. That would e a terrible blow at a time when the Society had taken n itself such responsibilities. What with the new fall and its maintenance, and the garden at Wisley, he oubted whether they had not got a double white tephant.

Mr. ELWES asked whether the entrance fee would be ceated as capital or income? He thought it ought to e treated as capital.

Mr. ALEX. DEAN asked the Council to clearly define ie term "gardener."

The PRESIDENT, replying to Mr. Elwes, said the

uestion of capital or income had not yet hech

The amendment was then put, and carried by praccally the whole meeting.

On the motion of Sir John Llewelyn, Bart., a earty vote of thanks was accorded to the President, ad the meeting ended.

OYAL HORTICULTURAL SOCIETY OF SOUTHAMPTON:

FEBRUARY 4.—The annual general meeting was held the Mayor's Parlour on the above date, Mr. T. Miell, no., presiding. The forty-second annual report showed cash balance of over £80, as against £39 last year. avoured with good weather on the occasion of both avoured with good weather on the occasion of both the summer and autumn exhibitions, the attendance of the public was much better than has been the case or several years. The Gold Medal was won by Geo. all, Melchet Court Gardens. The Chairman, in loving the adoption of the report, referred to several ems in it. He congratulated the members that the ociety was once again out of debt, and asked for apport to enable it to continue so. The Chairman apport to enable it to continue so. The Chairman apport to enable it to continue so. The Chairman apport to enable it to continue so. The Chairman apport to enable it to continue so. The Chairman apport to enable it to continue so. The Chairman apport to the show grounds, referring especially to be efforts of Mr. Toogood in securing that concession.

Mr. Chandler seconded the motion, which was carried unanimously. Sir Samuel Moutagu, Bart, was again elected to the Presidency of the Society, the Vicc-Presidents being also re-elected Mr. H. J. Blakeway was voted Chairman, and Mr. T. Miell, jun., Vice-Chairman, for the ensuing year. The re-election of Mr. Fuidge to the Secretaryship was carried with applause.

DUMFRIESSHIRE AND GALLOWAY HORTICULTURAL.

FEBRUARY 8.-The annual meeting was held in the Town Hall, Dumfries, on the above date, Mr. R. Service (Chairman) presiding. The Secretary and Treasurer, Mr. Robert G. Mann, submitted the financial statement, which showed a total income of £384 1s. 3d., and an expenditure of £383 8s. $2\frac{1}{2}d$., leaving a balance due by Treasurer of 13s $0\frac{1}{2}d$. Considering

a balance due by Treasurer of 13s 03d. Considering the character of the past season, and that the Chrysanthemum Show in November was a new venture, the report was thought very satisfactory.

The Earl of Mansfield was appointed Hon. President of the Society, and Mr. W. J. H. Maxwell, of Munches, M.P., President. The following were appointed Acting Directors: Chairman, Mr. R. Service, of Messrs. Jas. Service & Sons, Maxwelltown, Dumfries; Vice-Chairman, Mr. J. McGregor, of Messrs. Fotheringham & King, seedsmee, Dumfries; Mr. S. Arnott, Carsethorn; Mr. J. Keonedy, nurseryman, Dumfries; Mr. J. Learmont, nurseryman, Dumfries; Mr. J. Hendersoo, Elmbank Gardens, and Mr. K. McKenzlc, Conheath Gardens. Mr. R. G. Mann, Courter and Herald Office, Dumfries, was re-appointed Secretary and Treasurer. It was remitted to the Directors to fix the date of the Autumn show, the understanding being that it would be held on August 26 and 27. be held on August 26 and 27.

NATIONAL CHRYSANTHEMUM.

FEBRUARY 8.—The Executive Committee sat for three hours on the above date at Carr's Restaurant, Strand, there being a large attendance. Mr. Thomas Bevan in the Chair.

Some correspondence followed the reading of the minutes, one of the chief items being a confirmation by the Crystal Palsec Company of the dates of the three exhibitions recently published, the Secretary pointing out that the exhibitions would commence on Wednesdays, and not on Tuesdays as has hitherto been the

case.

The Secretary reported the changes made in the Executive Committee. An interim financial statement was submitted, showing that the sum of £78 78 2d. had been received since January 1, including £25 from the Crystal Palace Company. The expenditure amounted to £22 138. 7d. With the balance in hand of £62 58 1d. at the end of the year, there was a balance at the bank of £117 188 8d. The Secretary's salary for the current year was fixed at the previous amount.

A very satisfactory agreement with the Crystal

year was fixed at the previous amount.

A very satisfactory agreement with the Crystal Palace Compacy was read, and the Secretary was instructed to sign the same on behalf of the Committee. In addition to the sum given in 1903 towards the Prize Fund, and also the same value in Medals, is added a special 1st prize of twelve guineas as a special Crystal Palace Company's 1st prize in the vase class.

The Treasurer made the gratifying statement that a much larger sum had been received as unpaid subscriptions than was at first anticipated while a considerable proportion of the assets [liabilities?] had been paid up.

siderable proportion of the assets [liabilities?] had been paid up.

The election of six members of the Floral Committee was then proceeded with. The scrutineers declared that the choice had fallen on Messrs. Howe, Crane, Ingamells, Simmons (outgoing members), and J. W. Moorman, in the place of Mr. Pulling who resigned. The Classification, Schedule Revision, Finance, and Arbitration Sub-Committees were also appointed.

The Schedule Revision Sub-Committee wade a report

Arbitration Sub-Committees were also appointed.

The Schedule Reviston Sub-Committee made a report showing that the sum of £50 had been added to the November schedule of prizes, and that in addition to the special 1st prizes given by the Crystal Palace Company, the Ichthemic Guano Co. (W. Colchester), Ipswich, offered a Challenge Trophy, value 8 guineas, to be won three times before it becomes the property of the winner; and in addition, for this year, a money-prize of £7 as the 1st prize in the class for six vases of incurved Chrysanthemums, six blooms in each. Mr. William Seward, Hanwell, also offers £5, in four prizes, for twelve blooms of Hanwell-raised incurved varieties, in not fewer than eix varieties. The various additions to the schedules were detailed, but considerable discussion took place over the 110 special prizes of 5s, each for the best blooms in the show, as the Schedule Revision Committee recommended the blooms be selected from the whole of the competitive classes, with liberty to stage individual blooms if duly entered. This was eventually agreed to. Some modified entraucewith liberty to stage individual blooms it duly entered. This was eventually agreed to. Some modified entrauce-fees were submitted, which provoked a good deal of debate, but were eventually agreed to with some modifications. The judges at the various shows were appointed, and also a special Committee to prepare a scheme for and carry out a market show, probably at the Essex Hall about the middle of December. the Essex Hall, about the middle of December.

THE HORTICULTURAL CLUB.

ANNUAL MEETING.

ANNUAL MEETING.

FEBRUARY 9.—The Annual Meeting of members of the Horticultural Club was held at the Hotel Wiodsor. Victoria Street, Westmioster, on Tuesday last, at 5 p m. The report of the committee, as read by the Chairman, showed the affairs of the Club to be in a very satisfactory condition. The Club has attained to a greater degree of popularity as a social centre for horticulturists, especially of Fellows of the Royal Horticultural Society, and among the papers that have been read at its meetings, some were contributed by eminent representatives of horticultural science.

As many as twenty-two new members were enrolled

representatives of horticul tural science.

As many as twenty-two new members were enrolled last year, and the membership is now 133. No member of the Club died during the year, but several had resigned owing to their having removed to districts where they were unable to partake of its privileges.

The income in 1903 was £128 78 4d., exclusive of £21 0s. 9d. brought forward from 1902. After meeting expenses the Committee had a balance in hand of £11 odd. A sum of twenty guineas was given to the new Hall scheme of the Royal Horticultural Society, and fifteen guineas for clerical assistance and expenses. The report and balance sheet were adopted, and the officers of the Club and members of Committee reelected. elected.

The dinner was attended by upwards of seventy members and friends, included amougst whom was a number of ladies

members and friends, included amougst whom was a number of ladies.

Sir J. T. D. Llewelyn, Bart., President, presided, and was supported on the right by Mr. Harry J. Veitch, and on the left by Mrs. Veitch. Amongst' others present were Messre. Bull, Nicholls, Gordon, Bevan, George Paul, Sydenham, O. Thomas, Ashton, Baker, Atkinson, Assbec, Monro, Rides, Pearson, Collingridge, Ker, Cove, Druery, Bunyard, Saunders, Wallace, Ingram, Barr, Hawes, S. T. Wright, Young, &c. Mr. George Gordon, who proposed the toast of "The Royal Horticultural Society," referred to some of the founders, of that Society and to former Secretaries, lie said we honoured the memories of the small band of horticulturists that laid the foundations of the structure of which we were so proud. But we ought to doubly appreciate the labours of the gentlemen charged with those duties to-day, for, great though the pioneers certainly were, they were not superior to these.

Mr. A. H. Pearson, in the absence of Mr Jeffries, responded, and said that in the darkest days of the Royal Horticultural Society it was in the walls of that Club that a few members discussed a plan for regenerating the Society.

Sir John Llewelyn proposed "The Horticultural Club," and expressed the placeure it grave him to recommended.

regenerating the Society.

Sir John Llewelyn proposed "The Horticultural Club," and expressed the pleasure it gave him to preside at one of the most representative and largest gatherings the Club had ever brought together. The Club was a great means of progress, and the papers read at its meetings were of the highest value, as at tested by the fact that the Royal Horticultural Society published many of them in its Journal At the next meeting Professor Henslow would read a paper on "The Object of Botanising Excursions." He was sorry that the Rev. D'Ombrain could not be with them.

"The Object of Botanising Excursions." He was sorry that the Rev. D'Ombraio could not be with them.

Mr. Geo. Monro responded in a humorous manner, and caused some amount of laughter in his reference to amateurs. The word was sometimes abused, he said. A man who hought twelve Apple-trees in as many varieties at a sale-room wrote to everyone about them, and showed at every exhibition he could get to, was not, in his opinion, a true amateur who practised horticulture for the love he had for it.

Mr. H. J. Veitch toasted the Chairman, and incidentally expressed the appreciation he had of the services

Mr. H. J. Veitch toasted the Chairman, and incidentally expressed the appreciation he had of the services of the Honorary Secretary, Mr. E. T. Cook. Subsequently Mr. Cook's health was proposed from the Chair. The proceedings were enlivened by quartettes and solos by the Georgian singers under the direction of Mr. Harry J. Stubbs, and by a humorous reading by Mr. C. T. Druery of his own verses, entitled "Modern Chivalry." Messrs. H. J. Veitch and Geo. Monro decorated the tables very heautifutly, and provided fruit for dessert. for dessert.

CARDIFF AND COUNTY HORTI-CULTURAL.

THE fiftcenth annual meeting was held at the Grand Hotel, Cardiff, Dr. De Vere Ituat presiding. The Society has, unfortunately, suffered from the had season, and sustained a monetary loss during the year of £85 88. 11d, which, after absorbing the balance from 1902 still leaves a deficiency on the year's working of £21 128. 3d; should, however, the outstanding subscriptions of £10 128. 6d. be recovered, the debt would be reduced to £11. reduced to £11.

A deputation from the Royal Horticultural Society A deputation from the Royal Horticultural Society which visited the summer show, and spoke highly of the exhibits staged, awarded twenty-four medals in all, besides nine special commendation cards. The total entries exceeded those of the previous year by 100. The date of the next show was fixed for July 27 and 28. Major General Lee was elected President; Mr. A. W. Morris, Chairman of Committee; and Mr. H. Gillett Secretary for the coming year. A Vote of Thapks was

Morris, Chairman of Committee; and Mr. H. Gillett Secretary for the coming year. A Vote of Thanks was passed to the Marquess of Bute for the use of the show

TRADE NOTICES.

H. E. MILNER & SON.—Mr. Edward White, of 25, Victoria Street, London, S.W., has become a partner in this well-known firm of landscape architects and surveyors.

ISAAC MATTHEWS & SON (NURSERYMEN), LIMITED—The above-named company has been registered, with a capital of £7,500 in £1 shares. Object, to adopt an agreement with I. Matthews, H. A. Matthews, and G. Hibbert, for the acquisition of the business of nurserymen, florists, and seed merchants, carried on by them at Milton, Staffordshire, as Isaac Matthews & Son, and to carry on the business of nurserymen, landscape and market gardeners, fruit, plant, and flower growers and salesmen, fruit and vegetable preservers, bulb growers, seedsmen, root and Potato merchants, &c. No initial public issue. The first directors (to number not more than seven nor fewer than four) are I. Matthews (chairman), H. A. Matthews, G. Hibbert, and E. J. Matthews. Qualification, £500; remuneration, £40 per annum, divisible. Registered office, Milton, Staffordshire.

Messes. J. Carter & Co.—For the convenience of City friends, Messes, James Carter & Co., seedsmen to H.M. the King, High Holborn, London, announce that they have opened a dépôt for the sale of seeds, bulbs, plants, and garden-sundries at 53A, Queen Victoria St., E.C., facing the Mansion House Station.

ENQUIRY.

GOOSEBERRY "IRONMONGER."—Was this variety of Gooseberry named after the surname of a gardener, or after a dealer in iron (ironmonger)?

L. M.



Baskets: R. L. B. You would be able to obtain large quantities of fancy baskets for flowers from any of the wholesale sundriesmen.

BLACK POPLAR: Paris. Yes; this is a fine tree for planting in towns wherever space permits. You will find a noble specimen in the Rue Richelieu, in the little square in the front of the Bibliothèque Nationale.

Books: P. F. B. Illustrations of the British Flora, by Messrs. Fitch and Smith, and published by Reeve & Co. The illustrations in this work are from wood-engravings. A more expensive work is British Wild Flowers, by Sowerby and Johnson, and published by John van Voorst, Paternoster Row, London. The latter work includes an infinite number of coloured drawings.

CATERPILLAR IN PEAR TREE: J. B. You omitted to enclose caterpillar in your box; none was found on opening it. Please forward a specimen for examination.

CHINESE PRIMULA: Holland. We have seen a better variety, having yellowish flowers, than that you have submitted to us. The monstrous character of some of your flowers, and the unusual development of the calyx, may be due to a free use of stimulants in the cultivation of the plants,

CURRANT BUD MITE: H. C. W. Yes; they are affected with the mite. Observe the same treatment advised in the cases you saw mentioned in these columns on p. 48, January 16.

CYCLAMEN BLOOMS: H. S. The blooms are very large, but we doubt if it is an advantage to have them so coarse, which is due to the prevalent method of gross feeding. The double flower is interesting, but not rare.

DAPHNE LEAVES: Zola. I can find no trace of fungi on the discoloured spots, nor any threads of mycelium in the substance. But I find that the same discoloured appearance can be caused by bruising or bending the leaves; hence external injury may have caused the discoloration. Possibly sudden changes of temperature

may have the same result. At any rate the leaves are otherwise healthy, with no trace of organic disease. M. C. C.

FREE GARDENERS: J. W. B. We know of no friendly society exclusively for gardeners and bearing the name of "The United Free Gardeners." Perhaps you mean the United Horticultural Benefit and Provident Association, whose Secretary is Mr. Collins, 9, Martindale Road, Balham. This Association is thoroughly recommendable.

GARDENER IN HOSPITAL: A. J. R. You might take the advice of a lawyer upon the question whether or not you would be likely to obtain a month's wages if County Court proceedings were instituted.

GARDENIAS: Amateur. See note under "Plants under Glass" on p. 103,

GRUBS IN FERN POTS: A. B. These are weevil grubs; they are very destructive, and undoubtedly the cause of the Ferns dying. You can trap them with slices of Carrot or Potato. If you observe any in your potting soil, bake it before use.

MUSHROOMS: T. G. We can find nothing the matter with the Baby Mushrooms; they are all right; the trouble, whatever it is, is with the cultivation. There is some mistake in the surroundings, probably in the condition of the atmosphere; they have not any disease. Our expert has eaten them, and he describes the flavour as normal.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. B. D. Probably Juniperus virginiana, so far as we can tell from such a scrap.—Wenlock. 1, Tsuga canadensis; 2, Cupressus Lawsoniana; 3, Cedrus, probably C. Deodara; 4, Thuya gigantea; 5, Cupressus Lawsoniana erecta viridis; 6, Retinospora filifera of gardens.—R. W. D. 1, Quercus ilex, not Suber.—J. S. T. Oncidium excavatum, often called Oncidium aurosum.—S. T. Lælia autumnalis, of the common type.—C. R. C. Leaves and pseudo-bulbs are not sufficient material on which to base accurate names; but No. 1 seems to be Cattleya Mossiæ; 2, Lælia tenebrosa; 3, Lycaste aromatica; 4, Dendrobium species.—Brunte. 1, Pinus Laricio; 2, Ligustcum ovalifolium variegatum; 3, Ficus radicans; 4, Senecio Ghiesbrechtii; 5, Pelargonium, probably Flower of Spring; 6, Polypodium glaucum.—J. Henderson. Anthurium Kelly's variety, for which Mossrs. Sander & Son obtained the Royal Horticultural Society's Certificate in 1896.—G. A. H. 1, Davallia platyphylla; 2, Adiantum decorum; 3, Selaginella Wildenovii; 4, Nephrodium molle cristatum; 5, Ceterach officinarum; 6, Polypodium vulgare.

Odontoolossum Cristum Unhealthy: Reader. The condition of the plants you describe seem to point to something wrong in the arrangement of the house, and the general management especially in regard to moisture and ventilation. We advise you to go over the plants, sponge them carefully, wash their pots, and thoroughly cleanse the interior of the house, staging, &c. Re-arrange the plants, and test by the use of a thermometer whether the temperature is kept pretty regularly at not more than 60° by day (unless by sunheat), and 50° at night. Do not admit air too freely so as to cause draughts, but regulate the ventilators according to the condition of the atmosphere outside. Generally the bottom ventilators will be sufficient to open. The roots of the plants must be kept moist by the use of rain-water if this can be obtained.

Oncidium Papilio: Vallota. The plant is not Oncidium Papilio; but, so far as we can judge by the dead example sent, it is one of the smaller Aërides. Send flowers when matured.

Pelargoniums: W. & J. Brown. The flowers of two varieties of Zonal Pelargonium are very interesting, and their reddish-pink colouring attractive. One of them especially is similar in type to the variety Fire Dragon, and being distinct in colour we feel it would be much valued by ladies and others for decorative uses, especially by those who have admired "Fire Dragon."

Potatos is what has been called Periola tomentosa, also Monosporium album. It is in reality a conidial condition of Nectria solani, which has a second conidial form of fruit known as Fusarium solani. Thoroughly dusting Potatos with powdered sulphur before storing prevents the spread of this and other diseases.

SITUATION IN CANADA: W. J. You might write to Mr. H. Slight, City Nurseries, 407, Yonge Street, Toronto; Messrs. J. Bruce & Co., 47-49, King Street, Hamilton; Messrs. Luke Brothers, Montreal, Quebec; and R. Campbell, Sillery Nurseries, Quebec. Some of these nurserymen might be able to help you, but we have no definite knowledge of their circumstances.

Souvenir de la Malmaison Carnations: Anxious. There would be no advantage gained by removing the flower-spikes now appearing, because these, besides supplying a good flower, help to encourage root-action. In any case they do not interfere with the growths now forming round the base of the plant. These growths should be thinned-out later, leaving from six to ten, according to the strength of the plant. Stimulants should only be applied when the pots are well charged with roots, or when the plants are in a weak condition. Assuming your plants to be from last season's layers, they are not yet in need of stimulants. Do not afford them any until the flower-buds are well formed. Weak soot-water added to a little liquid from the farmyard, alternated with a dash of Clay's Fertiliser, are the safest manures. Plants should be potted-on when the flowering season is past. Pots 8 inches in diameter will be found suitable.

Spring Frosts: A. E. S. In some of the vineyard districts on the Continent we believe
cultivatora do as you describe. It is generally done in the month of May, when
spring frosts may be very destructive. The
fires are lighted after midnight, and the
amoke is intended to shield the Vines from
the sun's raya until the atmosphere having
become less cold the frost leaves the canes. By
so doing the cultivators prevent rapid thawing,
and it is this rapid thawing, rather than the
frost itself, that is most to blame for the damage
sustained by the tissues of the plants. English
gardeners for the same reason sometimes
syringe frosted plants very early in the morning, and thus correct the frozen condition
before the sun's rays are upon the plants. We
do not know where you would find a descriptive
account of the practice of making smouldering
fires.

THERMOMETER: A. E. A. We believe it is possible to purchase electric thermometers that will awaken the gardener when the temperature falls to a certain point, which may be adjusted to circumstance. Write to Messrs. Negretti & Zambra, 38, Holborn Viaduct, E.C.

TREE WASHING: M. M. N. Read the note on p. 102 under heading "Hardy Fruit Garden," and you will learn how much parafin to use. If you do not use it in excess, and are careful to keep the liquid mixed well whilst applying it to the trees, the buds will not receive injury. It is best in such casea as yours to treat the thick stems by hand and use the spray over the remaining part of the tree. An ordinary scrubbing-brush will answer for the purpose of cleaning the stems. The solution of copper sulphate will be effective against lichens and moss.

COMMUNICATIONS RECEIVED.—G. S.—P. W.—W. H. C.—
R. P. B.—B. H., Auxious.—J. McC.—Dendrologist.—
G. S. L.—W. O. J.—W. H.—R. P. B.—Attwood & Co.—
C. H. B.—J. D., Port Elizabeth.—C. M.—S. C.—J. Y. H.,
Expert.—J. S.—W. Crump.—H. W. W.—W. J. G.—Chester Paxton.—R. L. C.—R. T., Leipsig.—G. S.—R. P. B.—
A. J. K.—L. D., Rennes.—E. de W., Brussels.—E. A. T.—
B. & S.—E. A., Paris.—L. G.—H. W.—A. H. K.—K. D.—
A. S. H.—W. P. W.—Amos Perry.—A. M.—Rev. H. F.—
E. M.—C. G. D.—H. J. C.—J. S.—R. & Co.—Case
Bros.—W. Roupell.—J. T.

PHOTOGRAPHS RECEIVED.—Odontoglossum Pescatorei.
—Photograph of Melons addressed to Publisher by mistake.

Supplement to the "Gardeners' Chronicle."

HICKLETON HALL, DONCASTER, THE SEAT OF VISCOUNT HALIFAX.





No. 895 .- SATURDAY, February 20, 1904.

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IMPNEY HALL, DROITWICH.

[See fig. 48 and Supplementary Illustration.]

A BOUT a mile and a half from the town of Droitwich, in Worcestershire, so famous for its brine baths, is Impney Hall, the property of Dr. Corbett. The estate includes 7,000 acres of land, and is one of the most important in the district. A view of the Hall is reproduced on p. 114. It is an ornate structure of red bricks, with stone facings, having spires, turrets and balconies, and was built in 1875 by the late John Corbett, Esq., who died nearly three years

The principal flower-gardens are on the west front of the house, as shown in the illustration. From the upper terrace a very beautiful view is obtainable, the principal features in which are the Malvern Hills, the square tower of Dodder Hill Church, and between them and Impney, at the foot of the slope from the pleasure-grounds, some dense woodland. Advantage has been taken of the considerable slope in the ground from the house, to make three terraces, two of which are enclosed by stone balustrades. The formal character of the building and arrangement of terraces is further increased by the handsome bronze fountain in the centre, the

wide flights of thirty or more steps of bathstone, a number of busts representing Roman Emperors and other historical personages, at various positions on the balustrades; the asphalted broad paths, and the neat edging of Thyme that surrounds some of the flower-beds.

Below the third terrace there is beautiful greensward, and a further boundary of Ivycovered chains. In the immediate environs of the terraces the grounds are ornamented with beds of variegated Hollies, Rhododendrons, and many other choice shrubs, flowering species, as well as those with green and variegated leaves. There are large specimens also of some of the best shrubs.

The beds on the terrace are generally planted with the flowering species usually employed for such positions, but, instead of practising the "massing" method exclusively, many of the beds last season presented representations of the "mixed" system, though not in the degree that is becoming common in the London parks. The zonal Pelargoniums, Pyrethrums, and Lobelias were not quite so glaring and flat in appearance as they would have been but for the "dot" plants of various species that were intermixed with them.

It may be useful to some readers who have still use for the much-denounced but exceedingly bright Pelargoniums, to know that a variety named Universe, having much the same habit of growth as that of Henry Jacoby, but producing large bold trusses of scarlet flowers, was observed at Impney, and a note made that its effect was greater than that of the popular H. Jacoby. In perfect conformity with the general scene are the pretty little specimens of Japanese Conifers that grow in suitable positions between the flower-beds.

Before turning our attention towards the rosary, it may be remarked that the view from the west front of Impney, on a fine day in the month of August, affords an excellent picture of a formal garden lacking many of the objectionable features such gardens frequently possess. In the direction of the rosary lie two long and wide borders (15 feet wide), planted with choice herbaceous perennial flowering plants. These borders are good illustrations of the manner in which such plants should be cultivated. A broad path divides them, and neither border has a wall or hedge for background. The plants are consequently in full sunlight, with all the advantages that belong to an open position. The borders are of sufficient width to allow of the species being grouped and arranged to produce the best effect. Another collection of similar plants grow at the foot of a Pear wall.

The Rose-garden consists of beds cut out of the turf, and of borders under an Ivy-clad wall. One of the varieties that succeed extremely well is that of Auguste Guinoiseau, but most of the popular varieties are included in the collection.

In another portion of the pleasure-grounds have been provided all the delightful effects of an expanse of water, with rustic bridges, water-falls, &c. This water, which extends over several acres, was obtained by diverting a natural stream and damming it.

THE FERNERY.

Perhaps the most interesting of the glasshouses at Impney is the Fernery, a view of which is afforded by the Supplementary Illustration to this issue of the Gardeners' Chronicle. It is a sunken building, reached by descending steps, and was erected in a disused gravel-pit that had been made a "Dell." The structure is 160 feet long and 65 feet wide. The interior is made additionally attractive by a stream of water, which runs through the centre longitudinally. This afforded opportunities for rustic bridges, and the most has been made of them. There are upwards of twenty specimens of Dicksonia antarctica and other Tree Ferns, some of the specimens being of considerable height. Woodwardia radicans grows most vigorously and has an excellent effect, Meryta Sinclairii, Asparagus Sprengeri and A. deflexus were also noticeable features among the plants. A vast quantity of tufa stone has been used in the structure, and the interior is furnished with means of lighting by electricity.

OTHER GLASS HOUSES.

The remaining houses are used for the cultivation of fruits, flowers, and decorative plants. Impney is one of the few gardens in which the Pinc-apple is still cultivated, and excellent fruits of the Queen variety are obtained from them, some of which Mr. Jordan, the gardener, has exhibited successfully at Shrewsbury. A great amount of attention is given to the cultivation of Melons, and three new span-roofed sunken pits afford suitable means for this purpose. The favourite varieties are Hero of Lockinge, Eastnor Castle, and British Queen, the one last named especially so. Other varieties cultivated are Taunton Hero, Royalty (thought to be too large), Blenheim Orange, and Frogmore Scarlet. Mr. Jordan excels in the cultivation of late fruits, and has exhibited as many as eighteen good Melons at Birmingham Chrysanthemum Show on November 12. He employs a large amount of heat, and for this purpose selects the varieties Hero of Lockinge and British Queen. The plants are usually put in the bed at distances of 1 foot apart, and two fruits are allowed to ripen on each plant.

Home-grown Bananas are appreciated at Impney, and Mr. Jordan had a bunch of fruits last season which weighed 1 cwt., and contained 250 "fingers" or fruits. There are several good Peach-houses, and the trees are in a most fruitful condition. Some of the fruits of Violet Hative last season weighed 6½ oz. Spencer Nectarine is a favourite, and a good collection of Peaches is cultivated. Excellent crops of Grapes are grown in a number of vineries. The new variety Diamond Jubilee has been grafted on Black Hamburgh for two years past, and has done very well indeed. Last season the graft produced bunches about $2\frac{1}{2}$ lb. in weight, and the berries were of good colour and finish. The variety Chasselas Napoleon succeeds uncommonly well. The bunches of fruit were very large, and more characteristic in colour than is often the case. The variety Mrs. Pearson is a favourite here, and others cultivated include Muscat of Alexandria, Lady Downe's, Black Alicante, Gros Colmar, Barbarossa, Appley Towers, Duke of Buccleuch, &c.

Fruit-trees in pots include Plums, Peaches, Nectarines, Pears, Cherries, &c. In a Fighouse the varieties Brown Turkey and Bourjassotte Grisé (Grizzly Bourjassotte) produce good crops of fruit.

The indoor plants show good cultivation, and there have been batches of excellent Cinerarias, Primulas, Cyclamens, Pelargoniums, and 300 Chrysanthemums. The collection of 400 Cyclamens was most remarkable amongst all the plants. They were cultivated in a frame, where the pots were plunged in ashes. In August last, plants in 5-inch and 6-inch pots had as many as twenty leaves each, and many of them have subsequently presented a display of fifty fully developed flowers each. Mr. Jordan saves seeds from his own plants each year, selecting it from his best specimens, and partly with a view to increasing the

only tree of Allington Pippin gave very great satisfaction, and though Apples were generally so poor a crop, Worcester Pearmain, Lane's Prince Albert, King of the Pippins, and other varieties fruited heavily at Impney.

Dr. Corbett is one of the best-known and influential men in Droitwich, a town for which his family has done a very great deal. The little park which he has lent to the town, and which he maintains at his own expense, is a very popular rendezvous for thousands of visitors. P.

has appeared among Barkeria elegans sent direct from Mexico, and sold by Messrs. Protheroe & Morris in the spring of 1903.

In appearance the Epidendrum nonchinense, as it was named by Prof. Reichenhach, resembles the E. elegans, with which it is associated, so closely that the two can scarcely be separated when not in flower. Both have slender pseudobulbs, furnished with rather fleshy leaves and erect terminal flower-spikes. The flowers of E. nonchinense, however, are much smaller and more numerous, and white, with dark-purple markings on the labəllum. It is singular that two plants



FIG. 48.-IMPNEY HALL, DROITWICH, THE PROPERTY OF DR. CORBETT.

markings upon the foliage. Some of his plants, when these notes were taken, were so handsomely marked that they might have been profitably used as "foliage" plants. Of Primula sinensis there were three-hundred, and a similar number of plants of P. obeonica.

THE KITCHEN-GARDEN

includes 6 acres of land, two of which are enclosed within walls. Hardy fruit-trees have been planted wherever suitable positions could be found for them, and Mr. Jordan has himself worked a number of stocks with choice varieties of Apples. Last season the

ORCHID NOTES AND GLEANINGS.

EPIDENDRUM NONCHINENSE.

It is interesting to note that this pretty little plant has appeared again after many years, and in such a way that any doubt as to its origin is removed. Lindley, on erroneous information, described it originally as Læliopsis chinensis, but nothing was known of plants in gardens until it flowered in the late Mr. Day's collection, and a drawing of it appears in the collection of paintings of Orchids in that gentleman's collection now in the Kew Herbarium. The note accompanying the drawing states that the plant was purchased, with others imported from Mexico, at Stevens's sale, June 16, 1875. One plant at least

so much alike in growth and growing together should have flowers so dissimilar. The most marked botanical difference is in the peculiar short column of E. nonchinense, contrasted with the large winged column of E. (Barkeria) elegans, which displays itself so conspicuously on the labellum.

ONCIDIUM MONACHICUM.

Flowers of this interesting and singular species of Oncidium of the large-flowered O. macranthum section are sent by Mrs. E. Roy, Craigclowan, Perth, N.B., and with them flowers of O. serratum of the same section, and with which O. monachicum is often confused in gardens. Examination shows them to be very distinct from each other, and especially in the form of the labellum and crest. The broad reniform dorsal sepal of O.

nonachicum forms a hood over the column, the ncurved petals joining each other at the tips eneath it. The stalked ovate lateral sepals are liverging, and the ligulate front of the labellum ecurved. The flowers are brown, with a narrow colden margin and sulphur-yellow tips to the ringed petals and dorsal sepal. There are several allied species, the best known of which s O. lamelligerum, which is sometimes seen in gardens under the name of O. chrysodipterum, and which in its general aspect resembles O. serratum, but the petals are extended and do not mite at the tips as in O. serratum. All the pecies of the O. macranthum section thrive in a cool-house, and should be treated in much the same manner as Odontoglossums, being carefully shaded in summer, as the bright sunlight, beneicial to many Brazilian Oncidiums, proves injurious to these highland Colombian and Ecuadorean

A MALFORMED CYPRIPEDIUM.

A curious Cypripedium has been brought under our notice by Mr. Tucker, of Brighton. The ovary was one-celled, with marginal placentation. Above the ovary were three flower segments arranged spirally, and increasing in size from the lowermost to the uppermost; this latter greatly exceeded the others in size, vas pure white in colour, and resembled a lip except that there was no pouch, but a sheet olding over the column. The anther was solitary, and hy its side was a two-lohed stigma, with no crace of staminode. All this points to an arrest of growth. Monandrous Cypripediums are not incommon, but we have never seen one in which the segments of the flower have been thrown out of gear in this way. The plant was, we believe, a bybrid between C. niveum and another species.

OBSERVATIONS ON THE VEGETA-TION IN AN EQUATORIAL AFRICAN GARDEN.

GARDENS, public or private, are not common in Africa just under the Line. Indeed, the equatorial regions of that continent have until within recent years been lands unknown and wild. Nature, however, has been lavish of her favours in many instances, and there is abundance of situations for almost every type of garden, from the most essentially tropical to those almost alpine in character. This will not seem improbable when one recalls the fact that in parts of Eastern Central Africa there exists extensive, cool, fertile plateaux, at elevations from 5,000 ft. upwards, and rising from which, or perhaps situate on their confines, are such celebrated mountain masses as Kilimanjaro, Kenia, Ruwenzori, &c., having regions of perpetual snow above, and zones of tropical forest at their feet. These plateaux will, no doubt, in the near future contain thriving communities of settlers with large areas of cultivated land and many a pleasant garden.

In the meantime it is to be observed, regarding the tropical African possessions as a whole, that the British Government has for some considerable time taken an active interest in the establishment of public gardens, frequently called botanical stations. These have invariably proved of great value as a source of recreation for the Europeans in addition to being educational centres of good gardening for the native, and, as a result, of considerable benefit to the Colony's development. It is properly insisted on in these stations that the principal effort put forth by those in charge shall be in the direction of furthering and fostering to the fullest extent the development of whatever indigenous economic vegetation the country contains, and to the introduction of useful exotic plants. But it will always be found that none of these stations fails to possess, in more or less prominence and effectiveness, a portion devoted to a pleasure garden.

THE GARDEN AT ENTEBBE.

The botanic stations of many parts are, as regards efficiency, made or marred by the Administrators. Some of the more celebrated men have evinced keen enthusiasm in the matter, and have pursued a policy of facilitating and stimulating the work of those engaged in the botany or tropical agriculture of the possessions they administered. It is, therefore, in connection with some of the vegetative and other features of the latest of these stations, originated a few years ago by Sir Harry Johnston, that these notes deal.

thin layer of soil overlying a very hard, volcanic conglomerate; but it has been turned to advantage for various cultures. The soil in the forest belt is usually extremely rich, as the growth it supports testifies. The situation is roughly about four thousand feet above sea level, which, on first thoughts, would suggest a less tropical condition of affairs; but the peculiar position on the shores of a great lake, the influence of moisture-laden winds, frequent thunderstorms, &c, have to be considered. The forest belt is absolutely tropical, as its trees, shrubs, and humbler plants demon-



FIG. 49.—VIEW IN THE ENTEBBE BOTANIC GARDEN IN EQUATORIAL AFRICA.

The garden in question has been partially cut out of the jungle on the northern shores of Lake Victoria Nyanza, at the Government headquarters, Entebbe. Operations began in 1900. The site chosen takes in a portion of the finely forested land on the lake margin, which is from about half a mile to over a mile in width, and on the inland edge of which the land rises abruptly from less than one hundred to several hundred feet in height. It may be said to bear a fairly close resemblance to the well-known "Terrace Garden" at Richmond, Surrey. The higher portions, being often exposed grass-land, are consequently not so fertile as the forest land, and often consists of a

strate. A fairly good view can be obtained from the higher land already referred to, looking through and over the forest to one of the numerous bays in the lake beyond. It may be remarked in passing that the forest consists of a great variety of types, and it can hardly be said that any individual type of tree predominates.

This forest became one of the pleasantest portions of the garden after the rank undergrowth was removed. The numerous walks made through it, rendered possible that great desideratum in a tropical garden, cool shade. And for the walk surfaces the lake beach provided a quartzose, sandy

gravel, exactly suited for the purpose. By cutting out a dense jungle, composed of an interesting tree (referred to later on) which fringed the water-line, the fresh breezes from the lake were admitted and wider views obtained. The labour entailed was considerable, but was compensated for by the improvements effected. A large area was opened up for the cultivation of plants, useful and ornamental, while the features of the interesting native trees, shrubs, &c., were brought into prominence.

On the higher and drier portions of the garden, and on the exposed slopes, one used, often with much effect, many of the familiar flowering plants of our British summer gardens, with shrubs, trees, and a variety of plants from S. Africa, India, and Australia—indeed anything that liked sunshine and a well - drained soil. Although everything had to be done ab initio, it was possible to foresee that in a few years pleasing effects combined with an interesting collection of plants were quite possible in this equatorial

mate, as in the common Horse Chestnut, but not unequally as in the latter tree; the ten to fifteen leaflets radiating from the leafstalk (down to which they are cleft) almost form a circle. They are a pleasant, shining, soft-toned light green above, and somewhat greyish beneath. A leaflet may be 12 inches or so in length, about 3 inches across at the broadest part, and the petiole 10 to 12 inches long. The effect produced by this very distinct tree is long remembered, especially if viewed from an eminence. The writer recalls a combination formed of masses of it and a Phœnix, which instinctively brought the term "magnificent" to his lips. The genus Musanga was founded by R. Brown from Congo specimens. It is well figured in Dr. Stahlmann's interesting work, Mit Emin Pascha, on plate xv., and also

Myrianthus arboreus is a very striking fruit tree. It is common in parts of Central and West Africa, and belongs to the Urticaceæ. It is a small tree with very coarse palmate foliage, and is excellent for shade. The clusters of fruit are freely



FIG. 50.—GROUP OF RAPHIA PALMS IN AN EQUATORIAL AFRICAN GARDEN.

We will proceed now to glance at some of the items that attracted one's attention. The forest was always so full of interest, that much could be written about the trees which formed it, but on the present occasion it will suffice to glance at a few items which commanded attention. A Leguminous tree of great stateliness and beauty. which is often found in Central Africa, always excites one's admiration. It is a Piptadenia, and probably P. africana. Its lofty umbrageous head is borne on a massive trunk, the base of which is frequently buttressed in a wonderful manner. A Canarium is remarkable for its peculiarly Oak-like appearance. The proportions of its fine bole, huge branches, widespreading habit, and the sense of strength suggested, at once recall our familiar northern Oaks. The "wild Nutmeg" (Pycnanthus) is a high tree with a very straight clean trunk; usually the tops of older trees are broken off by wind, as the timber is extremely brittle.

From the point of view of handsome foliage, an Urticaceous tree, Musanga Smithii, easily takes front rank. It is lofty and much-branched when mature, with the branches tending to be more upright than pendulous. The leaves are pal-

produced and vary in size, being as large as a man's fist or bigger. Like the Bread-fruit they are composed of a great number of consolidated fleshy calyxes, flattened, and each containing a large seed covered with a thin, fibrous rind, which, when the fruits are ripe, has a sub-acid flavour. The tree looks quite effective in fruit, as it is of a pretty golden-yellow colour, contrasting well with the dark-green leaves. The leaflets are always used by the natives for shading transplanted seedlings. The short petiole is first placed in the ground and the tip arched over the seedling and stuck in on the opposite side.

Another genus found in West Africa is represented as a small tree. This was Barteria, a member of the Passifloreae. It is fairly common in the Nyanza forest, and grows to a height of from 20 to 30 feet; the slightly drooping branches are clothed with dark-green, wavy, leathery leaves, almost sessile, about 18 inches long, and 3 or 4 inches wide. In the axils of these are produced at certain seasons the most charming ivory-white flowers about 3 inches across, which are best described as resembling those of a Nymphæa. It is usual to see the branches wreathed with these beautiful flowers.

From the point of view of grace, beauty, and interest, no trees can be compared to the Palms, and it is only fair to compare them with each other. Raphia monbuttorum (fig. 50) is common around the Nyanza and forms not inconsiderable forests. It prefers to mass itself on the lake-side, where it receives abundance of sunshine and all the winds that blow. It creates in these positions effects to which only the brush of an artist can do adequate justice. Its proportions are quite imposing; the great arching leaves range from twenty to thirty feet in length; the constantly waving leaflets are a rich, deep green above, and silvery grey beneath; while the young unopened leaf pierces the air like a giant spear, and when unfolding, displays the most elusive tints between pale green and yellow. The embracing leafsheaths and lower portions of the midribs are a rich tawny colour with splashes of tints almost orange. Quite a garden of interesting plants find a suitable home amongst the moist débris that gathers in the sheaths. A rambling Fern (Pteris longifolia) drapes some in the most charming fashion; others are wreathed with a Lygodium, while Orchids (Listrostachys), seedling Ficus, Dissotis, Palisota, a handsome climbing Piper, and several grasses unite to form most interesting effects. M.

(To be continued.)

NOTES FROM ISLEWORTH FOR 1903.

(Continued from p. 99.)

NEW PLANTS OF THE YEAR RAISED IN THIS GARDEN.

Hymenocallis Ernstii (filamentosa x Moritziana).

Crinum amanteum (giganteum x amabile) .-Both these hybrids were described in the Gardeners' Chroniele. November 28th, 1903.

Hippeastrum hyb. (vittatum × sub-barbatum).-Not yet described.

Hippeastrum hyb. (aulicum × vittatum).-Not yet described.

Nerine pudica alba.—Snow-white.

Gloxinia (hort.) Renan .- A dwarf plant with large erect white flowers, wonderfully leopardspotted in dark-blue.

Plantago major variegata. - An interesting variegation of our common lawn Plantain, and of some beauty. If the markings prove permanent in character, it will make a good edging plant. I found this wild in Hants on the flint gravels.

Ipomæas (hort.).-Among a number of seedlings, I raised some of an intense ultra-marineblue, having flowers 3 inches span. Some of these were edged with azure-blue, and possessed great beauty. Unfortunately, little reliance can be placed upon seedlings coming true to their immediate parents, although every flower fertilises itself. This garden section is of recent growth, and there is at present no fixity of colour.

Senecio (hort.) President Castro.-The garden Cineraria will not stand much sun without damage. This new type has stiff, thick foliage, and will stand the sun much better. The foliage is indeed very distinct, and the flowers are of a type intermediate between the stellata and Covent Garden types, the flowers as large as the latter, but carried well above the foliage, as in the former. It is also a productive seed-

SOME GOOD PLANTS OF THE YEAR.

Nerine (hort.) "Lady Foster" is apparently a fine large garden form of N. pudica, and is practically white, but not such an intense white as N. pudica alba, or N. flexuosa alba. This latter plant I saw in flower at the Royal Gardens, Kew. Clivia miniata gigantea, shown at the Royal Horticultural Society, carries a huge truss of very widely-expanded flowers with broad segments. The whole inflorescence was very robust, and marked an advance on anything I have seen in this genus. Some seedling garden forms of C. miniata, shown by Mr. Wrigley at the Royal Horticultural Society, were also very remarkable for vigour, and some were splendid in colour also. It really seems as though hybridisers had at length produced a strain incontestably in advance of the species and of older garden forms.

Amaryllis Belladonna var. striata.—A form in which the flowers are striped with crimson almost to the base. Possibly this erraticism is inconstant.

Gladiolus (hort.) "Baron Von Hulot."—A rather small flower, but very distinct and pleasing. The colour is more blue than purple, and the markings are in white.

Pelargonium (hort.) Paul Campbell, single red, and P. (hort.) C. R. Fraser, single red-pink, struck me as new and good garden forms.

Some Plants Flowering at Isleworth in 1903.

Dyckia rarifora, a Brazilian plant of considerable hardiness, which can be well grown with garden cacti at winter minimum temperatures of about 45°. Its flowers, though patent, are of such an intense orange and last so many weeks in beauty that it is well worth growing for the decoration of the conservatory in summer. Quite a small plant will throw up a stem a yard high.

Narcissus (hort.) Beauty, an "incomparabilis" form of great merit for market purposes, as it is hardy enough. Its drooping habit, unfitting it for effect in borders or beds, is no disqualification as a cut flower, and enables it to stand the rain without losing colour. It is one of the few hybrid Narcissi that are not "washy" in color.

Bamboos: Phyllostachys henonis.—Three plants flowered this year, but up to the present show no seed. I think this is the most useful and beautiful Bamboo for decorative work, and it thrives at Isleworth.

Urginea micrantha.—A stove Scilla from Equatorial Africa, bearing a very tall, multi-flowered stem. The flowers are greenish-yellowish-white, small, and more interesting than beautiful. The bulb has woolly tunics, such as those of some Hæmanthi. A. Worsley, February, 1904.

(To be continued.)

FORESTRY.

ROYAL SCOTTISH ARBORICULTURAL SOCIETY.

The part of the Transactions of the Society (vol. xvii., part ii.) recently issued is full of interesting and suggestive matter, not always flattering to our national conceit, but all the more useful on that very account. Dr. Schwappach points out our deficiencies, Dr. Schlich shows how they may be remedied, Col. Bailey tells us the provisions made for the teaching of forestry in the University of Edinburgh, Mr. Booth calls attention to the work of the Duke of Atholl (1774-1830), and concludes his article by asserting that the only remedy for the Larch disease is to follow exactly the methods of the great "plantin' Duke"—select the situations only on high mountainous regions, and not stick the Larch any more like a fencing-post, regardless of its nature, into low-lying lands, nor into muggy situations."

The Douglas Fir naturally receives much attention, and Dr. Somerville's account of the Taymount plantations is of great value. Of all the exotic Conifers, says Dr. Somerville, this appears

to be by far the most important for British conditions. It grows best in Ireland and the west of Great Britain, where the air holds the maximum amount of humidity; but it also thrives well wherever it is sheltered from strong prevailing winds, provided the soil is sufficiently deep. It shows a marked aversion to chalk. Of the two chief varieties—the green from Oregon and the glaucous from Colorado-the green appears to be by far the more important for British conditions. It grows much faster, and yet yields better timber than the other, while although a little more delicate, it is sufficiently hardy for all practical purposes. The measurements of the Dropmore specimen, raised from seed sent home by Douglas in 1827, are given as follows:-Year 1891, age 61, height 120 feet, girth 10 feet 10 inches; year 1903, age 73, height 127 feet, girth 11 feet 6 inches. The general conclusion arrived at is that "in the Douglas Fir we have a tree of extraordinary value, and though

their way as the habits of the insects. The publication, which is a reprint from [the] Seventh Report [of the] Forest, Fish, and Game Commission [of the] State of New York, may be obtained from Messrs. Williams & Norgate, Henrietta Street, Covent Garden.

EUCHARIS GRANDIFLORA.

The accompanying photograph (fig. 51) of Eucharis was taken on January 1. The plants are never allowed to "dry off," as is the practice with some cultivators. They always stand over a hot-water tank, so that they have abundance of atmospheric moisture, to which I believe our success is in a great measure due. We are never for long periods without Eucharis flowers. One of the plants in the photograph had twenty-two flower-spikes, and some of the leaves are about 2 feet 6 inches long and 8 inches across. J. S., The Gardens, Fan Plaze, Turner's Hill, Sussex.



FIG. 51.—EUCHARIS GRANDIFLORA (AMAZONICA) IN FAN PLACE GARDENS, TURNER'S HILL, SUSSEX.

it is a little fastidious both as to soil and climate, there are doubtless large tracts where its cultivation will prove in the highest degree remunerative."

INSECTS AFFECTING FOREST TREES.

We desire to call the attention of arboriculturists to a recently-issued publication under the above title. It is the work of Dr. E. P. Felt, the State entomologist of the University of the State of New York, and consists of descriptions of the various insects injurious to certain forest trees. Their forms and their modes of life are described, and numerous illustrations, both coloured and uncoloured, are given. As the insects are in some cases the same as those by which we are troubled, and in any case, as the injuries inflicted are very similar, this publication amply deserves the attention of our foresters. Some odd methods of using the English language are noticeable, such as "considerable of the collecting was done," &c.; but these evolutionary changes in language are as interesting in

NURSERY NOTES.

PRIMULAS AT FOREST HILL.

The almost daily occurrence of rain, with its consequent dull and dreary weather, is especially trying to those who have to combat its effects in indoor cultivation. Add to this the usual winter atmospheric conditions prevalent in the immediate neighbourhood of London, in the shape of fogs, proximity to buildings, &c., and it will be admitted that the town grower is decidedly at a disadvantage compared with his more favoured country brethren.

Forest Hill, in which is situated the establishment of Messrs. J. Carter & Co., is not exempt from these untoward conditions, yet on a recent visit to these nurseries we were shown a very fine display of Chinese Primulas. These plants lend themselves for decorative purposes either in the plant-houses or in the home, and are hence deservedly popular and largely grown.

Messrs. Carter & Co. have not been lacking in their endeavour to maintain their reputation for

their strain of these flowers, and evidences were apparent of their success in this direction. Several well-filled houses contained plants possessing desirable qualities, presenting a very bright appearance. Great care and judgment have been displayed in order to obtain good results, which must have been very difficult of attainment in such a season as this. The hybridist needs bright, dry weather for successful pollination, and if this has to be supplanted by artificial heat, he is certain to be at a disadvantage. However, we noticed plenty of signs of seed-vessels already ematuring, testifying to the efficacy of a large stock of camel's-hair brushes in a 48-pot.

In such a varied collection it is difficult to discriminate, but we were struck with the qualities of that fine white variety "King Edward," whose robust plants were carrying good trusses of flowers of desirable form and substance. Princess May was also very pleasing, its large, well-shaped flowers being of a delicate pink blush colour. white sport from this variety promised well. It is also the parent of Hercules, another good type. Carter's Crimson, although not at its best, was a rich colour, and very brilliant. Holborn Queen, Fern-leaved, in colour faint pink, and Carmine, were also noticed. Lilac Queen, a semidouble, is very free in flowering, and would be useful for cutting purposes, as the truss is doosely panicled and the colour striking. The stellata varieties also lend themselves well for cutting purposes as they are not only tall and graceful in habit, but very free-flowering. Stellata pink, Stellata white, and Mont Blanc are good types of this section.

Other varieties noticed were Holborn Pink, Holborn Salmon, Rose, a fine Fern-leaved variety with large clean cut flowers; Magenta, very bold; Snowflake, a useful white variety for cutting, with abundant flowers, and Prince of Wales, a good

salmon double.

Other houses had well-grown plants of Cine-waria, promising another brilliant floral display later on; and still others were stocked with examples of the skill and patience of the Japanese craftsman, in the collections of dwarfed trees and shrubs in ornamental vases and pots, and animals and objects mimicked by those curious Ferns which are often met with in florists' shops.

FRUIT REGISTER.

APPLES NEWTON WONDER AND ANNIE ELIZABETH.

I would like to call attention to the excellent late-&eeping kitchen Apple, Newton Wonder, while there is yet time to plant a few trees. It crops regularly here as a pyramid or bush on the Paradise stock. and should be a remunerative Apple to plant for market, especially in a season like the past, when Apples were none too plentiful, and are now (mid-February) fetching 4d. per lb. The fruits are heavy, and partake of the characteristics of Dumelow's Seedling (Wellington), also of those of its other parent, Blenheim Orange-two excellent late Apples. We have several young standard trees on the Crab, but as yet they have not borne much fruit, though they promise well for the coming season. The fruits being large, are excellent for making dumplings, or for baking whole, and judging by their appearance would keep plump for another two or three months. Out of some six dozen bush-trees planted about seven years since, this variety has been pruned the least, having cropped so heavily that thinning has had to be done each year. I have noticed that the fruits have a tendency to cling to the tree much better than some varieties, in spite of their weight, which would make it a suitable variety to plant in exposed positions.

Annie Elizabeth is a sound-keeping variety of good size. The trees bear freely when once established, growing and fruiting well as an orchard standard on the Crab stock. It would certainly pay to grow these late-keeping varieties better than endeavouring to keep until this season those sorts that are at their best before Christmas. Other such varieties are Bramley's Seedling, Dumelow's Seedling [Wellington], Hambling's Seedling, &c. James Mayne, Bicton Gardens, Devonshire.

Mr. Mayne sent a few excellent fruits with this letter, the skins of which are still as smooth and plump as could be wished. One of Annie Elizabeth weighs $12\frac{1}{2}$ ozs. and one of Newton Wonder 94 ozs. Ep.]

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.;

Odontoglossum citrosmum. - In the restinghouse plants of O. citrosmum are starting into growth, but they should not be excited by heat or moisture to make rapid progress, or they will grow away and fail to produce flowers at the proper season. The young growths should be watched daily, and immediately a flower-spike is seen pushing up through the centre of the growth a piece of cotton-wool should be wrapped around it as a protection against slugs and woodlice. Should any of these creatures appear they must be trapped by the usual methods. As soon as a spike can be seen inside the growth, the plant should be given a thorough soaking and placed in a more genial atmosphere. Those plants that have not been properly rested, and do not produce flower-spikes during the next few weeks, should thereafter be put into their growing quarters; and any that require fresh rooting-material may at that time be given attention. O. citrosmum appears to be a plant that would thrive well in the new leaf-soil mixture; I would therefore advise Orchid-cultivators to give them a fair trial in this. With the new compost, shallow Orchid-pans without perforations in their sides are preferable to the ordinary teak-wood baskets.

The yellow Oncidium cheirophorum has grown exceedingly well in the Belgian leaf-soil, but until recently one could rarely find a plant in exuberant health, unless it was from freshlyimported bulbs. Now one sees plants which have not only healthy pseudo-bulbs and leaves, but with more numerous and stronger flower-spikes. This Oncidium should be placed near the roof in a shady corner of the intermediate-house. It does not care for much water at any time, and precaution must be taken not to pour water into the young growths or axils of the leaves. Established plants in health should be repotted soon after the flowers have faded, but weak and sickly plants may be potted into leaf-soil at once, keeping them rather on the dry side until they commence to grow.

Oncidiums in Cool-house .- The following distinctgrowing Oncidiums, O. macranthum, O. superbiens, O. zebrinum, O. serratum, O. chrysodipterum, O. lamelligerum, O. loxense, and O. monachicum, should be grown in the cool-house. Now that these plants are in full growth, place them in a position where the atmosphere is very moist, and whenever the weather is warm and bright a thorough damping between the pots two or three times a day will be of great benefit to them. aerial roots of O. zebrinum should be syringed lightly at least once a day. All plants of these species delight in fresh air. Last year several plants of the above species were potted in the new leaf-soil mixture, using three-parts leaf-soil, the remainder consisting of equal parts of peat and sphagnum-moss, and during the growing season the plants showed considerable improvement. A few days ago the plants were turned out of their pots, and large healthy roots were found encircling the whole of the compost. I need scarcely add that all of them have now been reported into similar compost. When reporting these strong growing Oncidiums it is advisable to use rather large pots, as the numerous young roots delight in plenty of space.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Phyllocactus.—These plants should be watered sparingly during the winter season, and for the present it will be only necessary to afford sufficient water to keep the shoots in a plump condition. Shake the old soil away from plants in an unhealthy condition, and cut away all dead portions from the roots. The plants should then be repotted into pots as small as will accommodate them, in a compost consisting of three-parts loam, one-part leaf-soil, and a little old mortar-rubble and coarse silver-sand. Perfect drainage must be provided and maintained in each pot, otherwise loss of roots will occur. Keep the plants as near to the light as possible, and afford them a temperature of from 55° to 60°. Cuttings may be taken at the present time, using the tips of last season's growth cut to the length of about 6 inches. Insert these singly in 3-inch pots filled with loam and sand in equal proportions. pots containing cuttings may be placed on a shelf in the stove, and they will require very little water until they have made roots, as this would cause the cuttings to rot at the base.

Annuals.—Seed may now be sown of such useful annuals as German Asters, Stocks, Mignonette, Schizanthus retusus and S. wiseton-ensis, Celosias, &c. The Schizanthus is excellent, both in the cut state and for conservatory and houso decoration in pots. Lobelia tenuior is a rather tall-growing species, of upright habit, and having large blue-and-white flowers. It is a useful and easily-grown plant, and suitable for the conservatory. It comes true from seed, and seeds very freely. The white-flowered Stock Princess Alice is an excellent variety, both in the cut state and in pots. By making a sowing at the present time and in the two following months a long succession of flowers may be secured. The same remark applies to Schizanthus. The scarlet-flowered Alonsoa Warscewiczii is another very pretty and easily-grown annual, which succeeds in pots, and remains in flower for a long time. The Asters are too well known as pot plants to require more than a passing allusion. Celosia plumosa will also be found to be most effective for conservatory decoration. Although not an annual, Clerodendron fallax is best when raised from seeds annually. Sow seeds at once, and again later for succession. Grevillea robusta should also be sown. The seeds of the three last-named plants require to be sown in consider-able heat. The rest of the plants named above, with the exception of Mignonette, may be raised in a temperature of 50° to 55°. Mignonette should be placed in a cool frame or pit from which frost is excluded. In growing hardy and half-hardy annuals, care must be taken to prevent the seedlings from becoming drawn by removing the pots or pans to a slightly cooler atmosphere as soon as the seedlings are well up, while the operations of pricking them off into boxes or pans preparatory to potting should be promptly carried out.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Herbaceous Borders.—These may be overhauled when the weather and ground will permit of the work being done properly. Achilleas, Saponarias, and Linarias require to be divided about every two years, but in order that the border may be furnished and look well, do not disturb more clumps than is necessary each season. Heuchera sanguinea, Zauschneria californica, Plumbago Larpentæ, and Statice, if they can be spared, will thrive better in the rock or alpine-garden. A few other good plants are Antholyza paniculata, Chelone barbata, and most of the varieties of Lychnis; they all have bright flowers that are capable of lasting a long time for house decoration. Ground that is to be planted with Pentstemons, summer-flowering Chrysanthemums, Phlox, and Gaillardias may be given a dressing of short manure, and if the soil be of a heavy nature, add lime-rubble also, turning it up roughly and leaving it so for a few weeks. If the border is too narrow to admit of Tritomas or Acanthus, these may be planted by the side of the stream in the wild garden; also any surplus roots of other species from the border can be planted here. All plants should be labelled neatly, and the surface of the ground be forked lightly over.

Iceland Poppies.—Owing to the wet weather a large percentage of these will have damped-off during the winter. If they are necessary for decoration and massing in large beds, sow seeds moderately thickly in boxes, and as soon as the seedlings are in rough leaf harden them off, then, in suitable weather transplant them from the boxes, putting them in small clumps. The beds should be given a liberal supply of leaf-mould and soot. Seedlings will give more satisfaction than old stools left in the beds.

Bedding Plants.—Pelargoniums may now be otted. Use clean pots, or the roots will hang to potted. the insides of them when required to be turned out, and the plants will receive a severe check. Fresh green damp moss will serve to cover the crocks. It new leaves be used for the purpose they keep the plants waterlogged unless they are broken up before they are put into the pots. A little of the old soil may be used with some fresh material; but as a rule too much is used, and the plants consequently take a long time to establish. Pelargoniums are net always given the attention they need, and at planting-time two have to take the place of one. The plants that will new be potted will probably be placed in a newly-started vinery, and the syringe will keep them from flagging for some after that time thoroughly water them through with a can. Do not syringe them in damp, dull weather; it is necessary that the foliage should get dry once in the day. Afford air to Calceolarias whenever it is practicable, and on fine days remove the lights altogether.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Peach and Nectarine-trees.-When the weather is favourable, these trees may be pruned, cleansed, and put into good order. Some of the young fruiting wood produced last summer will but it is to be hoped there will be sufficient strong, healthy flower-buds to supply a crop of fruits. Our trees were very lightly cropped last year, and therefore the wet season induced the younger trees to make too much wood. On the older trees the wood is shorter and of a much better appearance, being very promising. In pruning the Peach and Nectarine, the aim should be to keep the trees well furnished from bottom to top with healthy fruiting wood of medium strength, brown colour, and well studded with flower-buds. The pruning should be commenced and continued at intervals during the growing season, and at this time of year little should be required, except to remove all the very coarse wood, and prune back weak growths to within a couple of buds at the base, reserving shoots of medium length. Do not lay-in too much wood, hut allow plenty of room for growths that will be made during the coming season. Any shoots that have not matured may be shortened back to the more ripened wood, pruning, if possible, to triple buds. Wood which may have borne fruit, and can be spared, should be removed, and the places made good with young shoots. If the trees are infested with brown-scale, all the main branches should be scrubbed with soapsuds mixed well with paraffin, at the rate of a wineglassful of paraffin to 3 gallons of the suds. If the walls have been lime-washed hitherto, let them he given a fresh dressing previous to training the trees, and to prevent red-spider mix in with the lime a good quantity of flowers-of-sulphur. If the walls are of red-brick a thorough syringing with suds and sulphur will suffice; but if suds are net forthcoming substitute soft - soap. When securing the main branches to the proper positions, be careful not to injure the hark. Leave plenty of room in the shreds for the swelling of the shoots during the coming summer, and do not use too many nails. If the walls are wired avoid tying the shoots too tightly. It is good practice when training Peach-trees to cover all the main branches of the trees with fruitful shoots, they will protect the wood from strong sunshine; but in the absence of shoots some other protection should be employed. Trees that are trained

well, and are evenly balanced, need not be taken from the walls annually, but a thorough inspection of the branches should be made, removing any of the ties which are likely to pinch the bark, and supplying other ties that may be necessary. Any of the old shreds, if sufficiently strong for one more season's use, should be well soaked in hot - water previous to using them again, in order to destroy insects, &c. Be careful to keep each tree correctly labelled.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicko Hall, Marshfield, Chippenham.

Trees and Hedges .- If the garden is surrounded by overgrown trees and hedges that shut out the light and injure the crops, let the trees be lopped, the hedges trimmed, and all gaps made good as seon as possible. Trees at a considerable distance from the boundary are rather beneficial than otherwise, as they break the force of the winds, but they should not be allowed close enough for their roots to penetrate the horders or their tops to throw a shadow over any part of the vegetable ground. This should be remembered in the making of new boundaries; the little trees you are planting may seem harmless enough, but ask yourself how they are likely to affect the vegetable-quarters in twenty-five or thirty years time. We frequently see the result of want of forethought in planting, or the results of planting to produce immediate effect, which is not practical gardening. Let the extent, position, and surroundings of the garden be extent, position, and surroundings of the garden be your guide in determining the height of the hedges. Where buildings or plantations are sufficiently near to the boundary to provide protection there is no need for a hedge higher than 5 feet, unless for securing privacy, which should be a secondary object in a kitchen-garden. If there is no other shelter te depend upon, the hedge should be kept high enough to protect Peas and Scarlet Runners from the wind. For an outside bound Runners from the wind. For an outside boundary hedge there is nothing to equal Holly or Holly and Thorn. Where interior hedges are required in gardens of large extent, use Helly or Yew in preference to Hornbeam or Arbor Vitæ.

Peas sown as advised in the Calendar for January 9 will now be up, and should receive no further protection unless they have been neglected, and have consequently become weak. In this case, gradually harden them off to be ready for planting as soon as the soil is in a fit condition.

Pricking out.—Prepare frames in which to prick out Cauliflowers. A hotbed will not be necessary. Put two or three barrowloads of short stable-manure in the bottom of the frame, and cover with sandy seil 4 inches deep; it will then be ready. Prick out seedling Tomatos into small pots; also pot on autumn-struck cuttings or seedlings. Wash down the pits and prepare beds for planting those most forward, and while the house is empty fumigate it with sulphur; afterwards spray the walls and woodwork with a weak solution of paraffin and water. See that the plants are thoroughly clean before planting them.

Collect Manure to be ready for making-up mild hot-beds for sowing French Beans, &c., for planting out. Look over Lettuces, Cauliflowers, and Cabbages frequently, and dust them with dry ashes and soot.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Cucumbers.—To maintain a supply of winter Cucumbers, high temperatures are necessary, and for late or very early supplies we find that plants in pots answer fairly well. But Cucumbers may be grown easily during the spring and summer months, provided they are not subjected to cold draughts and constantly fluctuating temperatures. They require a warm and moist atmosphere, and should not be too heavily cropped in the early stages of growth. Large quantities of soil are unnecessary. Light turfy loam, with a little fresh leaf-soil added, previously dusted with air-slaked lime, with occasional dressings of soot when the bed is formed, and light top-dressings of the same materials as the roots appear on the surface, will suit the plants

well. Do not allow the fruits to hang too long nor the growths to become crowded tegether, nor the vine to run beyond one or two joints beforebeing stopped. Train the plants not less than 18 inches from the glass, and when in bearing: afford them good supplies of water. Amongst a large number of varieties grown here last season, Carter's Ideal was the most fruitful and perfect variety, Challenger, Satisfaction, and Lord Roberts also being free fruiting handsome-varieties.

Tomato Plants raised from seeds sown in November are sufficiently advanced to be shifted into their fruiting-pots. Tomatos yield better results when they are not allowed too much root-We use no pots larger than 8 inches in diameter. Let the potting be done hefore the plants become root-bound. All materials used in potting should be scrupulously clean, and the warmed and moderately dry. The seil should conist of a rich fibrous loam, to which may be added lime rubble and wood ashes. When potting allow space for light top dressings. See that the plants are thoroughly moist at the roots before being shifted into larger pets; so that further water may not be required until the roots have taken held of the new soil. Provide a position with a wire trellis 8 or 10 inches from the glass, 12 inches separating each plant, trained with a single stem. Remove all lateral growths. When the plants are in flower they will require a drier atmosphere, which should be frequently circulated. Touch with the camel's-hair brush the individual flowers at about mid-day, and tapthe rods in the early morning when the atmos-phere is dry. When the fruits have set, let the phere is dry. plants be afforded liberal supplies of stimulants. and if exhibition fruits are required, the cluster's should be thinned, removing those fruits that appear less likely to make good specimens. Sow seeds for producing plants to fruit late underglass, and out-of-doors, Sow them thinly, and pot off the seedlings as soon as they can be handled. Keep them near to the glass.

** Under heading "New Vine Borders" in last week's Calendar, "cow" manure should have read "vine" manure.

THE APIARY.

By EXPERT.

The Heavy Rains.—The heavy rains have doubtless penetrated through the roofs of hives, and completely soaked the coverings. These should be changed at once, and the roofs covered with felt or zinc to prevent anything of the kind happening again. If the body bex should be completely saturated with wet or mildew, transfer the bees to a dry hive at the first opportunity. Have the new hive ready and placed near the old one, and on a fine warm day transfer the whole of the frames and bees as quickly and quietly as possible. If done in this manner the bees will scarcely realise the change. Remove the wet hive under cover to be repaired and dried for use in the coming season; but before using again have it properly cleaned out with the following preparation:—Two parts carbolic acid (Calvert's No. 5), six parts warm water, one part glycerine. Mix these together well, then scrub the hive thoroughly with boiling water containing plenty of soda, and after drying give the hive a good cleaning with the solution described above, and put it in the sun to dry.

Utensils.—The zealeus bee-keeper will be on the look-out for any novelties he may see advertised for the coming season, but I would advise anyone not thoroughly up - to - date in bee-keeping, to leave these severely alone until they have been proved and found to be useful to the bee-keeper, as the great point at stake should be to raise honey in the best and most profitable manner. In nearly every case the bee-keeper, if he commenced bee-keeping simply for a hobby, will soon turn his attention to the fact that there is money to be made from his hobby, and he then becomes a believer in having only the articles that are really useful and necessary in his apiary. The new season's catalogues are being issued, and care should be taken only to quality.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants
for naming, should be addressed to the EDITOR,
41. Wellington Street, Covent Carden, London,
Communications should be WRITTEN ON ONE BIDE ONLY OF
THE PAPER, sent as early in the week as possible, and duly
signed by the writer. If desired, the signature will not be
printed, but kept as a guarantee of goad faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, FEB. 23

Royal Horticultural Society's Committees meet. Meeting to consider formation of Gardeners' Association at Hotel Windsor.

FRIDAY, FEB. 26 | Royal Botanic Society's General Meeting.

SALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT—
Border Plants, Perennials. Roses, Fruit Traes.
Azaleas, Lilles, &c., 67 & 68, Cheapside, E.C., by
Protheroe & Morris, at 12.
WEDNESDAY NEXT—

EDNESDAY NEXT—
Azaleas, Rhododendrons, Paims, Roses, Fruit
Trees, Perennials, Border Planta, Liliums, &c., at
67 & 68, Cheapside, E.C., by Protheroe & Morris,
at 12—At Stevens, at 12.30, Standard and Half
Standard Roses, Rhododendrons, Azaleas, Fruit
Trees, &c.

Trees, &c.

Trees, &c.

WEDNESDAY, THURSDAY AND FRIDAY NEXTSale of Nursery Stock and Greenhouse Flants, at
The Nurseries, Holgate, near York, by order of
Messra. J. Backhouse & Son. Ltd. by Protheroe &
Morris, at 12 first day and 11 two following days.

FRIDAY NEXT
Innovited and Fatablished Orbids, at 67 and 68

Imported and Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 30. (For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

TOAL IEMPERATURES:—
LONDON. - Feb 17 (6 P.M.): Max. 40°; Min. 35°.
Feb. 18, Gardeners' Chronicle Office (10 A.M.):
Temp., 37°; Bar., 29°4, moderately bright.
PROVINCES.—Feb. 17 (6 P.M.): Max. 46°, S. W. Ireland;
Min. 33°, N.E. Scotland.

Long before County Councils Cottage came into existence, or Gardening. " whiskey - money " available, we had published our Cottager's Calendar, of which the circulation is still very large. Later on we urged the desirability of organising instruction in gardening among the labourers and small holders in the country districts. We were stimulated to do this from what we had seen and read in Belgium particularly. Nobody, as it seemed, paid any heed, and we thought our admonitions had been in vain. Suddenly a great change occurred, and now in most counties a widely extended and most beneficent system is in operation. From one end of the country to the other, from Yorkshire to Kent, from East Anglia to Worcester, from Northumberland to Durham, and even in Ireland, we hear of County Council lecturers and demonstrators. Many of them are personal friends and acquaintances, so that we have reason to know that the instruction is reasonable (we hesitate to use the word scientific, as that might be misunderstood), but reasonable and practical. We own we were among those who, knowing something of the Kentish peasantry, doubted the success of the enter-

prise in that county. Glad, indeed, are we to see that we were mistaken.

"The cottage-gardener of Kent," says Mr. W. P. Wright, "is now spoken of as a man of whom Kent may be proud. He is an intelligent thinker, and a plodding, patient worker. Once his confidence is obtained, he proves a willing pupil. He is keen in the acquisition of knowledge and enthusiastic in applying it. And he applies it with zest, uot only for his own benefit, but for the honour of his village."

Of course, a very great deal of this success, the greater part, is due to the selection of a competent instructor who knows his pupils, knows what they want, and knows how to supply that want. In Kent the lectures of the winter are linked to the work of the summer in the cottage gardens. Interest and emulation are excited. Information is given as to the best varieties to be cultivated and the best methods of turning the garden or the allotment to advantage.

In a local paper Mr. W. P. WRIGHT, the horticultural superintendent of the Kent County Council, speaking of his early experiences before the present system got into working order, said:—

"The most striking defect was the want of method in the arrangement of the crops, and the concentration of effort on a comparatively small result. It was noticeable that the men laid themselves out to grow a limited number of vegetables which were prominent in the schedules of the local shows. It was our object to encourage them to get as long a succession of produce as possible-both by means of rotation of crops and by successional sowings or plantings, thus keeping the ground occupied all the year. They did not, on their plan, get the full value of the garden. As an instance, I visited the garden of a man who carried off a number of show prizes year by year, and I saw that he was well prepared in his limited way for a forthcoming show. But, some time afterwards, when I visited it the second time, the garden was practically bare. The man came along, and I said, 'What's the meaning of this?' 'Didn't know you were coming again, sir,' he replied. 'Where are your vegetables gone?' I asked. 'If you go and look into my lodge I will show them to you,' he rejoined. And there they were, ready for another show. 'Then what do you do for vegetables in the winter?' I asked. 'Why, go without, was the reply. That was the sort of thing to fight against. A few of this stamp gave us up at once, but the vast majority saw that our system was the natural one, and that the other was the artificial one.

"I am proud to think," says Mr. WRIGHT, "that not only is the standard of gardening far higher in Kent than it was ten years ago, but that our humble workers have a clearer insight into the great forces which make for national progress. There is a strong, true spirit of advancement and of good sportsmanship amongst them. Our men no longer think solely of their pockets. They are no longer mere individualities. They are units in a band of workers proud of the great and growing fame of their county.

"Believe me, Kentish gardeners are not mercenaries, they are grand fellows, true as steel, when once they learn to trust you, and swiftly responsive to any appeal to the best side of their natures. If, in a still wider arena of garden battle, it ever falls to my lot to lead a chosen band into an inter-county contest (and that is one of my dreams for the future) I shall be proud of my followers, for I know that in victory they would be modest, in defeat cheerful, and hopeful for the issue of another fray.

"The crops which have shown the greatest results are: Potatos and Onions without a doubt.

The advance with both of these crops has been truly astonishing. The interest our cottagers take in Potatos amounts almost to a passion; the lectures also are well supported and by the right class of people.

"I don't believe," continues Mr. WRIGHT, "our rural schools will be encouraged to go on, turning out nothing but cheap clerks and shopgirls by the hundred thousand, as they have been doing. England has enough and to spare of cheap clerks and shop-girls, but of skilled artizans, fruit-growers, poultry-keepers, and cooks, all too few.

"It is evident that technical education in the direction of gardening has been a distinct gain to the county, and the hope may be entertained that, seeing the number of places which have not yet been created lecturing centres, the County Education Committee will not come to the conclusion that the work of the past decade has completed the education of the present generation of adult gardeners."

Our illustration has been taken mainly from Kent, but we know the good work is not confined to that county. The adjoining counties of Surrey, Middlesex, Essex, have also achieved a fine record, and we are continually called on to note what is doing in Worcestershire, in Cornwall, and very many other counties. The advantages are so great, the drawbacks so few, that everyone will heartily wish for the increased diffusion of sound practical teaching.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on Tuesday, February 23, in the Drill Hall, Buckingham Gate, Westminster. A lecture by Mr. R. Lewis Castle, of the Duke of Bedford's Experimental Gardens, on "Pomology," will be given at 3 o'clock. At a general meeting of the Society held on Tnesday, February 9, eighty-nine new Fellows were elected, making a total of 261 elected since the beginning of the present year.

—— The prize of £10 offered by the Council of the Royal Horticultural Society for the best essay on Cottage and Allotment Gardening has been won by the motto "Observe and Practise," Mr. C. Wakely, of Chelmsford.

—— POSTPONEMENT OF CENTENNIAL DINNER.
—Owing to unforeseen circumstances, the Centennial Dinner of the Society, proposed to be held on March 3, is unavoidably postponed.

HERR KARL DINTER.—We are glad to hear that this gentleman, who has been in the heart of the country disturbed by the rebel natives of German South-West Africa, has escaped unhurt, though he has lost everything. Mr. Dinter, it will be remembered, was for some time at La Mortola, and afterwards went in the German Colonial service to South-West Africa, from which little-known country he addressed us several interesting letters.

DAHLIAS.—The Dahlia enjoys the protection of no fewer than two special societies. Whether the mysteries of Dahlia culture or the intricacies of its floral conformation are such as to demand such an unusual amount of scaffolding for their safeguarding is a matter for the double Dahlia-specialists to determine, all we have to do with is to announce the publication of the Official Catalegue and Culture Guide of the National Dahlia Society. Exhibitions of Dahlias, or indeed of any other flower, stimulate the growers to the production of the newest and best forms; and they educate the public taste, and we may add that of the growers also, as may be witnessed in the increasing popularity of the Cactus Dahlias, and the gradual extinction of those hideous abominations, the show Dahlias proper. This is a matter of taste, it will be said, and so

it is, and the result is what we have described. Exhibitions, moreover, serve to elicit certain standards of comparison and means of classification, which become imperative as time goes on and novelties increase accordingly. The present publication contains some good practical articles on the cultivation of the Dahlia in the open-air or under glass. Mr. CHEAL tells us to cut the single Dahlia when the flowers are only half open, and thus avoid the early dropping of the florets of which people complain. Just now the single Dahlia seems to be going a little out of fashion, a circumstance greatly to be regretted. We trust Mr. CHEAL'S advice may do something to check this caprice. The lists comprise the names of the varieties now in commerce, together with brief indications as to the height of the stem and the colour of the flowers. Selections of the best twenty-four varieties (in each section) for exhibition, and of twelve varieties best suited for garden purposes are also supplied. These will be very useful to the beginner. We should like to see a little more attention paid to the foliage of the Dahlia, which is of itself an object of attraction, and should welcome some further details relating to the "habit" of the different varieties, and the way in which they throw up their flowers above the leaves-a point of much importance in out-of-door culture.

"THE MANGO."—By G. MARSHALL WOODROW. A pamphlet describing the history, distribution, climate, soil, and propagation of the Mango, with notes as to manuring, irrigating, grafting, budding, and transplanting this tree. A list of the best varieties of Mangos is appended, with a description of each. There are several pictures and a coloured frontispiece. Considering the value of the Mango and its many capabilities, this treatise should prove widely acceptable. It is published by ALEXANDER GARDNER, Paisley; by H. G. COVE, 41, Wellington Street, Covent Garden, W.C.; and also in Bombay, Calcutta, and Madras.

MONMOUTH.-Mr. W. J. GRANT reports on the horticultural work done during the past year under the auspices of the Technical Instruction Committee. "Reformatory, Little Mill .- The instruction given at this Farm School has been continued as before. H.M. Inspector of Reformatory and Industrial Schools reports as follows upon the instruction given at this School:-Valuable lectures on Agriculture and Horticulture continue to be given by Mr. Grant, County Council Lecturer. The purely theoretical lectures are often supplemented by Mr. GRANT's joining the boys when at work in the field or garden, and pointing out the practical application of principles. The County Council Agricultural Lectures are worthy of special remark. This work may be commended to the Council as not only being valuable at the present, but as likely to be of increasing importance as time goes Other lectures were given at numerous places within the county. The number of days upon which rain fell was 134, compared with 111 of the previous year, during a period of 273 days, with a total rainfall of 39.49 in., compared with 25.79 recorded in the previous year, and 24.07 recorded for the same period in 1901, showing the rainfall to be 13.70 above that of the total in 1902 for the same period.

GARDEN AND FARM PRODUCE BY RAIL.—We learn from the officials of the Great Eastern Railway Company that during the half-year ending December 31, 1902, the Company carried 71,600 boxes of garden and farm produce per passenger train, as compared with 71,500 during the same period of the preceding year. Considering the atmospheric conditions during the period in question, we think the Company is to congratulated on their success.

THE PROPOSED GARDENERS' ASSOCIATION. -Mr. A. DEAN writes: "Kindly permit me to remind all those who may feel a real interest in the formation of a National Gardeners' Association, that an adjourned meeting of all such persons will be held, so far as space will permit, in the room of the Horticultural Club, Hotel Windsor, Victoria Street, on Tuesday next, February 23, at 2 P.M. At the meeting held in December, a small committee was appointed to prepare a scheme and rules for the society. When later that committee met, and after long discussion, it was resolved that the Secretary draft a report embodying the views of that committee for submission to the adjourned meeting. That report has been prepared. Since then some new suggestions have been made from other directions, and these will be probably put forth at the ensuing meeting."

— We understand that at this meeting a resolution will be put to the effect that an association of professional gardeners should be formed, to look after such questions as wages, hours of employment, registration, &c. The organisation should have as its object the promotion of the well-being of the members in all matters pertaining to their daily life and labours. Everyone familiar with the conditions which now exist will sympathise with these objects. We shall watch with great interest the development of the Association, in the hope that it may secure the advantages of co-operation without the employment of methods which are open to objection.

DELENDA EST CARTHAGO.—An advertisement in our last issue comes as a funeral knell to the old garden at Chiswick. In proportion to its size and means, no garden in the world, not being a Government establishment, has ever accomplished so much for horticulture, none can point to a more brilliant staff of officials, or to such a record of work done. Much of this is not known, certainly not appreciated, by the present generation, but to the historian of gardening, Chiswick must always stand out in the forefront of gardening effort and garden accomplishment.

DISEASE - RESISTING POTATOS. — A very significant paper was read at a recent meeting of the Linnean Society, by Mr. E. S. Salmon, who, following up Marshall Ward's conclusions, shows that certain forms morphologically indistinguishable one from the other are nevertheless very different physiologically, especially in regard to their liability to or their freedom from attacks of parasitic fungi or otherwise. The plants experimented upon were species of grass, (Bromus), but there is no reason to doubt that if such differences exist in one set of plants, they may also be found in others, and that a disease-resisting Potato may be, to a much greater extent than at present, within the limits of possibility.

THE NATIONAL POTATO SOCIETY. - A meeting of the Executive Committee of this new Society was held at the Horticultural Club on Monday last. Mr. A. D. Hall, of Rothamsted, in the chair. The Secretary, Mr. W. P. WRIGHT, gave a statement as to the Society's finances, which was of a satisfactory kind. He then read many letters received since the previous meeting, all of them generally favouring the Society's objects. Tenders for the supply of ten varieties of Potatos selected for the trials were read, and it was agreed to accept those of a southern and of a northern firm, the quantities to be issued being equally divided. The number of trial plots, so far agreed to with a few others yet in view, will probably number twenty, and the seed-tubers will be sent to each of the trial places direct. Instructions as to time, distance, &c., in planting, were agreed to, and 1,000 copies of those in the form of a small pamphlet ordered to be printed. It is hoped to hold a conference and an exhibition in the autumn if support be given.

FORESTRY IN RHODESIA. — Mr. C. E. F. ALLEN, a young man who has just left the Royal Gardens, Kew, is going to South Africa to fill the position of Forester to the Rhodesia Railways, Ltd.

PUBLICATIONS RECEIVED. — Bulletin of the Botanical Department, Kingston, Jamaica. Appendix, 1902.— The Agricultural Gazette of New South Wales, Dec., 1903. Noteworthy features are the drought reports, collected from sixteen districts—Bulletin of the Department of Agriculture, Kingston, Jamaica. January, 1904. Contains a useful article, by H. H. Cousins, on Nitrification.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

VARIATION IN LÆLIA ANCEPS.—In reference to Mr. Bound's note on p. 100, I may say that never before this season have I noticed such variation as there is amongst some of my flowers. Distinct white rays ran through the rose-lilac colour of each petal. All the flowers on one scape were the same, but other flowers on the same plant were true to the type. W. H. Clarke, Aston Rowant House Gardens, Oxon.

A PROLIFIC FIG-TREE.—In reference to the note on p. 102, by Mr. Dean, respecting a prolific Fig-tree, I may state we have a tree here which, when obtained from Messrs. Rivers & Son three years ago, was quite a small plant. It was planted on the opposite side to Vines in a span-roofed house, and is trained to wires. The tree now covers a space of 20 square feet. We had 300 fruits from the last crop of the season. Visitors from the South of England remarked upon the fine size and flavour of the fruits. L. B. Husbands, Belladrum Gardens, Beauly, N.B.

THE LATE F. C. LEHMANN.—As one who had the privilege of intimate friendship with this distinguished botanist and explorer, at almost the outset of his career, I wish to add my tribute to the many sterling qualities of the man; to his indomitable energy, courage, and resourcefulness under difficulties, and to his untiring zeal in the pursuit of knowledge, especially of those branches that were of utility to him in the career he had chosen, viz., botany, geography, and foreign languages. Although, unhappily, prematurely cut off from the scene of his labours, he has accomplished much, and enriched European gardens and botanical science to an extent exceeding his early aspirations. Freidrich Carl Lehmann was a man amongst men, and although his life's work is done, his memory will remain green in the hearts of those who knew him best. An English Admirer.

GRAPE LADY HUTT .- I can fully endorse all Mr. Kirk has said in favour of the variety Lady Hutt as a late white Grape. For several years I have grown here, and in other parts of the country, most varieties of Grapes that are generally grown in a private garden; but, with the exception of Muscat of Alexandria, there is no late white Grape with which I am acquainted to equal Lady Hutt in flavour and colour. In March, 1896, I planted in one late vinery here a rod of this variety, along with Lady Downe's, Alicante, &c.; but, unlike Mr. Kirk's, it is on its own roots. The plant has succeeded fairly well, annually showing a great many more bunches than are required for a the bunches in our case are, however, somewhat disappointing as regards size, being small in com-parison with the health and vigour of the Vine, the best not exceeding 2 lb. in weight. We had the fruit in good condition this year at Christmas, and it remained so until all was consumed early in the present month (February). It would be instructive to myself and doubtless to many other readers of the Gardeners' Chronicle if we could hear from the pen of such an expert Grape grower as Mr. Kirk the treatment he gives this variety as regards winter and summer pruning-whether he prunes very closely in winter [spur system], or leaves an extra eye or two; and does he adopt the usual summer practice of stopping the shoots at the second or third joint beyond the bunch, and all laterals closely stopped at first leaf, or whether he recommends the extension system, so far as space of trellis permits? G. Hall, Melchet Court Gardens, Romsey.

GRAPES WHITE GROS COLMAR AND LADY HASTINGS.—I can endorse all Mr. Kirk says concerning the Grape Lady Hutt. I have tried it in early houses, but the hest place for it is in the late vinery, where it would form a fitting companion to Lady Downe's. As regards the Grape Lady Hastings, I hope to fruit it, but at present there is something in its behavour I cannot quite understand. T. H. Slade, Poltimore Gardens, Exeter.

SULPHATE OF IRON.—In your review on p. 84 of A Treatise on Manures you mention that Dr. Griffiths is a strong advocate of sulphate of iron. I have no doubt that iron sulphate is a good fertiliser; but some soils may contain enough iron without the addition of the sulphate. I am penning this note as my experience of iron sulphate on many of the plants for which Dr. Griffiths recommends it does not prove it to be of much effect. Probably our soil contains sufficient iron, for, such plants. T. H. Stade, Poltimore Gardens, Exeter.

DISEASE-RESISTING POTATOS.—"A. D.," in his reference on p. 107 to Eldorado Potato, shows that he has not read the advertisement about Eldorado fully. The price 63s. per lb. is quoted for delivery in autumn. The present price is anything from £150 to £200 per pound. W. C.

THE GARDEN RUBBISH-HEAP .- Having read with interest Mr. Simpson's article on p. 81, I must congratulate him on the good soil he must have in his garden to stand such treatment as he describes; had he the garden under my charge to contend with, he would require a little more than refuse to produce a good crop. The top soil is only about a foot deep and is little better than the subsoil, which is a mixture of sand and clay (what I would call a very hungry soil), which, after such rain as we have had, might be compared to so much mortar, especially where we have been unable to get a trench filled in before rain comes on, which is very often the case. Another adverse circumstance is that the site is on the side of a hill, and its aspect is due north. Now if Brassica refuse had been dug in, such as Mr. Simpson suggests, taking into consideration the amount of water contained in such refuse, and the amount of rain that fell during 1903, I wonder in what condition the soil here would then be. He draws attention to the quantity of Pca and Potato-haulm, Brassica-tops and stumps. But in these days, with so many dwarf varieties of the last-named family, what waste is thereafter all? Take, for instance, two very good Cabbages, i.e., Sutton's Earliest and Sutton's All Heart; after taking away the edible part, what is left? The four outside leaves and about 1 inches of stump. There are much shorter Brussels-Sprouts on the market than formerly; Potatos also of the least haulm - producing kinds are generally planted. Peas produce a quantity of haulm; but I would prefer to see that rotting in a rubbishheap than turn it underground in the crude say were the weeds allowed to grow to such an extent that the garden could be manured with them? In few gardens is there so much labour allowed as to permit of the cleaning of ground being overdone; but many crops succeed better the oftener they are hoed through. Soil, as above described, is lightened a very great deal through the use of refuse from the rubbish-heap thoroughly rotted. For my own part, I think 1 should still prefer the manuring system, if not proceed in errors. practised in excess. I should like some gardeners of greater experience than myself to givo us, through the pages of the Gardeners' Chronicle, their own ideas and personal experience in such matters. J. Stocks, Fen Place Gardens, Turner's

SUTTON'S PERPETUAL EARLY - FLOWERING CARNATION.—This strain of the above popular flower appears to be a very useful one for winterflowering. From seeds sown in January last year, we have a batch of plants which have bloomed profusely during the autumn and winter months, and still bear many buds which promise to give a supply of flowers for some time to come. The flowers seem to have some of the characteristics of those of the Marguerite Carnation, but have more substance in them. R. W. Dean, Wainsford, Hants

THE ROYAL HORTICULTURAL SOCIETY MEET-ING.—You will perhaps permit a Scottish Fellow to express his gratification at the decision of the Fellows of the Royal Horticultural Society with regard to the change in the amount of the subscription. The course of allowing it to remain as it was might probably have been the beet, as you suggest on p. 104, but the one which was agreed to presents at least a via media, and will hardly have the effect of diminishing to any great extent the flow of new Fellows. There are comparatively few Fellows in Scotland, as may be observed from the list recently issued, but it should be the object of the Society to draw its members from as wide an area as possible, and one feels confident that the increase of the subscription to two guineas would have diminished the number of new Fellows from the more distant parts of the United Kingdom and other parts of the Empire. Even entrance fees, common as they are, are not popular; but the raising of the annual subscription would have been much worse. It should be the object of all friends of horticulture to see that the Society is put in as strong a position as possible. A Scotlish Fellow.

CHINESE PRIMULAS AT READING (see also p. 97).—What variety can excel in effect and beauty the "Duchess," of which there are six hundred plants, all as if from one mould? here is a study for any student in the faithfulness to colour and marking found in the whole The Duchess gives flowers of the finest form and size, profusely borne on stiff, erect steme, the ground white, and on it close round the eye a zone of rich rosy carmine. This is the most distinct and beautiful of all varieties. It is noticeable that selection last year from a plant or two which showed finer form has in the whole of the existing stock been reproduced. Then there is also being gradually bred a strain that will replace the red zone with bright blue; and it is possible there will be a strain having clearly defined Picotee edges to the petals. The blue tints are also developing. There is a deep blue, more dense in colour than anything yet seen; and there is a more developed strain of a very pretty pale blue, aptly named Cambridge Blue. Whites are numerous: Snowdrift, Pearl, Purity, Royal White, Superb White, Giant White are in great quantity; and how fine and floriferous they are! They are equally heautiful on palmate or Fern-leaf, or on dark or light-coloured foliage. Lovely soft pinks, richer carmines, pleasing magentas and purples, intense blood-red scarlets, and deep crimsons, all in masses, seen here in the sunlight and pure air, elicit expros-sions of delight and admiration. The giant singles are largely repetitions of the others, but have finer and more massive flowers. Of these there are a dozen varieties; and then again there are as many of the semi-doubles, also very beautiful, and to the gardener, as flowers for gathering and wiring, of the highest value. Even the lovely Duchess has been doubled, so rapidly does cross-fertilisation create novelties; and as we look on there are human agencies at work on these difficult-to-manipulate doubles, and that agency will succeed, as it has in the past, with every plant, and will with almost every flower. How excellent is the culture seen, how truly clean is everything! The journey was amply repaid; and, turning homeward, I felt that it was good for me to have been there, and to have revelled in this delightful flower-show. D.

STRAWBERRY-BEDS.—In the "Home Correspondence" column of the Gardeners' Chronicle for February 6, there were two notes on Strawberry culture. The one, a criticism of Mr. Markham's Calendar on p. 5-t, and the other, a reply by that gentleman. I prefer Mr. Markham's method. Here we use for planting in the summer the crowns that were forced in the spring, and generally plant them to follow the early Peas or the early Potato crop, the result being equal in either case. As soon as the Peahaulm can be cleared off, we plant the Strawberries from pots (in which they have been kept since forcing time), without digging or manuring the ground. The plants are put 1 foot apart in the row, and the rows are 3 fect asunder. Immediately the planting is finished, or as soon as

possible afterwards, a mulching of rotten stable-manure is afforded, which I think helps the crowns to mature. At the beginning of April all the loose manure is raked off and a dressing of soot applied. Later an application of blood manure or native guano is made and raked into the ground lightly. As soon as the flower-spikes have made good headway, the plants are bedded down with straw, which keeps the fruit from becoming dirty. We have very little trouble from slugs, and always have an excellent crop of Strawberries. The beds thus made are only allowed to stand two years, so that when one plantation is made another is cleared off. Digging between the rows I consider barbarous, as the roots that have been drawn to the surface by the previous year's mulching are bound to be wholly or partially destroyed. Instead of loosening the soil, I think the firmer it is the better it will be for the Strawberry plants. J. Stocks, Fen Place Gardens, Turner's Hill, Sussex.

FLOODS IN THE THAMES VALLEY.—Many of the gardeners in this district are passing through a very anxious and trying time owing to the floods. The gardens here, on the property of H. O. Hagan, Esq., are now at the bottom of a strong flowing river, which is washing away gravel-paths, taking out the soil from herbaceous borders, &c. Theranges of Peach-houses, Fig-house, Banana, and stove and Orchid-houses, &c., have water in them to the depth of from 1 to 2 feet. The consequence to Peaches, &c., just coming into bloom can be imagined. To make matters worse, the fires are all put out through the large quantity of water passing into the stoke-holes, although an attempt was made by men working night and day with pumps to cope with it, which however was useless. Until the water goes down one cannot tell the amount of damage done, but it must be very considerable. The gardener I succeeded here (Mr. Last) had a similar experience in 1894, when the Bananas were destroyed. Wm. Kirk, The Gardens, Riverhome, Hampton Court, February 15.

THE FLOODING OF MEADOWS.-We are having to-day (February 13) a repetition of floods in the meadows and other low-lying districts, accom-panied by a low and still falling barometer. Great grumblings by farmers, nursery gardeners, and others are being heard of the continuous wet, causing serious delay in the necessary preparation of the land for the sowing of seeds. repeated flooding of meadows not only weakens the best feeding grasses, but also starves and kills-the earth-worms, which are so useful in throwing up humus and are powerful agents in the improve-ment of the land. The flooding of the land also brings about a sure source of rot or fluke in sheep. The loss amongst flocks from this cause sheep. The loss amongst flocks from this cause alone is financially seriously hurtful to the farmers, who have from one cause or another, such as foreign competition, over-burdens of rent, and the property of the property and rates and taxes, been loaded up to the proverbial last straw. Their unremunerated labour, aggravated by an almost unparalleled wet season, reduces their position pretty nearly to that of a modern weary Sisyphus. It is not my belief that land should be so soon flooded after one night's fall of rain, which is, after all, a mere shower as compared to the torrential rains which fall within some regions of tropical and sub-tropical countries, where they measure as much or more in feet as we measure in inches. It is our continuous drizzle, clouded sky and want of sunshine, which give us so much cold and misery, and not so much any one year's maximum of rainfall. These, however, are the natural concomitants of the position of the British Isles, and are less or more marked in our eastern and western counties. With the exception of an occasional year or two of extra favoured weather, the hydrographical statistics or history of our country for hundreds of years teach us expect nothing different. But my object is to draw attention to the cause of so much land-flooding, and to fix some of the blame and responsibility for it. It has long been considered far too delicate a matter for anyone to remind our great landed proprietors who enjoy such vast estates in this small country, that the cause of much of its flooding, and its cure, rest entirely in their hands; and as the ownership of these estates carries with it

many responsibilities, duties, and obligations which they are expected to fulfil, they should be respectfully requested to see that those duties are carried out. The impediments in our rivers, brooks, and smaller watercourses, are brought down and allowed to accumulate from year to year and from decade to decade, and never cleared away; hence they become the cause of much of our dooded land, impoverished meadow pastures, and rotted sheep. If the landlords did their duty so far as lies in their power, they might then with good grace request their tenant-farmers to do theirs. We are not without a season of severe drought now and then, when we have a cry for rain just as loud as it is now for a cessation of it; then is the time when our water arteries should be seen to. Chambers of agriculture and county councils might do worse than put the flooding of meadows upon their respective agenda, and continue to press the matter in the proper quarter until it receivee attention. W. Miller, Berkswell.

HEAVY RAINFALL IN BRECONSHIRE. — The rainfall here during January was 7.88 inches, an inch and over falling on three days. The total amount for 1903 was 48.44 inches. In October alone it was 7.83 inches. A. J. Keen, Buckland Gardens, Bwlch, R.S.O., Breconshire.

With the enormous increase in the consumption of fruit, it is imperative that something he done to foster fruit cultivation in this country. The Departmental Committee of the Board of Agriculture might suggest in their report that free-holders anxious to increase their plantations and their output of fruit, but not having the where-withal to do so, could, under specially specified conditions to be drawn up by the Committee, receive a subsidiary grant from the Government or other public or local bodies, advanced upon a scale of repayment extending over a given period. W.H. Clarke, Aston Rowant Gardens, Oxon.

BEGONIA GLOIRE DE LORRAINE.—I noticed on p. 90 an interesting method by "T. A." of growing Begonia Gloire de Lorraine, also under "Plants under Glass" in issue for January 30, Mr. Fielder advised getting rid of the floweringstems as useless, but which I find very useful. When I started to grow this Begonia I had only one old plant, and I used every portion for the making of cuttings I possibly could, even the extreme points of the flowering shoots, and grow some splendid plants. I use some every year, and find they make the largest plants, but are a flittle longer forming roots than cuttings taken from the base after the plant is cut back. C. L. Branson, Coleshill Park Gardens, near Birmingham.

MANURES FOR TOMATOS.—In 1902 I carried out experiments with various manures with the object of determining as far as possible the enost profitable mixture for Potatos and Kidney Beans. The results obtained were communicated to the Press, and the large number of enquiries that I received in consequence from market gardenere in various parts of the country were ample evidence of the interest taken in such experiments. During the past year I could only find time for a very simple experiment on Tomatos. In my Potato experiment I had found a complete manure, containing nitrogen, potash, and phosphates, most profitable on my land, and that potasa was the most important constituent. The Tomato belonging to the same order as the Potato, I determined to test the value of potash in a complete manure for this crop. Accordingly two equal strips in a glasshouse received equal quantities of turfy loam, containing what I considered to be plenty of lime and nitrogen. To the soil on both strips I also applied superphosphate at the rate of 12 ounces per square yard, and to one of the strips only sulphate of potash at the rate of 6 ounces per square yard. The yield of Tomatos from the former strip was 21 lb. per square yard, and from the latter, which had received the potash dressing, it was 37 lb. per square yard; and the fruit was finer in both appearance and flavour, and worth quite a penny per pound more. The grariety of Tomato grown was Lister's Prolific. J. Y. Holmes, Salwarpe, Droitwich.

HYBRID WALLFLOWER.

THE flowers illustrated in fig. 52 are those of a hybrid Wallflower shown by Messrs. Jas. Veitch & Sons, Chelsea, at the meeting of the Royal Horticultural Society, on February 9. It is the result of a cross between a garden variety of

TREES AND SHRUBS.

FOTHERGILLA MAJOR.

The genus Fothergilla was founded in memory of John Fothergill, M.D., a celebrated physician



Fig. 52.—Hybrid Wallflower: Cheiranthus × Kewensis. (Colour Orange-yellow and Purplish-lilae.)

Cheiranthus Cheiri and the species C. mutabilis. The flowers when first opening are orange-yellow coloured, but soon become purplish. They are very fragrant, and Messrs. Veitch stated that the plants were in flower during the greater part of the year. The plants shown were in pots, and we presume it was of pot plants Messrs. Veitch were speaking.

in London during the middle of the eighteenth century, who formed an extensive collection of plants at Upton, in Essex, between 1762 and 1781, making a speciality of North American plants. The genus has long been represented in gardens by F. Gardeni (syn. F. alnifolia), a small shrub, native of the Sonth-eastern United States, and belonging to the same natural order as the Witch-

Hazels (Hamamelis). Until recently the genus has been considered monotypic, all the Fothergillas known being regarded as varieties or forms of the somewhat variable F. Gardeni. The plant whose name heads this note was figured in 1811 as F. alnifolia var. major in the Botanical Magazine, and subsequently as F. major in Loddiges' Cabinet, t. 1520. Introduced first to this country in 1780, it appears to have been lost to cultivation for very many years. Now, however, it has been re-discovered, and it is proposed to revive Loddiges' name and give it specific rank. As it has recently been added to the Kew collection from the Arnold Arboretum it will be of interest to record its re-introduction.

The Fothergillas are deciduous shrubs, bearing their flowers in terminal spikes. The flower has no petals, but owes its beauty to the stamens, of which there are about twenty-four, with long pinkish - white filaments and yellow anthers. F. major differs from the typical F. Gardeni in the following ways: chiefly, it is taller and stronger in habit, the ordinary F. Gardeni being a shrub of thin habit, with spreading, crooked branches, and usually not more than 2 feet or 3 feet high, whilst in F. major the branches are more erect and sturdier, and the shrub gets to be 5 feet or 6 feet high; the leaves are larger, oval or elliptic, usually broad or almost truncate at the apex with large crenate teeth there (the leaves of F. Gardeni are often narrow ovate); the flower-spikes are longer, distinctly cylindrical, measuring, in the Botanical Magazine plate, 2½ inches in length and 1½ inches in diameter, and more ornamental; lastly, it flowers in May and June, and thus a month later than F. Gardeni. The leaves of the Fothergillas often turn a very beautiful crimson in autumn. In a wild state the plants affect moist positions, and in cultivation they prefer a peaty soil.

SOPHORA VICIIFOLIA. In Szechuen, a province in Western China on the borders of Tibet, this shrub is described as covering large areas, in much the same way as Gorse or Heather does at home. It was collected by Mr. Watters as long ago as 1880 in the Province of Hupeh, and it was from his material that Dr. Hance made his description in the Journal of Botany the following year, and gave the species the name it now bears. Dr. Henry afterwards found it in the same province, and it is to him that we owe its introduction to cultivation. He sent seeds to Kew in 1898, from which the plant was raised which flowered in 1902, and was figured last March in the Betanical Magazine, t. 7883. It is a shrub of open habit, growing 3 to 4 feet in height, some of the twigs terminating in a spine. The leaf is pinnate, about 1½ inch long, and consists of six or seven pairs of leaflets, which are dark dull green and pubescent beneath; this pubescence extends to the leaf-stalks and young wood also. The flowers are borne, six to a dozen together, on short terminal racemes. The corolla, which is 3 inch in diameter, is white, whilst the calyx is pale violet. It is this pretty and unusual contrast in colour between calyx and corolla which makes the plant so distinct and interesting. But I learn from Dr. Henry that the flowers are not usually coloured in this way. The prevailing hue of the flower, as seen on plants covering large stretches of ground, is a dull white. It appears, therefore, that there are two (perhaps more) varieties of this plant. Indeed, the plants raised at Kew are not all alike; besides the form that has flowered, there is another that has not yet done so, but which is distinct in being less sturdy in habit and in having smaller leaves. In a wild state the species is found at high elevations—as much as 13,500 ft. -and on barren soils. It is quite hardy and easy to accommodate, and can easily be increased by means of cuttings. W. J. Bean.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

FEBRUARY 9-Present: Dr. M. T. Masters, F.R.S., in the chair; Messrs. Michael, Baker, Druery, Veitch, Worsley, Bowles, Saundera, Keeble, and Douglas; Dr. Ridley, Revs. W. Wilks and G. Henalow (Hon. Sec.). Viaitor, Mr. J. Hickley.

Beans Defective .- Mr. HORSLEY, of Winsford, Cheshire, sent aome mould in which Beans had been grown under glass, but failed. The Beans were old. It was thought that the seil was too light, with possibly deficient light, and the Beans being old might have been difficult to germinate. Mr. BAKER has undertaken to investigate the matter.

Coloured Photos of Orchids.—Mr. HICKLEY, natural colour photographer, of Kelso, Bassett, Southampton, exhibited some very beautiful transparent illustrations. of Orchids in their natural colours. They were effected by a special process of Mr. HICKLEY'S on platea sensitive to the primary coloura—red, green, and violet; but the special treatment by which the excellent results were secured is not yet patented. was enquired as to the cost of such for lantern-slides. These would be from 5s. 6d. to 10s. 6d. A vote of thanks was given to Mr. HICKLEY for his interesting exhibitions and description.

Tronxoleum tuberosum as edible.-Mr. BOWLES reported that the result of his trial was that while they were edible, he could not at all recommend them as palatable.

LINNEAN.

FEBRUARY 4.—Prof. S. H. VINES, F.R.S., President, in the Chair. The vacancles in the list of Foreign members caused by the deaths of Dr. Julius Victor members caused by the deaths of Dr. Julius victor Carus, Monsieur François Crépin, and Prof. Carl Gegenbaur having been previously announced from the Chair, the following were proposed for election in place of the deceased members: Prof. Eugène Louis Bouvier, Paria; Dr. Carl Chun, Leipzig; and Dr. Hugo de Vries,

Mr. CHARLES EDGAR SALMON, F.L.S., exhibited two apecimens of Epilobium collinum, from Scotland, with a series of E. montanum, and E. lanceolatum for

Prof. J. Bretland Farmer, V.P., having taken the Chair, the President gave an account of some reaearchea into the physiology of the Yeast-plant (Saccharomyces cerevisite). He began by drawing attention to the remarkable fact that though this plant consists of but a single minute cell, it is known to produce a variety of eozymes or ferments; such as diaetase, that converts starch into sugar; invertase, that aplits cane sugar into slucose and fructose: plucase, that coverts malione late. glucose and fructose; glucase, that coverts maltose into glucose; zymase, that decomposes glucose into alcohol and carbon-dioxide; as well as an undefined enzyme, protease, which digests proteid matter; it is this last that has been the subject of investigation.

The proteolytic activity of yeast has engaged the attention of many observers of whom Hahn and

attention of many observers, of whom Hahn and Geret are among the most recent (1900); and they express the opinion that the plant contains a protease which resembles in some respects the pepsin of the

which resembles in some respects the pepsin of the animal body, in other respects the trypain, thus constituting a new and distinct type of enzyme. In the course of the last session of the Society (Nov. 20, 1902), the President announced that he had discovered in many plants (see "Proceedings," 1902-3, p. 12) a protease resembling the recently discovered erepsin of the animal body. Since then he has endeavoured to determine whether or not the proteolytic phenomena of yeast may not be due in part to the presence of an enzyme of this character, with results which indicate that this is the case. that this is the case.

It was ascertained, in the first instance, that a filtered watery extract of yeast readily decomposes the simpler proteida, such as albumoses and peptones, into non-proteid bodies, such as leucin, tyrosin, &c., as indicated by the tryptophane-reaction. Such an extract was, however, in no case observed to exert any digestive action upon a higher proteid, such as fibrin. The conclusion to be drawn is that the protease extractable from yeast by water is neither a pepsio nor a

tractable from yeast by water is neither a pepsin nor a trypsin, but is an erepsin.

It is, however, quite true that yeast contains a protease that digests fibrin If yeast be extracted, instead of with diatilled water, with a 2 per cent. solution of common salt (NaCl), a liquid is obtained which digests fibrin with certainty.

What, now, is the nature of this protease that digests fibrin? Like the erepsin, it can act through a considerable range of alkalinity and acidity, and so resembles trypain rather than pepsin. Moreover, it must be borne in mindthat, up to the present, there is no evidence that pepsin exists in any other plant. Though the point can only be finally settled by separating and isolating the two proteases, the probability is that this peptonising enzyme is a vegetable trypsin. It may be incidentally mentioned that such an association of erepsin and trypsin has recently been demonstrated by Dr. Venon in the paperas. strated by Dr. Vernon in the pancreas.

The conclusion auggested by the observed facts is,

then, that yeast contains at any rate two proteases, the one an erepsin, the other probably a trypsin.

A point of subsidiary interest is that both these proteases are most active at a degree of acidity rather less than the natural acidity of the yeast extract; as, for instance, when any free organic acid in the extract has been neutralised by the addition of chalk. It appears been neutralised by the addition of chalk. It appears that this optimum acidity is due to the presence of acid phosphate of potash.

Mr. Ernest Stanley Salmon, F.L.S., then gave an account of his "Further Researches on the Specialisation of Parasitism in the Erysiphacee," in continua-

tion of his paper read February 19, 1902.

The comparative inoculation-experiments of 1 650. leaves of various species of Bromus, carried out by the author at the Cambridge University Botanical Laboratory, have shown that a very high degree of specialisa-tion has been reached in the adaptive parasitism of Erysiphe graminis, DC., to the different species of the genus Bromus. This specialisation has involved the evolution of a considerable number of "biologics

forms" of the fungus.

The complicated inter-relations of these "biologic forms" with their host-species were shown by means of diagrams. Evidence was given of the diatinctive infection-powers of the "biologic forms" on B. interruptus, B. "hordeaceus," B. commutatus, B. racemosus, B. velutinus, B. arvensis, B. tectorum, and B. arduennensis.

The facts obtained show not only the high degree of specialization which the fungus has undergone, but also that each species of Bromus possesses distinctive physiological (or constitutional) characters existing concomitantly with the specific morphological characters. These physiological characters are constant, and render the species susceptible or immune in a definite manner.

manner.

The author pointed out that it is possible, by using the index of the reaction to the attacks of these "biologic forms," to show the presence of specific physiological (or constitutional) characters in a plant. physiological (or constitutional) characters in a plant-As a rule, each species of Bromus shows physiological characters which hold good for all examples of the species obtained from different localities. But there are exceptions to this rule, and the author pointed out that "biologic forms" of host-plants exist. As an example, B. mollis and a plant called "B. hordeaceus" example, B. mollis and a plant called "D. nortuseeus were mentioned. These two plants are morphologically identical, but possess distinctive physiological characters which cause them to behave respectively as an immune and a susceptible race with regard tecertain fungl. It was pointed out that this fact of the existence within the range of a morphological species. of races possessing different constitutional powers as regards resistance to the attacks of certain fungi, is of importance in connection with the question of the possibility of the breeding of immune races of plants of economic value.

Details of experiments were given in which definite proof was obtained of the function of certain apecies of Bromus as "bridging apecies." In the instance given, conidia of the "biologic form" on B. racemosus, which in repeated experimenta had proved to be which in repeated experiments had proved to be-unable to infect B. commutatus, were sown on tweaty-two leaves of B. "hordeaceus," and produced full infection on twenty leaves. The conidia of the fungus-thus produced on B. hordeaceus were then sown on B. commutatus, and caused full infection. B. "hordea-ceus" is thus proved to be a "bridging species," affording a passage for the fungus on B. racemosus to the species B. commutatua, which it is unable to infect directly.

the species B. commutatua, which it is unable to infect directly.

In inoculation-experiments with Sphærotheca Humuli on Potentilla reptans, the results obtained showed that in the genus Sphærotheca—as in Erysiphe—specialisation of parasitism and the evolution of "biologic forms" have taken place. The experiments with Erysiphe Cichoraccarum on Plantago major proved that this "biologic form" cannot infect P. lanceclata, but that it is able sometimes to infect P. media. The increase it is able and in reduced perithecia on but that it is able sometimes to infect P. media. The fungus transferred to P. media produced perithecla on some of the inoculated leaves after the Oldium-stage.

From observations made in the field, the author has ascertained the constant association of a mycophagous

ascertained the constant association of a mycophagous larva with the Oidium-stage of many apecies of the Eryaiphaceæ. A number of these larvæ, feeding on the couldia of species of Erysiphe and Sphærotheca, were reared, and a Dipterous fly belonging to the Cectdomylidæ was obtained. This fly has been determined by Abbé Kieffer as belonging to the genus Mycodiplosis.

CARDIFF AND DISTRICT CHRYSANTHEMUM.

THE seventeenth annual meeting was held recently The seventeenth annual meeting was held recently at the Grand Hotel, Westgate Street, Cardiff. Mr. J. Julian occupied the chair, the attendance being much more numerous than usual. The annual report was submitted by the Chairman. It stated that the year 1902 ended in a loss of £18 1s. 3d., or a total deficit of £22 10s. 3d. at the beginning of the year 1903. The whole of that had been pald off, and the Society would start the next year clear. The next show had been fixed for November 2 and 3.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

FEBRUARY 5.- There was a fair display of plants on the above date.

S. GRATRIX, Esq., Whalley Range (gr., Mr. Cypher), exhibited a fine hybrid Cypripedium called C. × Alportense, the parents of which are stated to be C. insigne Harefield Hall var. x C. Boxallil. It is a much larger flower in every way than C. insigne Harefield

Harger flower io every way than C. Insigne Harefield Hall var., and was awarded a First-class Certificate.

W. THOMPSON, Esq., Walton Grange, Stone (gr., Mr. Stevens), exhibited a nice collection of Odontoglossums, including some good forms of O. × Wilckeanum, and a very distinct form of O. × crispo-Harryanum var. Regins, the latter receiving an Award of Mcrit. A Bronze Medal was awarded for the group.

A. WARDURTON, Esq., Haelingden (gr., Mr. Bailey), exhibited Cypripedium × Hindeanum Warburton's var. (Award of Mcrit).

M. CH. VUYLSTEKE, Loochristi. Ghent, sent half-adozen fine Odontoglossums. O. Wilckeanum. var Minos was awarded a First-class Certificate; O. Harryocrispum var. Talma and O. Vuylstekei var. gratiosa received Awards of Merit.

A. J. KEELINO & SONS, Bingley, received an Award of

received Awards of Merit.

A. J. KEELING & SONS, Bingley, received an Award of Merit for Cypripedium × Graceæ, a hybrid between C. Boxallif × C. niveum; also a Bronze Medal for group. H. Low & Co., Enfield, received Awards of Merit for Cypripedium × Watsonianum and C. villosum var. Lowii, the latter an albino form.

Mrs. ARDERN, Stockport (gr., Mr. Morris), was voted an Award of Merit for Odontoglossum × Andersonianum var. Liebe.

yar. Liebe.

J. E. Williamson, Esq.. The Grange, Stretford, staged a few nice plants, including a well-flowered plant of Cattleya Triange var, albida (Award of Merit).

Mr. JOHN ROBSON, Altrincham, and Messrs. JNO. COWAN & Co, Lid., staged collections of plants (Vote of Thanks). P. W.

THE NURSERY AND SEED TRADE ASSOCIATION.

FEBRUARY 10 .- The Secretary informs us that the Annual General Meeting of this Association was held on the above date, at its offices, 33, Wood Street, Cheapside, London, E.C., when the report of the Committee and the balance sheet for last year were presented, approved, and directed to be printed and distributed to members. The number of the latter gradually increases, and comprises 139 of the principal nurserymen and seed merchants in the United Kingdom, and 41 abroad.

dom, and 41 abroad.

The Association being a mutual one is confined to members of the trades it represents and those allied therewith, and they give to each other gratis, through the Secretary, private information respecting the stability and punctuality in payment of persons seeking credit. In addition to being able to obtain such valuable information direct from its members and its own registers, the Association is allied with 41 Trade Protection Societies, and has correspondents in most. Protection Societies, and has correspondents in most of the towns in the United Kingdom, for the purpose

of obtaining information.

During last year it expended £2017s. 2d. in making special enquiries for ite members. The funds of the Association are wholly expended for the benefit of the latter. Its usefulness and value to the members are proved by the increase in the amount of the debts foreign the increase in the amount of the debts collected and the enquiries made yearly relative to the financial position of persons seeking credit. During 1903 there were 1,155 enquiries made and answered, being an increase of 199 as against the year 1902.

NATIONAL CHRYSANTHEMUM.

THE Executive Committee have considerably augmented the prizes in the leading classes in the schedule for the November show at the Crystal Palace, which is fixed for November 2, 3, and 4; and the schedule of prizes will be found much more favourable to the prizes will be found much more favourable to the interests of exhibitors than that of 1903. The Crystal Palace Company are giving an additional sum of twelve guineas as a special 1st prize in the great Vase Class; the 2nd, 3rd, and 4th prizes are also materially augmented. The 1chthemic Guano Co. (W. Colchester), Ipswich, give a handsome Challenge Trophy, value eight guineas, in the class for six vases of incurved blooms, such trophy to be won three times hefore it becomes the absolute property of any exhibitor. In addition, the Company give for this year a 1st prize of £7. Mr. William Seward, the well known raiser of Banwell, gives the sum of £5 in four prizes for twelve blooms of incurved Chrysanthemums in not fewer than six varieties of Hanwell-raised seedlings, the names of six varieties of Hanwell-raised seedlings, the names of which are given in the schedule of prizes. Mr. Thomas Bevan and Mr. C. Harman Payne also offer prizes for special varieties; and in addition there are 109 special prizes of 5s. each for specially-named flowers selected from the whole show, and one of half-a guinea for the best novelty. Altogether, the November schedule of best novelty. Altogether the November schedule of prizes is increased to the amount of nearly £80.

ROYAL GARDENERS' ORPHAN FUND.

FEBRUARY 12.—The annual meeting of the subscribers to this praiseworthy Fund took place on the above date at Cannon Street Hotel, London, in disagreeable weather. It was scarcely surprising that the attendance was small.

In the regretted absence, through illness, of Mr. H B. May, Chairman of the Executive Committee, Mr. W. Poupart was invited to preside over the proceedings.

REPORT OF THE EXECUTIVE COMMITTEE.

REPORT OF THE EXECUTIVE COMMITTEE.

"The Executive Committee in presenting their sixteenth Annual Report congratulates the supporters of the Fund on its continued prosperity and usefulness, as although from causes too well understood by all, they are but able to show a trifling increase over the previous year's receipts from all sources, other than legacies; they have been enabled to increase their disbursements in the form of allowances and grants in aid from £1,092 15s. in 1902, to £1,255 10s. in 1903—a total increase of £162 15s.

"The Committee have to deplore the falling off in annual subscriptions, as shown in the accounts presented, and the more so as the deficiency mainly arises from the non-renewal of 5s. subscriptions, but they hope and helieve that when this fact becomes known and the present dearth of money passes away, these subscriptions will be renewed and increased in number.

"They cannot believe that those in whose interest the Fund was established are indifferent to its claims upon their support. Many there are, undoubtedly, who feel that they cannot subscribe 5s, annually, and these may be usefully reminded that all contributions are voluntary, and that the payment of a subscription one year does not imply that it must be continued in the next.

"The Committee gratefully acknowledged the receipt

may be usefully reminded that all contributions are voluntary, and that the payment of a subscription one year does not imply that it must be continued in the next.

"The Committee gratefully acknowledged the receipt of a legacy of £25 from the executors of the will of the late Mr. A. F. Oster, of Birmingham; and also the kind generosity of the Earl of Ilehester in throwing open his beautiful gardens at Holland House, on the occasion of the Royal Horticultural Society's exhibition being held there, by which means the Fund benefited to a substantial amount. The legacies left to the Fund by Mr. A. H. Sinee and Mrs. John Wills, amounting to £350, have been invested in the purchase of £380 122. 2d. two and a half per cent. Consols.

"The Committee keenly regrets to record the loss which the Fund has sustained by the death of two of its founders, Mr. A. F. Barron, of Chiswick; and Mr. James Smith, of Mentinore. Of Mr. Barrou's devotion to the Fund while its Secretary for eleven years it is not possible to feel other than the keenest appreciation or to speak other than in the highest terms; while of Mr. Smith it may be said that for several years after the establishment of the Fund he served on the Committee, and until his death was a zealous collector in ald of the charity whose interest he had so warmly at heart.

"The number of orphans who have been elected to receive the benefits of the Fund during the past fifteen years is 179, and the total amount expended in allowances during the same period is £12,192 178 feld. At the commencement of the year the number of children receiving the full allowance was 73, and 24 were added to the list by special resolution at the annual meeting. The number on the Fund now is 88, and 10 will be added by election this day. Most of the candidates have been in receipt of compassionale silowances since their nominations were accepted; and while the Committee would have been glad if they could have seen their way to put a larger number than ten on the Fund, prudence dictales the safer

years' limit.

"The Committee again gladly tender their warmest thanks to the local Secretaries for valued services rendered, and also gratefully acknowledge the zealously continued exertions on behalf of the Fund made by gardening friends in various centres, and could heartily wish that their number could be increased.

"The Annual Festival held on May 5 under the presidency of the Right Hon. The Earl Carrington, P.C., again proved an unqualified success from every point of view; and as a slight acknowledgement of the Committee's appreciation of the noble Chairman's kindness on that occasion, have the greatest pleasure in re-

of view; and as a slight acknowledgement of the Committee's appreciation of the noble Chairman's kindness on that occasion, have the greatest pleasure in recommending that Earl Carrington be this day elected a Vice-President.

"It has been arranged for the next Annual Festival to take place at the Hotel Cecil on Tuesday, May 17, and the Committee arc highly pleased to make the announcement that Sir J. J. Trevor Lawrence, Bart., K.C.V.O., President of the Royal Horticultural Society, has most kindly promised to preside on that occasion. As the Royal Horticultural society will this year estebrate its centenary, it is especially gralliying to the Committee that his President should have so kindly accepted their invitation, and trust that all friends of the charlty will raily round them in support of so distinguished a pairon of horticulture.

"The members of the Committee who retire by rotation are Mr. J. Assbee, Mr. W. H. Cutbush, Mr. G. Gordon, Mr. J. F. McLeod, Mr. T. A. Morris, Mr. G. H. Richards, and Mr. W. Roupell; and Messrs. Assbee, Cutbush, Gordon, McLeod, Morris, and Roupell being eligible, offer themselves for re election. Am. G. H. Richards does not offer himself for re-election, and Mr. P. E. Kay and Mr. G. Nicholson having resigned, Mr. William Bull, Mr. R. Hooper Pearson, and Mr. W. P. Thomson are nominated to fill the vacancies thus created.

"The Committee have much pleasure in recording

"The Committee have much pleasure in recording their appreciation of the admirable manner in which Mr. William Sherwood discharges' the duties of Treasurer on behalf of his father absent abroad, and

in anticipation of Mr. Sherwood's early return, as all hope, in renewed health and vigour, he is again nominated for re-election as Treasurer.

"The Committee have again pleasure in thanking Mr. M. Rowan and Mr. P. kudolph Barr for their most careful audit of the accounts of the Fund. Mr. Rowan is the retiring Auditor, and is nominated for re-election."

STATEMENT OF ACCOUNTS.

The principal sources of receipts in 1902 were as follows:—Annual dinner, £681 2s; subscriptions, £252 5s, 11s.; ditto from local secretaries, £47 2s 1d; donations, £237 14s, 7d.; ditto from local secretaries, £68s, 10d.; legacy from Mr. A. F. Osler, £25; Emma Sherwood Memorial, £13; dividends on Stock and Interest on deposit, £319 is, 11d.; which, with other receipts (including balance of £1,198 17s, 4d. from last account), made a total of £2.845 1s. made a total of £2.845 18.

On the other side the chief items of expenditure were On the other side the chief items of expenditure were as follows:—Allowances to orphans, £1,166 10s.; grants in aid, £76; Emma Sherwood Memorial, £13; making a total given to children of £1,255 10s. Other expenses included—Annual dinner, £174 4s. 4d.; secretary's salary, £100; printing and posting to subscribers, £35 9s. 7d.; purchase of £380 12s. 2d. Two-and-a-half per cert Consols, £350; making, with other minor expenses, a total of £2 012 13s. 3d. There are balances at hank, on deposit, and in hand, of £832 7s. 9d.; making a grand total of £2 845 1s. total of £2,845 1s.

PROCEEDINGS.

The Chairman proposed the adoption of the report and balance-sheet, and when it had been seconded by Mr. Harry J. Veitch it was adopted unanimously.

Mr. Harry J. Veitch it was adopted unanimously.
On the proposition of Mr. Geo. Gordon, seconded hy
Mr. Rochford, the Earl of Carrington was elected a
Vice-President. Mr. N. N. Sherwood was re-elected
Treasurer on the motion of Mr. Roupell, seconded by
Mr. J. F. McLeod. Mr. Assbee proposed that Mr.
Rowan be re-elected Auditor, and it was carried.
Mr. R. Hooper Pearson proposed, and Mr. Miles
(Southampton) seconded, that Messrs. J. Assbee, W. H.
Cutbush, Geo. Gordon, J. F. McLeod, T. A. Morris, and
W. Roupell, retiring members of Committee, be reelected. This was carried unanimously.
On the proposition of Mr. Assbee, Messrs. W. Bull,
R. Heoper Pearson, and W. P. Thompson were elected
members of the Executive Committee, in the places of

members of the Executive Committee, in the places of Messrs. Geo. Nicholson, Peter Kay, and G. II. Richards.

The re-election of the Secretary was the next business, and the Chairman proposed that Mr. Brian, Wynne he appointed at a salary of £125 a year, and showed good reasons for giving the extra £25, Mr. Wynne having worked very hard for the Fund. Mr. Roupell also here testimony to Mr. Wyone's remarkable enthusiasm and energy.

ELECTION OF CHILDREN TO THE FUND.

Messrs. Asshee. Lyne, Geo. Cuthbert, Geo. Reynolds and J. F. McLeod, were appointed scrutineers of the ballot, and the result was declared at 4 30 as follows.

1. GEORGE JAMES LAMMAS ... 367 votes.
2. HARRY GEORGE PANTLING ... 331 ,, 3, REGINALD JOSEPH PANTLING ... 331 4, MARGARET LAMMAS 328 5, LOUISE WIFELEY LOUISE WITCHER 6. MARY ELIZARETH PRETTY ... 229
7. ROBERT ARTHUR PRETTY ... 228 FRANK WILLIAM SONNTAG ...
HENRY GILLET 214 10. HILDA BLANCHE AYLING ... 186

There were nine unsuccessfut candidates.
On the suggestion of Mr. H. J. Veitch, a telegram was despatched to Mr. H. B. May, regretting his indisposition, and hoping for his speedy restoration to health.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

Bristol and Bath Auxiliary.

FERRUARY 12.—A special meeting of the above Association was held at Chivers' Restaurant on the above date, to consider the advisability of holding a Rose, Begonia, and Orchid show in aid of the Institution, Mr. W. A. Garaway occupying the chair.

Mr. W. A. Garaway occupying the chair.

Mr. Vallance had carefully thought out the matter, and decided that a Rose show, to be held next year, would be the best means of increasing the income of so deserving a charity. He therefore proposed that a show be held for the purpose. On the vote being taken, it was unanimously decided to hold the show during the summer of 1905. The question of a guarantee fund was also brought forward, and responded to in a very cratifying way, many gentlemen adding their names gratifying way, many gentlemen adding their names to the list of guarantors.

Liverpool Auxiliary.

FEBRUARY 13.—The third Smoking Concert in aid of this Institution was held in the "Bear's Paw Restaurant," and was a great success. In addition to Mr. C. A. Young, the estimable chairman of management and Messrs. R. G. Waterman and A. G. Crippin, the hard-working Secretary and Treasurer, there were present Mr. J. Dickson (Messrs. Dicksons, Ltd.). Mr. B. Wilson Ker and Mr. Ranger (Messrs. R. P. Ker & Sons), Mr. H. Middlehurst, Mr. J. Finnigan, Mr. R. F. Barnes

(Eaton Hall Gardena), Mr. J. Gibbins (Croxteth Hall Gardens), Mr. B. Ashton (Lathom House Gardens), Mr. J. Guttridge (Wavertree Botanical Gardens), T. Foster, Gardens), Mr. B. Ashton (Lathoth House Gardens), Ar. J. Guttridge (Wavertree Botanical Gardens), T. Foster, W. Mercer, B. Cromweil, and Messrs. R. G. Waterman, and R. Pinnington. Later in the evening the chair was occupied by Councillor W. Watson Rutherford, M.P. ex-Lord Mayor of the City, who was accompanied by Mrs. Rutherford and Councillor Utley, the lady on eutering being presented with a charming bouquet by Mr. C. A. Young.

In urging the claims of the Institution, Mr. Rutherford made a powerful appeal to the Liverpool branch to organise and do all in its power to raise all the money possible. He thought there ought to be more relief granted, and it was not creditable that at the last election transfer recommended to more effected to the control of the co the last election twenty people were afforded temporary relief only. Gardeners should do what they could, and instil into the minds of their employers how beneficial the institution was. Me Dickson, and Middlehurst also spoke. Messrs. Waterman

Mr. Rutherford and Mr. R. W. Ker gave respectively three guineas and one guinea. New subscribers announced were Lady Tate, Mr. F. H. Gossage, Hull Chemical Co., and Councillor Utley. the latter stating that according to the interest of the branch, so would

the increase his aubscriptions.

The sum of £37 17s. had been forwarded to H. J., Veitch, Esq., leaving £2 19s. 8d. in the local Treasurer's hands. Orchid.

NATIONAL SWEET PEA.

THE third Annual Report of this Society has been The classification undertaken in 1902, and the published list of varieties most desirable to grow are recommended to the trade, to assist in determining the varieties most worthy of retention in catalogues. The Silver Medal of the Society for the finest novelty of the year was awarded to Scarlet Gem. The next annual exhibition will take place on Wednesday and Thursday, July 20 and 21, at the Crystal Palace, when prizes will be offered in thirty-six competitive classes. A schedule may be obtained from the Hon. Sec., Mr. H. J. Wright, 32, Dault Road, Wandsworth.

NATIONAL FRUIT GROWERS' FEDERATION.

COUNCIL MEETING.

THE usual monthly meeting of the Council was held at the Westminster Palace Hotel on Monday, the 15th at the Westminster Palace Hotel on Monday, the 15th inst. The following were present: Col. C. W. Long, M.P., Chairman; Messrs. J. Idlens, Evesham; C. D. Wisc, Gloucestershire; H.F. Gatting, Herefordshire; W. Idlens, Cambridgeshire; Hon. and Rev. A. Baillie-Hamilton, Guernsey; S. Boorman, Surrey; F. Smith, T. May, A. Meskin, A. S. White, W. Horne, and Percy Manwaring, from Kent; A. H. H. Matthews, Secretary to the Central Chamber of Agriculture; and A. T. Matthews, Secretary.

An important discussion took place on the question of the assessment of agricultural land being raised when planted with fruit. A typical case was brought forward from Kent, in which the rent is £120 and, because it has been planted with fruit-trees, the Income Tax Assessor raised the assessment to £353, which was maintained by the Commissionera, and from which decision the tenant was told there was no appeal. Mr. C. D. Wise said this was a mistake, and appeal. Mr. C. D. Wise said this was a mistake, and that such cases could be carried to the higher courts. He also gave two instances which had occurred in his neighbourhood, when similar attempts to raise the assessment had been successfully resisted. Another well-known case in Norfolk was cited, in which the tenant had gained his case on appeal. Mr. Thos. May said that such land should be treated as farm-land under Schedule B, and mentioned a case at Bromley when it was ao decided. The Council agreed that the when it was so decided. The Council agreed that the whole subject required careful investigation, and it was referred to the Departmental Inquiry for

The Rallway Advisory Committee then presented a report, stating that the Great Western Co. have agreed to place a few of their ventilated fruit vans, now only used on passenger trains, on the goods train service on trial, the Advisory Committee to report on their suitability. The van is an excellent one, and a very great improvement on the open trucks, which have to be sheeted. The railway authorities admit that they will sheeted. The railway authorities admit that they will also save much time by dispensing with the sheeting, and that they will thus be able to run the trains more punctually. This being the case, there is every hope that sheeted vans will soon become things of the past. The Midland Co. have been asked to add torpedo ventilators to the roofs of their passenger fruit trains, and as prevent much damage from the heating of soft fruits, which also leaves a smell in the van detrimental.

and so prevent much damage from the heating of soft fruits, which also leaves a smell in the van detrimental to the next load. Mr. Eaton, the Superintendent, has promised careful consideration to this suggestion.

The Committee has followed up the question of evening special passenger trains to pick up fruit from sending stations, and so enable late afternoop picking of soft fruit to be performed, and the fruit landed in Northern markets in the morning almost equal to morning-picked fruit. morning-picked fruit.

Revised passenger and goods service rates have been issued by nearly all the companies in pamphlet form, handy for the pocket, enabling the grower to see at a glance if it would answer his purpose to pay slightly more for carriage, and so catch an earlier market.

All these matters were brought before the Board of General Managers by the deputation from this Federa-

tion about fifteen months ago.

It was decided that in future all members should be welcome at the meetings of the Council, Monday, March 14, at 230 P.M., being the next fixture.

UNITED HORTICULTURAL BENE-FIT AND PROVIDENT.

AT a meeting of the Committee, on Monday, Feb. 8. fourteen new members were elected, making thirty-one in the two meetings this year. The annual general meeting will be held on Monday, March 14, at 8 P.M.

GARDENERS' DEBATING SOCIETIES.

DEVON AND EXETER GARDENERS' TION.—At a meeting held in the Guildhall on February 10, Mr. Sidney Baker, gr. to Sir Dudley Duckworth King. Wear House, read a paper on "Tomato Culture." The lecturer spoke of the various "Tomato Culture." The lecturer spoke of the various uses of this fruit as a salad, a dessert fruit, and a fruit-vegetable for the table. For early varieties, which should be sown in September or October, he recommended the Flying Dutchman and Early Ruby, and that the plants be grown in 8-inch pots or in shallow tubs it they can be plunged. In mixing the compost for use a little rough mortar rubble or charcoal should be added. Pollinate the flowers with a brush made from a rabbit's tail. For main crop he advised sawing in February, growing on and planting coal should be added. Formate the nowers with a brush made from a rabbit's tail. For main crop he advised sowing in February, growing on and planting in the border of a well-lighted house, in rows 3½ to 1ft. apart, the plants being not less than 16 inches from apart, the plants being not less than 16 inches from each other. The border should be shallow and the soil made firm. The plants should be ayringed early in the afternoon, but syringing must be discontinued when the fruits are colouring. A suitable compost when the fruits are colouring. A suitable compost was described, together with manuring and watering. The best kind of house for a main crop is a low span, 12 or 13 feet wide, permitting two rows of plants on each side. Good varieties for cultivation indoors are Perfection, Veitch's Glory, Flying Dutchman, Holme's Supreme, Dobbie's Champion, and Best-of-All. For dessert—Golden Nugget, Golden Queen, and Sunbeam.

- The first annual DORCHESTER GARDENERS'. meeting of this Society was held on February 3, Mr. C. F. Symes presiding. The report showed a steady increase in the membership. Captain Dymond was reappointed President, and Mr. Edward Nutting, Hon. The meetings in future will be held on the last Monday in each month.

ABINGER MUTUAL IMPROVEMENT .- On Monday, February 1, Prof. J. Percival, of Reading College, gave a lecture on the "Principles of Pruning common Fruit trees." The lecturer dealt with the various methods of pruning, and emphasised the importance of always pruning, and emphasised the importance of always cutting the trees with a definite object in view; sometimes in order to obtain new wood, at others to induce the formation of apurs, to start retarded buds, rejuvenating, admitting light, or checking excessive growth. Summer pruning was also dealt with, and root-pruning advocated when necessary.

CROYDON HORTICULTURAL MUTUAL IMPROVE-MENT.—The forthightly meeting was held on February 2. when Mr. W. P. BOUND, Gatton Park Gardens, Reigate, read a paper on "Present-Day Orchid Culture." Mr. BOUND spoke of the generat culture of Orchids. For the potting operations he mentioned the best materials to be used, and recommended the use of pots, but great care must be exercised in watering. The pots, but great care must be exercised in watering. The resting periods of the plants, the temperature of the house, and the ventilation to be maintained were all dealt with. Feeding with artificial manurea was not advisable, but occasional syringing with soot water was

WARGRAVE AND DISTRICT.—The Annual Report of thia Society for 1903 shows a prosperous condition at the end of its aixth year. The Chrysanthemum Show was again a success and enabled a sum of £15 13s. to be forwarded to the Royal Gardeners' Orphan Fund. A number of papers and lectures has been given during the year, Mr. W. H. Scott won the 1st prize for his essay on "Hybridisation," Mr. Fuller winning the prize open to assistant gardeners. The balance in hand is £19.98.4\frac{3}{4}d. out of a total income of £45.28.6\frac{3}{4}d. H. F. Nicholl, Esq., has been elected President for 1904/Mr. G. Stanton, Chairman, and Mr. H. Coleby, Hon. Secretary.

LIVERPOOL HORTICULTURAL, On Saturday. February 13, Mr. F. W. Shrivell, F.L.S., delivered a lecture on "Chemical and other Manures." Mr. Shrivell mentioned the value of nitrogen to the Pea and Beau, and contended that the fallacy that these plants require no uitrogen was gradually being exploded. Peas and Beane grown with nitrogen are sweeter in

flavour and produce larger crops. A series of diagrams demonstrated that the best results were obtained by using a small quantity of farm-yard manure in addition to chemicals, this being especially noticeable in the case of Broccoli, Potatos, &c. The mechanical effect of farm-yard manure was demonstrated, and several formulas given for Chrysanthemums, Vines, Melons, herbaceous borders, &c. J. S.

CHESTER PAXTON.—Mr. Robert Wakefield, Newton Hall Gardens, read a carefully-prepared paper on "Herbaceous Flowers for Home and Exhibition" in the Grosvenor Museum, Chester, on February 6. Mr. Wakefield, who is known in local horticultural circles as an expert in cultivating and exhibiting herbaceous flowers gave the following twelve varieties as heing a as an expert in cultivating and exhibiting herbaceous flowers, gave the following twelve varieties as being a typical collection for exhibition purposea during August and September: –Lilium auratum, Montbretia crocosmiæflora, Helenium pumlium magnificum, Achillea ptarmica fi pl. The Pearl, Chrysanthemum maximum, Scabiosa caucasica, Helianthus Soleil d'Or, Erigeron speciosus superbus, Gaillardia, Gladiolus Tne Bride, Coreopsis grandiflora, and Phlox Avalanche White.

BRISTOL GARDENERS' MUTUAL IMPROVEMENT. BRISTOL GARDENERS' MUTUAL IMPROVEMENT.—A successful meeting of this Association was held at St. John's rooms, on February 11, Mr. E. Poole presiding over a good attendance. The lecture for the evening was upon "Bouquet Making," by Mr. Powell, a representative from the Reading Gardeners' Association. Mr. Powell was practical in his demonstrations. Starting with the foundation of the bouquet, he proceeded to explain the wiring and arranging of the flowers to produce the most pleasing effect. His bouquet was handed to his audience for Inspection, and it proved that he understood his subject well. Sprays it proved that he understood his subject well. Sprays and button holes also received his attention, and the hints given were appreciated.

CROYDON HORTICULTURAL MUTUAL IMPROVE-MENT.—The fourth annual dioner was held at the Greyhound Hotel, Croydon, on Wednesday, loth inst., there being a good attendance. Mr. J. J. Reid, the President of the Society, was in the chair. Mr. C. H. Curtis gave the toast of "The Society." Mr. Boshier, Curtis gave the toast of "The Society." Mr. Boshier, in reply, said it was a pleasure to report that the association had had a most successful year, and was enabled to carry forward a substantial balance to the ensuing season. They had also held a very successful spring exhibition and an essay competition. For the coming session a complete syllabus of papers had been arranged, also two prize essay competitions. In addition to this, the Society had inatituted a gardeners registry, and by its means had been enabled to secure a situation for one of its members.

Obituary.

T. W. WEBLEY .- We have to record the death of Mr. T. W. Webley, of The Uplands, Selly Hill, Birmingham, on the 13th inst. The deceased took great interest in his garden, which is one of the most interesting and best-kept in the neighbourhood of Birmingham. He was attached to several local horticultural and other societies in the Midland metropolis, where he will be much missed. At the meeting of the Birmingham Gardeners' Mutual Improvement Society on the 15th inst., a vote of condolence with Mrs. Webley was passed. The interment took place at the parish church, Selly Oak, on the 17th inst.

WILLIAM COLE .- A once well-known metropolitan gardener, in the person of William Cole, of The Vineyard, Feltham, Middlesex, passed quietly away to rest on Tuesday morning last, at the age of sixty-nine years. Since the death of his wife a year and a half since Mr. Cole had much aged and was broken in health. Thirty years have elapsed since he left Ealing Park, once the home of Mrs. Lawrence, of plant fame, and in Mr. Cole's time occupied by Mr. Budgett, a wealthy merchant. The deceased gardener was not only there for many years, but he made a high reputation as a plantsman, Grape-grower, and general worker. He was a keen competitor at exhibitions in and around London, and his exhibits were always hard to beat. When he left Ealing for Feltham he commenced Grapegrowing, cultivating Muscat of Alexandria remarkably well; and that variety still remained his favourite one up to the last. He was greatly esteemed and respected by all who knew him. His services as a show judge were often in request.

MARKETS.

COVENT GARDEN, February 17.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who are responsible for the quota-tions. It must be remembered that these quotaday, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only trom day to day but offer several times. from day to day, but often several times in one

CUT FLOWERS. &O.: AVERAGE WHOLESALE PRICES.

Anemones, per	Nareissus Solcil
dez. bunehes 1 6- 2 6	d'Or. per dozen 20-40
Azalea mollis, bun. 1 0- 2 0	Orchids: Odonto-
Azaleas, per doz. 4 0- 6 0	glossums, per -
Bouvardias.bnch. 0 4- 0 6	dozen blooms 2 0- 3 0
Callas, per dozen. 3 0-4 0	- Cattleys, per
Camellias, box 1 6- 2 0	dozen 12 0-15 0
Carnations, buch. 1 0- 3 0	- Cypripedium
Chrysanthemums,	insigne, per
doz. bunches 6 0-12 0	dozen 0 9-1 6
- pink, bunch 0 8- 2 0	- Crelogyne, doz. 1 0-18
Crotonleaves.bun. 0 6- 1 0	Pelargoniums,
Daffodils,dz, bun. 20-80	zonal, dozen
Eucharis, per doz. 1 6- 2 0	bunches 4 0- 6 0
Eupherbia, bun. 10-30	- white, dozen
Ferns, Asparagus,	bunehes 4 0- 6 0
per bunch 1 0- 2 6	- double scarlet.
- French, per	p. doz. bunches 4 0-6 0
doz, hunches 0 3-0 4	Roman Hyacinths.
- Maidenhair	doz. bunches 3 0- 8 0
doz. bunches 40-60	Roses, Mermet,
Freesia, per doz. 10-20	per bunch 3 0- 6 0
Gardenias, box 4 0-50	- white, bunch 1 6-2 6
Lilae (French),	- French, bunch 1 0- 2 0
per bunch 1 6- 3 0	Smilax, per doz.
Lilium auratum	trails 1 6- 2 0
per bunch 2 6- 4 0	Suewdrops, doz. 1 0- 1 6
- longiflorum,	Spirmas, bunch 10 -
bunch 3 0- 6 0	Stocks, per doz 20-26
- lancifotium 1 6- 2 6	Tuberoses, strong,
Lily of the Valley,	per buneh 1 0- 1 6
p. doz. buuches 6 0-15 0	- per dezen 0 6- 0 9
Marguerites, yel-	Tulips, Red, per
low, doz.bunch. 1 0- 2 0	hunch acan
Mimosa (Acacis),	- various, per
bunch 0 6- 1 0	bunch 0 6- 1 6
Narcissus, dz.bun. 1 0- 2 0	Violets, p. dozen
- Pheasant Eye,	bunches 1 0- 1 6
per doz 2 0- 4 0	- Parma, p. bun, 1 6- 2 6
F	- A WALLIUS, P. DULL, 1 0- 2 0

PLANTS IN POTS, &o.: AV	ERAGE WHOLESALE PRICES.
s.d. s,d.	s.d. s.d.
Acadas, per doz. 12 0-50 0	Ferns in variety
Adiantums, doz. 40-80	doz 4 0-30 0
Aralias, per dez. 40-80	Genistas, per doz. 6 0-10 0
Arbor Vitæ, doz. 9 0-18 0	Hyacinths, Roman
Arum Lilies, per	(48-pots), dcz. 8 0- 9 0
doz 10 0-12 0	- Dutch, p. doz. 8 0-12 0
Aspidistras, doz. 18 0-36 0	Lyeopodiums, per
Aucubas, per doz. 4 0-8 0	dozen 3 0- 4 0
Azalea mollis, pot 1 6-3 0	Marguerites, per
Azaleas, each 16-50	dozen 60-80
Begonia, per doz. 8 0-18 0	Orange-trees, each 3 6-10 6
- Gloire de Lor-	Palms, var., each 3 0-20 0
raine, per doz. 8 0-24 0	Poinsettias, dez. 8 0-15 0
Cinerarias, p.doz. 8 0-12 0	Primulas, perdoz. 40-60
Coleuses, per doz. 40-50	Pteris tremula,
Crotons, per doz. 12 0-24 0	dozen 4 0- 8 0
Cyclamens, doz. 90-180	- Wimsetti, per
Cyperus, per doz. 30-40	dozen 4 0-8 0
Daffodils, per doz. 60-80	— major, dozen 40-60
Dracænas, variety,	Solanums, dozen 40-60
dozen 12 0-48 0	Tulips, red, dez.
Ericas, per dozen 6 0-12 0	reets 10 -
Euonymus, vars.,	- yellow, dozen
per dozen 4 0- 6 0	roots 0 9- 1 0
Ficus elastica, doz. 9 0-24 0	— various 1 0- 1 6

VEGETABLES: AVERAG	E WHOLESALE PRICES.
6.d. s.d.	8.d. 8.d.
Artichokes, Globe,	Mushrooms(house)
per dozen 26-40	per lb 10 -
- Jerusalem, p.	Onions, per case. 60-66
sieve 10-13	- per bsg 3 6- 7 0
Asparagus, Sprue,	- picklers, sieve 3 0- 5 0
bundle 0 9-0 10	- English, ewt. 7 0- 7 6
- Paris Green 4 6 -	Parelon don hum
- English, bun. 6 0- 7 0	Parsley, doz. bun. 30-40
Beans, dwarf, 1b. 2 6-3 0	— sieve 1 6- 2 6
- Madelra, per	Parsnips, per bag 20-26
basket 3 0- 4 0	Potatos, per ton 80 0-130 0
	— framed, lb 0 7-08
Beetroots, bushel 2 6- 3 0	- New Teneriffe,
Brussels Sprouts,	per cwt 14 0-16 0
per sieve 1 0-1 6	Radishes, per
Cabbages, tally 4 0- 5 0	dozen bunches 10-13
Carrots, per doz.	Rhubarb, Yorks,
bunches 2 0- 2 6	per dozen 0 10½-1 2
- per bag 2 0- 4 0	Salad, small, pun-
Cauliflowers, doz. 16-30	nets, per doz 0 8-1 0
Celery, doz. bun. 12 0-20 0	Savoys, tally 36-60
Cress, doz. pun. 08-10	Seakale, per doz.
Cucumbers, doz. 60-80	punnets 12 0-15 0
Endive, per doz. 20 —	Shallots, lb 0 2-0 3
Garlie, per lb 0 3 -	Spinach, p. bush. 36-40
Horseradish, fo-	Tomatos, Canary
reign, p. bunch 10-16	Deeps 3 0-4 0
Leeks, duz. bun 10 -	Turnips, doz.bun. 1 6- 2 0
Lettuces, Cabbage,	- per bag 2 0- 2 6
per dozen 1 0-1 2	— per bag 20-26 Watercress, per
Mint, doz 4 0- 8 0	dozen bunches 0 6-08
	1

FRUIT: AVERAGE WHOLESALE PRICES.

8.a. s.a.	8.d. 8.d.
Apples, home-	Grapes, Alicante,
grown, cookers,	per lb 1 3- 2 6
per bushel 30-50	— in barrel 11 0-12 0
barrel 18 0-24 0	- Almeria, doz. 4 0-8 0
- American, in	- Gros Colmar,
cases 8 6-14 0	A., per lb 2 6- 3 0
Bananas, per	B., per lb., 1 3-1 9
buneh 7 0-12 0	Lemous, per case 8 6-11 0
- loose, dozen 10-16	Oranges, per case 6 0-35 0
Chestnuts, per	Pears, per ease 11 0 -
bag 17 6-18 6	- stewing 9 0-11 0
Cobnuts, per lb. 0 7 —	Pines, each 26-50
Cranberries, per	Strawberries, per
	1b 10 0-20 0
and the same of th	

REMARKS.—Argentine Peaches, per case 2s. to 4s.; Nectarines 2s. 6d., to 4s.; Plums, 1s. 6d., to 2s.; Pears, 2s. to 4s.; Cape Nectarines, per case 4s. to 6s.; Peaches, 2s. to 6s.; Plums, 2s. to 4s.; Lychees, 1s. 2d.; Grape fruits, 8s. to 10s.; Broccoll Sprouts, per bag 1s. 6d. to 2s.; Turnip Toos, per bag 2s to 2s. 6d.; Asparagus Spanish, per bundle 2s.; Giant, 15s. to 20s.

POTATOS.

Home-grown, 90s. to 120s. per ton; foreign, 80s. to 110s. do.; Dunbars. 120s. to 120s. do Seed-tubers in variety. John Bath, 32 & 34, Wellington Street, Covent Garden.

FLOWER MARKET.

Many of the early winter flowers are uow disappearing, and spring flowers are taking their places. Chrysanthemums are only seen on a few stands, but there are yet seme good bleoms coming in. Bright-coloured flowers are searce. Red Tulips make a higher price than Fullips of any ether colour; and though there are now some red Roses, they are very choice, and make high prices. Anyone who could send in a good supply of such Roses as Mr. G. Meunt exhibited at the Drill Hall, Westmiuster, on the 9th just would be supplying a great want, and would get a good return for his labours. All white flowers are very plentiful; it would seem that in looking after whites the brighter colours have been neglected, and though there will always be a greater demand for white flowers than for any ethers, we must have some cheerful Many of the early winter flowers are now disappearthere will always be a greater demand for white howers than for any ethers, we must have some cheerful colours. The Daffodils, which are now coming in in such quantities, afford plenty of yellow. The searlet Anemones (Anemone fulgens) are not yet plentiful, but they will presently be very useful. White Azslea is over plentiful, but we see very little coloured Azalea in cut blooms. Among

POT PLANTS

Azalea Madame Van der Cruyssen is plentiful, but this Azalea Madame Van der Cruyssen is plentiful, but this is not quite the shade of red that is appreciated, though it is a very useful Azalea. The pink Oswald de Kerchove is a fine pink, and I believe it would pay to grow for cut flowers. Good English Carnations continue to be scarce, but should we get a little sunny weather the supply will soon be considerably augmented. Double scarlet Pelargonium (Geranium) is not so plentiful as it was a few years ago, but a little bright weather may also see a considerable increase in the supply of this. Lilium laneifolium rubrum is very good: L. longiforum is not very plentiful but the supply good; L. longifiorum is not very plentiful, but the supply of Callas is well maintained, and the price for these is now at its lowest ebb. Cinerarias are good, and continue to sell well. Good Primulas are now rarely seen in the market; they are not so much in demand, perhaps, as they were a few years ago, but well-finished plants would sell in limited quantities. Erica Wil-mereana is new coming in, but it is not quite so well flowered as usual. Just now the market does not present a very busy appearance, many of the stands remaining empty, and there is much waste or stale stuff to be seen on some stands. $A.\ H.$

FRUITS AND VEGETABLES.

FRUITS AND VEGETABLES.
GLASOOV, February 17.—The following srethe averages of the prices during the past week:—Apples, Maine (U.S.), 15s. to 24s. per barrel; Californian Newtown Pippin, 8s. 6d. to 10s. per box; Canadian, 16s. to 28s. per barrel, and 8s. to 12s. per box; Oranges, Valencia, 420's, 7s. to 10s. per ease; large, 11s. to 15s.; 714's, 7s. 6d. to 10s. 6d.; Lemons, 5s. to 10s. per box, and 11s. to 18s. per case; Pears, 10s. to 12s. per box; Grapes, home, 1s. to 2s. per lb.; do., Almeria, 8s. to 20s. per barrel; Tomatos, 9d. per lb.; do., Teneriffe, 3s. to 8s. per box; Mushrooms, 1s. 3d. to 1s. 6d. per, 1b.; Onions, Valencia, 6s. 6d. to 8s. 6d. per ease.

Liverpoot, February 17.—Wholesale Vegetable Market

to 8s. 6d. per ease.

LIVERPOOL, February 17.—Wholesale Vegetable Market (North Hay).—The following are the average of the current prices during the past week—prices varying according to supply:—Potatos, per cwt., Main Crop, 4s. 6d. to 5s.; Up-to-Date, 4s. to 4s. 6d.; Bruce, 4s. 3d. to 4s. 9d.; British Queen 4s. to 4s. 6d.; Turnips, 6d. to 8d. per dozen hunches; Swedes, 1s. 3d. to 1s. 4d. per cwt.; Carrots, 3s. 6d. to 4s. do.; Parsley, 8d. to 10d. per dozen bunches; Onions, foreign, 4s. 6d. to 5s. per bag; Cauliflowers, 2s. to 3s. 6d. per dozen; Cabbages, 6d. to 10d. du.; Celery, 9d. to 1s. 6d. do.—St. Johns: Potatos, 10d. to 1s. per peek; Cucumbers, 4d. to 5d. each; Grapes, English, 1s. 6d. to 2s. 6d. per 1b.; do., foreign, 8d. to 10d. do.; Plnes, foreign, 4s. to 6s. each.—Birkenhead: Potatos, 1s 2d. to 1s. 4d. per peek; Cob-nuts, 8d. to 10d. per 1b.; Grapes, English, 2s. to 4s. do.; do., foreign, 6d. to 8d. do.; Tomatos, foreign, 6d. to 8d. do.; Mushrooms, French, 1s. to 1s. 4d. do.

SEEDS.

LONDON, February 16.—We have to report only a moderate enquiry for agricultural seeds. Prices of Red Clover continues firm, and owing to a good demand on the Continent stocks are becoming depleted. The few samples of English Clover being marketed show very poor quality. White Clover and Alsike unchanged in value. Rye-grasses steady. Hurst & Son, 153, Hounds-Jach.

CORN.

AVERAGE PRICES of British Cora (per imperial qr.), for the week ending February 13, 1904, and for the corresponding period of 1903, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.		1903.		1904.		Difference.					
Wheat Barley Oats	***	•••	•••	8. 25 23	d. 6	8. 26 22	d. 8 2	+	8. 1 1	d. 2 5	i

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Feb. 13, is furnished from the Meteorological Office :-

"The weather was again rough, wet, and unsettled over "The weather was again rough, wer, and missessed or the whole kipgdom, the rain being heaviest and most frequent in the south and southwest. A thunderstorm was experienced at Soilly on Monday and at several Irish and English stations towards the close of the week while in others lightning singly was observed.

while in others lightuing singly was observed.

"The temperature varied considerably in the different districts; in Scotland, England, N.W., and over Ireland it was below the mean, and in England, N.E., just equal to it, while in all other English districts it was above the normal. The highest of the maxima, and also the lowest of the minima, were with few exceptions recorded during the latter half of the period. The former varied from 52° in many western and southern localities to 46° in Scotland, N., and the latter from 11° n Scotland, E. (at Brsemar), 22° in Scotland, N., and 3° and 24° respectively in Scotland W., and Ireland, N., to 31° in England, S., and 34° in the Channel Isles.

"The rainfall exceeded the mean in all parts of the

"The rainfall exceeded the mean in all parts of the kingdom. In Scotland and the north-east of England. the excess was small, but over the major portion of Eogland the fall was three times the normal amount.

"The bright sunshine in England, N.E., where the per-centage of the possible was 23, the mean duration was just equalled; but in all other districts there was a deficiency. In Scotland, N., the percentage was only u, and in Ireland, N., no more than 8.

THE WEATHER IN WEST HERTS.

THE TRIED WEEK OF INCESSANT RAIN.-This was on the whole a warm week, and on no night did the thermometer exposed on the lawn show more than 8° of frost. The ground is at the present time at about a seasonable temperature, both at 1 and 2 feet deep. During the three weeks ending Feb. 14, more than 5 inches of rain fell, or \frac{1}{2} inch more than the average rainfall for January and February put together. This heavy fall is equivalent to 24 gallens of rain-water on each square yard of surface in this district. The percolation gauges, as may be imagined, have been very busy during this wet period, in fact, the whole of the; 24 gallens of rain-water has come through that on which there is no vegetation, and 22 gallons through the gauge on which short grass is growing. The sun shone on an average during the week for only threequarters of an hour a day, or for l_2^1 hour a day less than is usual in February. The winds were often very strong, and eame mostly from some southerly or westerly point—at no time, however, did the mean velocity for any hour exceed twenty miles. The mean amount of humidity in the air at 3 o'clock in the afternoon exceeded the average for the month at that hour by about 6 per cent. E. M., Berkhamsted, Feb. 16, 1904.

ENQUIRY.

CULTURE of Sunflower for seeds and of Chervil on a large scale for market purposes; information is required on these subjects. Can any reader oblige ? X.



*** EDITOR AND PUBLISHER.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the Editor. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

Austrian Briar Roses: Dendrologist. The Austrian Briars, varieties of Rosea lutea, require very little pruning. Keep the branches thinned sufficiently for the air to circulate through the bushes, and do not stop the remaining shoots much, because the flowers are produced from the middle or upper end of these shoots. You may clear the stem for a foot from the ground if you choose, but there is no necessity to clear it for a greater length, provided you thin the branches.

Books: C. G. D. A pamphlet on the Gooseberry and Currant, by D. T. Fish, was published by L. Upcott Gill, Drury Lane, London, W.C., in 1882, price 1s., but we are unable to say if it is now obtainable. It contained a comprehensive list of varieties, also their history, cultivation, and descriptions of diseases that attack them.—G. S. L. We know of no book dealing specially with the subjects you mention.

CANADIAN GARDENING PAPER: Correspondent.
The Canadian Horticulturist, published monthly
by the Ontario Fruit Growers Association,
Toronto, Ontario. Price 10 cents monthly, or
1 dollar per annum. This subscription also
entitles the subscriber, if living in Canada, to
membership of the Fruit Growers Association
of Ontario, and all its privileges, including the
receipt of a copy of its Annual Report.

CHERVIL: S. A. M. Seeds of this can easily be procured from any seedsman. It is grown to flavour soups and for similar purposes, but we never heard of its being grown for medicinal use. All the Umbelliferæ have more or less medicinal properties, and some, like Hemlock, are very poisonous. So far as we know Chervil is harmless and agreeable.

CLEMATIS GRAFTS: Novice. The grafts were properly made, but the scions were probably taken from plants stricken with the fatal Clematis disease; at any rate, the grafts had all the superficial appearance of that disease.

COKE FOR HEATING GLASSHOUSES: Fuel. You ask what would be the quantity of gas-coke required to heat for ten daye 460 feet of 4-inch hot-water piping, attached to a saddle boiler, 320 feet of this piping being in two separate houses, in which a minimum temperature of 60° and 64° respectively is aimed at; and 140 feet of 4-inch piping, attached to the same boiler, in which hot-water is only turned on at night when it is likely to be cold—a circumstance which would only necessitate the burning of a few extra shovelfuls of coke at night; also a fourth house, with a separate boiler and 150 ft. of 4-in. piping attached thereto, to maintain a night temperature of 50°. You do not supply dimensions of the saddle boilers, we will therefore assume that the one to heat 460 feet of 4-inch piping is a plain saddle, 42 inches long, 16 inches wide, and 16 inches deep, with a 2-inch waterway, and having an actual heating power of 560 feet of 4-inch piping; and we conclude that the smaller boiler, to heat 150 feet of 4-inch piping, is 21 inches long, 12 inches wide, and 12 inches deep, with a 2-inch waterway, and an actual heating power of 210 feet of 4-inch piping. With boilers of the above dimensions, properly

stoked—that is, the flues being kept clean, and due regard paid to the matter of consuming as little coke as possible, consistent with raising and maintaining the desired temperature in each house, and never putting a shovelful of coke on the fire when a like quantity of ashes would answer the same purpose, especially in the morning, when weather conditions are likely to raise the temperature to the desired degree—we conclude that about 1\frac{3}{3} chaldron of coke would suffice to maintain the above-mentioned temperatures for ten days of such weather as we have experienced during the first ten days of this month. We may add that very much will depend upon the type of boiler you use, and upon the man who is charged with the important duty of stoking.

COVENT GARDEN SALESMAN: Doubtful. The name you mention is that of a very respectable and old-established salesman. We regret that we have not space to print a list of the salesmen. Consult our advertising columns.

CROP FOR LAND: W. O. J. You can hardly do better than make Potatos the first crop. Suitable chemical manures would be, per acre, 1 cwt. of sulphate of ammonia, 1 cwt. muriate of potash, and 5 cwt. superphosphate.

CROQUET GROUND: J. P. F. A croquet ground should not be less than 30 yards long by 20 yards wide. A full-sized ground is 40 yards long by 30 yards wide.

Gardener and Foreman: Reader. In the absence of an agreement, the gardener would have to give a month's notice, and the foreman a week's notice.

INSECTS AMONG ROOTS OF CURRANT-BUSHES:

G. R. The gruba you send are weevils. They have nothing to do with the Currant-bud mite. You cannot do better than burn the old stock you are now grubbing up, and plant healthy young bushes—if possible, on another site in the garden. Scrape together the old soil containing these pests and burn it.

INSECTS INFESTING ROOTS: G. A. H. We can find no trace of insects among the roots of the Chlorophytum plant, which appear to be in a very healthy condition. Collect some of the insects and forward them to us in a small box.

Names of Fruits: J. S. We do not recognise the variety of Apple, but from its appearance surmise that it was imported from Nova Scotia. The variety may not be one common in this country. Queer questions are addressed to us sometimes, but fortunately we are not often called upon to identify a variety of Apple, and to state at the same time in what country it was grown.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number. — A. H. Ornithogalum lacteum.—W. E. W. We cannot name the variety of Chrysanthemum from the flower sent.—Germania. 1, Centradenia rosea; 2, Coprosma Baueriana variegata; 3, Alonsoa incisa; 4, Peperomia Verschaffelti; 5, Lomaria gibba; 6, Pilea muscosa.—V. M. 1, Oncidium olivaceum; 2, O. sphacelatum; 3, O. flexuosum; 4, O. Wentworthianum.—M. L. Cymbidium Tracyanum of good quality.—Robinson. Dendrobium nobile nobilius, very well coloured.—Z. Q. 1, Cypripedium × nitens; 2, C. × Dibdin; 3, C. Haynaldianum; 4, Oncidium Cavendishianum.—W. N. Chimonanthus fragrans.—Surtus. 1, Cyperus alternifolius; 2, Myttus communis, small - leaved variety; 3, Ruellia Portellæ; 4, Clivia miniata; 5, Primula verticillata simensis; 6, Pinus sylvestris.—R. C. Iris fimbriata; Aspidium coriaceum, Zygopetalum Mackaii.—J. M. 1, Begonia hydrocotylifolia; 2, Sempervivum tortuosum variegatum; 3. Chlorophytum Sternbergianum; 4, Asplenium biforme; 5, Polystichum angulare proliferum; 6, Phillyroa angustifolia.—A Reader. 1, Dendrobium speciosum; 2, possibly Ornithogalum longi-bracteatum. Send in flower.—C. G. D. We cannot recognise the plant from the leaves sent. Send when in flower.—J. M., Notts. 1 and 2, Cœlogyne cristata; 3, Dendrobium aureum (syn. D. heterocarpuu.

Notice to Terminate Employment: A. T. M. You are entitled to a month's notice, but we think the notice might take effect from the day mentioned.

PELARGONIUMS: H. W. This is an example of reversion, the dwarf plant having sported to its original stronger-growing form. Such reversions frequently occur, and unless the one you send possesses features of special merit, it would not be worth the trouble and expense of propagation and distribution.

PLANTS FOR DISPOSAL: W. J. M. The plant is Billbergia nutans. There would be scarcely any demand for the species, and the return would hardly pay the expenses of advertising, &c.

"Shot hole Fungus." B. H. The best preventive against this fungus (Cercospora circumiscissa) is the ammoniacal solution of copper carbonate, it being unsafe to use the Bordeaux-mixture upon the Peach-leaves or young shoots. The foliage should be sprayed with the ammoniacal solution when the leaves are expanding, and it is necessary to repeat the operation several times at intervals. The method of preparing the solution is as follows: Mix 1 oz. of carbonate of copper and 5 ozs. of carbonate of ammonia together, and dissolve them in about a quart of hot water, and when thoroughly dissolved add 16 gallons of cold water. Remember you are bandling a powerful poison.

SUNFLOWER: Correspondent. Grown for the sake of its "seeds," which furnish oil, and are used for feeding purposes. Six pounds of seed are aaid to be required per acre, the average yield per acre being 50 bushels. The seed is sown in drills 18 inches apart, and the plants afterwards thinned out. It requires deep, rich soil, and if calcareous all the better. The small-seeded varieties are most esteemed for the quality of the oil. The land should be deeply ploughed in autumn and harrowed in spring. See R. C. Haldane, Sub-tropical Cultivations (Blackwood & Sons).

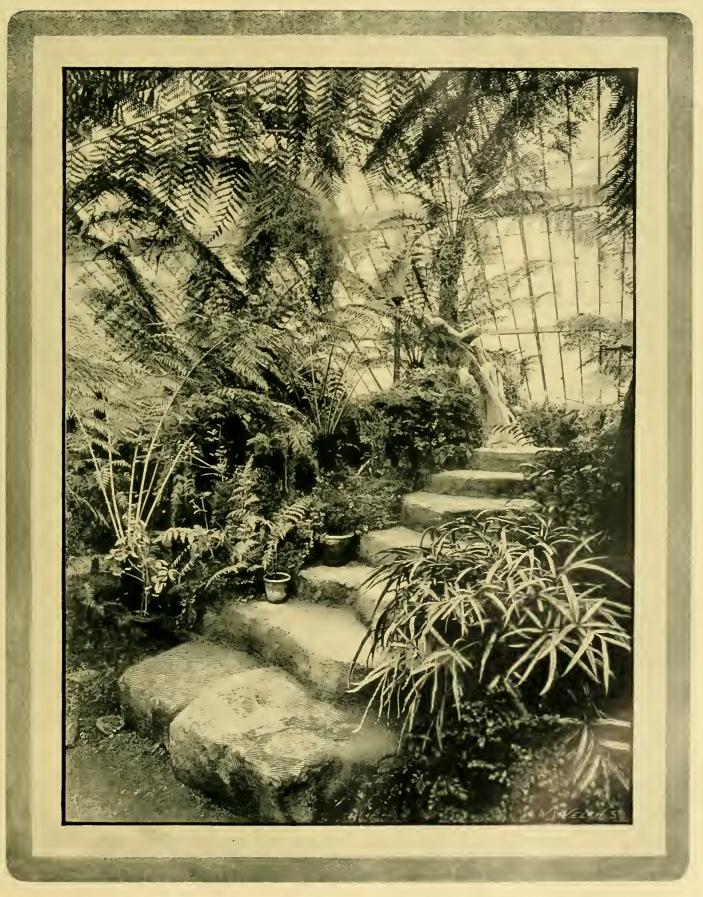
TOMATO STEMS: R. & Co. Some fungus is present in the root and lower portion of the stem, but in too immature a condition to identify with certainty. Water at intervals with a solution of nitrate of potash, and do not keep the atmosphere too humid.

Tomatos: S. P. Your seedling Tomatos appear to be affected with the "Damping-off" fungus (Pythium de Baryanum). The sample of soil sent is a good one, and should suit them. There must be a fault in the conditions under which you have been growing them. Do not keep the seedlings too damp at the roots or in too close an atmosphere, but afford them fresh air. Sow your seeds thinly. When the seedlings become large enough to move from the seed-pan, pot them singly into well-drained pots of small size in a light porous compost, or prick them off into pans or small boxes. Place them near to the glass in an atmosphere heated to about 65° to 70°. Repot them again when they require more rooting space.

Tubs for Containing Plants: G. S. We should not be disposed to tar the wood on the inside of these. Properly seasoned Oak or Teak will last a very long time, but if thought necessary, such tubs might be creosoted. If the tubs- be made with detachable sides, like those in use in the Temperate-house, Royal Gardens, Kew, it will be a convenience when the plants require to be moved into larger ones.

Tulifs: Case Bros. The bulbs are attacked by Botrytis, which are forming numerous sclerotia. Mix powdered sulphur into the soil, and water twice a week with a weak solution of Condy's Fluid. If the bulbs had been mixed with powdered sulphur before storing, the disease would not have appeared.

COMMUNICATIONS RECEIVED -W. C. W.-A. J. K.-A. D. H.-A. C. F.-Rev. G. E. -Canon E.-E. B.-A. D.-E. D. W., Brussels.-W. B. H.-W. W.-F. J.-V. N. G.-J. P. W.-R. W. & Co.-Old Subscriber.-C. W.-Agent-General for British Colombia-C. E. (next week)-E. W. R.-T. E. L. (if you like to send samples on approval, we will consider them)-S. W. F.-C. G. S., Boston-L. O. (next week)-W. W. Kew (photographs)-J. P. L. (next week).-W. Honess-r.W.-A. A. P.-W. N. B.



THE FERNERY AT IMPNEY HALL, DROITWICH, THE PROPERTY OF JOHN CORBETT, Esq.

From a photograph by Gummery & Blackham.



American Granes



THO

Gardeners' Chronicle

No. 896 .- SATURDAY, February 27, 1904.

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JAPANESE VEGETABLE PRODUCTS AND THE WAR.

NOW that hostilities are actually proceeding between Russia and Japan. our thoughts naturally turn to the consideration as to how far our commercial relations with both countries will be affected. Our imports from Russia are of such a nature that they could be largely compensated for by increased imports from our own celonies, without, perhaps, drawing from foreign countries at all. But commercial traffic does not stand in the same light with Japan; there are certain products of that country that are scarcely, if at all, obtainable from other sources, and many will suggest themselves to our readers as items of special interest to the gardening craft, as Liliums, Irises, Fern-balls, pigmy Conifers, and suchlike, which, however, are of small commercial importance when compared with such vegetable products as camphor, menthol, peppermint-oil, vegetable wax, ginger, &c.

Then, again, there are the numerous and very varied productions of Japanese art and mechanism that have been poured into this country in such large quantities of late years, and have, to use an expressive term, "taken on" with us, particularly the often

beautiful though modern lacquer ware, which again is derived from the vegetable kingdom. A certain amount of unrest has prevailed in the English markets dealing with Japanese products for some weeks past, notably with camphor and menthol, for both of which the world practically depends upon Japan. With regard to the first, although camphor is obtained from several plants belonging to widely distinct natural orders, such as Barus, Sumatra, or Borneo, camphor from Dryobalanops aromatica of the natural order Dipterocarpeæ, Blumea, or Ngai camphor of China, from Blumea balsamifera, natural order Composite, and others, yet the source of commercial camphor is Cinnamomum camphora, a tallgrowing tree of the order Lauraceae, native of China, Japan, and the Malay islands.

In the interior of the island of Formosa, as well as in Japan and throughout Central China, the tree is very plentiful. In Japan the manufacture of camphor is a Government monopoly, and the stringent regulations and methods adopted by the Government when taking over the industry have, no doubt, been the cause of the short supplies in the markets at the present time, as the making of it being so unremunerative to the people, small quantities only have been produced for some considerable time past. The natives of Formosa are also said to have given much trouble to the Government by their frequent attacks on the stills. The result of all this has been the holding back of supplies of crude camphor, so that European refiners for a long time have had little more than their old stocks to work upon; consequently prices have been advancing, and the quotations have already increased from about 2s. 6d. to 4s. per pound.

To obtain the substance it is necessary to cut the trees down and then further to cut up the wood into chips, which are boiled in vessels containing water; over these vessels are placed inverted earthenware pots, which are sometimes lined with straw. The steam arising from the water in the pots carries with it the camphor, which is deposited in crystals around the inside of the pots or on the straw, and is afterwards scraped off and placed in chests lined with lead or tinned iron. Formosa camphor is usually packed in this way, and is generally in a semiliquid state from having some water mixed with it for the purpose, it is said, of preventing evaporation. Japan camphor, which is dry, and of a much better quality, is placed in double tubs, also for the purpose of preventing evaporation.

Upon arrival in Europe this crude camphor finds its way into the hands of the refiners. The European process of refining, it is said, was long kept a secret, and towards the end of the seventeenth century the whole of the camphor brought to Europe was sent to Holland for sublimation. A similar monopoly also existed in Venice for some time. Camphor refining is still carried on in Holland, but it has spread into other countries and towns, as England, Hamburg, Paris, New York, and Philadelphia. The following is a brief description of the process of sublimation, which however varies slightly in different refineries.

The camphor, as imported, is broken up and mixed with from 3 to 5 per cent. of slaked lime, and 1 to 2 per cent. of iron filings. When sifted this mixture is passed through a funnel into a series of glass flasks, which are almost completely buried in a sand-bath. Instead of heating these by means of a fire, where flame might ignite the gas given off during the process of sublimation, dishes of fusible metal kept warm by a furnace

below the room are used. In these flasks the camphor is kept at a high temperature for twenty-four hours. When thoroughly melted the sand is removed from the upper half of the flasks, and into the neck of each some paper is pushed. A lower temperature is thus produced. and the vapour from the camphor condenses on the inside of the exposed half of the flask, forming a solid cake of pure camphor and leaving all impurities at the bottom. Care has to be taken not to admit the air too freely, as the camphor would be rendered opaque. The entire process occupies about forty-eight hours, and is completed by removing the flasks from the sand and sprinkling them with cold water; the glasses being thus broken, the refined camphor, in the form of a large bell-shaped cake, is removed. Each of these bells or cakes is about 3 inches thick and 10 to 12 inches across, and weighs from 9 to 12 lb.

The whole process of refining is one that requires much attention and care, more particularly with regard to its very inflammable nature. Every precaution is taken in the refining-house against fire. Over the furnaces upon which the sand-bath is spread, and into which the flasks are plunged, are arranged iron trays full of sand, which by touching a lever could be made to discharge their contents over the heated camphor below, should any of the flasks catch fire. Besides this there are plenty of means of exit in case of need.

It is said that the use of camphor as a disinfectant has much decreased of late years-a fact that can be fully accounted for from the numerous other disinfectants that are constantly being introduced, and that are, moreover, cheaper; but another market for camphor that is continually being extended is that for the many articles to which celluloid is now applied. It is estimated that ten times as much camphor is now used for this purpose than is consumed by the druggists The consumption of the article in the United States is said to amount to 200,000 lb. a month, a very large proportion of which is used in the celluloid and patent medicine trades; further than this, it is said that as the Japanese Government look upon camphor as a valuable war asset. they are keeping back its export, more particularly as if the war is prolonged they will require all their supplies for the manufacture of smokeless gunpowder. As a proof of the money value to Japan the export of this article represents it may be said that for the ten months of last year ending in October, the quantity sent out of Japan amounted to 3,710,874 kin, of the value of 3,254,000 yen, a kin equalling 1.3 lb. avoirdupois, and a yen equalling 2s. 01d.

The following note on the use of camphor for assisting the germination of seeds and the growth of cuttings may be of some interest. It is taken from the Dictionary of the Economic Products of India. "Mr. T. W. Lee, writing in the Journal of Agriculture, says that most seeds are greatly hastened in their germination by being soaked, previous to sowing, in soft water, to a pint of which a lump of camphor about the size of a large nut has been added. Mr. Lee tried this experiment on many vegetable seeds, such as Peas, Beans, &c., as well as Palms, Castor-oil seeds, and various other tropical seeds, which have very hard seed coats, many of which would require soaking in water for a long time before they would otherwise show signs of germination but which with the addition of camphor sprout easily and rapidly. This same fact may be take advantage of in stimulating cuttings of Roses or other plants sent from one country to another. Rose cuttings, for example, posted in England, carry safely to India, and the stimulation caused by dipping their freshly-cut ends in camphor water, helps greatly to enable them to take root when placed in the soil." Before leaving the subject of camphor, it may be well to mention the fact that about a year ago a process was devised in America by which camphor could be made synthetically from turpentine, and though no sample has set been seen in the London market it is now stated that the company are now preparing at their New York works, machinery for producing 2,000,000 lb. per annum.

MENTHOL.

Menthol, or peppermint camphor as it is sometimes called, has become so well known as an ant'-

known in the market as Kobayashi crystals. Up to the actual commencement of hostilities, this quality menthol had been selling in the market at 16,6 to 16/9 per lb. It has since risen to 17/6, and will probably command much higher prices. The oil, after the separation from it of the menthol, is also an article of export from Japan.

VEGETABLE-WAX.

Of vegetable wax it will suffice to say that this substance is produced from the small seed-like



FIG. 53.—AN EQUATORIAL AFRICAN GARDEN: NATURAL FERNERY IN A RAVINE WHICH IS A FAVOURITE HAUNT OF LEOPARDS.

septic, stimulant, and carminative, as well as for outward application in neuralgia and toothache, that any failure or shortness of supply will be a matter of considerable importance. The substance began to attract attention in this country in 1879, and since then it has become an increasing article of trade. It is a crystalline substance resembling ordinary campher, and is obtained by cooling the volatile oil from the fresh herb of Mentha arvensis var. piperascens and var. glabrata. The best quality menthol is that brought from Japan, and

fruits of Rhus succedance and R. vernicifera. The wax being deposited immediately under the thin skin which covers the fruits is easily separated by boiling them in water, the wax floating on the water in the process of cooling. It is used in candle-making. Japan Ginger, though not equal in quality or value to that from Cochin or Jamaica, may in course of time, should peace be quickly restored, become of importance. John R. Jackson, Claremont, Lympstone, Devon, February 18, 1904

OBSERVATIONS ON THE VEGETA-TION IN AN EQUATORIAL AFRICAN GARDEN.

(Continued from page 113.)

In open well-drained positions in the forest, and frequently on islands in the lake, an excellent flowering shrub, Cassia didymobotrya, is found. It forms a deuse mass of pleasant green foliage and freely produces its long, upright, terminal twin spikes of large yellow flowers. Fully developed specimens are about fifteen feet high, and small plants grouped quickly form effective masses. It was utilised successfully as a shade for young Cacao, for which its rapid growth fitted it.

Clothing the ground beneath the Palms one often finds a striking garden plant from the foliage point of view. I refer to Palisota Schweinfurthii. Palisota is a very distinct genus of Commelinaceæ, an order which furnishes many beautiful decorative plants for our gardens. Palisota Barteri, from W. Africa, was introduced to European het-houses long ago. P. Schweinfurthii has handsome shining deep-green leaves, somewhat wavy, about 2 feet in length and 10 inches wide; in habit the plant is vasiform. The dense cylindric spike of flowers is not showy, but when the fruiting stage arrives the crowded scarlet or orange coloured berry-like fruits are effective. Even in the densest shade the plant possesses a sturdy, healthy, evergreen habit. If it can be used in our sub-tropical gardening out-doors, as I am inclined to think it could in an average warm summer, it would be a distinct addition. Other useful garden plants, native in the ferest region, were Costus Afer, forming clumps, with stems nearly 10 feet high, clothed with dark-green leaves, spirally arranged in the peculiar way Costus affects, and terminated by a globose spike with closely folded bracts, from amongst which there seems to be always developing two or three beautiful, though fugitive, flowers with a narrow pink margin to the lip. Impatiens bicolor, about 4 feet high, with handsome foliage displaying a satiny sheen, and abundance of very dark-red flewers (having a pouch instead of the familiar broad lip of other species), was a quite common and useful garden plant. Where the shade was light and the soil somewhat sandy and well-drained, I found small groups or solitary plants of Hæmanthus (probably H. multiflorus). As may be imagined the umbels of bright scarlet flowers springing up amongst lowgrowing vegetation were more effective than one usually sees Hamanthi under glass. If a summerflowering species of hright colour could be obtained by the hybridists, it would be a charming out-door plant for our gardens.

A distinct and effective foliage plant is furnished by Scleria racemosa, a member of the natural order Cyperaceæ. It forms strong clumps, and is from 4 to 6 feet in height. The handsome arching leaves are arranged on the stem as though they were perfoliate, and the nodding plumes of fruit are extremely graceful. It abounds in damp sandy soil, and in some cases is an obnoxious weed.

Stemless Ferns, such as Davallias, Aspidiums, &c., luxuriate in moist places beneath the Palms, and form charming groups. It only requires to have other low-growing vegetation kept in check for a little and the Ferns menopelise the ground advantageously.

A large Dracæna is very common all over Central Africa up to 4,000 feet altitude. It is probably D. arborea. It has 'glossy, green, flexible, pointed leaves, and becomes with age a huge tree, with a gouty-looking, shapeless trunk, like the celebrated "dragon tree" of Teneriffe. Large tops, 3 feet or 4 feet long, put in as cuttings, where they were intended to remain, made useful garden plants. A species less graceful in its foliage than the above and

belonging to a different section in the genus is D. ugandensis, but it has drooping spikes of pretty, pale purple flowers. It is extensively used for fencing. It grows alongside Palisota. A Gloriosa (probably G. viresceus) is frequently scen, and invariably in moist shady places. Its graceful foliage and delicate tendrils are striking and distinct, but its showy red-and-yellow flowers render it additionally attractive. M.

(To be continued.)

ODONTOGLOSSUM PESCATOREI.

A REMARK passed by my employer recently, to the effect that he could not understand why Odontoglossum Pescatorei was not more extensively cultivated, has probably been made by many lovers of Orchids who appreciate the refinement possessed by the varieties of this beautiful species. When this species is grown in a satisfactory manner even the least handsome varieties are attractive, carrying as they sometimes do racemes of from fifty to a hundred blooms, and at a season of the year when cool-house Orchids are hut sparingly represented in flower.

It may seem strange that one having charge of perhaps the most remarkable collection of Odontoglossum crispum ever brought together should draw attention to such a despised subject as O. Pescatorei. If I were not convinced that Orchid cultivation is annually drawing into marrower limits, I would not attempt to divert attention from any of the more fashionably cultivated kinds.

I have seen many changes of fashion in Orchid culture in my all too short career among them. I can look back to a time when the Vandas, Aërides, and Saccolabiums of the East were as highly appreciated as the Cattleyas and Odontoglossum crispums of the present day. The Phalæ. mopsis of a few years later-what but the tide of fashion has discarded even representatives of these heautiful species of plants from the Orchid collections of to-day? As the glow of hrilliant "stars" from the East have faded from our houses, even so with the Masdevallias and other botanically interesting subjects of the Western world, which are discarded for the more gaudy subjects that satisfy the prevailing fashion. It is as difficult to find the hat that will cover the head of a fashionable Orchid-grower and of a true lover of Orchids who is actuated solely by the interest in his plants, as it is to combine the scientific botanist in the practical gardener.

O. Pescatorei has not of late years been imported in large quantities, for the reason that importers cannot get sufficient financial return for the plants, and they are at the present time by no means over plentiful. There is not the wide variation among them that is found to exist in O. crispum, but occasional varieties crop up which are as valuable as the hest of the lastnamed species. O. P. Veitchianum, which forms the centre flower in the accompanying illustration, was described by Professor Reichenbach in the Gardeners' Chronicle, vol. xvii., 1882, p. 588. The plant passed into the collection of Baron Sir H. Schröder. Nothing approaching the violet colour of the blotches represented in the central area of the flower has since appeared. It is deserving of all the appreciation its owner and the Orchid specialists afford it. O. P. Schröderianum in the lower left-hand corner, and O. P. Lindeni above it in the illustration; O. P. Charlesworthii, which received a First-class Certificate at the Temple Show of 1902—all have particular violet markings. One remarkable subject appeared some years ago, and was later certificated, from the collection of Sir. T. Lawrence, Bart., in O. P. "Prince of Orange," the golden-yellow ground and brown spotting making

it one of the most attractive among the section. Although not recognised at the time, this variety may prove to be of hybrid origin.

The other two flowers in the illustration include one that is pure white with the exception of the yellow disc on the centre of the labellum, and one of the typical varieties. Perhaps the largest and best variety of the type I have seen was that exhibited at one of the Drill Hall meetings a year or two past by Mr. Wilson Potter, of Croydon. But the quality of the flowers is affected by cultivation.

O. Pescatorei with us is one of the most easilygrown species of any in the cool Orchid-house, and the treatment afforded is in every respect similar to that afforded O. crispum. We never permit

FOREIGN CORRESPONDENCE.

TRICYRTIS HIRTA.

The notes on Tricyrtis hirta in the Gardeners' Chronicle for January 16, p. 45, were very interesting to me, as this beautiful plant does well here without very much trouble. All it asks of us is to give it a semi-shaded place to protect it from the hurning rays of our summer sun. If planted out in the open the fierce light first burns the ends of the leaves and ultimately the stem, till hy the end of August the whole plant is almost ruined. It will, however, even then send up shoots from the base, and attempt to flower; and should we have a prolonged 'fall,'

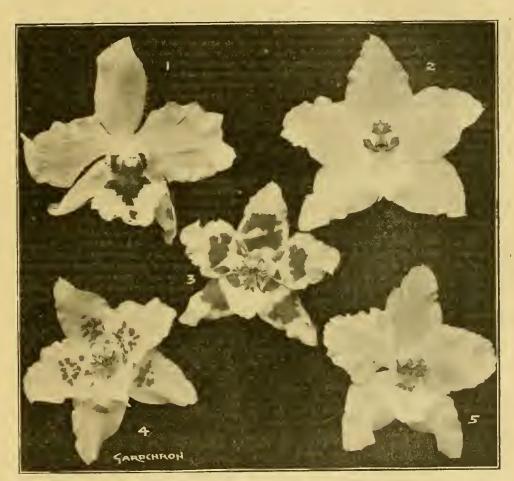


FIG. 54.—VARIETIES OF ODONTOGLOSSUM PESCATOREI.

1, O. P. Lindeni: 3, O. P. Veitchlanum; 4, O. P. Schröderlanum; 2 and 5 are unnamed varieties.

the temperature to fall below 50°, except in very severe weather. The mean is as near 55° as we can possibly keep it. Potting is done when new roots are being produced from the base of the newly-developing pseudo-hulb. The compost consists of fibrous peat, chopped living sphagnum-moss, and leaf-soil in equal proportions, with sufficient rough sand added to render the compost porous. The material is pressed firm, and the surface is made with a layer of chopped living sphagnummoss. We have found remarkable vigour in our plants since leaf-soil has been extensively included in the potting compost. Not only is the growth vigorous, but the flower-scapes have been all that could be wished, and the individual flowers finer in substance and in form.

If there is one Odontoglossum more than another deserving of the attention of amateurs, it is Odontoglossum Pescatorei. H. J. C.

it will do so bravely. But planted where the sun will not strike it till towards evening the result is very gratifying. If not disturbed for two or three years it then grows 4 to 5 feet high, and produces from thirty to forty of its quaint hut prettily spotted flowers on each stem from the summit and axils of the leaves, during the latter part of September and October, for four weeks, or even longer, if there is cool, clear weather; I have known them to last into November. It is not at all fastidious with us as to soil, growing equally well in sandy and moderately heavy but well-drained soils. I have never had occasion to use any peat, and the plant has been left unprotected during the winter months when our thermometer has shown a temperature of 3° below zero (Fahrenheit), but has received no injury. I have found it to give most satisfaction when closely divided

each year to single crowns or from autumnstruck cuttings, which give the same results. These I plant as early in the season as is possible about 6 inches apart each way in a solid bed; they then grow about a foot high, and for four weeks or more in the "fall" are a beautiful sight, being one complete mass of pretty spotted white-and-purple flowers. I have had as many as twenty-three fully-developed flowers on a single stem at one time from plants thus grown. Another advantage in keeping them dwarf in this way is that they can, if necessary, be easily protected from early frosts, and thus massed in a solid bed are much more effective than a few isolated plants would be. Cuttings of the growing tips taken in the "fall" root very readily if inserted in sand and placed in a cold frame in a box or pan. Propagated in this manner, I never care to risk them during the first winter without protection. The tops will die down at the approach of severe frosts to the newly-made callus, from which springs an eye for next summer's growth.

We have also a variegated variety imported as Tricyrtis macropoda variegata. The flowers are not very conspicuous; perhaps this is on account of its not being so happy as the one previously mentioned. This variety flowered in May, and produced large inflated pods, and afterwards purplish black fruits. Towards autumn the foliage is prettily striped with white, so I should judge, from the Dictionary of Gardening (Nichol-

son's), it is T. macropoda striata.

I hope these notes may be of interest to readers of the Gardeners' Chronicle, some of whom I claim as acquaintances through reading their numerous notes on hardy plants. Herbert Greensmith, Riverton, N.J., U.S.A.

ORCHID NOTES AND GLEANINGS.

HYBRID SPIRANTHES.

Ma. Oakes Ames describes in Rhodora for November, 1903, a natural hybrid between S. gracilis and S. præcox. The plant is described as completely intermediate in its characters between the two parents.

ONCIDIUM SPLENDIDUM AND O. MICROCHILUM.

The allusion to Epidendrum nonchinense as a humble attendant on the showier E. elegans in the Gardeners' Chronicle, February 20, p. 114, calls to mind the fact that similar instances are not uncommon. In the matter of the handsome O. splendidum, with its large yellow flowers, the sepals and petals barred with brown, and which is at present in flower in many gardens, O. microchilum with the same short pseudo-bulbs and thick upright fleshy leaves is generally imported with it, and even an expert is often puzzled to separate the species when not in flower. On the production of its flowers, however, it is seen that no two species could well be more dissimilar, O. microchilum having branched spikes of smallish flowers, in which the prevailing colour is brown. Then we have Odontoglossum Lindleyanum, despised of Orchidgrowers, which is the modest attendant on most of the showy Odontoglossums, such as O. crispum. the proportion of the undesirable O. Lindleyanum in some importations years ago being very annoying. The pretty wax-like O. pulchellum majus from some localities brings with it the insignificant-looking plant called O. Egertoni, similar in growth, but with very small imperfectly expanding flowers. O. Rossi majus may have with it the much smaller-flowered plant known as O. Dawsonianum, and O. Ehrenberghii, in some gardens. The showy Dendrobium McCarthiæ is often accompanied by the modest D. macrostachyum; O. Jonesianum brought with it a poor variety of O. Cebolleta, with thick terete leaves, similar to those of O. Jonesianum, but

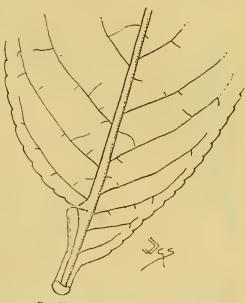
with totally different small yellow flowers. Numerous other instances of the kind may be found.

EPIDENDRUM EVECTUM.

This pretty Epidendrum is sent by Elijah Ashworth, Esq., Harefield Hall, Wilmslow (gr., Mr. Holbrook). Its bright rose-purple flowers are very attractive, and as it lasts in flower for many months it is a useful garden plant. Crossed with E. radicans, it produced E. x O'Brienianum, the first hybrid Epidendrum, which flowered with Messrs. Jas. Veitch & Sons in 1888, and which has proved one of the most free-growing and floriferous of hybrid Orchids. All the members of the genus Epidendrum with reed-like stems are very effective for arranging with the dwarfer and less graceful Orchids, and the most straggling growers are useful for training up pillars and covering back walls in plant-houses. They are readily propagated by cuttings of the stems, as with Dendrobiums of the D. nobile class, Thunias, and some other Orchids. J. O'B.

A CITRON LEAF.

ONE of the most characteristic features of the Aurantiaceæ, to which the Orange, Citron, Lemon, &c., belong, is the presence of com-



F10. 55. -MALFORMED LEAF OF CITRON.

pounded leaves. The blade of the leaf is jointed to the stalk by a distinct articulation, and the leaf-stalk is dilated on each side into a wing, so that except in size there is little or no difference between the blade proper and the stalk. In the specimen illustrated (see fig. 55), which was discovered by Mr. Worthington Smith when drawing the Citron fruited by Messrs. Rivers, a very curions condition existed. One half of the leafstalk is articulated in the usual manner, the other half is "simple," and the base of the leaf is prolonged in the usual fashion without a joint. It is possible that this furnishes an indication of the line of descent and modification in Oranges; but that is too speculative a matter for us to go into here.

THE PRIESTLEY CENTENARY .- The troubled life of Joseph Priestley and the animosity begotten by his theological opinions will be ignored, if not forgotten. What will be remembered is his discovery of oxygen gas, as well as many other gases. A statue was erected to him lately at Leeds. To him we owe the discovery that the green parts of plants exhale oxygen under the influence of light.

NOTES FROM ISLEWORTH FOR 1903.

(Continued from p. 117.)

ARCTOTIS AND GAZANIAS.—These South Africau Compositæ (often called Cape Daisies) are very interesting plants, and can be used, in part, to fill beds in place of the eternal Pelargonium.

A. brcviscapa is a very brilliant yellow or orange annual, the flowers being ringed with black at the base. It seeds freely in hot, dry weather, and if it is allowed to mature its seeds, will not carry any more full-sized flowers. This is an objection to any bedding-plant, as in wet seasons the plant fails, and in dry seasons the beds must be gone over carefully twice a week to pluck the old flower-heads off. It is useless for

A. Leichtlini is a light yellow, sub-shrubby perennial plant, useless for bedding, and altogether inferior to A. aspera. Does not seed with

A. aspera I have dealt with above. It is a sub-shrubby perennial, and useful for cutting.

A. arborescens is a white-flowered sub-shrubby perennial, the back of the flowers being ruddy. This plant is figured and described by Jacquin, and it is astonishing that later botanists should have confused this plant with A. aspera. In A. aspera each flowering stem (or lateral branch) bears three or four terminal flowers from what is practically the apex of the stem. In arborescens the flowers are single and axillary, being produced from the axil of practically every full-sized leaf. The habit of arborescens is prostrate at first, and then ascending; of aspera, sub-erect. The flowers are at the opposite poles of colour, and the only real resemblance is in the individual leaf. A. arborescens has a splendid constitution, and flowered well even in 1903 out-of-doors; but it cannot be compared in beauty to aspera, and is of no use for cutting.

A. aureola, of some gardens, is no more than a variety of A. aspera, even if it is distinguishable therefrom. Probably more than one plant is cultivated under this name in gardens, as the nomenclature of the whole genus is in a state of hopeless confusion.

A. grandis (stoechadifolia) is a charming annual for cutting, the silvery-white flowers being far more beautiful than Marguerites, and lasting quite as long. Several flowers terminate each stem or lateral (as in the case of A. aspera). This plant must be reared under favourable conditions to flower in the open the same year as sown. Plants sown in July can be easily wintered in the greenhouse, and will make splendid plants for the ensuing summer.

Gazania splendens is too well known to need describing. I consider it one of our best bedding plants in suitable soils.

G. hyb. gloriosa is a fine plant for rough bedding, but is too tall and irregular for neat work. Tho flowers are white, ringed at the base, and carried well up above the foliage. They are much larger than those of splendens, and the plant is more suitable for border work or for greenhouse decoration in spring.

For cut work, Arctotus aspera and grandis are

both good, but the others close when placed in a room. As to seed-producing capacities, no Gazanias seed with me; nor does Arctotis Leichtlini.

A. aspera and grandis both carry seed, but it is rarely fertile; and the seed of A. arborescens is always infertile with me.

A. breviscapa seeds freely, and the seeds germinate freely. As to cuttings, A. grandis apparently cannot be propagated in this way, and Leichtlini is difficult to strike. A. aspera and arborescens, and both Gazanias, are easily raised from cuttings. A. Worsley, February, 1904.

(To be continued.)

NOTICES OF BOOKS.

THE GARDENING YEAR-BOOK AND GARDEN ORACLE.

A forty-sixth annual issue of a book is of itself an evidence that it is in harmony with its environment; and so indeed we find it to be. It is full of useful reminders and serviceable information. The index to the advertisers is so convenient that it might be well to consider in future whether, with such an index, it might not be desirable to put the advertisements by themselves, and not suffer them to intrude themselves in the text.

THE FERTILISATION OF ORCHIDS.

One of the most fascinating of Darwin's books, and one that most readily carried conviction to the minds of his readers, was that on "the various contrivances by which Orchids are fertilised by insects." On this account we are glad to welcome a popular edition just published at the price of 2s. 6d. by Mr. Murray. The endless adaptations to purpose, and that purpose the welfare of the race, though now more familiar than they were when Darwin wrote, are still most astonishing, and lend an intense interest to the study of the flowers, which some only admire for their beauty, or only notice because of the oddity of their appearance.

FRUIT REGISTER.

A FEW GOOD APPLES OF RECENT INTRODUCTION.

DURING the past ten years there have been introduced several varieties of more than ordinary merit. I do not mean that they are better than such old standard kinds as Blenheim Orange, Dumelow's Seedling, Lane's Prince Albert, Bramley's Seedling, and others; but they are varieties that any grower of hardy fruits will do well to add to his collection.

CHELMSFORD WONDER.

Foremost amongst them I would place Chelmsford Wonder (fig. 56). In some fruit catalogues this variety is described as being like King of the Pippins, but I fail to see in well-grown fruits any resemblance to those of King of the Pippins. I do not know the parentage of this Apple, but think Dumelow's Seedling must have been one, the young wood being marked with minute grey spots, so distinctive of that of Dumelow's Seedling; the fruits also are similar in shape and colour, except that they have crimson spots and streaks. The tree is an excellent grower as an orchard standard and as a bush on the Paradise stock. The fruits will keep sound until April and May.

ROYAL JUBILEE.

This variety has been frequently mentioned in the Gardening Press as being very late-flowering, and therefore likely to escape the spring frosts. The tree is a good compact grower on both stocks, and the fruit above medium size, slightly ribbed towards the apex; colour clear lemon-yellow. It is likely to prove a valuable market Apple, and the fruits are in season during November and December.

Hormead's Pearmain

received an Award of Merit from the Fruit Committee of the Royal Horticultural Society in 1903, and well deserved the honour. The tree is a free grower and rarely fails to produce a crop of fruits which are medium in size and of conical shape; colour lemon-yellow. A very handsome Apple that will keep good till May.

NEWTON WONDER

is fairly well known; some very fine samples were exhibited at the Fruit Show at Chiswick in

October last. It is a very heavy solid Apple of the Dumelow's Seedling type and will keep in sound condition until June. [See note on p. 118, Gardeners' Chronicle, for February 20. Ep.]

BELLE PONTOISE

is a very handsome Apple of the type of Blenheim Orange. The fruits are heavy and solid; colour yellow streaked with dull red. This will make a splendid orchard variety as the tree is a strong grower. The fruit is in season from November until March.

BEAUTY OF STOKE

is a good Apple of the Pearmain type and an excellent keeper. It is a splendid variety for small gardens when worked on the Paradise stock, and rarely fails to produce a crop of fruits.

WAGNER.

This is an American variety, and like many others from the same source develops grand colour. It is a good keeper, and the trees prove to be good croppers; the variety will make an York in the minor group classes and at Weybridge in a Chrysanthemum group—they added considerably to the attractiveness of the exhibit. It is, perhaps, in a cut state that these flowers appeal most to the observer. A mass of trusses arranged not too thickly with their own foliage or some other suitable greenery in wide-mouthed vases is beautiful. The reason more are not cultivated is, I suppose, the ordinary gardener's antipathy to single flowers. It is a well-known fact that many gardeners abominate single blossoms!

Very good plants can be grown in 7-inch pots, and in 9-inch pots handsome specimens may be produced that will yield a wealth of flowers.

Stout cuttings may even yet be inserted, and they will quickly make stocky plants if the point is taken off when 6 inches high, and again when the same length of shoots has been made from the first pinching. Grow the plants in an atmosphere that is quite cool, and give them abundant space out-of-doors in May. Keep the shoots well staked-out as they grow, so that the

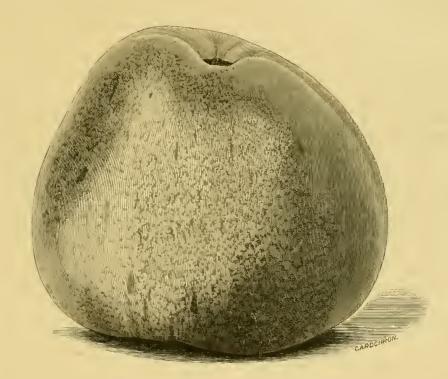


FIG. 56.—APPLE CHELMSFORD WONDER.

excellent market Apple. Young trees here made good clean growths last season.

The varieties Bow Hill Pippin, Byford Wonder, Royal Late Cooking, Mrs., Barron, and Norfolk Beauty have not fruited here, but all are good growers, and promise well this season. May 1904 prove a good year for hardy fruits! We sorely need one after the disastrous years of 1902-3. Chas. Page, Dropmore Gardens, Bucks.

FLORISTS' FLOWERS.

SINGLE-FLOWERED CHRYSANTHEMUMS.

When it is realised how beautiful the varieties representing this section are, and to what use they can be applied for decoration, the wonder is that more of them are not grown. For room decoration in a cut state, either in small vases or epergnes, and even for intermixing with other flowers, single Chrysanthemums harmonise well. For adding to groups of miscellaneous plants in a growing state, like I have seen them utilised last season several times—for instance, at

centre leaves will be maintained in a healthy condition.

Growing in small pots, and carrying many shoots and much foliage, the plants absorb a large quantity of moisture, especially in dry weather, and if they are at all neglected in this respect they quickly suffer.

As to variety there is an abundant choice. In making a selection, it is better to adhere to a few sorts of decisive colour. White, yellow, crimson, and pink are the salient colours. To make the selection more simple, I have classed them in that way:—

White.—Miss T. C. Warden, Purity, Earlswood Glory, Mr. H. Herbert, Thomas Suter, The Bride, Eucharis, and Miss King.

Fellow.—Kate Williams, Mrs. D. M. Parkin, Edith Sybil, Golden Star, Miss Annie Holden, Pretoria, Earlswood Beauty, and Golden Gem.

Crimson.—Elsie Neville, Robert Morgan, Scarlet Gem, Winifred Hull, Rov. W. E. Remfrey, Nora-Davies, Mrs. Cromwell, Felix, Annie Tweed Framfield Beauty, Mrs. W. Bird, G. W. Forbes, Annie Farina, and Miss Sydenham.

Pink.—Mary Anderson, Edith Pagram, Ewan Cameron, Miss A. Edwards, Mrs. Roberts, America, Emily Wells, Evelyn Foster, J. T. Angus, May Paul, Milly Agate, Miss Rose, Mrs. D. B. Crane, Mrs. J. Ferguson, Mrs. John Platt, Mrs. Langtry, Oceana, Rose Pink, Sarah Wells, and Salmon. E. Molyneux.

THE ROSARY.

ENGLISH ROSES.

It is refreshing to read of our supremacy in the Journal des Roses. A French visitor commenting on the Roses at the Temple Show which he saw in May last, about the same time as the corresponding exhibition in Paris, says everything is in favour of Paris as regards organisation and general effect, but the quality of the Roses is superior in London, where the refined taste which characterises the Paris exhibitions is wanting. The writer in the course of his article (rather out of date now!) says that he never saw such Roses, irreproachable as to cultivation, and with marvellous blooms. He indulges in so many superlatives that a cold-blooded English editor would make use of his blue pencil to delete them from any "copy" submitted to him for fear his readers would think the author guilty of exaggeration. The writer attributes these floral marvels to a "privileged climate"; but as the Roses in question were all grown under glass, we think the skill of the cultivator had an even larger share in the result than the climate!

Roses and their Cultivation.

The expression, "as plentiful as Blackberries," will have to be replaced by one connoting the abundance of books concerning Roses. As the population increases, so does the admiration for Roses, but for various reasons, in even greater proportion. There is, therefore, no fear that the market will be overstocked with good Rose books, and this, the work of Mr. T. W. Sanders, is, especially as regards the text, a good book, destined to survive, because so well adapted for amateurs and novices. Messrs. Collingridge, of Aldersgate, are the publishers.

COLONIAL NOTES.

THE CHAMPACA TREE.

On p. 48 of the Gardeners' Chronicle for January 16, we note that the Champaca tree (Michelia champaca) has been described as sacred to the Visbnu. This is however not quite correct. Preference is given to Champaca flowers in the worship of Siva, and in that light it may be regarded as sacred to the god. Champaca flowers are also used in the worship of many other Hindu deities, and the tree is often planted in the vicinity of temples. From the religious point of view much less sanctity is attached to the Champaca tree than to the Julasi plant (Ocimum sanctum), which latter is planted in the inner court-yard of every Hindu dwelling and is worshipped and watered every morning by the Hindu females before they partake of their breakfast. N. B. Dutt, Asst. Sec. of the Indian Gardening Association, Calcutta, February 4, 1904.

VIOLET SOUVENIR DE JULES JOSSE. -- This is a cross between Princess of Wales and Admiral Avellan, raised by M. Blanc, of Hyères. It is said to be of robust habit, and to flower from September to March. The flowers are reddish-mauve with a white centre. Moniteur de l'Horticulturc.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WRITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Odontoglossums .- The month of February is an excellent time to afford more root-room to any of the cool-house Odontoglossums that are not flowering. Those plants that are just commencing to grow and require repetting may be turned out of their pots, and if the compost is in good condition it need not be disturbed, but good condition it need not be disturbed, but place the whole into a pot of convenient size, and fill up around the ball with compost, as one would do when repotting a Pelargonium. For drainage use Fern-rhizomes, just covering the bottom of the pot with them. The potting compost may consist of one-fourth fibrous-peat, one-fourth leatsoil, and one-half chopped sphagnum-moss, adding a moderate quantity of coarse silver-sand. Fill up to within $\frac{1}{2}$ inch of the rim of the pot with this compost, then surface with clean picked sphagnum-moss, taking care to press it firmly up to the base of the young growths. Such plants as have sufficient root-room to last until the autumn should not be disturbed at the root now, but if the surface moss requires to be replenished it may be done at once. All plants of O. crispum and others of that class that are in full growth or producing flower-spikes, should be afforded plenty of water until growth is completed, and the flower-spikes cut. At this season we look over our Odontoglossums twice each week, and those that are dry are afforded water liberally, but others that are neither wet nor dry wait until next watering day. The above remarks are applicable to any of the Masdevallias that require similar attention. The pretty Odontoglossum ramosissimum is now flowering in the areal heavy and it is adiabated to any the areal heavy and it is adiabated. cool-house, and it is advisable to cut the spikes immediately the leading pseudo-bulbs show signs of shrivelling; the plants invariably deteriorate if the spikes are allowed to remain too long. After the spikes are cut place the plant at the coolest end of the house, and afford but little water until growth has recommenced. The spikes of O. Hallii, and its varieties leucoglossum and xanthoglossum, should also be cut as soon as the flowers are fully expanded.

Aërides, Saccolabiums, and Rhyncostylis.-When in flower there are few Orchids more handsome than such plants as A. affine, A. Lawrencew, A. crassifolium, A. Lobbii, A. Larpentæ, A. maculosum Schroderæ, A. Fieldingii, A. suavissimum, Sc.; also Saccolabium giganteum, S. violaceum, S. Hendersonianum, and those Saccolabiums that are now known as Rhyncostylis retusa, R. præmorsa, R. guttata, and the lovely blue R. celestis. Unfortunately, these plants are rarely seen in private collections or at horticultural exhibitions, and are not often mentioned in the Gardening Press. Yet every one of them is worthy of a place in the most select Orchid collection. The majority of these epiphytal plants require the warm moist atmosphere of the East Indian-house; a few varieties, such as A. crispum, A. Warneri, and A. Lindley-anum, prefer the atmosphere of the intermediate-house. They appear to enjoy a high, sun-heated temperature, but fire-heat to any great extent quickly causes them to deteriorate. A. japonicum, A. Vandarum, and A. cylindricum should be grown cool the whole year Make a thorough examination of each of these plants and thoroughly clean them, espe-cially if there be any scale insects on them. Exceptional care is necessary in cleaning these tender-leaved plants, as the leaves are easily bent down and broken, and irreparable damage done. Some of the plants will naturally have lost a few of their earlier leaves, and part of the stem is bare; but if aerial roots are plentiful the stem may be cut off at its base and shortened, so that when the plant is placed in the new pot the lower leaves will be on a level with the rim. Ordinary flower-pots are preferable, and these should be drained with Fern-rhizomes, and a compost used of leaf-soil and sphagnum-moss in equal parts, pressing it in moderately firm about the roots. Surface to the base of the leaves with freshly gathered moss. After they have been repotted

the plants should be rather more heavily shaded than others in the house until the roots are again active. Plants that are well furnished with leaves to the bottom need not be disturbed by repotting, but if necessary the old material may be carefully picked out and replaced with fresh compost. Remove any flower-spikes which appear on the plants that have been repotted; others will come afterwards. The above cultural directions apply also to Angræcum sesquipedale, which should be grown in the warm-house.

The blinds and shadings used on the Orchidhouses should be fixed in their places at once, as the sun may soon be too powerful for the majority of the plants, especially in the middle hours of the day. After such dull weather, Orchid-growers cannot be too particular as regards shading, or irreparable damage may be done before they are aware of it.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Begonia Gloire de Lorraine and B. Turnford Hall.—The stock plants are now commencing to throw up young shoots from the base, and when these are from 1½ to 2 inches in length they may be taken off, and inserted in pots to form a batch of plants for flowering early. Let cuttings for successional flowering be put in later as required, or the flowering of a portion of the early batch may be retarded by the removal of the flowers until about three weeks before the time when the plants are required to be in bloom. The removal of the flower-buds is also necessary when very large plants are required, for the culture of which details will be given in future Calendars. Cuttings of both the above varieties strike readily, and may be inserted to the number of ten or twelve in 5-inch pots which have been previously filled with a light sandy soil. Place the pots containing the cuttings in the propagating-frame, or under a handlight in the stove, and afford them a watering. If the stock plants have been infested with the mite, or so-called Begonia "rust," let the cuttings before insertion be dipped in weak tobacco-water, or some other insecticide, and make constant efforts to keep the pest under.

Tuberous-rooted Begonias.—A portion of the stock may now be started. Let the old soil be shaken from the tubers, then place them singly in pots just large enough to admit of a little soil being placed around each tuber. Afford a compost of two-parts sandy-loam and one-part leaf-soil, adding some coarse silver sand. At the first potting keep the tops of the tubers somewhat above the surface of the soil. Place them in a temperature of from 50° to 55°, and on fine days lightly sprinkle them with water from the syringe, which will be sufficient until growth commences, when more water may be gradually afforded. A safe method of starting the early batch, when the tubers are quite dormant, is to lay them bottom upwards on leaf-soil or cocoanut-fibre in boxes, placing a little of the same material around the tubers but not covering them, and spraying them over with the syringe once a day. The tubers should be examined frequently, and any that have commenced to grow must be placed with the crown upwards, potting them up as soon as a sufficient number have started. When treated in this way a very small percentage of losses will occur, as the water cannot rest in the hollows of the crowns.

Browallia speciosa is a very pretty and useful plant, that produces its bright blue flowers very freely, and remains in flower from early autumn till midwinter. Plants raised from seed sown at the present time will flower in the autumn. It may also be propagated from cuttings, and where these are available they may be inserted in pots filled with sandy soil and placed in the propagating-frame. Let the points of the shoots be pinched out several times during the growing season, and allow the plants sufficient room to develop fully their bushy habit. Grow them in an intermediate temperature until the summer, when they may be placed in a cool pit until the early autumn. Pots 6 inches in diameter will be sufficiently large for the final shift of strong plants.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Sweet Cherries.—To obtain heavy crops of large fruits annually, these trees should be grown on walls having a south-west aspect and trained in the fan-shape. At the same time, good crops of Cherries may be grown in other aspects in favourable localities, and as bushes or pyramids. Those wishing to plant trees this season should procure them at once, selecting the varieties that have been proved to be the best. Trees against walls should not be planted at distances of less than 17 feet, for considerable space is essential for the extension of the branches, which, if afforded proper attention, should eventually become roped with clusters of fruiting-buds. In the planting of young trees against walls, be careful to allow sufficient space between the wall and stem for the latter to thicken as the trees increase in size. The best soil for Cherries is that of a moderately rich, sandy loam resting on a well drained sub-Should the soil that has to be used be somewhat heavy, it may be much improved by freely mixing old brick mortar and wood-ashes with the staple previously to planting the young trees. The following varieties are among the best: Kentish Bigarreau, Napoleon Bigarreau, Governor Wood, Elton Heart, Early Rivers, and Black Tartarian. Bush or pyramid trees should be planted in rows, or in groups, so that they may be easily netted when coming into flower, and when the truits are ripening. Bush Cherry-trees, the heads of which need to be restricted, are apt to grow too strongly to be fruitful. In such cases the roots must be lifted and pruned at intervals to check them. Very little pruning of the branches will then be required, merely that of cutting back the shoots to within a few buds of the base each winter, and attention to "pinching" during the growing

Gooseberry Bushes, &c., which may bave been left unpruned in districts where birds are trouble-some should be attended to before the young buds become large, or much harm may be done when carrying out the work. Thin out the growths, and then syringe the bushes with a mixture of lime, soot, soap-suds, &c. After this has been done, scrape from beneath the bushes all the loose soil, and then afford a good dressing of lime and soot before applying a mulch of manure or a top-dressing of fresh soil. To protect the buds against sparrows, some threads of black and white cotton may be strung over the bushes. The more destructive bullfinch is not so easily frightened, and unless watched may destroy the buds in a whole plantation in a few days.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Slugs Eating Early Crops.—Owing to the rain of the present month, followed by frost and snow, a survey of the early crops in the kitchen garden is not encouraging. Many plants seem half-drowned; but the slugs are at work, although efforts have been taken to keep them down. Winter Lettuces, which have been dusted with soot, quicklime, and ashes, time after time, are eaten through the stem under the surface of the ground so much that they are toppling over when blown by the wind. Late autumn-planted Cabbages are also suffering from the same cause, and there is nothing for it but to keep on dusting the plants, as by doing so we may save sufficient to keep up the supply. When hoeing is possible let it be done, giving a good dusting with soot or lime an hour or so afterwards. Cropping in the open i3 for the present not to be advised, unless the soil is of a very sandy nature. If it is, sow Broad Beans, Peas, and round Spinach for succession. In gardens where the ground is heavy and the demand requires them, make another sowing of Peas in turf, and place them in a sheltered corner: they will be making progress, and be ready to plant-out when the soil is in better condition. Ground should be got ready if possible for sowing Onions, Parsnips, and Leeks at the end of the month. Endeavour to get in front of the work, as the time is coming when

you will be fully occupied with cropping, which must not be neglected when the proper season arrives and circumstances are favourable.

Seakale.-Where it is intended to make new plantations, get the ground in readiness by digging, and working-in plenty of manure with the soil as the work proceeds. Turn it up roughly, so that the frost and air will bring it into good condition for planting next month. If sufficient strong cuttings were made, as advised in a pre-Calendar, all will be in readiness when planting-time arrives; but should the stock be short, lose no time in making cuttings from the strong roots of forced plants that have been put on one side. Cut them into 4 or 5-inch lengths, and place them in a sheltered spot out-of-doors, covering them with a few inches of soil; they will soon form eyes. Maintain a supply for the table at present as previously advised, but as the season advances, a supply of crisp, well-flavoured heads can be had if the crowns in the open be now covered with small mounds about 9 high of Cocoanut-fibre or sifted ashes; which can carefully pulled to the one side when cutting. and if spread about afterwards will act as a useful top-dressing for the plant.

Celery. — Make a sowing in boxes indoors, covering the seeds but slightly; keep them moist, and afford shade until germination has commenced.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Vines in the early house, if consisting of Black Hamburgh, Madresfield Court, Buckland Sweetwater, and Foster's Seedling, will have flowered in the order named, about twelve days separating the first variety from that named last. The weather having been fairly mild much fireheat has been unnecessary, and with little sun, ventilation uncalled for. With the exception of the variety Buckland Sweetwater, which is benefited by having the hand passed gently over the bunch, an occasional shaking or tapping of the rods is all that we find necessary.

Thinning.—Commence to thin the fruits immediately the berries are large enough, or about the size of the seeds of Sweet Peas. Much judgment will be required, and the characteristics of the varieties should be remembered; for example, the stems of the Black Hamburgh being long and slender, only sufficient berries should be taken out to allow of those left attaining their full size without crushing each other, retaining sufficient to prevent the bunches falling out of shape when cut and when placed upon a dish for dessert. Avoid wetting the hotwater pipes, or, if these are very hot, a steam will arise which will cause a rust upon the berries and spoil their appearance when ripe.

Tying, &c.—The great majority of vineries are wired much too near the glass, which necessitates the tying down of the young and tender shoots before they are able to bear the strain, at the same time marring a free circulation of air between the foliage and the glass. To avoid this we drop the rods 2 feet from the glass; this allows sufficient space for the growths before touching the glass. The weight of the bunch is then allowed to gradually bring the shoots to their proper position, then a tie is made to prevent a further drop. The floor and paths should be sprinkled at shutting-up time with diluted drainings from the stables, and occasionally with soot-water, which will give a dark and healthy hue to the foliage. The artificial heat at night should be from 60° to 65°, and by day 75°. When above this a little air should be given, and when the weather is favourable the house may be closed at 80°, rising to 90°.

Peaches and Nectarines in Earliest House.—The weather has been so mild that it has been seldom necessary to keep the house closed, and the conditions being so favourable considerable progress has been made. Dis-budding having been carefully done in accordance with the growth of the trees, all shoots have been removed with the exception of the best break from the base of the fruit-bearing shoots, and a shoot from a point

above the fruit, which is left to attract the sap. This shoot may be pinched afterwards when not required for extension, but all the growths required for fruiting next year should be allowed to grow to their full length. We never tie these shoots to the trellis until the fruits have "stoned." This we consider to have two advantages, including natural protection to the fruit during the stoning period, and that of allowing the sun and air to act properly upon the shoots that furnish the next crop, the trellis being 2 feet 6 inches from the glass. Trees that have set a heavy crop with fruits in clusters of twos and threes should have the least promising and badly placed fruits removed. Syringe the trees sufficiently early to allow the foliage to become dry before night, and damp the borders and paths on cold dull days, as recommended for Vines. Maintain a temperature at night of 60°, and allow a rise of 10° or 15° by day.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Pæonies. — The ground around herbaceous Pæonies may be forked lightly over now that the young growths can be seen. If the plants are crowded together they can be divided with the spade, without it being necessary to lift all the clumps. Those that are taken away should be planted in another place, in rich soil. Moutan Pæonies should be staked securely against the wind. Being generally planted in a warm corner, they are now showing buds, and will require protection in the event of severe frost.

The Wild Garden .- Where bulbs were planted in the grass, and the old soil thrown out to make room for new, this should be broken down and made level before the foliage appears, mowing will then be easier when the growth of the bulbs has died away. Top-dress old plants of Camellia and Chamærops (Palms) with peat and loam. Mice are very troublesome where Camellias are planted out-of-doors; they will strip a tree of its buds in one night for mischief. The break-back trap is a good remedy, or a little poison will be effective if it can be used. It is not too late to plant Primroses. Varieties of the Willow have a good effect when planted by a stream. If Willows are planted already, and it is necessary to increase the stock, cut them down and dibble them in round the parent plant to keep the varieties together. Creepers and shrubs that have been protected during the winter may be uncovered, and loose ends nailed or otherwise fastened up. Clean up leaves after rough winds, and use the leaves as a top-dressing for the plants. Golden Elders are best cut down every spring. Their appearance will be less straggling, and they will colour better. Prunus Pissardi has a good effect when grouped with Acer negundo variegatum, and growths of each will require to be regulated. Almond-trees planted amongst shrubs and in heavy soils should have their tops regulated. They also need root-pruning in autumn. The trees are very showy in the spring, and in a warm summer will ripen a quantity of fruits in southern gardens.

Dahlias.—The tubers may be placed in heat. If extra stock is required divide the tubers, but take care to have a portion of the centre stem on each divided piece to ensure a break. Two good varieties for bedding are Rising Sun (scarlet) and Yellow Pet. The plants grow 12 to 15 inches high; they are very bright when planted in beds by themselves, and require no staking.

Spira Watereri. — This beautiful flowering shrub may be cut over now it is starting into growth. It requires a moist situation, and if planted in beds has a bold effect. Top-dress old plants with peat or leaf-mould.

Subtropical Plants. — Seeds of some of the varieties sown last month will have germinated. Place them close up to the glass, and when the seedlings are large enough pot them off singly into thumb-pots, this method being more satisfactory than pricking them off into boxes.

Hotbeds.—Where the sides have become trodden down place some fresh litter round the frame to keep the heat uniform.

APPOINTMENTS.

MONDAY	FEB. 29 Birmingham Gardeners' Mutual Improvement Society meet.
MONDAY,	meet.
TUESDAY,	MAR. 1 Scottish Horticultural Associ-
THURSDAY,	MAR. 3—Linnean Society, meet.
SATURDAY,	MAR. 5 Socié é Française d'Horticul- ture de Londres, meet. German Gardeners' Club, meet.
TUESDAY,	MAR. 8 Royal Horticultural Society's Committees meet.
MONDAY,	MAR. 14 Birmineham Gardeners' Mutual Improvement Society, meet. Uoited Horticultural Benevolent and Provident Society's
WEDNESDAY	Annual Meeting. Royal Botanic Society's Exhibition at Regent's Park.
THURSDAY,	MAR. 17 Linnean Society, meet. Brighton Horticultural Society, meet.
SATURDAY,	MAR 19—German Gardeners' Club.
TUESDAY,	MAR. 22 (Royal Horticultural Society's Committees meet.
THURSDAY,	MAR. 24 Torquay District Gardeners' Association, show.
FRIDAY,	MAR. 25 General Meeting of the Royal Boianic Society.
MONDAY,	MAB. 28 Birmingham Gardeners' Mutual Improvement Society, meet.

SALES FOR THE WEEK.

MONDAY AND FRIDAY NEXT-Perennials, Azaleas, Roses, Fruit Trees &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris,

at 12.
WEDNESDAY NEXT—
Palms, Plants, Azaleas, Roses, Fruit Trees, Border
Plants, and Pereonials, at 67 & 68. Cheapside, E.C.,
by Protheroe & Morris, at 12; 975 Cases Litiums,
from Japan, Davalitas, Tuberoses, Palm Seeds, &c.,
by Protheroe & Morris, at 67 and 68, Cheapside,
E.C., at 3.—At Slevens' Rooms, at 12:30, Roses, Magnolias, Azaleas, Lilies, Davalitas, and Fruit Trees.

FRIDAY NEXT—
Orchids in variety at 67 and 68, Cheapside, E.C.,
by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement cotumns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiewick

ACTUAL TEMPERATURES :-

TOAL TEMPERATURES:—
LONDON.—Feb 24 (8 P.M.); Max, 43°; Min, 36°.

Feb. 25, Gardeners' Chronicle Office (10 A.M.);

Temp., 36°; Bar., 30°2, snowing stightly.

Provinces.—Feb. 21 (8 P.M.); Max, 48°, S. coast of Iretand; Min, 37', S. of England.

THE desirability of organising A Gardeners' the craft of gardeners has been recognised from time which we may well call immemorial. The organisation of such an Association has heretofore always presented what appeared to be insuperable difficulties.

For our own part, we do not believe they are insuperable, and if the question is treated in the judicious and temperate manner which was evidenced at the meeting on Tnesday, we believe that such an organisation will grow, adapt itself gradually to circumstances, and prove beneficial alike to employer and employed. The evils to be met are the large numbers of unemployed gardeners, the inefficiency and carelessness of many who style themselves gardeners, the painful disparity between the amount of remuneration offered to an honest, competent gardener, the knowledge he must possess and the forethought he must exercise. When the wages offered to other domestic servants, or to skilled workmen in other trades, are compared with the remuneration offered to trained gardeners, the disproportion becomes obvious.

A system of co-operation and registration might do much to better this condition of things. When a young man has given proofs of his capabilities and conduct, all obstacles to his progress should, as far as possible, be removed, and every legitimate endeavour

made to help him in his career. A man who has not succeeded in giving some guarantee of his ability and willingness must not be surprised if he finds he is left behind in the race and that his claims, if he has any, are not recognized. All these are mere truisms. What we want now is to convert them into active operations. A way of doing this without any objectionable element such as would at once arouse antagonism, was pointed out at the adjourned meeting held at the Hotel Windsor on Tuesday last, to which we have referred, and concerning which we proceed to give some further details.

Mr. Owen Thomas presided, and in opening the proceedings announced with regret that Mr. A. DEAN, who had acted as Secretary, was unable to be present owing to illness. In his absence the minutes of the meeting held in January were read by Mr. GEO. KELF. minutes explained the circumstances of the previous meetings, expressed the belief that an Association was needed, but, owing to the fact that but few gardeners had shown any active interest in the matter or afforded suggestions or help, did not recommend any further proceedings to be taken.

Mr. W. H. DIVERS (Belvoir Castle Gardens) then said that he had been in communication with a dozen or so head-gardeners in regard to the matter, and most of them had expressed general sympathy with the movement, if the details could be made practicable. Mr. DIVERS concluded by proposing a resolution to the effect that an association of private gardeners be formed, and enumerated reasons why such a step was desirable, saying that it was a disgrace to them that the condition of those employed in gardening was what it was. Mr. JAQUES seconded the resolution.

The CHAIRMAN remarked that it was thought by some that the Committee responsible for the Gardeners' Dinner held in 1903 had inaugurated the movement for a Gardeners' Association. This was not the case. The Committee had offered their services as a means of promoting the formation of a society in the event of there being a general wish for it. He then proceeded to argue that such an association was necessary. Gardeners were in an inferior position to-day than they were twenty years ago, owing to agricultural depression, There were more gardens now of medium size, but fewer large ones. Other trades had, as a result of combination, been put upon a very much better footing during the same period. The Chairman gave some details of the kind of association that should be formed, and spoke of the need there would be for an examination of candidates, but expressed the opinion that the examination should be partly oral, so that skilful men who might not be able to express their ideas in writing so well as others might not suffer thereby. The results of examinations had not always been satisfactory. His proposals included one that gardeners having five men under them should be eligible as members, but that gardeners in smaller establishments and under gardeners should be admitted for one year only, and elected afterwards or not as the Society thought desirable. All candidates would have to be nominated by several members, and considerable care would have to be exercised to exclude a type of men that was not up to the proper standard. Examinations might be held once a year, and prizes and certificates offered for essays, &c., to encourage the members to attain to higher knowledge and greater efficiency. Such a Society would raise the status of gardening to a level approaching that of the learned professions. The steps that would be taken must be such as would have the sanction of employers.

Dr. MASTERS said that examinations did not and could not prove that a young man was a practical gardener, as experience must be obtained afterwards. Examinations merely proved that the young men had a love for their profession, and that they were industrious and anxious to get on. But what was there to take the place of an examination? What other test could there be? He (Dr. Masters) was entirely in sympathy with the objects of the meeting, heing convinced that gardeners generally were not receiving the remuneration and consideration to which their services, requiring as they did so much forethought and skill, entitled them.

Mr. JOHN WEATHERS regretted that the report of the Committee was of a negative character. He could not agree with Mr. DIVERS' resolution, believing that the Association should include all grades of the profession, and not merely private gardeners. It would not be successful if

commenced on such a basis.

Mr. GEO. GORDON expressed similar opinions. The scheme should include every section of gardeners, and at the commencement their objects should be material rather than sentimental. They might drop the question of examinations for the time being and endeavour to relieve the lot of gardeners, particularly the lot of under gardeners and those who had not succeeded in getting into good positions. The evils of the bothy system required to be remedied, and by a system of registration they should endeavour to convince employers that members of the Association would be worth liberal recompense. Mr. Gordon concluded by moving the following amendment: "That this meeting, having heard the report of the Committee, resolves to form a professional Gardeners' Association, and to elect a provisional committee to prepare a scheme to be submitted at a future meeting.

This was seconded by Mr. W. WATSON (Royal Gardens, Kew), who made an excellent speech in favour of banding together all professional gardeners of every type, to work together for the good of all. We may summarise Mr. WATSON'S remarks as follows: - Why should he, he asked, be excluded from the Association? Surely gardeners in public gardens, in commercial horticulture, in the horticultural trade, and in other grades were trained and skilled gardeners equally with the private gardener! Besides, how was Mr. DIVERS to distinguish between them? Gardeners were employed in private establishments at one time, in a public garden at another, and in a nursery or market garden at another. Were members to be put on and struck off the books as they were moving about in order to get wider experience and acquire greater skill? If Mr. Divers would consent to the scheme being one having the whole field of gardening for a basis, instead of one with such arbitrary limits, they might proceed at once. Experience had taught him (Mr. WATSON) that in order to make the proposal a success they must be prepared to work to secure tangible advantages for those who will become members. A programme that contained little in it but "dinners and talk" would not attract gardeners. He was sure that Mr. DIVERS and Mr. THOMAS would not recommend such a programme, yet until now that was the idea of the proposals those outside the Committee had formed. They must not expect to please everybody, but they should approach the work in the spirit of reformers. Mr. Watson explained the treatment of gardeners at Kew as democratic. If a man at Kew would work as well as the Curator he was esteemed equally with him. But gardening had become very largely a "dumping ground for duffers." This should not be permitted to continue. He would make a fence around the profession, and provide a door through which every member would have to pass, or choose some other vocation. Qualification for membership would require that the candidate should be a professional gardener who had been properly trained as such, in one sort of garden or another.

By professional gardener he meant one who earns his living in any recognised branch of norticulture, and one who has been through the usual course of training as improver or journeyman. At Kew, said Mr. Watson, five years' training was insisted on as the minimum, and this works satisfactorily. It is desirable that there should be a clear understanding on this point.

The term "gardener" belongs to the professional man by right, and they should resist any attempt to appropriate it by those who either play at gardening, or employ others to do it for them, whilst they take all the credit and even honours as if the work was their own. If a person pays an artist to paint a picture he would he an impostor if he exhibited it as his own, but there is a good deal of this kind of thing done under the cloak of amateur gardening.

Although gardening is one of the oldest and also one of the most important industries of this country, its votaries are absolutely without organisation. Mr. Divers asks, "Why should gardening be one of the most disorganised and the worst paid of all professions?" The answer is that no serious effort has ever been made to combine all gardeners in an association for the protection of their interests. We propose, continued Mr. Watson, to make a serious effort now. It is said that there are 10,000 gardeners in this country, but there are probably a great many more if we include commercial gardening; and if we succeed in uniting them they will constitute a force which, under proper guidance, should be able to lift the whole body of gardeners to a position to command that respect which is denied to them now. The advantages of co-operation are evident enough in other branches of industry. There need be ao apprehension of any mischievous intentions. A body constituted as ours will be would not attempt the promotion of schemes of a doubtful character. The right to combine for mutual protection and assistance is now recognised and even encouraged, and we believe that the objects of this proposed Association will commend themselves to all who have the welfare of horticulture at heart, and who would not deny to gardeners the same right of combination to promote the interests of their order as is enjoyed by the followers of other industries.

The objects of the Gardeners' Association are: -

- 1. Registration of gardeners.
- 2. Regulation of wages.
- 3. Regulation of working hours.

These are the most urgent points. When they have been satisfactorily dealt with, the Association might take up such questions as the proportion of apprentices or improvers to journeymen, especially in private gardens; foreign or alien labour; and provision for the aged and orphans.

The gardeners' charities are not altogether a credit to the members. Provision should be made for the aged and for the orphans, as other industrial hodies do, by having a Fund to be entirely subscribed by our own members, who should learn to rely upon themselves, and to support each other in case of need.

The poverty of the gardener is a serious obstacle in any attempt at organisation. Low wages make it impossible for him to do much more than provide for his immediate needs. At Kew for years the authorities have refused to supply a gardener at less than 30s, a week with a house, &c., and although some applicants decline to pay this, even when a highly-trained man is asked for, the rule is beginning to have an influence with employers. Mr. Watson said he had been told by one of our leading London nurserymen that 30s, as a minimum is too high, as he can get plenty of good men for 25s. Who is to blame

for this state of things? Employers will get labour as cheaply as they cau. Few have any desire to pay more than the market price for any commodity; but it is certain that many employers would willingly pay higher wages to competent gardeners if a higher price were set on their labour. In many cases the employer knows nothing of the circumstances; the agent, head gardener, or manager controls such matters, and he, like a good servant, gets men as cheaply as he can. The nurseryman in this case, is only an agent. We are therefore forced to the admission that gardeners are themselves to blame if they are, as Mr. Divers puts it, "the worst paid of all professions."

We are told by economists, continued Mr. WATEON, that low wages do not always mean cheap labour. Certainly he would rather employ one good man at 30s. than two duffers at 15s. each. He felt certain that it will be in the power of our organisation to improve the lot of the gardener in this respect without causing any ill-feeling among employers.

The minimum wage for an improver gardener at Kew is 21s., with extra pay for Sunday work; sub-foremen, who are practically permanent journeymen, get 27s. and extra for Sunday. In the County Council parks of London the minimum wage for a journeyman gardener is 27s.; firstclass foremen in the Royal London Parks are paid from £2 to £2 10s. per week. Compare these rates of pay with those in private gardens, in nurseries, and other establishments where gardeners are employed, and the difference will often be found to be from 25 to 50 per cent. Now if the ratepayers of London think 27s. little enough for a journeyman gardener, and the Government pays 21s. to improvers, either they are guilty of extravagance, or the men employed in other gardens for less are underpaid.

Registration of gardeners, and a rough classification according to ability and experience, will no doubt be of great assistance in steadying and regulating the labour market, and clearing it of impostors and incompetent persons. Every member will consider himself a kind of guardian of the Association. The inefficiency of many gardeners is unfortunately too true. Low wages, bad training, or none at all, are no doubt largely to blame for this. It is also to be feared that gardening is looked upon as a kind of dumping ground for dull and unpromising youths, who would stand no chance in other industries. Whether a remedy for this state of things can be found remains to be seen. Lack of education, even of an elementary kind, is also too often a conspicuous failing. Then, again, some gardens are so badly managed that young men who have been trained in them are deplorably wanting even in rudimentary knowledge and skill. It will be to the best interests of the Association to maintain as high a standard of skill as possible among its members.

The third question, that of hours of labour, will not present much difficulty, and Mr. Warson is of opinion that when a recognised working day or week has been decided upon, it will be generally adopted. A gardener cannot hope for an eighthours'-day any more than a doctor can, for, like the doctor, he has to deal with living and often very delicate subjects, which cannot be set aside like a book or a plank or a machine, to be taken up again at any time without detriment.

It is important that gardeners employed in commercial horticulture should take part in this movement. Commercialism has affected horticulture, as it has so many other arts in this country; and there has been an enormous increase in the number of nurseries and market gardens in the last twenty-five years. Commercial gardening may be said now to lead the profession, and the training to be obtained in some nurseries is of such a quality that it should be sought by young men who have the progressive spirit; for this country offers opportunities to the gardener where the farmer has failed, and there

are many capable young men "champing the bit" in private gardens who might be profitably employed, both for themselves and the community, in some department of commercial horticulture. The Gardeners' Association may be able to assist by endeavouring to obtain land on easy terms for horticultural industries. It may also do something towards removing other disabilities and obstacles, such as insecurity of tenure and the costly system of distribution.

Mr. C. H. CURTIS remarked that the terms of Mr. Divers' resolution would exclude he Chairman (Mr. Thomas) and Mr. Jaques from membership, neither of whom is now a private gardener. The Association should have a much wider scope.

Mr. Gregory and another gentleman having spoken in favour of the broader scheme, Mr. Drost, a market nurseryman of Richmond, supported the same plan from the point of view of the employer of labour.

The CHAIRMAN subsequently put the amendment, which was carried with four dissentients including the Chairman.

Mr. Watson then proposed that the following gentlemen be asked to constitute themselves a provisional Committee, with power to add to their number: Messrs. C. Jordan (Hyde Park), W. Watson, E. Beckett, W. H. Divers, E. Rochford, Peter Kay, George Gordon, R. Hooper Pearson, H. J. Cutbush, F. Sander, jun. (from F. Sander & Son), A. Dean, J. Weathers, and C. H. Curtis.

This Committee will prepare a scheme to be submitted before a public meeting of gardeners.

OUR SUPPLEMENTARY ILLUSTRATION affords a view of the Cattleva-house at Gunnersbury Park, one of the gardens of Mr. LEOPOLD DE ROTHSCHILD (gr., Mr. G. REYNOLDS). The photograph was taken when the varieties of Cattleya labiata were in bloom, and it serves to convey a good idea of the excellent manner in which the plants are cultivated by Mr. REYNOLDS. The specimen at the end of the house had about two dozen flowers, and some which flowered later were nearly as fine. Orchids are grown at Gunnersbury Park for their merit as showy and useful flowers, the selection being made with a view of having a good supply throughout the year. The Odontoglossum-houses now have a number of plants of O. crispum in flower, the supply of which will be continued for some time. Of Vanda teres, a large number of plants is grown, and they and the summer-flowering Cattleyas are in fine condition. The Crttieyas. have been grown in baskets or suspended pans to a great extent, and in the ordinary compost of peat and sphagnum - moss. The illustration proves that the result was satisfactory; but Mr. REYNOLDS, thinking that a change might be beneficial, is now using a mixture containing decayed leaves, and pots are replacing the baskets. The plants will also be placed on elevated staging instead of being suspended as formerly. A keen eye will be kept on the new departure, however, and if not beneficial a return to the old practice will be made.

DISCOUNTS FOR GARDENERS .- According to a correspondence in American Gardening, it appears that in America private gardeners have been "gradually educated" to expect a discount on their annual purchases of seeds. Of course the practice is strongly repudiated by our colleague, one of whose correspondents says such methods as "advertising certain discounts will not be countenanced by any conscientious gardener." We have already mentioned that last season a certain Dutch firm openly offered discounts of this nature, whilst others requested the name and address of the gardener. It is very difficult for a British trader who wishes to conduct his business in a legitimate manner if he has to meet competition of this character.

HORTICULTURAL INSTRUCTION IN RUSSIA.

—We take from the Moniteur d'Horticulture the following particulars of a mode of horticultural teaching which may become necessary here if the floods continue. An immense raft is constructed and placed in a stream. On the raft soil is placed, in which fruit-trees, &c., are planted. When all is ready the instructors go aboard, and the raft is allowed to proceed down the stream, stopping at the river-side villages to allow the professors to give their instruction to the peasants, who are summoned for the purpose by sound of bell. At the end of the journey the raft is broken up and the materials sold.

BOTANICAL DEPARTMENTS.—An appendix to the Kew Bulletin (entitled Appendix iv., 1903) has lately been issued. It contains a list of the members of the staffs of the Royal Botanic Gardens, Kew, and of the Botanical departments and establishments at home, in India and the Colonies in correspondence with Kew.

CHRYSANTHEMUM WINTER CHEER. — Mr. W. J. GODFREY has sent us blooms (February 19) of this new white Japanese variety, which show how valuable it will be for decoration in late winter.

EMIGRANTS TO SOUTH AFRICA. - In the interests of young gardeners in this country who are anxious to improve their position and prospects by emigration, we are asked to publish the following particulars of the conditions pre-vailing in South Africa. These particulars are supplied by an old Kewite, and we believe are trustworthy. The important matter for English gardeners to remember is the fact that £2 a week there is scarcely an equiva-lent to L1 at home. Our correspondent, who resides in Port Elizabeth, writes: "Lately I have known several cases of young gardeners coming out to this country under false impressions. Nurserymen and others have induced them to sign agreements for two or three years at wages of £2 per week, which is not enough to exist upon, much less to provide clothing, &c., all of which are expensive here. Even natives make as much as 30s. to 35s. per week, thus leaving a surplus of 5s. to an experienced white man who has worked perhaps ten or twelve years at the trade. I have seen several instances where gardeners have come out here, and when they have learned what things are like, have scraped together as much as would pay their rassage home, again, and returned. advise no gardeners to come to any situation under £3 to £3 10s. per week. For myself, I cipal parks, having been there for a number of years."

CHINESE SPECIES OF CLEMATIS, ETC .-MM. Finer and Gagnepain, taking up the work interrupted by the death of the lamented FRAN-CHET, have commenced the publication of a series of articles in the Bulletin of the Botanical Society of France (1903), p. 517, on the Flora of Eastern Asia. These articles will be complementary to those relating to China by Forbes and Hemsley in the Journal of the Linnean Society. In the Bulletin before us we find descriptions of seventythree species of Clematis, accompanied by figures of C. hastata, C. repens, C. otophora, and C. pogonandra. As many of these species are likely to be introduced into cultivation, connoisseurs may be interested in knowing of this publication. Fifty species of Thalictrum are treated in a similar manner by the same authors in the same issue of the Bulletin.

MARANTACEÆ.—M. GAGNEPAIN is occupied with the identification and description of the Marantaceæ of the Paris herbarium and garden. In the Bulletin of the Botanical Society of France, 1903, p. 586, he describes as having flowered in

the garden the following species: Costus micranthus from Martinique, Clinogyne similis, Calathea nigricans, and Calathea gigas, a very fine species provisionally called a Heliconia till the appearance of the flowers enabled its true position to be determined. The plant attains a height of 7 to 8 feet, with stalked, lanceolate leaves, spikes about 4 inches long bearing a single leaf and numerous overlapping straw-coloured bracts; sepals \(\frac{3}{4}\) inch long, purple with green and yellow spots; corolla 1 inch long, white or yellowish, staminode violet-coloured.

LINNEAN SOCIETY.—The next meeting of the Society will be held on Thursday, March 3, 1904, at 8 p.m. Papers: Mr. C. B. Clarke—List of the species of Carex known to occur in Malaya; Dr. J. G. de Man—On some species of the genus Palæmon, Fabr., from Tahiti, Shanghai, New Guinea, and West Africa. Exhibition—Mr. L. A. BOODLE: The formation of secondary wood in Psilotum (with lantern-slides).

Fertilisers and Feeding-Stuffs.—The Departmental Committee appointed to inquire into the working of the Fertilisers and Feeding-stuffs Act, 1893, met on the 23rd inst. The following members were present, viz.—The Right Hon. Lord Burghclere (Chairman), Dr. T. E. Thorpe, C.B., F.R.S.; Mr. J. W. Clark, K.C.; Mr. R. Burnard, Mr. A. M. Gordon, Mr. I. Pearson, and Mr. J. W. Spear, M.P. The following witnesses were examined:—Mr. T. Mansel Franklen, Clerk to the County Council of Glamorganshire; Mr. R. Gardner, Valley, Anglesey; Mr. G. F. Barron, Secretary of the Vale of Alford Analytical Association; and Mr. H. Rowe, Plympton, Devon.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

THE NEW CARDEN AT WISLEY. — The fitting up and keeping up of Wisley as a first-class horticultural institution, with everything complete for research in the various departments of horticulture, cannot be done for a trifle. It will cost a great deal of money, and the Royal Horticultural Society would do well to be very careful that this admirable gift should not become a sort of "white elephant" on their hands. Therefore it would seem a wise course, as a first step, to make an accurate plan of the whole place, and then frame a complete programme of what is needed in this country for turning horticulture into a living science and art. An estimate of the probable cost of each piece of the whole work and its maintenance should be made, and then the whole work should be gradually built up as funds become available. In this way some kind, patriotic, and wealthy philanthropist may now and then be perhaps induced to give money for fitting up and maintaining some part of this great future National Institution. The present garden at Wisley, I presume, cannot be touched, as that, I imagine, is one of the reasons for which this handsome gift has been made, viz., to maintain the present unique garden in its original condition. That in itself will require a considerable expenditure. It does not seem desirable that this feature of the place should be interfered with more than can be avoided.

There are many problems connected with horticulture in this country which are awaiting solution. The following are a few in connection with glasshouse horticulture. Greenfly and other similar aphides can be efficiently dealt with by nicotine fumigation, but these preparations are expeusive, and search should be made for some cheap and equally satisfactory fumigator. Then, investigations should be made into the habits and work of that ever-present and ever-busy creature, the ant. There is a suspicion that ants act as distributors, not only of aphides, but of scale and other pests. If this should turn out to be true, an agent would be needed to destroy the ants. There

seems to be a symbiosis between ants and aphides, and perhaps also between ants and other pests, such as scale and American blight. An efficient destroyer of red-spider is badly wanted; it should be cheap and sure. When once this pest gets into a house it is very difficult to get it out again. A nurseryman here told me he had to throw away 200 pots of Ferns owing to this pest. Then there is that abomination called woolly aphis, or American blight. It is perhaps worse than the red-spider, and nicotine fumigations do not seem to destroy it. When it gets admission into a house it is one of the greatest nuisances. I always find ants associated somehow with this pest. Some cheap and easy mode of destroying this pest would be a great advantage.

A laboratory for all sorts of investigations and experiments connected with horticulture in these islands would, of course, be an essential part of the institution, and it would be advisable that some ranges of glasshouses should be set apart for experiments on plants. Fumigation would appear to be the easiest and most efficient mode of destroying insect pests; and perhaps the use of cyanide of potassium and sulphuric acid for the evolution of hydrocyanic acid would appear to offer the best promise as a general destroyer of insect pests. As this, however, is a very dangerous chemical to deal with, some means of readily opening ventilators from the outside to clear the atmosphere of the inside would be of the first importance; and also some easy means of pouring the sulphuric acid into the solution from the outside, such as an enamelled metal tube or some similar contrivance. It would be advisable to have the experimental ranges divided into separate compartments by means of glass, with a separate entrance to each compartment, so that a number of experiments may be conducted at the same time, without one experiment interfering with another. There is a number of things that can be done better by private firms in their nurseries; but there is perhaps a larger number of things that it would not pay private nurserymen, who work for profit, to handle. These especially are the problems to be served by the future great National Institution at Wisley. E. Bonavia, M.D.

THE LATE WILLIAM COLE.—In respect to the announcement in last week's issue of the Gardeners' Chronicle of the death of Mr. Cole, the following particulars may be interesting. Mr. Cole was born at Overton, Hants, on November 30, 1834, and in early life commenced to work on a farm at Overton. Here he managed to save a little money, and paid it as a premium to enter the gardens at Laverstock, Hants. From thence, by the payment of another sum, he went to Strathfieldsaye, Hants, under Mr. Johnson, then gardener to the Duke of Wellington, where he remained for a time; then to Cliveden, Maidenhead, under Mr. John Fleming, eventually returning to Strathfieldsaye as foreman under Mr. Johnson. On the death of the latter, the Duke wished to make Cole head gardener; Duchess gave the preference to a Scotchman, Mr. Bell received the appointment. But the Duke made Mr. Cole a handsome present as a solatium for his disappointment in not obtaining the post of head gardener. On leaving Strath-fieldsaye Mr. Cole went to the nurseries of Messrs. Veitch & Sons at Chelsea, and was sent by the firm as gardener to J. S. Budgett, Esq., then occupying Ealing Park. Here he remained some eleven years, and made an excellent reputation as a cultivator of specimen plants and Grapes. He was one of the principal exhibitors at the flower-shows held in Ealing and the neighbourhood. In 1875 he left Ealing Park, and established himself in business at Feltham as a cultivator of Strawberries and Grapes for market.

DISEASE-RESISTING POTATOS.—"A. D." has misread my article on this subject on p. 74. My object in writing was to try to prove that his assertion that "we were no forwarder" was incorrect; and I am of opinion that the correspondence in your paper since has proved that fact, but I did not say, nor did I think for a moment that Evergood or any other Potato was entirely disease-resisting in all parts and grown under all conditions. What I assert is that many of

the newer sorts are less liable to disease than the older ones, and if such is the case the article written by "A. D." was calculated to do a great injustice to those who have devoted years of study and hard work in trying to combat the dreaded disease, and who, in my opinion, have met with marked success. The Potato Society is to test the relative merits of various sorts now in commerce; but if after these trials are made it is found that there are no sorts quite diseaseresisting, our only way to attain the desired end would be to fall back on the raisers of new sorts, and encourage them to continue their labours with a view of securing some day a Potato that will resist disease; but I am afraid such articles as that of "A. D." will not further this end. If during such a summer as last one or two varieties stand ont prominently from others, as has been, I think, clearly proved by your correspondents, our great aim should be to encourage the raisers of those sorts to continue their efforts, and not say, "We are tired of hearing of diseaseresisting Potatos," simply because we have not yet attained perfection. I believe that in horticulture, like commerce, there is no such thing as being stationary, either we must go forwards or backwards. Which have we done since Patterson's Victoria, Dalmahoy, and Milky White were the leading Potatos? F. C. Edwards, Leeds.

BEGONIA GLOIRE DE LORRAINE.—My experience of the propagation of this plant differs from that of Mr. Branston's, described on p. 123, inasmuch as I have not found that plants grown from stem-cuttings, or joints with the leaf attached, "make the largest planta." I have grown plants that were raised from stem-cuttings side by side with others raised from basal shoots. If anything, the advantage rested with the latter, and I now use those cuttings only. If, however, I wished to raise a large stock from one or two plants, I should make a cutting of every joint with a leaf attached. But under ordinary circumstances the retention of the old flower-stems for propagation is unnecessary, and likely to harbour the mite, and therefore it is wise to take the first opportunity when the plants have become unserviceable to cut back, and consign the tops to the furnace. C. R. Fielder.

AMERICAN GRAPES .- In the Gardeners' Chronicle for February 6 there was an interesting article by Mr. W. Peters. Being desirons of promoting the cultivation of Grapes for flavour apart from mere size and appearance, I wish to point out that there are many Grapes vastly superior to the American varieties which can be brought to maturity in an unheated greenhouse as readily as they. Being an enthusiast in Grape culture, I obtained many years ago from the United States some of the best varieties of Vitis Labrusca raised there. They are very distinct from all the varieties of Vitis vinifera peculiar to the Old World. I have tried them in every way, with heat and without heat, in pots and in a good Vine-border with other Vines, and my experience of them is so unfavourable that I consider them not worth growing except as curiosities. Oddly enough, the variety best known here-the Strawberry Grape—was not familiar to my correspondents in the United States, and, according to the late Mr. Barron's Vines and Vine Culture, it was found in France growing semi-wild prior to the appearance of the Phylloxera and the introduction of American stocks. I believe it has long been known in the North of Italy. A former Duke of Devonshire liked it, and I have met with people who could eat it when given to them, but the majority thought the "foxy" taste objectionable. I still continue to grow it, and also a red variety which I have called the "Raspberry Grape," but its proper name is probably "Iona." These have a strong fruity aroma that can be noticed a long way off, but, the flavour, although resembling that of the Strawberry and Raspberry, is, in the opinion of many good judges, spoilt by the taint of the fox. Instead of being juicy the berries are gelatinous, and their contents slip down the throat before the stones can be separated by the tongue. "Niagara" is attractive in size of berry bunch, but its cloying sweetness is that of saccharin rather than that of Cane or Grapesugar. Any glasshouse in which American Grapes will ripen without fire-heat will bring to maturity that best of all Grapes, the Black Hamburgh, and the truly delicious Frontignan and Chasselas Grapes of France. Unfortunately, in London people taste with their eyes, and the demand is for large and showy Grapes, the flavour of which is less than a secondary consideration. The one exception is that queen of Grapes, the Museat of Alexandria, which has a fine flavour as well as an attractive appearance. For a reliable description of Grapes I confidently refer the readers of the Gardeners' Chronicle to that monumental work of the late Mr. Barron, to which I have alluded. W. Roupell.

MANURE FOR TOMATOS. — Few of your readers will be surprised to learn that Mr. Holmes's experiment of an application of 12 oz. of superphosphate per square yard to a Tomato border in a house was so little satisfactory. That represents a dressing at the rate of about 23 lb. per square rod area, a dressing at once very costly and exceedingly wasteful, as it is evident no crop could utilise such a free dressing. Had he but tested the 6 oz. per square yard of sulphate of potash, that being again at the rod area rate a very heavy quantity, apart from any superphosphate, he would probably have secured quite as good a result as was that mentioned. Still, it would be very interesting to learn how much would have been the crop produced on any similar area, the plants depending solely on what manure was found in the turfy-loam of which the border was composed. The cost of a manure dressing of 18 oz. per square yard must have been considerable. A. D.

THE GARDEN RUBBISH-HEAP. - I read Mr. Simpson's article upon this subject with the attention so important a matter deserves, and the conclusion that I have arrived at is that his system is not to be recommended for general adoption. The wet seasons from which we have suffered have brought the question to the front, as it has been very difficult to keep the weeds down. No donht some some annual weeds are beneficial to the soil when dug in, just as a green crop of tares would be, but Cabbage stumps, Potato and Pea haulm, and other tough refuse are positively injurious to the land if for no other reason than that they infest it with slime fungus, Potato-disease, mildew, and insect pests such as club magget or fly, wire-I have known manure from pig-sties worm, &c. to be highly injurious when used without been fermented because it swarmed with false wire-worms, creatures that feed on partially decomposed vegetable matter in their early stages afterwards attack Potato tubers, the rootstocks of Cabbages, &c. I have known them to pierce ripe Strawberries in all directions so as to completely spoil the fruit. Some weeds are injurious because they are the host plants of certain insects. The familiar garden weed "Fat Hen" nourishes the Black Aphis until the tops of broad Beans are fit for their use, and numberless other instances of injurious host plants might be named. When we want to catch wire-worms we bury a piece of carrot. If refuse cannot be thoroughly fermented in a heap it should be burnt and the valuable ashes spread upon the ground. W.

— Mr. Simpson, at p. 81, would make a clean sweep of the gardeners' old friend, the rubbish-heap. I think that such a receptacle is necessary to a garden, and at the same time can be kept decent and tidy. Pea and Bean haulm. Brassica stumps, trimmings of herbaceous borders, hedge clippings and prunings, should be kept separate, and burned when opportunity offers. In suburban gardens space is usually so limited that a corner can scarcely be found for a "heap, and I have been compelled to pay for such refuse to be carted away, which I should have been glad to have retained, and when decayed to have dug into heavy ground. In such gardens it is impos sible to burn garden refuse to get rid of it as the smoke annoys one's neighbours. It is an old maxim Smoke where no fly," and "Hoe where no weeds. but last season was so wet that hoeing was useless in getting rid of weeds, and keeping the garden clean. Digging in weeds and rubbish may answer in large country gardens, where such close cropping is not necessary, and the ground can remain fallow for a time to give such refuse time to decay, so that the roots may assimilate the manurial properties of such. Turning a wellmanaged rubbish-heap can be done at times when it is not favourable for ground work, and can eventually be run on to vacant ground on frosty mornings. George Potts, Streatham, S.W.

—— I too, like your respective correspondents, Mr. Simpson and Mr. Stocks, was for a long period of my life also in charge of a rubbish-heap, which was an accumulation of all weeds, superfluons vegetable matter, disused potting earth, prunings of trees, and everything else that had to be cleared away. All these were thrown on to one heap in the rubbish yard close by. Any material that would burn was set fire to, and that gave the heap a liberal mixture of wood or vegetable ash. When the heap became inconveniently large the whole mass was turned over, leaving ont such portions that had not sufficiently rotted down, and which was added to the new heap again forming. When the turned-over heap had lain for some time to further decompose and sweeten, it was then carted into the garden and used as circumstances required. With the exception perhaps of a Spinach-bed or an old quarter of Strawberry-plants being trenched-in, we never dug in vegetable matter in the crude state, preferring to have it all decomposed. Simpson's system, which appears to have been successful under his treatment, is the only instance I ever heard of. And we shall be interested to hear if Mr. Simpson's system of a weedy garden, which he appears to recommend, finds some converts amongst the students of the new schools of scientific gardening now forming throughout the country. True I may be considered a gardener of the old school, but I am not at all prejudiced against any new system, provided it has some backbone of commonsense to recommend it. W. Miller.

STRAWBERRY - SEDS .- The digging between the rows of plants is only done just deeply enough to cover the dressing of rotten manure, and does not destroy the surface-roots as Mr. Stocks Most outdoor crops are benefited suggests. having an inch of loose surface-soil, and the Strawberry is no exception to this. A loose surface not only helps to conserve the moisture in the soil and prevent the ground cracking in dry weather, but it is a great aid to equal distribution of water, whether from rain or by watering in times of drought. The forking over of the surface-soil in Strawberry plantations is very necessary on wet, clayey soils, especially after a wet season like that of 1903, as the water stood about on the ground in puddles where it had been trodden a little. It would be very injudicious to give the beds a dressing of rotten dung and immediately cover this with strawy-litter in January, as Mr. Markham advised. Three months later than this is ample time to apply strawy-litter to preserve the truits from dirt, grit, &c. The Strawberry, fortunately, is a hardy plant, and it is quite as unnatural as it is unnecessary to stifle the plants with strawylitter in January or February as advised. It also appears to me to be useless to trench the ground tt. deep and to break up the subsoil deeply with the viewof allowing the water to pass away freely if the water cannot reach there owing surface soil being hard, as it always does become through constant treading about the rows while gathering fruit, layering fresh stock, cutting off runners, and clearing off the strawy litter in autumn. Supposing a few roots (and there are but few) are damaged in lightly forking-in the rotten dung, I think the plants gain an advan-tage, as the dung is put in contact with the roots, and is thereby more available for the roots as growth commences. The application of to a hard and solid surface, as Mr. J. manure Stocks advises, and its removal in April, is erroneous practice, as half its value must be lost. I cannot think there are many gardeners in large private places where Strawberries are extensively grown who can afford time to wheel on to their Strawberry-beds rotten dung, and then rake it off again. Rotten dung should not be applied thickly enough to require any raking off. If Mr. J. Stocks ever does follow my method, he will find that planting Strawberries twelve months old at 1 foot apart in

the row will be of no use, as half the fruits will damp. Royal Sovereign, Monarch, &c., grow so strongly that the foliage almost meets at $2\frac{1}{2}$ feet apart each way in these gardens. A. Jefferies, Moor Hall Gardens, Essex.

- The calendarial directions that were given on p. 54 on the preparation of ground in readiness for transplanting properly hardened off forced Strawberry plants for yielding crops of ripe fruit during the months of August, September, and early part of October, as well as during the following summer and two succeeding years, were thoroughly practical, as also were the directions regarding the treatment of established plantations after the crops have been gathered. They are the reliable teachings of a practical and successful cultivator. It should not require the exercise of much reasoning on the part of any intelligent reader in order to be convinced of the good results, in the way of heavy crops of fine fruit, that is sure to follow the practice of annually laying on a good dressing of manure between the plants as soon as the crop of fruits has been gathered and the surplus runners removed from the plants. In addition to the substance of the manurial dressing heing worked down to the roots in due time, it will also preserve the soil about them in a uniformly moist state during an important stage of the plants' growth, and tend to the ultimate enlargement and consolidation of the "crowns," upon the size and mature condition of which, when the plants have completed their growth, the next year's crop mainly depends. There does not appear to be a great deal of difference in the method of procedure practised by Mr. Markham and Mr. Jefferies (see p. 90), except that the former correctly manures his plants while still in active growth, and capable of utilising to the fullest extent and in the heat dispersion. extent and to the best advantage the nitrogenous food thus applied. However, viewed from a cultural and commercial point, the difference is an important one, and altogether in favour of the writer of "The Hardy Fruit Garden" calendar. I think Mr. Jefferies has given rather too much prominence to the question of slugs, which he says would find "a safe refuge" in severe weather in Strawberry-beds manured as recommended by Mr. Markhem at p. 54. Unmindful of this asser-Mr. Markham at p. 54. Unmindful of this assertion, Mr. Jefferies says a few lines lower down in his note (p. 90), "as soon as there are frosts sufficiently severe to allow of manure being barrowed between the rows of Strawberry-plants, I have the mulching done," thereby affording the "safe refuge" for the slugs which he himself had just condemned. W. H. W.

KEW NOTES.

RARE FERNS.—It is an unfortunate fact that collections of Ferns are not popular at the present time. There are few enthusiastic growers of Ferns, and only a few nurserymen in the country possess a good collection. The demand for Ferns, other than the two cozen or so that are grown for market, is very l'mitel.

PLATYCERIUMS.

Perhaps the finest of the rare Ferns at Kew is Platycerium biforme; it is a grand specimen, and also a very remarkable-looking plant. The erect barren fronds are 2½ feet high and 2 feet broad; the fertile fronds are branched, pendulous, ribbonlike, and measure $3\frac{1}{2}$ feet long. Several plants of the rather better known P. angolense (fig. 57) are planted out on a stage; the fertile fronds of this species are undivided, differing very little in shape from the barren ones. P. madagascariense is also in cultivation at Kew; the plants have not yet reached their mature size, the fertile fronds being only 6 inches long. The plants are probably the only specimens of this species in cultivation.

, MARATTIAS.

Good specimens are to be seen of the rare Marattias, Burkei, laxa, and of Kaulfussii; the stipes of the first-named species being covered with a multitude of small protuberances. This genus, like the genus Angiopteris, is seldom seen outside botanical gardens.

OTHER SPECIES.

In House No. 1 there is a giant plant of Angiopteris evecta var. hypoleuca, having nine large fronds, each about 12 feet long and 5 to 6 feet in width.

Lindsaya guianensis and L. trapeziformis var. falcata are plants rarely seen in this country; they are very distinct, but very difficult to manage under cultivation.

Acrostichum spicatum is remarkable for having the sori developed within a cylinder-shaped structure at the apex of the frond, being so totally different from the typical Acrostichum, with its distinct barren and fertile fronds.

Helminthostachys zeylanica is a wonderful Fern, belonging to the "flowering" section; it has a fleshy stipe 1 foot high, from the top of which radiate about ten lanceolate segments; the fertile portion is developed from the centre, and is about 6 inches long.

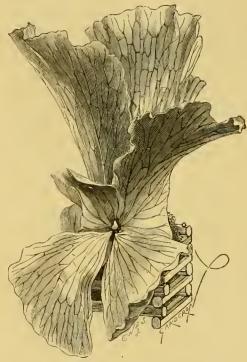


FIG. 17.-PLATYCERIUM ANGOLENSE.

Asplenium scandens is seldom seen; it has feathery fronds about 18 inches long, and is remarkable for its climbing habit; the specimen at Kew has grown up a Fern-stem some 3 feet high.

Polypodium americanum is one of the most rare and beautiful of this large and varied genus. It is covered with a felt-like film, which can be rolled off, leaving a dark-green glossy frond; it is rather leathery, 1 foot to 18 inches long, and 1½ inch broad. P. serrulatum is the gem of the genus. The graceful little fronds are some 3 inches long, and not more than one-eighth of an inch broad, with a margin very like that of a fretsaw. It would be difficult to believe this species could be a member of the same family as P. conjugatum with its giant proportions if it were not for the evidence on the reverse of the frond.

Scolopendrium nigripes is a tropical species with an almost orbicular frond about $2\frac{1}{2}$ inches across; it is a very distinct-looking plant from the typical Scolopendrium.

Aspidium anomalum. — This is probably the greatest curiosity amongst the rare Ferns. The frond is about 18 inches long and somewhat coriaceous, having the unique character of bearing the sori on the upper surface, none whatever being developed on the under surface; it is a hotanical curiosity.

One might continue to mention name aftername of choice Ferns in the Kew collection without exhausting the list. Indeed I have not referred to the Tree-Ferns or Filmy Ferns, of which there are plenty of rare kinds in the collection; but perhaps the enumeration of the few species mentioned may serve to give lovers of Ferns a slight idea of what the Kew collection contains. W. H.

SOWING ONIONS UNDER GLASS.

I po not know to what extent the practice of raising Onions under glass early in the year, to be afterwards transplanted into the garden, obtains, but it is apparent that those who have accorded it a fair trial are so enamoured by the results as to have adopted it instead of the old method of sowing in the open. I was greatly struck last autumn, when inspecting a number of cottage gardens, every one of which contained its bed of large Onions produced from seeds sown in dung-heated frames in spring, by the remark of one of the occupiers, who declared he planted 400, that they supplied his own family, leaving a surplus for sale. Another kept three families going. Moreover, their experience in another respect coincided exactly with my own, for previous to adopting this system the Onion crop, always a small one, was sometimes quite lost through maggot: but now maggot is never even

I tried all kinds of treatment in the endeavour to secure spring-sown Onions free from maggot, but in every instance the result was failure, till, trying the large-growing varieties from early-raised plants, the continued absence of maggot induced me to attempt the production of the whole crop in the same way, with the result that maggot is now, and has been for some years, a hearsay difficulty only. At first I expected that the extra labour required would be a serious drawback, but if there is more required in the production of a crop, it is certainly only slight, and to compensate it is not labour misspent, as one often felt it to be when the little plante from seeds sown in drills went down in lines. There are, too, other advantages in the system. The crop off a given space is perhaps three times larger than by the old method, and so less ground is required to produce the same quantity. The Onions besides are very much better flavouredalmost as mild, indeed, as Spanish produce; and I am not referring here to the large varieties selected for exhibition purposes, but to old and common kinds of the James' Keeping type, which individually bulk sufficiently large to meet the requirements of the most exacting cook-maid.

It must be explained that the culture of the plants in their earlier stages is considerably simpler than that usually accorded Onions raised in this way. The seeds may be sown as late as March 1, but those sown early in February produce a bulkier crop. It is essential that the soil be open and very fertile. To save time and space, once the seeds are sown, the boxes are piled one above another in a vinery till germination takes place, when they are stood out singly, and shortly afterwards tranferred to a late and therefore a cool Peach-house, whence towards the end of March they are placed out-of-doors. Early in April the little plants are set out in the portion of the garden chosen for the crop.

No better preparation of the ground than that afforded by a previous crop of Celery can be made, and therefore I mostly always succeed in letting Onions follow Celery. The lines run 15 inches apart, and the plants 4 inches apart in the row. Once dibbled into the ground, the plants receive no further attention beyond that of repeatedly hoeing the soil and weeding it. On more than one occasion a sharp frost has nipped the little seedlings shortly after transplantation, but they have always bravely overcome these

early misfortunes. I do not know that there is anything novel in producing Onions in this way, because it is apparent from old gardening records that something akin to the practice obtained long ago—with this difference, that the old-time gardener sowed his crop very thickly in the open garden the previous summer, and preserved the wee bulbs over winter, which, planted in spring, produced very large hulbs. So beneficial is the above practice that, at least in the North, it bids fair to become universal. B.

SOCIETIES.

ROYAL HORTICULTURAL.

FERRUARY 23.—On the occasion of the fortnightly meeting on Tuesday last, the Drill Hall, Buckingham Gate, Westminster, was filled with bright exhibite, and during the afternoon the pathways were so thronged with visitors that it was a matter of great difficulty to move about. Orchids were more than usually numerous, and the Orchid Committee awards included one First-class and one Botanical Certificate, and three Awards of Merit.

Before the FLORAL COMMITTEE were exhibited beautiful groups of forced Azaleas and other flowering study, and hardy flowers were more numerous than they have been. This Committee recommended three Awards of Merit.

The FRUIT AND VEGETABLE COMMITTEE had absolutely nothing to do.

In the afternoon a paper by Mr. R. Lewis Castle on "Pomology as a Study" was read by the Secretary.

Floral Committee:

Present: W. Marshall. Esq. (Cnairman); and Messrs. C. T. Druery, R. C. Notcutt, R. Dean, John Green, W. Howe, J. F. McLeod, R. Hooper Pearson, G. Reuthe, J. Jannings, C. R. Fielder, C. Dixon, C. J. Salter, J. A. Nix, Chas. Jeffcies, J. W. Barr, C. E. Pearson, R. W. Wallace, W. Cuthhertson, W. P. Thomson, E. H. Jenkins, W. J. James, Chas. E. Shea, and H. J. Cuthush.

The Rev. W. WILKS, M A., showed the members a fruit of Allamanda Williamsii, which was considered to be very rare in English plant-houses. A similar fruit was illustrated in the Gardeners' Chronicle, May 19, 1894, p. 633, which we reproduce in fig. 58.

Messrs. W. Cutuush & Son, Highgate, N., stsged a collection of early-flowering plants and decorative shrubs, prominent among the latter being Spirea Thunbergi. The group was backed with batches of Narcissus in variety, Golden Spur being very good. Iris sindjarensis and I. orchioides among others were included in the exhibit, while I. Bucharica, a tall species with white flower and yellow lip, was very noticeable, Hepaticas, Anemones, Saxifragas, Scillas, coloured Primroses, and the Grape Hyacinths were included. The centre of this collection was occupied by Clematis indivisa lobata, which made a fine show with its numerous flowers.

Messrs. Barr & Sons, King Street, Covent Garden, London, had a group of similar plants, Petasites fragrans, and sweet-smelling Hyzelnths, evidently catering for a different class of wivged visitors to their neighbour, the fætid Hellebore. Dwarf Veronicas, Ivies, and other similar rock-work plants were mingled with such tiny members as Natcissus minimus, N. cyclamiceus, Hepaticas, Scillas, &c. A showy basket of Byacinth "Leonidas 'was suspended above the stage, some of the plants making an effort to grow from the bottom of the basket.

Messrs. WILLS & SEOAR, South Kensington, staged a group of decorative Palms near the entrance. Some very good specimens were included in the collection, which was tastefully set up, nice plants of Kentia Canterburyana, Stevensonia grandiflora, Areca sapida, Carludovica palmata, Cocos Bornett, and C. plumosa, among others, heing present (Silver Flora Medal).

Messrs. J. Cheal & Sons, Crawley, contributed to the collection of Alpine plants in several trays planted in miniature ruck-garden style. Included were some good blue Primroses, dwarf ornamental shrubs, Contfers, and other plants suitable for the rockery. Primula denticulata and P. denticulata alba were well shown in this interesting group

Messrs. H. Henderson & Son, High Road, Tottenham, showed good specimens of Chrysanthemum Mdlle. Louise Charvet

Messrs. H. Cannell & Sons, of Swanley and Eynsford, staged Primulas of their well-known strain even better than on the two previous occasions this season. The plants were excellent specimens of these useful decorative plants, some of the individual flowers heing of extraordinary size and substance, with charming colours. Mrs. R. Cannell, a large well-shaped flower, white, with a pleasing yellow centre, had massive trusses of bloom; Fashion, a delicate mauve-pink, shading to a lighter centre, with stellata blood, was handsome; while Red Rover and Cardinal were good reds. Polar Star had loose panieles of white flowers. Another fine whife was White Duchess. Among the true Chinense type were two varieties with large flowers labelled White Pearl and White Queen respectively. Moonbeam was a pleasing acquisition, having large white blooms with a pronounced yellow eye,

appeared coospicuous, while a small pan contained quits a number of these tiny Alpines in full flower, and included Cyclamen Coum, Hepatleas, Anemones, Gentiana verna, a mere midget but most conspicuous on account of its lovely blue petals, the whole being crowned with a giant looking Anemone, A. fulgens, although the latter itself was but a few inches in height.

A very creditable stand of well grown plants of Cyclamen latifolium was set up by Mc. J. May, of Gordon Nursery, Twickenham. Some of the individual plants were literally crowned with spikes of bloom, and the whole stand was a blaze of colour of all hues, the rich marbling on some of the leaves giving an additional

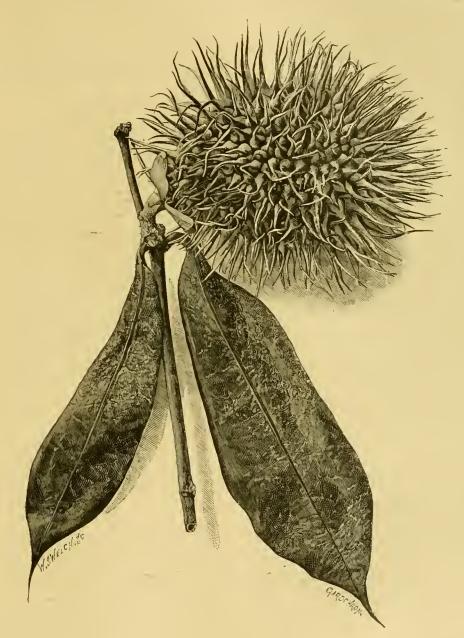


FIG. 58.—AN ALLAMANDA FRUIT-CAPSULE.

which did not detract from its heauty in the least. There were also included several trays of individual blooms arranged in rows, the whole exhibit being awarded the Silver Flora Medal. A rather showy Succulent, Echeverla gibhifora, from Messrs. Cannell, and dense heads of flowers with reddish sepals, the colour running into the upper leaves and giving the plants a very attractive appearance.

THE GUILDFORD HARDY PLANT Nursery set up a small collection of hardy early flowering plants which they make their especial province; showing good plants of Irlses, Primroscs, Saxifrages, giant Snowdrops, Cyclamen, with Ericas, Veronicas, Daphne, &c. Tellima rubrifolia, and Saxifraga Burseriana major

attractiveness to the group. Among other pleasing colours were several fine crimsons, a variety "Excelsior" having a rich shade of this colour, was an advance on the ordinary reds, although perhaps out quite so proliferous (Silver Flora Medal).

Messrs. Wallace & Co, Colchester, staged trays and pots containing a collection of Alpines, and included some very interesting species. Irises were interesting—I. Tauri, I. histrioides, I. Heldreichti, and a distinct yellow-variety, I Danfordiæ, were all good Hepaticas, Scillas. Eranthis, Crocuses, and Colchicums were included, and some good plants of Primula megascafolia. Pans of Colchicums, Crocuses, Snowdrops, and Irises were all plentifully flowered.

Messrs, J. VETTCH & Sons., of Chelsea, had a very pretty exhibit of flowering plants, interspersed with small pots of Maidenhair Ferns artistically plants of Primulas of pleasing arranged. Good and popular colours were bearing fine trusses of Stellata Blue Improved, Stellata white, salmon, and red, dotted with fine flower-heads cut from Chinensis varieties in flower-holders, and such varietles as Chelsea Rose, Salmon Red, and the beautiful Duchess, made a pleasing impression. Coleus thyrsoideus was again in evidence, giving proof of its lasting qualities as a winter-flowering plant, and formed a fitting background to a fine batch of Loropetalum chinense, a plant that deserves the attention of cultivators, its stems being literally crowded with white blossoms (Silver Banksian Medal).

Mr. H. B. MAY, Dyson Road Nurserles, Upper Edmonton, made a display of Ferns which were an object lesson in good cultivation. They were all of good colour, well-grown, clean, and most comprehensive in variety. Platyceriums in variety, Pteris Childsii, Nephrolepis Piersoni, Gymnogrammas in variety, G. schizophylla superba, and Davallia fijiensis robusta, all excellent specimens, deserve a word of mention. Davallia dissecta on its supports graced the background, while a batch of Adiantum farleyense rivalled in colour the gold on the Silver-gilt Flora Medal card whitch was displayed above indicating the Medal awarded to the group.

Messrs. Surron & Sons, Reading, staged a batch of white and blue Italian Hyacinths. The habit and perfume were good, so that they should prove desirable varieties for cutting purposes.

The Fox Hill Hardy Plant Nursery had numerous pots with flowering specimens of hardy plants. Iris histrioides major (fine blue colour), I. reticulata aurea, I. Tauri, were good; Sarracenia purpurea; Crocus Sieberi was doing finely in a pot. A rare Shortia, S. uniflora, was presented, and a new Iris, I. Hausknechti

The entrance of the hall to the right was a blaze of colour, given by a group of Azaleas staged by Messrs. R. & G. CUTHBERT, the Nurseries, Southgate. The flowers had quite smothered what foliage the plants possessed, and needed the relief given by such plants as Ferns, Palms, &c., backed with taller Palms. Standard Azaleas were worked in the group, and added to its attractiveness. The plants possessed fine colour; many were quite striking, the variety Anthony Koster being especially worthy of note; as was a fine variety of the Ghent Azılea, named Altaclarensis. Many named varieties of the mollis x sineusis group were of exceptional merit. The whole was awarded the Silver-gilt Flora Medal.

More Alpines were present, this time staged by Messrs. Ware, of Feltham, Middlesex. A great number of these little favourites were in flower. The collection formed a very fine contribution to the Alpine feature of the show. Many Primulas were presented P. obtonica of many forms, P. kermesina, P. megascæfolia, P. denticulata, and P. Cashmeriana alba were all in flower, the latter being very fine; Fritillaria crassifolia, and the dwarfer: F. citrina; the curious Scoliopus Bigelowi, and Cytanthus intermedius were all shown in bloom. Hepaticas, Scillas, Anemones, Leckenalias, Cyclamen Coum, and the tiny So denella a pina.

Messra. J. IAING & Sons, Forest Hill, staged a number of Begonia plants dotted with Maidenhair Ferns. A great many plants of Begonia g gantea carminata, with dark and red flowering spikes, had B. argentea guttata, a pretty foliage variety, as a companion. Some tipy Maidenhair Ferns along the front garea price firsh to the group.

gave a nice finish to the group.

Messrs Wm. CUTHUSH & SON, of Highgate, had interspersed in their group of forced trees and shrubs, a number of standard forced plants including Spircas, Wistarias, Laburnum, Cytisus, Riber, Prunus, Magnolias, &c. Staphylea colchica was finely flowered; Prunus triloha and Pyrus malus Scheideckeri, testifying to the usefulness of the members of the order Rosacaæ for forcing purposes. A ground work of Fatsia japonica gave a finish to the collection (Silvergilt Banksian Medal).

Near this latter group was an exhibit of Mr J. Russell, of Richmond, who saged a group of forced shrubs well arranged, tall flowering branches of Prunus triboha interspersing the whole. Andromeća speciosa was very much admired; Vibnruum opulus was good. Euryalatifolia variegata, Araucara, small Palms, &c, were used as an ecglog (filver Banksian Medal).

Mesers, B.S. Williams & Son, of Upper Holloway, staged a similar group to this last, the plants including standard Lileosyar d Azalcas.

AWARDS OF MERIT.

Eupatorium petiolare,—This is a very attractive Eupatorium with a loose branching habit, the growths requiring to be supported to a stake. The flower-heads are produced from axillary growths at every leaf axii, the upper ones, which are shorter, being also stiff enough to be self-supporting. The flowers are pink-and-white-owing to the centre ones having a little pink colour before expanding. Shown by Messrs. H. CANNELL & SONS.

Pleris Hillit.—This is a very distinct and handsome Pleris, said to have been introduced from Brazil. In general appearance it most resembles P. umbrosa, but the fronds and pinnæ are much thicker, more glossy, and the pinnæ, instead of heing flat, appear channelled, owing to the margins being nearly erect. Plants have already grown to 3 feet high. Shown by Messrs. HILL & SONS.

Cyrtomium Butterfieldii.—This is doubtless a variety of C. falcatum with crested or fimbriated margins. Being a hardy Fern it will be much appreciated. Shown by Mr. Percy J. Butterfield, The Ferns, Freezywater, Waltham Cross.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair, and Messrs. Jas. O'Brien (Hon. Sec.), de B. Crawshay, R. Brooman White, R. G. Thwaites, F. Wellesley, W. A. Bilney, J. Colman, W. Cobb, H. Little, H. T. Pitt, H. Ballantine, T. W. Bond, M. Gleeson, J. Duuglas, A. A. McBean, J. W. Potter, F. Rehder, F. J. Thorns, W. H. White, W. H. Young, J. W. Odell, W. Boxall, and E Hill.

The Orchids were again in the majority, a large number of groups being staged. The President, Sir TREVOR LAWRENCE, Bart. (gr, Mr. W. H. White), staged a remarkab'e group of fine specimens, which included Cypripedium × Lathamianum, with fourteen flowers × Ledouxiæ, and C. Sallieri, ten flowers; hirsuto-Sallieri, C. x Confetti, and others. Finely bloomed Dendrobium x Wiganiæ xanthochilum, with about fifty blooms; a large mass of the yellow Deudrobium x Melpomene, and D. signatum aureum, profusely bloomed; D. Kingianum album, D × Ainsworthi Hazlebourne var., fine masses of Sophronitis grandiflora, one with about sixty flowers; the graceful orangeand white Epidendrum porphyreum, Cattleya Trianæ, with eighteen flowers; and the fine C. T. Backhousiana. Ada aurantiaca, with fourteen spikes of orange-scarlet flowers: Spiranthes colorata picta, Miltonia fuscata, Odontoglossum × Humeanum, Mormodes buccioator Rolfei, the dark scarlet Epilælia × Psyche, Calanthe Sanderiana, and C. Steveusi; Odontoglossum coronarium miniatum, Masdevallias, &c. (Silver-gilt Flora

JEREMIAH COLMAN, Esq, Gatton Park (gr., Mr. W. P. Bound), staged an extensive group, in which were a ve y fine set of varieties of Dendrobium nobile, and hybrids of it raised at Gatton Park. Among those noted were threegood D. nobile album, D. X Wiganianum purpureum, D. X Aspasia, D. X Sibyl, D. Owenianum, D. X Rolfei, D. X rubens miroir, and D. R. elegans, the latter a fine improvement on D. nobile elegaus: D. X Artemis, D. X Othello, and D. X Firedy, fine hybrids raised at Gatton Park; a good set of varieties of Cattleya Triane, two of the most interesting being the old but still distinct C.T. Penelope, and the showy C.T. Mr. J. Colman; Vanda Cathearti, Zggocolax X Vei'ch', and various good Odontoglossums and Cypripediums were also remarked in the group, which secured a silver-gut Flora Meda!

Messrs Sander & Sons, St. Albans, were awarded a Si ver-gilt Flora Medal, for a very large group in which the raser species and hybrids were set up with magnificently flowered specimeus of Dendroblum Ward! anum, and with which was a specimen of the new D. Wardianum xantholeucum, a finely formed pure white flower with a large orange-yellow disc to the lip, on which there was no trace of the purple lines or spots usually seen in D. Wardianum album varieties. Set up with the Dendrobes were some good Odontoglossum crispum and notably a distinctorange spotled variety; O. nevadense. O. x loochristyense, O. x Wilckeanum, Cypripedium.x Persephone (Lathamianum x exul), an at ractive hybrid with a good dearof C. exul evident; C. x aureum Olympus, Selenipedium x "Pink Pearl" of the S. longifolium class, but with white-and-rose flowers; a set of varieties of I relio-Cattleya × Bletchleyensts, the rich orange Lælio - Cattleya x Doris Sander's variety, and other hybrids. .

R. G. THWAITES, Esq., Chessington, Streatham (gr., Mr. Black), was awarded a Silver Flora Medal for a fine group, principally of remarkably fine Dendro

biums; the D. nobile Murrhinianum and some others being very large and well bloomed specimens; and D. n. Thwaites variety, one of the largest and finest of coloured forms. Also noted were a large plant of a yellowish Dendrobium × Wiganiæ, some finely-coloured D. × Schneiderianum, D. Brymerianum, and other Dendrobes; the new yellow Lælia × Gwennie (Jongheana × Perrinii), Odontoglossum crispum, &c.

Mr. J. CYPHER, Cheltenham, secured a Silver Flora Medal for a pretty group, in the centre of which was an arrangement of the elegant white Dendrohium barbatulum, very profusely flowered. On each side were a selection of the best varieties of Dendrohium nobile, D. × Ainsworthii, &c.; Cypripedium villosum giganteum, C. × Lathamianum, t. e very handsome emeraldgreen-and-white C. × Maudiæ, C. × Gowerl, a fine white Miltonla × Bleuana, the scarlet Masdevallia × Heathii, and the yellow M. × Hincksiana, good forms of Cattleya Trianæ, &c.

Messrs. Jas. Veitch & Sons, Chelsea, staged an effective group principally of hybrids, one of which, and a very interesting Cymbidium from Yunnan, secured an Award of Merit. Other specially good things in the group were the clear white Lælio - Cattleya × Orpheus (C. Trianæ × L. glauca), L.-C. × Myra, both the clear yellow and the nearly white variety named "alba;" L.-C. × highburyensis, L.-C. × callistcglossa, L.-C. × Pallas, L.-C. × Warnhameusis, Phalænopsis × Hebe, Cypripedium × Miss Louisa Fowler, and other Cypripediums; several varieties of Dendrobium × Scylla (Cybele × japonicum), the hrilliant scarlet form of Epidendrum × O'Brienlanum, Masdevallia Imogen &c. (Silver Banksian Medal).

J. Bradshaw, Esq., Southgate (gr., Mr. Whitelegge), staged a select group, in the centre of which was the showy Ledia × D gbyano-purpurata "Mikado," with good sepals and petals, and showy rose-purple lip; and Cattlega Trianæ "Mavourneen," a good large white flower with a tinge of pink on the lip. (With them were some good Odontoglossums, including O. × Adrianæ and O. crispum, with strong branched spikes. Leaf soil had caused wonderful vigour in the plants, but the branching of the spikes has rendered the individual flowers of indifferent quality. "Also noted were Lycaste Skinneri alba and Enchantress, good O. × excellens, and other Odontoglossums (Silver Banksian Medal)

Messrs, Hugh Low & Co., Bush Hill Park, had an effective group, in which bushy, profusely-flowered specimens of Dendrobium crassinode were a feature. There were also some finely-coloured Cattleya Triane, the one named "grande" having a very large and finely-formed bloom, and another, pure white; good Dendrobium primulinum, Cypripedium x nitens magnificum, C. x J. Howes, C. x Calypso, Phalænopsis Stuartiana, and others, were also in the group (Silver Banksian Medal).

M. CHAS. VUYLSTEKE, Loochristi, Ghent, sent Odontoglossum \times Vuylstekei recens, and O. \times V. concinnum, two very fine dark forms; a good O. \times ardentissimum with purple markings on the segments; two forms of O. \times loochristyense and a finely-marked O. \times bellatulum nilens.

F. W. MOORE, ESQ, V.M.H., Royal Botanic Gardens. Glasnevin, Dublin, sent a magnificent spike of a very large and beautifully-marked form of Cymbidium graudifiorum.

JOHN C. F. RAMSDEN, ESQ. Guildford, sent a yellowish form of Cypripedium × Harrisianum.

G. W. LAW-BCHOFIELD, ESQ, Rawtenshall (gr. Mr. Shill), sent Cyprlpedium x aureum, Surprise, a beautiful yellowish-and-white flower.

R. BRIGGS-BURY, ESQ., Bank House, Accrington (gr. Mr. Wilkinson), again showed the beautiful Cypripedium × Minos, Young's variety, and the fine C. × Beckmanii (See Awards).

J. GURNEY FOWLER, Esq., South Woodford (gr. Mr. J. Davis), scut Cypripedium x J. Davis (? Dauthieri x Lecanum), a pretty light-coloured flower tinged and spot(e) with rose

F. WELLESLEY, Esq., Westfield, Woking (gr. Mr. Hopkins), seut Cypripedium villosum pulchellum, an attractive flower.

"MR. HENKEL, Darmstadt, sent a white Cattleya

Awards.

FIRST-CLASS CERTIFICATE.

Cypripedium × Beckmanii, from R. Briogs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson).—One of the nublest of Cypripediums, in which a flue form of Cy Sallieri has doubtless taken part. Flower of massive size, greenish - Jellow, the dorsal sepal heautiful,

spetted with blackish purple. Petals and lip tinged purple.

AWARDS OF MERIT.

Cymbidium × Ballianum (eburoeum × Mastersii), from Captain G. L. HOLFORD, Wes'onbirt, Telbury (gr., Mr. Alexander). - A very fine hybrid with pure white flowers, equal in size to those of C. eburneum, but with more pointed segments and more flowers on a spike, as in C. Mastersii, that on the plant shown having four fine flowers; crest of the lip yellow.

Cymbidium Wilsoni, from Mesers JAS. VEITCH & FONS, Chelses. - A remarkable species imported from Yuunan, China, and closely allied to C. g'ganteum, compared with which the plant is much dwarfer, the scape more slender, and the labellum less hairy. Sepals and petals green, with some indistinct dotted reddish lines extending halfway up. Lip cream coloured, with sepiabrown lines inside the side lobes, and reddish markings on the front.

Sophro-Cattleya × Saza (S. grandiflora × C. Trianæ), from Messrs. Jas. Veitch & Sons -A floriferous dwarf hybrid with rose coloured flowers, darkest on the lip.

BOTANICAL CERTIFICATE,

Dendrobium Williamsoni, from F. W. Moore, Esq, Royal Botanic Gardens, Glasnevin, Dublin.-A rare Himalayan species of the nigro-hirsute section, with white flowers baving orange-coloured discs to the lip.

CULTURAL COMMENDATION.

To Mr. G. A. King, gr. to Kennedy Jones, Esq., Knightons, East Finchley, for well-cultivated Cologyne cristata.

THE ROYAL CALEDONIAN HOR-TICULTURAL.

THE schedules of prizes to be offered at the spring and sutumn shows of the Royal Caledonian Horticultural Society have reached us. The shows will be held, as usual, in the Waverley Market, Edinburgh, on May 25 and 26, and September 14 and 15 respectively. Entries for the shows are open to all, whether membere of the Society or not.

The prizes are valuable and numerous, the classes comprehensive, and again include a competitive plan, open to under gardeners only, to be laid out suitably for a suburban residence garden, the 1st and 2nd prizes for which have been generously contributed by Sir John Glimour, Bart.

At the autumn show of the Society, always remarkable for exhibits of fruit, a special Trophy is offered for a collection of eight bunches of Grapes, containing not more than two bunches of any one variety. This has

more than two bunches of any one variety. This has been tendered to the Society by Mr. W. H. Massie, of the firm of Messrs. Dicksons, Edinburgh, and is a Silver Challenge Trophy worth 50 guineas. It will become the properly of any exhibitor who wins it three times. To this the Society has added valuable mone-

tary prizes and a gold badge.

The experiment of holding the Spring Show in the third week of May having been a success, the Council has decided to repeat it this year.

The membership of the Society has increased as we ave announced several times. The Council consider have abbounced several times. The Council consider that it is time another International Exhibition was held, and have begun preparations for a great International Exhibition to be held in Edinburgh in September, 1905. The Council hope to be in a position to offer about £1 500 in premiums. His Majesty the King has graciously accorded his patronage to this Exhibition and has given a Silver Cunto be availed.

Exhibition, and has given a Silver Cup to be awarded.

There has been a balance to the good on the year's working, which is largely due to the great increase in members during the last two years.

LINNEAN.

FEDBUARY 18 .- PROF. S. H. VINES, F.R.S., President, in the Chair.

Mr. R. H. BIFFEN read his paper on "Mendel's Laws and their application to Wheat Hydrids," illus!rating his remarks with lantern-slides.

An investigation of the various characters of the different races and varieties of Wheat showed that the following characters were dominant :- Beardless palese, keeled glumes, lax ears, velvet chaff grey coloration, red coloration in the chaff and red coloration in the grain; the corresponding recessive characters being tearded palem, rounded glumes, dense ears, glabrous chaff, white coloration in the chaff and grain.

In the second generation the plants showed the usual splitting into three showing the dominant character to one showing the recessive, with the exception of the rough chaff of Rivet Wheat, which in several cases was followed by impure splitting. In this generation a considerable variation occurred, particularly among the colour-characters, grey, for example, becoming almost black in some cases and very pale in others. Nevertheless, the splitting into grey and white and grey and red chaff appears to be pure.

An example of a hybrid intermediate in character between its parents was afforded by Polish Wheat Rivet. The progeny bore glumes and grain intermediate in size to that of the parents.

Evidence was also brought forward to show that certain anatomical characters, such as the presence of groups of bristles, the arrangement of sclerenchyma girders, the presence or absence of pith in the internodes, also followed Mendel's Laws. The same also appears to be true of certain "constitutional" characters, such as the time of ripening and the immunity to attacks of rust.

Prof W. F. R WELDON spoke at length on his views of the Mendelian hypothesis, referring in illustration to observations on hybrid albino mice and albino human beings.

Mr. W. BATESON, F.R.S., exhibited a series of specimens of Primula stuensis, about 240 in number, lent by Messrs. Sutton & Sons, illustrating the phenomena of heredity and variation, which he had been permitted to witness in their nurseries during five seasons. was well known, the species, since its introduction about 18.0, had given off numerous mutational forms, e.g., Fern-leaved, Ivy-leaved, the "stellata" type, and others. Many of these in their tuheritance follow simple Mendelian rules. Palm-leaf is dominant over Fernleaf and over svy-leaf, reddish stem over green stem and over deep red stem, single flowers over double, and each recessive form breeds true from self-fertilisation, from whatever pedigree it be derived. Imperfect segregation of Fern-leaf from Palm-leaf occurs as a rarity. The original introduced plant was thrum-eyed, but the pin-eyed is almost exclusively cultivated now. Thrum-eye is dominant over pin-eye. "Homostyled" forms have appeared, and their character is recessive to both pin and thrum. The stellats and sinensis types give a blend-form on crossing.

In the case of colour certain complications exist. Pure white with green stem is recessive to most and probably to all colours; but the evidence suggested that when a linged or flaked white with a reddish stem is crossed with colour, the colour is practically recessive, as in poultry. More experiments on this important point were needed. Pinks are recessive to mauves, and consequently mauves cannot be bred true without individual selection. Blue is often altogether disintegrated on crossing, not again reappearing. Some heterozygous types exist, e.g., cortain Livenders, and certain fancy reds. These each year give off two or more distinct colour types from the "self crossing of which they are formed. Of the two forms so given off, one at least breeds true at once, but the other may again break up in the succeeding generation. This case is exactly comparable with that of the Andalusian fowl.

Prof. W. F. R. Weldon criticised the paper, and was replied to by Mr. Bayeson; in summing up the President proposed a special vote of thanks to Messre, Sutton & Sons for their most interesting exhibition, which vote was carried by acclamation.

IRISH GARDENERS' ASSOCIATION AND BENEVOLENT.

Phis Society, founded in 1895, continues to show regress. It has assisted four members during the year to the full benefit allowed, and urges upon members year to the imbordance of placing before their friends the benefits and educational advantages which the Society affords. A balance of £34 15s, 11½0, stands to the credit of the Society. Mr. F. W. Moore, of Glasnevin, has been elected President for the year; with Mr. G. Watson, Treasurer, and Mr. W. S. Hall as Hon. Secretary. The syllabus for 1904 contains a comprehensive list of lectures and papers of general interest. Several competitions are members, for essays, packing, &c. open to the

EALING HORTICULTURAL.

THE Annual Meeting of this Society, which since 1861 has held an unbroken sequence of summer flowershows, took place on the 12th inst, Mr. R. WILLEY, one of the vice-presidents, in the chair.

The report of the Committeeset forth that the adverse The report of the committee set torth that the adverse balance left over from 1902 had been wiped out, and there was a small balance in hand. Mr. Leopold de Rothschild was re-elected President, Mr. A. G. Dixon, Treasurer, and Mr. George Cannon, Szcretary. The Committee recommended that the next show he held on June 29, so as to secure an exhibition of Roses. It was also reso ved that it be an instruction to the Committee to obtain consent to hold the show in Gunners bury Pack on the last-named date.

GARDENER'S' DEBATING SOCIETIES.

BECKENHAM HORTICULTURAL. On February 12 Mr. H. J. Jones gave a lecture on the "Sweet Pea." Mr. Weeks, Secretary to the Bromley Chrysanthemum Society, presided. The lecturer said it was possible to have Sweet Peas in bloom for three or four months. live Sweet Peas in bloom for three or four months. Take out deep trenches, put a good dressing of old hot bed manure at the bottom, and return the soil. Sow the seeds thioly, and when watering give a good soaking rather than a little often. To retard the flowers, should to be necessary, cut the plants down to within 15 inches of the ground, and in a month alterwards they would be again in bloom. The flowers should be actioned della search alleging rather features. wards they would be again in hoom. The flowers should be gathered daily, never allowing pods to form. Sweet Peas dislike strong manure. When watering with manure-water, care should be taken not to wet the stems or foliage. The process of hybridisation was fully explained, and a list of best varieties given. In the discussion that followed, Mr. Crosswell agreed with Mr. Begett's engineer that red lead whed to continue Mr. Beckett's opinion, that red-lead used to coat the seed before planting as a preventive against rats and mice was injurious to the seeds. Other speakers differed from this, and it would be interesting if readers of the Gardeners' Chronicle gave their experience : upon the matter.

READING GARDENERS' MUTUAL IMPROVEMENT. At the last fortnightly meeting of the above Association, Mr. Wiusor, foreman, Bearwood Gardens, gave a practical demonstration of wreath-making, and two wreaths were made during the evening. The first was to show the quicker method of making, the other to illustrate the procedure when more time is available. The principal flowers used were Arums, Carnations, Lily of the Valley, Roman Hyacinths, Orchids, and Chrysauthemuns. A useful discussion followed, in which many hints were given by Mr. Powell, of Park Place. Eight new members were cleeted.

CROYDON MUTUAL IMPROVEMENT - The lordnightly meeting was held on the 16th inst., when "Forced Vegetables" was the title of a paper read by Mr. W A. Cook, Shirley Park Gardens, who brought a good collection of these esculents to illustrate his paper. This being his first introduction to the mem hers of the Society, he was awarded a hearty reception. ; hers of the Society, he was awarded a hearty reception. He comphasised the increasing demand there is for forced vegetables. Toe varieties that came under notice were Asparagus, French Beans, Cauliflowers, Chicory. Dandellon, Cucumbers, Mustard and Cress. Peas, Scakale, Rhubarb, Potatos, Mushrooms, and Towards, New Legipton, invited the Inches here. reas, Seagale, Khudard, Potatos, Mushrobins, and formatos, the lecturer giving detailed instructions how each should be treated from the seed sowing until they are ready for the table. The different structures of house they should be grown in, soils and receptacles required, temperatures for each species, watering and ventilation, were each dealt with in detail.

CHESTER PAXTON. - 'Tillage versus Grass chards" was the subject of a paper by Mr. G. P. Miln on the 20th lnst. Some statistics were given from exon the 20th lust. Some statistics were given from experiments made as to which of the two methods was the better, the results being all in favour of Apple and Pear-trees being planted in tilled ground. On deep loamy soils, orchards of Apples and Pears might be safely grassed over after the trees had attained the age of from six to eight years; whilst on shallow tolk orchards should always be kept under tillage. An interesting and profitable discussion followed; and on the proposition of Mr. J. Wyone, Rowton (who presided), seconded by Mr. N. F. Barnes, the lecturer was accorded a hearty vote of thanks. was accorded a hearty vote of thanks.

LOUGHBOROUGH GARDENERS' .- The forinightly meeting of this Association was held in the Town Hall on February 16 Mr. J. Murray, B.Sc., Agricultural Lec-turer, gave a lecture upon "The Potato." Reference was made to placting, width of rows, distance between the sets, &c.; and good tillage was urged as being all important. Spraying for disease was fully explained, with details concerning artificial manures, the results of experiments on trial-grounds were given, and special reference made to Potato-culture in Lincoln shire. At the conclusion the lecturer was accorded thanks, and the Chairman received a similar compliment for presiding.

CHESTERFIELD & DISTRICT CHRYSANTHEMUM. CHESTERFIELD & DISTRICT CHRYSANTHEMUM.

The monthly meeting of this Society was held on February 16, when a very able paper was read by the Hon Treasurer, Mr. Burr, F.G.S., the subject being "George Stephenson at Tapion." Mr. Burr devoted some time to a description of Stephenson's pursuits after he had settled at Tapton House, Chesterfield, in 1540 Experiments and inventions carried on by him in his garden, both under glass and outside, were described. with Mr. Paxton, at Chatsworth, he was on the beston terms, and a friendly rivalry existed between them in the cultivation of fruits and flowers. The Stephenson Memorial Hall, in which the Chrysanthemum Society holds its autuum shows, was built to comemorate the life and work of one of Eogland's noblest sons.

HEADLEY AND DISTRICT. -The recently organised Gardeners' Mutual Improvement Society, at Read'ey, held its first meeting on February 13, at the Headley Institute, Mr. J. N. Mappin, presiding, Mr. J. Gregory, West Croydon, gave an interesting lecture of Some Gardens I have visited," i lustrated. The lecturer dealt briefly on various specimens of trees, shrubs, and plants taken from some of the principal gardens of England. This is the first of a series of lectures arranged for the first Tuesday in each month. Prizes are to be given to young men who give the hest essays on subjects of garden interest.

EGHAM AND DISTRICT.—A general meeting was held to inaugurate this new Association on Wednesday evening, February 21, when membera were enroited, officers elected, rules adopted, &c.

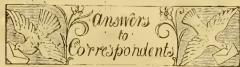
Obituary.

MRS. MUNDAY .- The death is recorded of Louisa Catherine Georgina Munday, widow of the late Major-General Godfrey Munday, on February 17, at 28, Montrell Road, Streatham, in her ninety-sixth year. The death of this lady is interesting to readers of the Gardeners Chronicle because she was a daughter of the late Hon. and Very Rev. William Herbert, Dean of Manchester. Dean Herbert published as early as 1806 a series of translations from the Norse, Italian, Spanish, and Portuguese. He originally studied law, and was also a Member of the House of Commons. To botanists he will always be remembered for his works on gardening matters, especially on hybridisation. His best-known work is The Amaryllidacea, which contains a mass of useful information on bulbous plants and their cross-fertilisation. A genus of bulbous plants was named Herbertia in honour of the Dean. He was born in 1778 and died in 1847. J. Dougtas.

FIBRE PLANTS IN CEYLON.—Britain's need is the world's opportunity-or perhaps, rather, the opportunity of that section capable of supplying the need. Ceylon would appear to be in this latter condition, with its railways, roads, its irrigation tanks and distributing appliances, &c. It has large tracts suited for Ramie, Rhea, and other fibrous plants, and it is maintained that cotton, equal to the best American, can be grown over vast tracts of land suited to the culture. And this is the staple just now lacking to render our spinners capable; they are willing to meet the world's enormous demand for the manufactured article. It may be that the necessary labour might not be forthcoming to the required amount. but the Deccan, the Cotton-growing quarters of India, might do much, and if there are over many coolies in the West Indies, an exchange of habitation could easily be effected. Capital is probably the thing most needed, and surely this ought soon to be had.

STOP-PRESS NOTE.

As this sheet is passing the press we regret to hear off the death at Sierra Leone of M. E. Laurent, of Gembloux, from fever. We shall allude to the subject again next week.



* * Editor. And Publisher.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the Editor. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

Property of the second

AZALEA INDICA: Tewkesbury. The pale colour of the leaves of one of the shoots received is doubtless due to the roots being starved. Probably the plants have not been repotted for some time. If this be the case you should give them a shift directly the plants have flowered, and encourage them to make growth afterwards by affording them a position in a warm greenhouse, and maintaining a moist atmosphere by syringing the plants overhead morning and afternoon in bright weather. For the potting compost use peat, leaf-mould, and plenty of sand, adding a very little loam—if you can get some containing much fibre and that is free from chalk. Do not use animal manures, but a sprinkling of a good chemical fertiliser over the compost may do good if not used in excess. Make the soil very firm by the use of a potting-stick between the ball of roots and the surface of the pot, and do not use pots that afford more space than 1 inch around the roots. In the meantime the colour of the leaves may be improved by affording the plants a little clear soot-water occasionally, taking care that this is used in such a condition that it will not leave a coating of soot on the surface of the soil. The failure of some of the plants to open into flower when growth has commenced is due to the buds having been imperfectly matured last season. It is good practice to put Azaleas in a sunny position out-of-doors in July or August, when the flower-buds have formed and growth has ceased. This will help to harden or "ripen" both shoots and flower-buds. The plants should be removed indoors again before rains become frequent in autumn.

BIRD-LIME: C. H. The general method of making the viscid, adhesive substance known as bird-lime is by preparing it from the middle bark of the Holly. The bark is cut up and then boiled in water. This fluid is afterwards strained, and is concentrated by means of evaporation until it becomes of a substance like soft putty. When this is smeared on to the branches of trees, it is sufficiently adhesive to hold small birds that may alight upon it. A second method, but one not generally practised, is to obtain the "gluten" from Wheat by soaking and squeezing in water, and using it in much the same way. Bird-lime may be employed with disastrous effects in the garden, because all birds are not foes, and the lime will hold friends and foes alike. It should also be remembered that birds that appear enemies for a short period when the buds of fruit-trees are about to expand, or when there is ripe fruit in the garden, may be very serviceable at other scasons of the year, when their food consists more or less of insects. As a general rule it is a better plan to leave the birds alone, and protect your crops by the use of netting.

Books: J. & P. L. The best book of the kind is The Art and Practice of Landscape Gardening, by H. E. Milner, published by Messrs. Simpkin, Marshall, Hamilton, Kent & Co., Ltd., Stationers' Hall Court, London.—Correspondent. There is a book on the flora of Korea, but we have not seen it. It is entitled Conspectus Flora Korea, with plates. The author is Mr. J. Palibin. For the Riviera flora, in addition to Moggridge's and Bucknill's books, there is Penzig's Flore Coloriée de Poche du Littoral Méditerranéen de Gênes à Barcelone.

Carnations: Nemo. We consider your flowers to be very satisfactory. If seedling plants will produce flowers of such size, colour, and fragrance as those received, it appears hardly necessary for the amateur to cultivate named varieties from cuttings and layers. The pink-coloured flowers are extremely pretty, but they are less fragrant than those of deep crimson colour, which have preserved the characteristic of the old Clove Carnation to a gratifying degree. The gardener with plenty of means for cultivating his plants cannot be blamed for preferring named varieties, because in cultivating those, he can make certain of the colour and form the plants will produce, and he becomes familiar with the different habits possessed by the varieties. Though they are so like to each other in general characteristics, there are important differences, and when a

gardener has become familiar with these, he can cultivate his plants with greater certainty as to results than would be possible with plants raised from seeds.

CHRYSANTHEMUMS: Subscriber. Two good early-flowering varieties are Mytchett White and Queen of the Earlies (white). For yellow varieties choose Mytchett Beauty and Horace Martin. There is a Japanese variety known as Commandant Blusset (Calvat), colour rosyviolet, but it is not cultivated commonly now.

CREEPERS FOR LOW NORTH-WEST WALL: S. P. This is not an ideal position for flowering plants, and the degree of success you obtain will depend upon whether or not there is any shelter from north winds. In order to have such a display as you state is desirable in summer, you might try varieties of Clematis of the Jackmani type; but in this case the wall will have an unfurnished appearance in winter.

CURRANT-BUD MITE: W. S. The buds you forward are infested with the mite. You cannot do better than you suggest, viz., grub up and burn the one plant affected. At the same time sorape together the old soil from around the base of the bushes, and burn that also. Keep a sharp look out on your other bushes, removing and burning any shoots whose buds show this abnormal condition.

and burning any shoots whose buds show this abnormal condition.

Names of Fruits: C. S. Your Pear much resembles Beurré Diel, but the fruit being over-ripe it is not possible to determine the variety with certainty. Forward fruits at least a month earlier next season.—A. J. R. Send the Apple again next season before it is over ripe.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—R. H., N. Wales. 1, Davallia solida; 2, Dictyogramma japonica; 3, Lomatia silaifolia; 4, Araucaria Cunninghamii; 5, Pseudotsuga Douglasii, the Douglas Fir—Bicton. Cypripedium Boxallii, a very good variety. It is not rare for finely-grown Cypripediums to produce two flowers on a stem.—J. W. O. Epidendrum elongatum.—W. R. Send when in flower.—A. M., Manchester. 1, Lomaria gibba; 2, Selaginella Mertensii; 3, S. viticulosa; 4, Begonia incarnata; 5, Ophiopogon Jaburan variegatum; 6, Asplenium bulbiferum.—Constant Reader. 1, Buddleia globosa; 2, Streptosolon Jamesoni; 3, Acacia dealbata.—Young Gardener. Acacia dealbata.—D. L. C. 1, Oncidium Cebolleta; 2, Oncidium candidum, often called Palumbina candida.—E. W. D. Cœlogyne lactea, a near ally of Cœlogyne flaccida.—Vitex. 1, Restrepia maculata; 2, Masdevallia angulata; 3, Bulbophyllum Careyanum.

NARCISSUS: J. B., Altrincham. The variety is not a new one, the specimen being a forced flower of N. tortuosus.

Potato for Name: C. W. It is practically impossible to name a Potato at this time of year unless it has some very striking colour markings to render it distinct. We could easily name fifty varieties from which tubers could be selected closely resembling yours. Suppose you address a package of twenty such tubers to the Superintendent, Mr. S. T. Wright, Royal Horticultural Gardens, Wisley, Ripley, Surrey, asking that they might be tried at those gardens this year, when a Potato trial will take place. No doubt then the name will be ascertained.

Tulies: S. D. & Son. There appears to be nothing the matter with the bulbs, except that they have failed to make any roots. It would seem as if they had attempted to grow in conditions that encouraged top growth but not root action.

COMMUNICATIONS RECEIVED.—M. L. Gentil—A. H.—
J. W.—Tudor—F. W., Soil from Stamford Hill, with
no note er closed—F. P.—C. C.—W. N. B.—W. R. F.—
A. Kirk—W. H. C.—F. T.—R. G. F.—Slinfold—G. W.—
H. K.—Hybridist—Nemo—Attwood & Binsted—Geo.
Carver—G. C.—J. G. Weston—Chemicals—Anxious—
F. S.—Inquirer—Constant—J. S.—A. J. H.—M. J. C.—
W. J. B.—J. D.—Expert—Agent—General for Nova
Scotia—Commissioner of Euigration for Canada—
J. M. B.—R. H.—W. H.—G. M. S.—W. L.

Supplement to the "Gardeners Chronicle."

From a photograph taken in November. INTERIOR OF CATTLEYA HOUSE IN LORD ROTHSCHILD'S GARDEN, GUNNERSBURY PARK.





Gardeners' Chronicle

No. 897 .- SATURDAY, March 5, 1904.

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Wilks, M.A., Rev. W.

CENTENARY

HORTICULTURAL SOCIETY.

THE FOUNDERS.

JOHN WEDGWOOD.—The idea of a Central or Metropolitan Society for the promotion of horticulture certainly originated with John Wedgwood. This might alone have secured for him a place in the Dictionary of National Biography, alongside the many other distinguished members of his illustrious family; but it has not done so.

He was the eldest of the three sons of Josiah Wedgwood (see photograph on this page), the founder of the celebrated potteries, and was born at Etruria, in March 1766. After being at school at Hindley, he was sent in 1774 to one at Bolton-le-Moors, kept by a dissenting clergyman, Rev. Phillip Holland, and shortly after this we read of his fondness for gardening and for chemical experiments. father secured a chemist named Warltire to give lectures at Newcastle-under-Lyme, and in 1778, Erasmus Darwin, the intimate friend of Josiah Wedgwood, sent his son, Robert Waring Darwin, to stay at Etruria, and share this teaching. Robert Waring Darwin afterwards married Susannah Wedgwood, his fellow student's sister, and their second son was Charles Darwin. Josiah Wedgwood himself taught the boys geography and geology, and engaged a young French prisoner to teach them his native tongue. In 1782 John was sent to the University of Edinburgh with his younger brother Josiah, but in the same year was sent to Warrington Academy, the centre of liberal education at the time, and remained there until the Academy was closed in 1786. Among his fellow-students there was Malthus, whose

eldest sister had married his brother Josiah, whilst another sister married Sir James Mackintosh. They settled first at Tallaton, in Devon, and afterwards in Devonshire Place, Marylebone; but receiving £30,000 on his father's death in 1795, he, in 1797, bought Cote House, Durdham Downs, Bristol, where he had a large garden with a considerable amount of glass. Wedgwood was well read in Linnean botany, and joined the Linnean Society in 1794, whilst A. P. De Candolle was among his personal friends. Dr. J. E





JOSIAH WEDGWOOD.

From the portrait by Sir J. Reynolds.

work on population was, fifty years later, to suggest to Wedgwood's nephew Darwin the theory of Natural Selection.

After returning for a short time to the University of Edinburgh, Wedgwood, between 1787 and 1790, was in Geneva, Rome, and Paris, and then took part in his father's business. In 1792 he became a junior partner in the London and Middlesex Bank (Messrs. Davidson, Noel, Templer, Middleton, and Wedgwood) in Stratford Place, and in the following year he retired from the Staffordshire firm and married Louisa Jane Allen, of Cresselly, in Pembrokeshire, whose Smith was one of the first whose support he secured for the infant Horticultural Society.

In 1800, Wedgwood rejoined his brothers firm, and it is from Etruria, that on June 29 in the following year, he writes to William Forsyth the letter in which we have the first mention of the proposed Society. "I have been turning my attention," he writes, "to the formation of a Horticultural Society, and have drawn up such heads as have appeared to me necessary for the first formation of the Society. It would be proper to add a preamble just stating the ideas of the first founders of the Society."

The proposed rules are enclosed, and in a postscript Forsyth is requested to consult Sir Joseph Banks on the subject.

Sir Joseph Banks on the subject.

As we next hear of Wedgwood as a captain of volunteers drawn from the Etruria works in 1803, it was possible that patriotic duties postponed the preliminary meeting of the proposed Society until March 7, 1804. This meeting was held at Hatchard's, the bookseller in Piccadilly: Wedgwood pre-

greatest distinction until his own death in 1838, was an early recruit and was the author of the first paper published by the Society, that namely on "the objects which the Horticultural Society have in view," read on April 2, 1805, and forming the commencement of the first volume of the Transactions.

By that time Wedgwood had fallen on evil days. The ill success of the bank in



THOMAS ANDREW KNIGHT,

Fresident of the Horticultural Society from 1811 to 1838.

sided, and there were also present W. T. Aiton, Sir Joseph Banks, James Dickson, Wm. Forsyth (the elder), Hon. Charles Greville, and Richard Anthony Salisbury. The first regular meeting of the Society was held on the 30th of the same month, and the Earl of Dartmouth was then chosen as its first President, and Wedgwood as Secretary. Thomas Andrew Knight, the great experimental physiologist, who succeeded to the Presidency on the death of Lord Dartmouth in 1810, and occupied that Chair with the

which most of his fortune was embarked neces-itated his selling Cote House in 1805, and he moved to Maer Hall, and then to Etruria Hall, where he lived until 1810. In 1808 he communicated to the Society a paper on the culture of the Dahlia, but his later interest was mainly in his kitchen garden, as was evinced by short communications on American blight (1818), Onions (1819), Buda Kale (1821), and Celery (1824). Moving from Etruria to Heavitree, near Exeter, and in succession to Betley, Stafford-

shire, Kingscote, Gloucestershire, Abergavenny, and lastly to Seabridge, near Newcastle-under-Lyme, he became, in 1843, partially blind from paralysis of the optic nerve, and spent the last few months of his life at the home of his second son, Lieutenant-Colonel Wedgwood, at Tenby. Here he died of bronchitis, January 26, 1844, and was buried in the burial-ground of the parish church. The portrait of Josiah Wedgwood, the famous potter, given on p. 145, is copied by permission from the one in the Life of Josiah Wedgwood, by Dr. Smiles (Murray).

WILLIAM TOWNSEND AITON.

Born at Kew, February 2, 1766, when his father was in charge of the gardens of the Dowager Princess of Wales, Aiton personifies the later history of those gardens as private property. Educated at Chiswick, he, at sixteen, became assistant to his father, William Aiton, the editor of the first edition of the Hortus Kewensis, and on the death of the latter in 1793, succeeded him in the curatorship of the Royal Gardens, both at Kew and at Richmond. Between 1810 and 1813, with the assistance of Banks, Dryander, and Robert Brown, he published the second edition of his father's work, in five volumes, and in 1814 issued an epitome of it in a single volume. He received a silver medal from the Horticultural Society in 1817 for a paper on the cultivation of the Cucumber, and in 1820 was employed in the arrangement of the gardens of the Pavilion at Brighton and in the alterations made at Windsor on the accession of George IV: After 1830 he had charge of Kew only, and at the proposed re-organization of the Gardens, as the result of a committee of inquiry, in 1841, he resigned. Aiton died at Kensington, October 9, 1849.

SIR JOSEPH BANKS.

Banks is so well known a figure in the history of science, and the facts of his life are so generally accessible, that a brief outline will suffice here. The only son of William Banks, of Revesby Abbey, Lincolnshire, Banks was born in Argyle Street, London, on February 13, 1744. He was sent to Harrow when nine years old, and to Eton some four years later, and is reported to have been an idle boy until, when he was fourteen, his interest was excited in wild flowers, and he came across a copy of Gerard's Herball. On entering Christ Church College, Oxford, as a gentleman commoner. in 1760, he brought Israel Lyons there from Cambridge to teach botany; and, his father dying in 1761 and he having taken an honorary Master of Arts degree in 1763, he became a Fellow of the Royal Society in 1766; and in the same year started on a botanising expedition to Newfoundland, in company with his friend Lieutenant Phipps, afterwards Lord Mulgrave. They returned in the following year via Lisbon, and in working out his collection Banks then became intimate with Solander, then an assistant librarian in the British Museum. In 1768 he started on a voyage of eircumnavigation with Captain Cook in the Endeavour, taking with him Solander, two draughtsmen and two attendants, at an expense to himself of £10,000. They went viâ Madeira, Rio, and Cape Horn to Tahiti, where they observed the Transit of Venus; and thence to New Zealand, Australia (where they named Botany Bay and the

Endeavour River), New Guinea, Batavia (where Banks had a severe attack of fever), the Cape and St. Helena, reaching England once more in 1771. Banks' Journal kept during this voyage was published by Sir Joseph Hooker in 1896.

In 1772, again accompanied by Solander, Banks made a six weeks' excursion to Iceland; and in 1778 was chosen to succeed Sir John Pringle in the presidential chair of the Royal Society, a position which he occupied for the twenty-two remaining years of his life. The election of a naturalist greatly offended the mathematicians in the Society, and led to a small secession in 1784!

In 1779 Banks married Dorothea Weston-Hugessen, in 1781 he was created a baronet, and in 1795 a Knight of the Bath. As he had shown himself superior to petty jealousy by joining the Linnean Society on its formation by Dr. J. E. Smith in 1788, so now we see him attending this first meeting of the Horticultural Society. Wedgwood's letters exhibit a needless apprehension of possible opposition on the part of the older societies, more especially of the Linnean and the

Society of Arts.

The latter part of Banks's life was largely devoted to the extension of his scientific dibrary and his herbarium. These were placed freely at the disposal of students, and, whilst Dryander's careful catalogue of the former (in five volumes), completed between 1800 and 1805, is of the greatest bibliographical interest, the books themselves and the herbarium form most valuable portions of the British Museum collections. Banks was frequently instrumental in securing the return of natural history specimens captured during the war to France, good offices which were recognised by his election as a member of the Institute of France in 1802. It was at his suggestion that collectors were sent out on behalf of the Royal Gardens at Kew; and from his country house at Spring Grove, Isleworth, he was able to exercise some scientific supervision over them of an unofficial character. Not only did Banks during his lifetime employ Francis Bauer to execute his unequalled figures of plants, but he provided for him at his death; whilst he bequeathed his berbarium to Robert Brown, with a reversion to the British Museum, from which the Botanical Department of the Museum had its origin.

Banks was no mere patron of botany. Public duties and ill-health gave him little time for original work: he probably mistrusted his own powers as a systematic botanist; and throughout life he evinced a markedly utilitarian bent of mind. Whether he was studying with Thomas Wedgwood the improvement of the quality of English wool, or was collecting evidence as to the arrival of American blight, there was this practical point of view; so that, beyond a few short papers in the Transactions of the Morticultural Society, and his Short Account of the Causes of Blight, Mildew, and Rust, published in 1805, which reached a second edition in 1806, and a third in 1807, he issued little under his own name. He died at Spring Grove June 19, 1820, and was buried in the parish church of Isleworth.

JAMES DICKSON.

"The lynx-eyed Dickson," as Sir J. E. Smith calls him, was born of poor parents

at Traquhair, Peebles, in 1737 or 1738, and began his horticultural career in the gardens of Lord Traquhair, close to his birthplace. Thence he went to Jeffery's nursery garden at Brompton, and in 1772 set up in business for himself in Covent Garden. He had the good fortune early in his career to obtain the friendship of James Lee, of Hammersmith, and of Sir Joseph Banks. He became recognised as an authority on Cryptogamia, and published four quarto Fasciculi Plan'arum Cryptogamicarum Britannia in 1785, 1790, 1793, and 1801 respectively, which he followed up by nineteen folio fascicles of a Hortus Siecus Britannicus, containing twentyfive species each, issued between 1793 and 1802. For the purposes of his collections of Cryptogams, he made annual excursions in

of him in his eightieth year, painted and presented by H. P. Briggs, R.A., still looks down upon the Council of the Society from the walls of the Lindley Library.

WILLIAM FORSYTH.

Of the seven founders of the Horticultural Society two were Scottish-born gardeners, Dickson and Forsyth. William Forsyth was born at Old Meldrum, Aberdeenshire, in 1737, and in 1763 came as a pupil to the Chelsea Botanic Garden, then under the care of Philip Miller. After being for some time in the Duke of Northumberland's garden at Syon House, he returned to Chelsea, on Miller's death in 1771, as his successor. In 1784 he was appointed Superintendent of the Royal Gardens at Kensington and



DR. LINDLEY,

Who became Assistant Secretary to the Horticultural Society in 1822.

the Scottish Highlands between 1785 and 1791, that of 1789 being undertaken in company with Mungo Park, afterwards renowned for his African explorations. Park's sister became Dickson's second wife, and survived him. An original member of the Linnean Society in 1788, Dickson was elected one of the first Vice-l'residents of the Horticultural Society, and was continually re-elected until his death. This occurred at Broad Green, Croydon, August 14, 1822, and by his own desire he was buried in a remantic churchyard among the Surrey hills, where in his earlier days he had been accustomed to gather rare mosses. Sir James Edward Smith characterises him as a man of "powerful mind, spotless integrity, singular acuteness and accuracy"; L'Heritier dedicated to him the handsome genus of Trec-Ferns, Dicksonia; and a pleasing oil portrait St. James's, which post he retained until his death, which occurred July 25, 1804, four months after the inauguration of the Horticultural Society, at his official residence in Kensington Gardens.

Somewhere about 1768 Forsyth's attention was specially directed to fruit-trees and the diseases and injuries to which they are liable, and as a result he contrived a plaister of lime, cow-dung, and wood-ashes, which he asserted would produce a new growth over parts of the stem laid bare by injuries, with complete union between the old and the new wood. In 1789 the success of his experiments attracted the notice of the Commissioners of Land Revenue, and in consequence of their recommendation he received the thanks of both Houses of Parliament and a reward of £1,500, on making public the nature of his composition. In 1791 he

published Observations on the Diseases, Defects, and Injuries of Fruit and Forest Trees, and in 1802 a Treatise on the Culture and Management of Fruit Trees, of which a seventh edition appeared in 1824.

Thomas Andrew Knight asserted that a composition practically identical with Forsyth's had been in use long before, and naturally, considering his accurate and thorough knowledge of histology and physiology, altogether denied the statements as to any true union between cld wood once laid bare and that subsequently formed. Forsyth was dead at the time Knight's letters appeared in the Gentleman's Magazine, but the figure of a section of a stem published by the advocates of the plaister shows the truth of Knight's statement.

CHARLES GREVILLE.

We have not been able to gather many particulars as to one of the seven founders of the Society. The Hon. Charles Francis Greville, second son of Francis, first Earl of Warwick of the name, was born May 12, 1749. He was elected a Fellow of the Royal Society in 1772, and subsequently became a Vice-President; and he appears also to have been a Privy Councillor. In 1790 he had a garden at Paddington, and here he introduced Lilium concolor from China, and Clinogyne dichotoma from Penang in 1804; and Zingiber luridum from the Circars, and Curcuma æruginosa from Calcutta in 1807, as appears from papers by Salisbury in the first volume of the Transactions of the Horticultural Society. On the incorporation of the Society in 1809 Greville became Treasurer. He died April 23, 1809, unmarried, and his collection of plants was purchased by Thomas Jenkins, of the Portman Nursery. Though obviously written while he was alive, Robert Brown's dedication of the genus Grevillea did not appear until after Greville's death. It runs as follows :-

"This extensive genus I have dedicated to the Right Honourable Charles Francis Greville, one of the Vice-Presidents of the Royal Society; a gentleman eminently distinguished for his acquirements in natural history, and to whom the botanists of this country are indebted for the introduction and successful cultivation of many rare and interesting plants."

Greville House, on Paddington Green, which was presumably his residence, and thirty years ago was a working-man's club, is now a brewery store.

RICHARD ANTHONY SALISBURY.

One of the most remarkable figures, though not one of the most estimable characters, in the botanical history of the time was Richard Anthony Salisbury. He was born at Leeds in 1761, being the son of a cloth merchant named William Markham, whose wife was descended from a sister of Henry Lyte, the translator of Dodoens. At the University of Edinburgh he became the pupil of Professor John Hope, and the intimate friend of his fellow-student, James Edward Smith. In 1780, according to his own account, Markham became acquainted with Miss Anna Salisbury, an elderly connection of his mother's mother, whose name had been Salisbury; and she, in 1785, gave him £10,000 in Three-per-cents. to enable him to pursue his botanical studies, on condition of his taking her surname. He had then a fine garden at Chapel Allerton, near Leeds, which had been his father's; but in 1802 he purchased Ridgeway House, Mill Hill, which had formerly been the home of Peter Collinson, the correspondent of Sloane, Linneus, and Benjamin Franklin. In the first year of his occupancy of his new domain Smith visited him at Mill Hill, but, while Smith was then wedded to the Linnean System, Salisbury preferred the Natural System, and Smith seems to have resented his criticisms.

On the incorporation of the Horticultural Society in 1809 Salisbury became Honorary Secretary; but he seems in a very short time to have reduced the accounts to a state of chaos, and was succeeded by Joseph Sabine. It was in this year also that Salisbury seems to have been guilty of a piece of sharp practice, which naturally aroused much indignation. On January 17 Robert Brown read a paper before the Linnean Society "On the Proteaceæ of Jussieu," which was not published until 1810. Salisbury was present at the reading of the paper. During 1809 a volume On the Cultivation of the Proteax was published under the name of Joseph Knight, who had been gardener to George Hibbert, M.P., of Clapham, and who had then started in the nursery business in King's Road, Chelsea, afterwards known as Messrs. Knight & Perry's, and now as Messrs. James Veitch & Sons. From the preface and from internal evidence it is clear that all the botanical portion of this book was the work of Salisbury, and in it, while claiming absolute originality and making no reference to Brown's paper, he anticipates several of Brown's genera, either under new names, which thus obtain priority, or under names which he remembered Brown to have used. Bishop Goodenough writes to J. E. Smith on December 26, 1809: "How shocked was I to see Salisbury's surreptitious anticipation of Brown's paper on the New Holland plants, under the name and disguise of Mr. Hibbert's gardener! Oh, it is too bad! I think Salisbury is got just where Catiline was when Cicero attacked him, viz., to that point of shameful doing where no good man could be found to defend him." There was, accordingly, as Mr. Britten has shown, "a tacit understanding on the part of the botanical leaders of the period, including Brown, Banks, and Smith, that Salisbury's work and names should as far as possible be ignored," a system of boycotting that is, however, from a scientific point of view, quite indefensible.

About this time Salisbury moved from Mill Hill to 18, Queen Street, Edgware Road, close to Greville's, where he only had a garden barely 30 feet square, which, however, he filled with rare plants in pots. Continuing the botanical work of his life, he examined, dissected, described, drew and preserved every plant he could obtain, and made some progress with a Genera Plantarum, of which a fragment was published by Dr. J. E. Gray in 1866. As Mr. B. Daydon Jackson says, "Salisbury was never fairly represented by any productions worthy of his great ability." He published a folio Icones stirpium rariores, in 1791, a Prodromus stirpium in horto Chapel Allerton, in 1796, The Generie Characters in English Botany, collated with those of Linné, a strongly-worded attack upon Smith's work, in 1806, and two volumes of the quarto Paradisus Londinensis, with 117 plates, in 1806 and 1807. He also assisted W. T. Aiton in the second edition of the Hortus Kewensis, in which, by the way, Smithia sensitiva was described, and J. E. Gray, in his Natural Arrangement of British Plants, published under his father S. H. Gray's name in 1821.

In 1814 Salisbury introduced the Corsican Pine to Kew. He died of paralysis in 1829, bequeathing his herbarium and manuscripts to William John Burchell, afterwards well known as a traveller, the son of a Fulham florist, whom he made his heir after Alphonse de Candolle and J. E. Gray had both declined to take his name.

On Burchell's death in 1863 the herbarium went to Kew; but Miss Burchell gave the six volumes of drawings to Dr. J. E. Gray, by whom they were presented to the Botanical Department of the British Museum. A pencil portrait by Burchell, now at Kew, is the only one of Salisbury with which we are acquainted. Unfortunately, the beautiful Maidenhair-tree, to which his name was given by Smith, must bear the prior but uncouth name of Gingko, so that Salisbury is as yet uncommemorated. How bitter botanical feeling could be may be judged by the following quatrain written by Smith on Salisbury's Paradisus:—

"What malice lurks beneath this fair disguise! Satau once more steals into Paradise; But now how plausible so'er his tale is, We always take his words cum grano salis!"

G. S. Boulger.

To render our l'antheon more complete, we give the portrait of Thomas Andrew Knight, the famous physiologist, who was one of the Original Members, became President in 1811, and retained that office till 1838. His life and labours are the subject of a detailed notice in the Gardeners' Chronicle for February 10, 1877.

JOHN LINDLEY, whose career has also been on more than one occasion sketched in the Gardeners' Chronicle, was the son of a nurseryman near Norwich, and was for a time in the employ of Messrs. Wrench, a well-known firm still in high repute. His botanical proclivities brought him under the notice of Dr. (afterwards Sir) William Hooker and of Sir Joseph Banks, by whose influence he was appointed Assistant Secretary to the Society in 1822, Joseph Sabine being then Secretary. In 1830 Mr. Bentham became Secretary. Lindley served the Society under various titles till his death in 1865.

Our portrait is taken from a sketch made in 1848 by Dr. Lindley's eldest daughter, Lady Crease.

KEW NOTES.

Porphyrocoma lanceolata (Dianthera Pohliana).—There are several plants of this distinct Acanthad in flower in the Begonia-house. The species rarely attains to more than a foot in height, it forming a small, compact bush. The leaves are lanceolate-acuminate, about 6 inches long; the inflorescence is a dense, terminal, conclike spike, 3 to 4 inches long; the flowers are purple, about 1 inch long, with a large bright red bract at the base of each. The distinct colours of the flowers and bracts give to the inflorescence a novel and pretty effect. It is a native of Brazil, and should be given stove treatment. Cuttings rooted in May and grown in a stove temperature make bushy plants by the following February, when they should produce their flowers. The bracts last fully six weeks

after the flowers have fallen. The apecies was introduced to this country in 1880, and was figured in *Botanical Magazine*, tab. 4176.

FREESIA ARMSTRONGI.

This very rare and beautiful pink - flowered species may be seen freely flowering in house No. 7. It was sent to Kew about five years ago from South Africa, and although a charming plant, is comparatively unknown. The flowerspike is larger and much more branched than that of F. refracta, it is thrown well above the foliage and carries from ten to fifteen flowers. The individual flowers are about two-thirds the size of those of F. refracta, but they have not the fragrance that they possess. The deep rose colour of the segments is quite sufficient to recommend the species; the tube is white with orange colour at the base. To increase the stock it is a good plan to self-fertilise three or four flowers in each spike and to raise seedlings from these. They will produce flowering corms in two or three years.

CYNORCHIS COMPACTA.

This little gem is making a pretty display in the Orchid-house. It is usually monophyllous, the leaf being about 4 to 6 inches long, and about an inch broad. The flower-apike is produced when the leaf is half developed, and varies from 3 to 6 inches in height, carrying from fifteen to twenty-five flowers. The sepals and petals are rather small and pure white. The lip is about ½ inch in diameter, white, and marked with numerous small violet spots. Being a small species it is best to grow about a dozen plants in a pan. Being a native of Natal, it requires cool treatment. W. H.

CULTURAL MEMORANDA.

CAMELLIAS.

In an old span-roofed house having high front sashes, in a Devonshire garden, I noticed some time ago a fine example of Camellia-culture. The house in question runs north and south, and is about 32 feet long. The Camellias are planted in a bed in the centre of the house, and which, with the exception of the flag passage at the sides and ends, they completely fill to the height of 14 or 15 feet with healthy wood and large dark-green leaves, as close together as those in a well-kept Yewhedge. The branches having in the course of time reached the glass, they were headed down to the level of the sides and ends of the house the spring prior to my visit, after they had gone out of flower, with the best possible results. The bed in which the plants are growing at the same time had a few inches of the surface soil removed, this being replaced with a top-dressing of turfy-loam, followed by a soaking of tepid water, with subsequent waterings of weak liquid-manure. Copious syringings with clear water were given morning and afternoon at closing time, after the plants had flowered, to insure healthy growth being made preparatory to yielding a rich harvest of flowers the following winter and spring. When the plants have com-pleted their growth, abundance of fresh air is admitted to ripen the wood properly.

NIPHETOS ROSE.

A few months back I noticed a fine healthy plant of this charming Rose trained to a wire-trellis fixed beneath the roof of a lean-to house having a south aspect. This vigorously-growing tree, I was informed, had yielded a profusion of large blooms during the summer and autumn months, as there is a good supply of hot-waterpipes in the house with which to produce the necessary temperature during inclement weather. When the plant has ceased flowering and shed its leaves, all weakly growths are cut back to one joint from their bases, and any unduly long and

strong shoots are abortened back a little to promote a balance of growth. If a few dozen cuttings, more or less according to circumstances, are selected at pruning time with a "heel," that is a little of the old wood attached, and inserted round the edge of properly crocked 41-inch pots filled to the rim with a mixture of light loam and leaf-mould, and surfaced with sand, placed in a forcing-house and watered, root and leaf growth will be made in due time, when the young plants should be potted off singly into 3-inch pota, making the soil firm about the roots in potting. Return the plants to heat, and afford water to the roots, and support to the plants as necessary. H. W. W.

WINTER MELONS IN AMERICA.

The enclosed photograph (see fig. 62) ahowa the interior of a Melon-house in midwinter. I am one of the very few successful growers of The photograph will therefore give to readers of the Gardeners' Chronicle an idea of the different climatic conditions that exist in the States and England. Arthur Griffin, Gardener to Elbridge T. Gerry, Esq., Seaverge, Newport, R.I.

FRUIT REGISTER.

ECKLINVILLE SEEDLING APPLE.

According to the description of our best authorities on hardy fruits, and to the general experience of growers, this variety of early Apple tree has long held the reputation of being a very precocious and prolific bearer, but within the last few years two particular and singular cases have come within my notice quite at variance with all my former experience. In the one case, the owner originally had several young bush trees of Ecklinville planted and bearing profusely in his garden, and from their excellent behaviour



FIG. 62.—VIEW OF MELON HOUSE IN JANUARY AT "SEAVERGE," NEWPORT, RI.

winter Melons in the States, heing a private gardener, and ship the fruits, with forced vegetables, to my employers in New York city. We generally send from four to six hundred Melons to them between the month of December and the latter part of April, and the flavour is superb, in fact as good as we get them in midsummer, notwithstanding the thermometer in the winter months is sometimes as low as 8° below zero.

I have grown varieties of Melons from most parts of the world whence they could be obtained, and out of a very large number have only found three or four which were of first-class flavour. These I have crossed with each other, and have thus obtained the stock which I cultivate now.

The photograph is one of a large number my employer wished me to have taken for presentation to his guests at a dinner given by him at the Metropolitan Club, New York, when Melons from this house were served for dessert.

Being an Englishman myself, I know it to be impossible to produce in England good Melons in mid-winter, as you do not get the light atmosphere and the quantity of sun there is here. he decided to plant that variety in standard form in his orchards, some of which were on arable land, and others on turf. One orchard of arable land, about 8 acres, was entirely of Ecklinville; other orchards were of mixed varieties, with a large proportion of Worcester Pearmain, Dumelow's Seedling, King of Pippins, &c., but Ecklinville totalled about the one-half of the trees in the mixed orchards. All the trees grew away well, were well looked after, were moderately pruned, and grew in excellent health and vigour; but the Ecklinvilles will not fruit well. Year after year they are almost a complete failure, being the worst bearers among them all.

It is exasperating to wait year after year, to be again and again disappointed; yet it only requires something more than human nature to sacrifice such splendid and healthy trees. The patience of the owner is fast becoming exhausted, for he has already cut the heads off trees in the one orchard and grafted Peasgood's Nonsuch thereon. To my mind this is a doubtful proceeding, and I should have preferred Lane's Prince Albert; but at all events the Peasgoods have

been on for three or four years and are making Marge healthy trees. It would be well if any fruit-grower who has had similar experience, could throw any light on the cause of this extreme shyness in Ecklinville. The want of other or of foreign pollen will not apply, for here we have mixed varieties growing side by side, and the whole is situated in the midst of hundreds of acres of Apple trees in the very best part of the county of Worcester. I am rather inclined to attribute the cause to the absence of some mineral or other constituent in the soil-something which is required to build up the perfect bud and its thorough development, for I am told the flowers do not open kindly, and the petals do not reflex properly when opened. Possibly an analysis of the soil would discover a deficiency of something that is necessary for that variety. I should state that the Worcester Pearmain grews freely and crops heavily most years.

King of Pippins is being re-grafted with Worcesters, as with age the former has a tendency to canker. The tenants on this estate have always been anxious to plant Ecklinville largely, but we have thought it necessary to include proportions of other varieties, which we call land-dord's trees, for we innocently thought Ecklinville would be a short-lived tree, chiefly on account of its precedity and prolific bearing habits. William Crump, Madresfield Court Gardens, Malvern.

TREES AND SHRUBS.

LOROPETALUM CHINENSE.

This half-hardy plant should be more generally known, for it is one of the most distinct of the already large number of Chinese plants cultivated in our gardens. It was introduced somewhere about the year 1880, and is closely allied to the Hamamelis (or Witch-hazels), with which genus it has been united by some botanists. The species is distributed over a wide area in the large provinces of Hupeh, Fokien, Kiangsi, Chekiang, and the Chusan Archipelage, also in India, where it occurs on the Khasia Mountains. It is a remarkable fact concerning plants having a wide distribution that they readily adapt themselves to pot-culture, and the present plant is no exception to the rule. Under cultivation it forms a neat and compact evergreen shrub, 4 to 5 feet high, with somewhat oblique leaves, elliptic or elliptic-ovate in shape, 1 to 3 inches deng, and 1 to 2 inches wide, and of a light green colour. The flowers are pure white, in small heads of three to eight flowers, terminating the short lateral growths. petals are linear, and 1 to 11 inch long. flowers are produced naturally in early spring, each individual flower lasting some two to three weeks; but the plant produces a succession of bloom for upwards of two months. It is an exceldent plant for the cool greenhouse, either for pot or border culture; or it may be grown outside in mild districts in the south-west of England and Ireland. As a plant for the decoration of the greenhouse in mid-winter it is extremely useful, as with slight heat, such as that afforded by the warm greenhouse, plants may be easily obtained in flower at Christmas. And this may be done annually without causing loss of vigour to the plants, if they are well grown after the season of flower is ever, and the weed is thoroughly well ripened in late summer and autumn by exposure to all the sun and light possible.

Propagation may be readily effected by cuttings of half-ripened wood taken in autumn or spring, or by layers. Several fine plants have flewered recently in the temperate house and greenhouse at Kew. An excellent exhibit of plants of this species was made by Messrs. J. Veitch & Sons, of Chelsea, at the Drill Hall on February 23. Chas. P. Rafitl, Kew.

ALPINE GARDEN.

ONOSMA ALBO-ROSEUM.

INTRODUCED in 1890 from Asia Minor, and much desired and sought after at first, plant appears to be falling into neglect. This is due to its comparatively short life in gardens, and in this respect it compares badly with O. stellulatum tauricum, although there are some places where the latter does not stand well either. With me the last named gives no great trouble, even in a wet winter, while O. albo-roseum is only retained by frequent propagation. It seems to grow hard and woody, and to be unable to threw out fresh shoots to maintain its life. So far as regards its frost-resisting powers, I have no fault to find with it, but I consider it desirable to preserve it from excessive wet in winter by fixing a sheet of glass a few inches above it at that season. The plant requires a hot, dry corner, and I prefer that it should be well fixed between stones in such a way that it is not in contact with wet soil. It is not difficult to propagate by means of cuttings struck under glass, the pot in which they are placed being covered with half an inch or so of silver-sand. A thriving plant of this Onosma is very attractive, with its wax-like flowers, at first white, but changing gradually to pale rose and then to deep rose. The grey, hoary-looking leaves are not a contrast to but are in harmony with the beautiful flowers. Less effective than most of its congeners, it is no less beautiful, while it may well be accounted one of the best of rock-plants, despite its somewhat short life. S. Arnott, Carsethorn-by-Dumfries, N.B.

The Week's Work.

THE ORCHID HOUSES.

By W. H. White Orchid Grower to Sir Trevon LAWRENCE, Bart., Burford. Dorking.

Chysis. - The following deciduous epiphytal Orchids, Chysis aurea, C. lævis, C. bractescens, C. Limminghei, and the distinct hybrids, C. Chelsoni × and C. Sedeni ×, owing to the lack of sunshine during last autumn, were much longer than usual in maturing their pseudo-bulbs, and some of them are not properly matured even now, the bulbs and leaves being as green as they were during the growing season. Netwithstanding this, the plants are commencing to grow at their usual time, and should be treated accordingly. Until the flower-buds, which push up along with the young breaks, are visible, afford water sparingly, increasing the supply afterwards. Do not disturb the roots by repetting until the flowers have faded. The species of Chysis, being deep-rooting plants, should be grown in pots, to which copper wire suspenders may be attached. the roof. Provide perfect drainage by the use of Fern-rhizomes, and for potting use fibrous peat, leaf-soil, and sphagnum-moss in equal quantities. It is important that the surface of the compost, to the depth of about ½ inch, should consist of living sphagnum-moss. Place the plants at the warmer end of the Cattleyahouse, and when the pseudo-bulbs are partly made, suspend them in a sunny position in the East Indian-house; the extra light and warmth at that period will greatly assist their development.

Vanda Cathcarti.—This singular and handsome species is in flower, and it is one of those Orchids that is rather particular as to position and treatment. It will grow luxuriantly if trained up a teak-raft, and placed in a moist shady corner of the East Indian house. The aërial roots of this plant should be moistened at least once a day at this season, and twice or thrice each day during the summer months.

Ada aurantiaca also produces its bright cinnabar-red flowers at this season; the arching racemes are appreciated for table decoration, the colour being particularly bright by artificial light. The flower-spikes are easily gathered by giving

them a gentle pull, when the stem will readily part from the base of the young growths, and will be much longer than when cnt. Ada aurantiaca thrives exceedingly well in the leaf-soil mixture now generally recommended, and under identical conditions as the cool-house Odontoglossums.

Odontoglossum coronarium miniatum. — This much admired variety does not grow nearly so strong as the ordinary O. coronarium, and no difficulty is experienced at Burford in obtaining flower-spikes annually. The species is generally acknowledged to be a shy bleomer. Being of scandent habit, the plant should be cultivated in a long, narrow, well-drained teak-wood basket, and provided with peat and sphagnum-moss in equal parts, mixing plenty of crocks with this. The proper time to disturb the roots is when growth recommences. In re-basketing the plant, cut off several of the old back pseudo-bulbs, retaining about three or four behind the young growth; by so doing it will be pessible to put the plant into a smaller receptacle than would be the case otherwise. Cultivate the plant in the cool-house.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park. Hatfield, Hertfordshire.

Hippeastrums (Amaryllis).—Repot old bulbs just before they begin to make new growth. Shake the soil from the roots, and pet up the bulbs into pots measuring 5 to 7 inohes in diameter, according to the size of the bulbs. Let the pets be clean and well drained. A suitable compost will be one of three-parts loam, one-half a part of leaf-soil, and one-half a part of well rotted manure, together with plenty of coarse silver sand. In potting keep half the bulb above the surface of the soil. Those plants that are required to flower early should be placed in a temperature of 60°; but if it is desired to retard the flowering of others they may be allowed to start into growth in a temperature of about 50°. The roots will only occasionally need water until the new growth and flower-spikes are visible. The foliage bein; very subject to the attack of thrips funigation should be carried out at intervals, otherwise the plants will be crippled. Do not shake the soil from the roots of plants that have already started into growth, but shift them into larger pots; or, after putting the drainage in good order, remeve an inch or two of the surface soil and afford a top-dressing of the soil used for potting the other plants, adding a little bone-meal.

Caladiums and Alocasias.—These Aroids having rested during the winter may be restarted. Shake the old soil from the tubers and place them in small pots, affording them a compost consisting of equal parts fibrous loam, peat, and leaf-soil, and adding plenty of coarse silver sand. A little sphagnum-moss and broken charcoal, or brick rubble, may be added for Alocasias. After they are potted place the bulbs in a house where a minimum temperature of 60° is maintained, and water sparingly until growth has commenced. When the plants have made roots shift them into larger pots; those 6 inches in diameter are large enough for ordinary decorative plants, but if larger specimens be desired a subsequent shift into 8-inch or 9-inch pots may be afforded. Caladium argyrites and other dwarf-growing varieties should be grown in small pots. Propagation is effected by division of the tubers, a crown being retained to each division.

Gloxinias.—Remove the old seil from Gloxinia bulbs, and pot them into as small-sized pots as will contain the bulbs and allow of a little soil being placed around them. Afford the plants a temperature of about 60°, and water them carefully. When the bulbs have made a number of roots shift them into larger pets, using a potting compost of two parts loam, one part peat, and one part leaf-soil, adding plenty of silver-sand.

Tyderas, Negetias, and Achimenes.—A pertion of the stock of each of these may be started now. Let well-drained pans be filled to within 1½ inch of the rius with loam, leaf-soil, and peat in equal parts, adding a liberal allowance of silver-sand. Upon this lay the corms about an inch apart, and cover them with soil half an inch deep. Place the pans in the stove, and water them carefully. When the plants are 3 inches high pot them off, placing six or eight Achimenes in a 5-inch pot, or four Tydæas in pots of that size.

THE HARDY FRUIT GARDEN. By H. MARKHAM, gr., Wrotham Park, Barnet. The Orchard.—When the land is in a fit condi-

tion to be trampled upon, take the opportunity afforded to place stakes to young, newly-planted trees. When staking a young tree, it is very essential to use plenty of soft material between the stake and the bark in order to prevent injury to the latter. Use strong stakes, and drive them well into the ground at a distance of 6 inches from the stem of the tree. Tread the soil firmly about the roots, and when the tree has been finally secured to the supports slightly loosen the surface of the ground with a four-tined fork. Tarred twine, willows, or wire may be employed for fastening the trees to the stakes; wire is most durable, and quite suitable for use, provided a good soft pad is placed round the stem of the tree as mentioned above. Any worn - out rubber garden - hose, if cut into lengths, will be found an excellent material for this purpose.

found an excellent material for this purpose. If rabbits are troublesome protect the lower part of the trees with wire-netting, but allow plenty of room for the future sw-lling of the stems. Examine larger trees, and afford fresh stakes to any that need them, and make sure that ties upon other trees will not pinch the bark during next season. See that a label is affixed to each tree in order to identify each variety. If labels are fixed to the branches with wire, examine the wires and replace any that are likely to cut the bark. We use here labels made of lead for all fruit - trees, whether standards, bushes, or those trained on walls, and the names are stamped upon them. These can be fastened to the trees with wire, or attached to stout stakes 18 inches long, driven into the ground a few inches from the stem of the tree. If the latter method be adopted, no difficulty will be experienced in finding the names in summer when the trees are in full leaf. At the same time, keep a list of all the trees and their positions for reference in case any of the labels should get

lost or be misplaced. Pruning Young Standards .- Opinions vary as to whether or not these should be pruned the first year after planting. My experience is that they should in more or less degree according to the length and strength of the young shoots and the amount of roots. Select from three to five of the best placed shoots, and shorten them back to 15 inches from the base, always cutting to a bud pointing in the direction the following season's shoot is required to grow. Make the cuts as straight across the wood as possible. When the young shoots to form the main branches of the tree have been selected less pruning will be required. Spur back inner growths to keep the heads of the trees open, that the sunlight may reach the centres; but should the trees make strong, unfruitful wood each year, instead of pruning the branches, use the spade at the roots. If this be done with care and judgment, it will, as a rule, have the desired effect.

THE FLOWER GARDEN.

By A. B. Walles, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Roses.—The weather has been very unfavourable for planting operations, but it is time they were completed. Remove the protecting material that has protected Roses during the winter, and commence to prune the plants. A good sharp, strong knife is best for this purpose; but in places where there is a large quantity of plants to be pruned a pair of good sécateurs, that have thin blades and cut both edges, may be used. Care must be taken not to prune too closely with these, as the shoots are more liable to die back than if cut with a knife. If large blooms are required, and the plants are strong, prune moderately hard, and disbud later on, and to an outside bud. Keep the centre of the plant open. If the necessary time can be spared, disbudding is better than hard pruning, especially on strong - growing Teas. Weakgrowing varieties may be pruned rather more severely. The pruning of Tea varieties may be

deferred for a few weeks. Strong-growing Roses may be pegged down with very good results These do not require to be planted so closely, especially if the soil is suitable for Roses. We finished our planting here last week, and to fill up a few blank places in other beds we took off some of the outside pieces that were too thick, and found them well established on their own roots. I have found the variety Crimson Rambler trained on arches to suffer from the hard pruning. It is generally given in the early autumn after the flowering season. The plants show no signs of deterioration for two or three years after planting, but in five or six years the ill-effects of hard pruning are obvious. In such a case only enough should be cut away to enable the wood to become well ripened. If the plants are in a warm position, or in the full sun, they are liable to become badly attacked by red-spider. They may be syringed now with soft-soap and Quassia-water, and again before coming into bloom. Climbers on walls may be treated similarly, Cover the wall and bare places with last year's wood, cutting older pieces away as may be necessary. China or Monthly Roses will only require to have the shoots thinned. When pruning has been finished and the prunings cleared away, beds that have been manured for several years may be given a slight dressing with lime, and be mulched later on. Let all plants be labelled correctly with "Acme" labels, and they will then be more interesting than a collection without names.

Bulbs in Beds will now be showing through the soil, and should be dressed with lime and soot as a preventive of slugs. Loosen the surface soil with the Dutch-hoe.

Yuccas may easily be increased from old plants that flowered last season and have been left in the ground. They have thrown up some good suckers, which may be put into pots or planted in the ground. Yuccas have a good effect when planted in a bed containing Physalis Alkekengi, fresh beds of which may now be planted.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Potatos.—In many of the southern counties the planting of tubers in sheltered borders will soon become general, and if the soil is light and well drained, this may be done with the expectation of good results. The young plants will in all probability require some protection for a few weeks when they show through the soil, though in my own experience during more than twenty years I have only had my early Potatos cut off twice by frost, and on each occasion the tubers planted late were also frosted. On heavy, wet soil it will be better to postpone planting until the soil is in a less wet condition, or some of the tubers will decay, and the remaining ones grow irregularly. We had ample proof of this in the spring of 1903. Afford air to Potatos in frames whenever the weather is favourable. The heat afforded should not be sufficient to force the haulms up weakly, or the crop will be a failure. Make another planting on the open border, and place frames over them if necessary.

Cucumbers.—Where hotbeds and plants have been prepared as advised in a former Calendar, if not already done, cover the surface of the manure in the frame with about 4 inches of soil, raising a mound in the centre of each light about 1 foot high and 18 inches in diameter. When the soil has become warm and the heat of the hotbed has declined to about 75°, plant the plants on the mound, and keep the atmospheric temperature steady by covering the frame at night with mats. Admit air on bright days when required, and prevent extremes of heat or cold. Sow Gherkins.

Vegetable Marrows.—If Marrows are required early in the season, sow seeds in 3 inch pots furnished with damp soil, and place them on a shelf in an atmospheric temperature ranging from 55° to 60°, being careful not to give much water or the seeds will rot. As soon as the seedlings are through the soil, place them near to the light, and keep them sturdy. Plant the seedlings on a mild hot-bed when they have made a couple of rongh leaves, and cultivate them as hardy as possible, avoiding checks.

French Beans.—Maintain the supply indoors as previously advised, and sow seeds to produce plants for putting into cold frames and for planting out. Sow the seeds in rich moist soil indoors, or on a hot-bed, having a temperature not exceeding 60° unless by sunheat. Do not apply water until the seeds have germinated, unless it becomes absolutely necessary to do so. Afford them all the light and air possible when the weather will permit.

Seed Sawing.—Sow in the open, Onions, var. Ailsa Craig, Bedfordshire Champion, Rousham Park Hero, James Keeping, also Silver Skinned for pickling. Sow Parsley; also Elcomb's Improved, Hollow Crowned, and the Student Parsnips; purple and lily-white Seakale, large-Jersey Shallots, improved Mussellburgh and the Lyon Leeks.

Forcing-houses.—Give particular attention toventilating the forcing-houses and frames, or in a very few minutes sunshine may cause injury.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Pines.—The potting of succession or autumn suckers should be completed. Pots and crockshaving been made perfectly clean, transfer plants from 5-inch into 8-inch, and 6-inch into 10-inch pots. Should the plants have become root-bound, gently separate all matted roots with a pointed piece of wood; but it is not good practiceto allow the roots to get into such condition before repotting the plants. Let the soil be of the best fibrous yellow loam procurable, using only the fibrous parts from which the fineparticles have been removed. To every barrowful of loam fibre add a 6 or 8-inch potful of some approved chemical manure and an equal quantity of soot. Warm the soil to the same temperature as that of the house beforeusing it, and let it be fairly dry, so that the plants may be made moderately firm in the pots. Examine each plant carefully a few daysprevious to repotting, so that the soil may be moist about the roots when they are turned out of the pots. Withhold water for a timeafter potting, but maintain a moist, growthpromoting atmosphere by gently spraying the plants overhead with the syringe in the afternoon when closing the ventilators, damping all available surfaces at the same time. Let the temperature at night be 60° to 65°, and the bottom-heat 85° to 90°.

Peaches and Nectarines .- Trees in the second early-house were started here early in the year and forced moderately with a free circulation of top and front air during the greater part of the time. Under such favourable conditions, with the flowers well in advance of the wood-buds, no difficulty has been experienced in securing a good set. Disbudding was begunas soon as the buds had well started, removing at intervals all buds with the exception of one in front of the fruit, and depending upon anothershoot from the base for supplying wood for bearing next year. Should any shoots which havebeen allowed to remain appear likely to cause with a sharp knife. crowding, remove them Syringing must be done with discretion in dulb and cold weather. Too much moisture would belikely to cause the growths to be weakly, and the fruits would suffer. Should red-spider—a recog-nised enemy of the Peach—be troublesome, useflowers-of-sulphur on the affected parts rather than bring about an excess of moisture. temperature at night in severe weather should be 50°, and may rise 10° or 15° during the day with sun-heat.

Vines.—Attend to the disbudding of Vines in the second early house as soon as the best breaks can be distinguished, proceeding gradually, bearing in mind that the strongest breaks do not in every case produce the most compact and perfect bunches of fruit. Take every opportunity to-reduce long spurs by retaining the break nearest the main rod when possible. If any mealy-bugs are seen now, in spite of the winter cleansing, take a small brush dipped in methylated spirits, and with a slight touch kill the insects. When the flowers can be seen, the temperature under bright sunshine at closing time may rise to 85° and the temperature at night be 55° to 60°.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR. 41. Wellington Street, Covent Garden, London.

Communications should be WRITTEN ON ONE SIDE ONLY OF
THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.-The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself re-sponsible for any opinions expressed by his correspondents.

Illustrations .- The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers. - Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, MAR. 8 Royal Horticultural Society's Commutees meet.

BALES FOR THE WEEK.

MONDAY NEXT— Perendials. Roses, Fruit Trees, Azaleas. &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris,

WEDNESDAY NEXT-

WEDNESDAY NEXT—
Azaleas, Rhodoceodroos, Palms, Plants. Roses,
Fruit Trees, Border Plants, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 At Stevens'
Rooms, at 12:50, Roses, Azaleas, Palms, &c.; Fruit
Trees, Magnolias, Gladioti, &c.
THURSDAY NEXT—
Glearance Sale of Fruit Trees and Greenhouse
Plants, at the Royal Horticultural Society's Gardens Sution Court Road, Chiswick, by Protheroe &
Morris at 12:30.
FRIDAY NEXT—
Nursery Property, Greenhouses, Piping, &c., situate
at Oxford Road South, Gunnersbury, at the Mart.
Tokenhouse Yard, E.C., by Protheroe & Morris, at
2.—Burnese Dendrobes and other Orchids, at 67 &
68, Cheapside, E.C., by Protheroe & Morris, at 12:30.
(Por further particulars see our Advertisement cotumns.) (For further particulars see our Advertisement columns.,

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON.—March 2 (6 P.M.): Max. 39°; Min. 31°.

March 3, Gardeners' Chronicle Office (10 A.M.);

Temp.. 37°; Bar, 30 0 (rising). Weather dul'.

PROVINCES. March 2 (6 P.M.) Max. 39' west coast of England.

of the Horticultural Society.

"IT was on March 7, 1804, The Centenary in a room in the house of Mr. HATCHARD, the eminent bookseller in Piccadilly, that the Society was first

organised. On that occasion there were present, Mr. CHARLES GREVILLE, Sir JOSEPH BANKS, Mr. RICHARD ANTHONY SALISBURY, a distinguished botanist of the day; Messrs. W. T. AITON and W. FORSYTH, two of the then royal gardeners; Mr. James Dickson, an experienced practical gardener; and Mr. John Wedgwood, at whose suggestion it appears that the meeting was called, and who afterwards became the first Treasurer. It was resolved that the objects of the new Society should be 'to collect every information respecting the culture and treatment of all plants and trees, as well culinary as ornamental;' 'to foster and encourage every branch of horticulture, and all the arts connected with it;' and 'that it shall be considered within the intention of the Society to give premiums for imprevements in herticulture, wherever it should be judged expedient to do so.' Each of the gentlemen present at this first meeting paid one guinea towards defraying preliminary expenses, and were called Founders, to whom was afterwards added Mr. J. HAWKINS, who had been accidentally

absent. It was further agreed that each Founder should name, at the next meeting, three other gentlemen for election as Original Members. A week afterwards this was carried into effect; and thus was founded the Horticultural Society of London, an association destined to accomplish most important improvements in the art as well as science of gardening, to embellish the country with a vegetation of exquisite beauty before unheard of, to clothe our plantations with trees whose ornamental appearance is only equalled by their sterling value, to create by its encouragement new races of flowers, fruits, and even esculents, and to substitute for the glasshouses of that day, in which plants could scarcely maintain a languid existence, structures calculated to

The rate of subscription has varied very considerably at different periods. The Founders contributed one guinea each, and all had the privilege of nominating three Original Members. Fellows elected after October 1, 1818, were required to pay five guineas entrance-fee and three guineas annual subscription, those elected before that date paying two guineas annually. Any person, however, exercising the trade or profession of a gardener, who should have received a medal from the Society, or have communicated a paper which was duly printed in the Transactions, might, with the consent of the Council, be elected to all the privileges upon payment of one guinea entrance fee and one guinea annual subscription. It is interesting to notice in passing that an entrance-



SIR TREVOR LAWRENCE, BART., K.C.V.O., ETC. From a portrait taken soon after his election as President of the Royal Horticultural Society in 1885.

ensure a richness of growth greater even than that of the exuberant vegetation of the tropics.

Thus does Mr. Andrew Murray narrate the inauguration of what is now called the Royal Horticultural Society. ANDREW MUR-RAY, whose genial wit is still held in remembrance, acted as Assistant-Secretary for some years after the retirement of Dr. Lindley. He had access to the records and other publications of the Society, from which he compiled a sumptuous volume, entitled, The Book of the Royal Horticultural Society, from which the passage just quoted has been, taken. Those interested in the history of the Society will there find traced its singularly chequered history. In 1804 there were but ninety-one Fellows. In the following year the meetings were held in the roems of the Linnean Society, at that time in Gerrard Street, Soho. In 1806 only seventeen Fellows were elected, and in 1808 only eight!

fee of one guinea, with an annual subscription of the same amount, was decided on at the annual meeting of the Fellows held on February 9 last,

The first Charter was granted in 1809. In 1810 the first volume of the fine series of Transactions was published. In 1811 THOMAS Andrew Knight, the eminent physiologist, became President, and remained so till his death in 1838.

Fruit and vegetables seem to have occupied the attention of the Society far more than flowers for several years. This is most marked in the far greater number of papers and plates on pomological points, published in the early Transactions, than appeared on floral subjects. For several years too the Council caused some two-dezen drawings of fruits to be annually executed. It must however be added that other collections of drawings of ornamental plants were already in process of formation by the time the Society removed to Regent Street, one of



J. GURNEY FOWLER, ESQ.,
Present Treasurer of the Royal Horticultural Society.



REV. W. WILKS, M.A., Sceretary of the Royal Horticultural Society since 1887.

which collections consisted of the most remarkable and beautiful plants of China. In 1811, the Council also notified that "it had been the intention of the Society from its first institution to present honorary premiums or medals to such persons as should raise and produce before them any new and valuable variety of Fruit or esculent Plant, or who should make any important discovery in Horticulture. But as the Society conceived every one of these subjects to be still capable of acquiring a greater degree of perfection, they submitted twelve improvements proposed by members, two of which affected Potatos, and the remaining ten were all pomological in its broader sense. The actual awards made about this time (eighty years ago) also bear out this statement. The fruit exhibited received constant awards, whereas flowers only appeared at that time on the annual award list two or three times.

In 1820 the Council reported that one of the objects which had particularly engaged the attention of the Society had been the formation of an experimental garden, that which they had already been able to maintain being regarded only as temporary; and they looked forward to that period when they might create an establishment which should at once become "a national school for the propagation of horticultural knowledge, and a standard of reference for the authenticity of every species of garden produce."

There were experimental gardens at Kensington and at Ealing prior to the establishment of the garden at Chiswick in 1822.

The original 33 acres of the Chiswick gardens comprised 17 acres in the "fruit and kitchen garden department," 2 acres of "lodges, roads, yards, &c.," and 14 acres in the "ornamental department"; 8 acres of the latter being devoted to the arboretum. These were subsequently reduced to 13 acres, which, now being considered unsuitable and inadequate, are being given up, as the Society now, thanks to Sir Thomas Hanbury, holds at Wisley the largest, best, and most beautiful garden it has ever had.

In spite of all its vicissifudes the record of a hundred years is decidedly inspiriting. Much more might have been effected, but so much has been done that we may safely say that no society of its kind has even approached it in what it has accomplished for horticulture. Its early days were, as we have said, watched over and guided by Thomas Andrew Knight, Sir Joseph Banks, and Joseph Sabine. At first progress was very slow. The great war did not end for eleven years after the foundation of the Society, and when at last it did end with Waterloo, the country was exhausted and impoverished by the long struggle.

Then, in 1822, came Lindley, with his vast knowledge, indomitable energy, and commanding personality. He was appointed Vice-Secretary in 1822. With his friends Royle and Bentham great things were then accomplished. Robert Thompson also has left an imperishable record as a gardener, a pomologist, and meteorologist. Solly as a chemist, and Daniell as a physicist, lent renown to the garden; and in our times George Gordon and later still Archibald Barron have upheld the glorious traditions

of Chiswick.

Amongst other things, the meteorological records for forty years, co-ordinated by the late Mr. GLAISHER, and almost unique of their kind, should be mentioned.

The chief and abiding fame of the Society. however, lies in the introduction of so many plants of interest and utility. We have not space to mention all the travellers sent out by the Society, still less to enumerate the results of their labours. Three collectors only need be here mentioned - Douglas, HARTWEG, and FORTUNE. Truly a noble trio!

If the Society had done nothing else but be the means of sending out these men and of distributing their importations, it would have far surpassed any other society of the same kind. The plants were grown, studied, described at Chiswick, and distributed from thence. No wonder that the name of Chiswick is held in respect and veneration wherever horticulture and botany are held in honour!

Reverting to the earliest history of the Society, we append a list of the Officebearers and Members of Council at its formation in 1804.5:

EARL OF DARTMOUTH, President.

Right Hon. Sir Jos. BANKS, Bart., KB.

JAMES DICKSON Right Hon. CHAS. GREVILLE RICHARD ANTHONY SALISDURY

Vice-Presidents.

James Sims, M.D. JOHN WEDGWOOD, Treasurer. Rev. ALEXANDER CLEEVE, Secretary.

WM. TOWNSEND AITON JOHN TREVELYAN Sir WM. BLIZZARD WM. FORSYTH THOMAS HOY

Rt. Hon. ISAAC CORRY Sir Christopher HAW-KINS, Bart. JOHN HAWKINS LORD MIDDLETON

WILLIAM MEYERS

CHARLES MILLER WILLIAM PRICE JAMES VERE

Of some of these gentlemen a short notice appears in another column.

Among the rank-and-file of the Society in its inauguration [year were [Sir J. E. SMITH, Dr. Lettsom, A. H. Haworth, George HIBBERT, A. B. LAMBERT, DAWSON TURNERall celebrated men in horticultural and botanical circles.

It may interest and amuse some of our readers to see what a meeting of the Society was like in George Cruikshank's time, and for the opportunity of doing this we are under obligations to the Council of the Society. Unfortunately we cannot assign the exact date to this amusing sketch (see Supplement), but we shall not be far out in assuming it to have been drawn about 1822, when the Society occupied a house in Regent Street, which was eventually sold in 1859.

The solemn state in which the meetings were then held contrasts with the less ceremonious proceedings of to-day. The President (probably T. A. KNIGHT) is in the chair, supported presumably by the Treasurer and Secretary (Joseph Sabine, to the left), and one of the Vice-Presidents. In all probability the caricatures are portraits, but we have not been able to identify them. The humorous comments on the fruits and flowers exhibited, and on the Fellows present, have not lost their point even now.

Thus the Society has been at one time prosperous, at another time depressed almost to bankruptcy, and this not once or twice, but repeatedly. Murray's book ends

with the brilliant period inaugurated under the presidency of the PRINCE CONSORT. His death in 1861 caused general consternation, and no society felt the shock more than the Royal Horticultural. We have no desire now to recall the miserable time that followed. Most of our readers are familiar with the efforts that were made to restore and rejuvenate the Society, and most of them are aware that among those to whom the credit of the present unexampled state of prosperity is chiefly due, are the President, Sir TREVOR LAWRENCE, who has stuck to the society through evil and through good report, and the Secretary, the Rev. W. WILKS, whose indefatigable energy and powers of organisation have been invaluable. As we have elsewhere given the portraits of the founders of the Society, so it is here appropriate to present the likenesses of some of the present officials (see pp. 152, 153). Sir Trevor LAWRENCE became President in 1885. His services and those of the Rev. W. WILKS are above alluded to, whilst those who had the opportunity of listening to the financial statement made by Mr. Gurney Fowler at the last annual meeting of the Society will experience no doubt that, as Treasurer, he is the right man in the right place. Like the President, Mr. Fowler is an enthusiastic cultivator of Orchids. It must be specially gratifying to these gentlemen to find that the centenary can be celebrated by the erection of a suitable home for the Society, which it has never before had. This has been accomplished largely through the munificence and zeal of Sir HENRY SCHRÖDER, Bart.; and the best way of showing our acknowledgments is by contributing at once to make up the sum still required to complete the building. Thanks also to the generosity of Sir Thomas Hanbury, we may confidently look forward to seeing the ancient reputation of Chiswick repeated at Wisley.

Whatever the future may have in store, the library, the gift of the Committee of the International Horticultural Exhibition and Botanical Congress of 1866, is saved from the fate of its predecessor by being placed in the hands of trustees, who are hampered in its maintenance only by their exiguous income—some forty pounds a year!—and the new garden also is held by trustees for the benefit of the Society.

The second centenary opens well and hopefully. The future of the Society, in so far as the advance of horticulture is concerned, will depend upon the practical recognition of the fact that no real progress is possible without the extension of scientific knowledge and its application to practice.

ROYAL HORTICULTURAL SOCIETY .- The next meeting of the Committees will be held on Tuesday, March 8, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "Cottage and Allotment Gardens" will be given by Mr. A. DEAN at 3 o'clock. It is hoped that persons interested in this subject will attend the meeting and take part in the discussion.

- At a general meeting of the Society held on Tuesday, February 23, forty new Fellows were elected, making a total of 301 elected since the beginning of the present year.

HORTICULTURAL CLUB.—The next House Dinner of the Club will be held on Tnesday, March 8, at 6 P.M., at the Hotel Windsor. The Rev. Professor Henslow, M.A., F.L.S., V.M.H., has promised to read a paper, entitled "Tho Objects of Botanising Excursions."

SCIENCE AT CAMBRIDGE. - The followingpassages from the addresses made by the King or the occasion of the opening of the new buildingsin the University for the promotion of scientific research are noteworthy, and we trust will bear fruit abundantly:-" I am very glad to know of the educational work in connection with the great industry of agriculture which you have undertaken. In common with most branches of industry, agriculture has in modern times come to depend for its. success and extension upon the unremitting application to it of the results of scientific investigation. No greater service can be rendered to this ancient. industry than to furnish it with the means of research and instruction, which are essential in order that labour may be directed in profitablechannels. In the buildings which are to be opened to-day important provision will be made for instruction in some of the branches of knowledge upon which the scientific cultivation of the land is based, and you will, I hope, derive therefrom useful aid in the carrying out of yourundertaking. I pray that every success may attend you in the execution of the great work of general education which is now entrusted to you. . . . I earnestly desire the well-being of the University and the extension and development of all branches of study and research, which are essential to the. maintenance and the greatness and the welfare of my Empire. I have no doubt that Cambridgewill continue to occupy a foremost place in this work. To the older Universities must aucceed new endowments for education if my realm is tobe kept up to its proper standard of efficiency. L am glad to know many munificent donations havebeen received to that end, and that the museums which are now being opened for the study of subjects of especial importance at the presenttime will serve as an example of that generosity, at which friends and supporters of the University will rejoice.'

MR. T. W. TURNER.—Before Mr. TURNER left the Royal Horticultural Society's Gardens at Chiswick, a fortnight ago, to take up his new duties at the Royal Hospital, Chelsea, the Superintendent and Staff made him a presentation of a marble timepiece, as a mark of their esteem and an expression of their good wishes.

UNITED HORTICULTURAL BENEFIT AND-PROVIDENT SOCIETY.—We are informed that. the Annual Meeting of members will be held atthe Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening, March 14, at 8 o'clock. Mr .. H. J. WRIGHT will preside.

"THE FRUIT-GROWERS' YEAR-BOOK" (Illustrated), 1904 (London: Hatton House, Great. Queen Street, W.C.). We cannot do better than quote from the title-page, which indicates that this. is a book "containing articles, notes, and interviews directly dealing with the latest developments. of the fruit-growing industry; essaya by authoritative writers, invaluable statistics and tables, and a directory of fruit-growers and market-garden farmers." We notice more than onearticle respecting the Northern Star Potato, and would further mention a useful monthly calendar. bearing special reference to fruit-culture.

FRUIT CULTIVATION IN BRITAIN. - The Departmental Committee on Fruit Culture appointed by Lord Onslow held sittings on Wednesday and Thursday, the 24th and 25th ult. The following members were present :- Mr. Boscawen,. M.P. (Chairman), Col. Long, M.P.; Mr. C. W. RADCLIFFE-COOKE, Mr. HODGE, Mr. MONRO, Dr. Somerville, Mr. P. Spencer Pickering, the Rev. W. Wilks, and Mr. Ernest Garnsey (Secretary). Evidence on behalf of the Board of Agriculture and Fisheries was given by Mr. REW, of the Statistical Department; Mr. BROOKE-HUNT, of the Educational Department; and Sir-W. T. THISELTON-DYER, K.C.M.G., Director off the Royal Gardens, Kew. Evidence on hortical *ural instructors for County Councils was given by Mr. Luckhurst, Derby; Mr. Goaring, Sussex; and Mr. Ettle, Somerset.

THE VEITCH MEMORIAL FUND. — At an adjourned meeting of the Trustees, held on the 23rd ult, it was decided to offer the large silver medal for distinguished service to Horticulture to Mr. John Wright, V.M.H., in recognition of his long and persistent efforts to diffuse amongst the industrial classes a practical knowledge of the cultural requirements of the vegetables and fruits most necessary for gardens and as an author who has written several valuable treatises on subjects relating to horticulture. Also a similar medal to Mr. Thomas Challis, of Wilton House Gardens, Salisbury, for his long and many services to gardening, especially in reference to his improved cultivation of hardy fruits.

THE FIRM OF PROTHEROE AND MORRIS, the horticultural auctioneers, of Cheapside, E.C., and Leytonstone, is well known to mest of our readers, who will be interested to hear of the redirement of Mr. George Field Morris from partnership. Mr. Morris, who is now retiring owing to advancing age, has been connected with the firm for a period of fifty-eight years, although for the past ten years he has left its management entirely to the remaining four partners, Messrs. H. G. MORRIS, J. B. SLADE, T. A. MORRIS and A. F. PROTHEROE, who will continue the business as keretofore. Our readers will be glad to know that Mr. G. F. MORRIS, who retires at the age of seventy-three years, is in good health, and they will join with us in wishing him many years to enjoy his well-earned leisure. The firm, which has been established upwards of seventy years, will still be known under the same name.

THE SURVEYORS' INSTITUTION.—At a meeting held on February 22, a paper was read by Mr. H. J. Elwes, F.R.S., entitled, "British Timber and its Uses." A discussion followed, and was adjourned to the meeting of Monday, March 21. The next ordinary general meeting will be held in the Lecture Hall of the Institution on Monday. March 7, when a paper will be read by Mr. Thomas Bennie (Fellow), entitled, "The Land Purchases for the New Naval Base at Rosyth, on the Firth of Forth." The Chair will be taken at 3 o'clock.

SPHAGNUM - MOSS IN ORCHID HOUSES. —
*Can any of our readers suggest what may be the reason for sphagnum-moss failing to succeed as *described in the following letter from a successful *Orchid cultivator, whose establishment is about three wiles from the sea on the south coast?

"We cannot get the sphagnum-moss to thrive in our Orckid-houses here. We use rain water, and no manures, but it persists in turning black and becomes rotten. This occurs if we use the new leaf-mould or the orthodox compost. The houses are airy and welt would and shaded with wooden roller blinds. The peat is the best peat we can buy. Is it possible that our propinguity to the sea (three mile:) has anything to do with it? It is aggravating, and I should be very glad if anybody would kindly assist us in the matter. I may add that we have been to various dealers fer our moss, but always with the same disappointing results. I cannot attribute it to the drainage, as we are most successful with our Odontoglossums, as well as with species in the warmer houses. There is no mycelium visible; the moss simply goes black."

PUBLICATIONS RECEIVED.—The Queensland Agricultural Journal, January. This, as usual, is full of useful information. Mr. F. M. Bai ey continues his contributions to the Flora of Queensland, which are this time illustrated by a photographic reproduction of Leucosmia Chermsideaua.—Agricultural Journal of the Cape of Good Hope, February. It is gratifying to learn that the prospects all round are very promising in spite of the lengthened drought. "Rural Cape Colony" is the title of an interesting series of articles; the notes this month on the fruit it dustry deserve special mention.—Indigenous Timbers of the Cape by D. E. Hutchins Conservator of Furests, is also noteworthy.—Need-List from the Imperial Botanic Garden, St. Petersburg, Some thirty-eight small pages printen in double 2012mn of names of seeds available for exchange.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

PRUNING OF VINES AND TREATMENT OF SUB-LATERALS.—In reply to Mr. Hill, I may say that I have had about forty years' experience in cultivating the Vine; but I fear to state facts which I find in my practice are contrary to the system adopted by nine growers out of every ten. The summer pinching and winter pruning depend to a great extent on the different varieties of Grapes, their degree of vigour, and the crop of fruit which the Vine carries. Sometimes splendidly finished Grapes are seen on a Vine that does not require the sub-laterals pinched; and often very badly-coloured Grapes are seen on a Vine where strong sub-lateral growths are encouraged. The only way to stop this growth is by pruning, feeding, and watering at the proper season of growth. In winter I adopt the spur-pruning, but have leng spurs on shy fruiters, such as Duke of Buccleuch. Mr. Slade says that "there is sometime, in Lady Hastings he does not quite understand. Mr. Slade says that "there is semething This Grape was sent out as a sport, and received a First-class Certificate. Mr. Molyneux, who has seen this Grape growing at Melton Constable, might perhaps describe the difference between Black Muscat and Lady Hastings. The former was sent out in 1874 as a seedling, and the latter in 1890 as a sport of Muscat Hamburgh. A. Kirk, Norwood Gardens, Alloa.

DISEASE-RESISTING POTATOS .- I have no intention to withdraw my statement "that I am tired of hearing of disease-resisting Potatos." We have been hearing of them for the past thirty years, beginning with the old Redskin Flourball down to now, and I repeat that, so far as absolute permanent disease-resistance is concerned, we are no ferwarder. Is there in commerce to-day, in spite of the efforts put forth to beem one two comparatively new varieties, any one that is, in respect of disease-resistance, of crop, or of general quality, better than was that grand Petato of the last century, Magnum Bonum, for the first several years of its coming into com-What truly wonderful crops it gave free from disease—20 tons to the acre, a beautiful sample, and of capital table quality! That was sent out some 25 or more years ago, and it was soon the one Potato of the nation. The nearest approach to it since is doubtless Up-to-Date, also a great cropper and just now the Potato of the kingdom, but it seems to be even less disease-resisting. There is my point, and it is conclusive proof that so far we are no forwarder. I want a diseasepreof Potato. Can any of those who continue to raise new varieties find us such an one? As I mentioned at the first meeting of the Potato Society, we want a variety that is hairless, has thick, leathery, shiny smooth leaves, and stout, woody, smooth stems. Such a plant would be, I believe, impervious to the attacks of disease-spores, and these could be kept from contact with the newly-forming tubers were the rows of such ample width apart to allow of a good body of soil to be moulded up round the stems. Possibly many an esteemed disease-resisting variety loses its reputation because it is planted in seil reeking with resting spores, or because the seed-tubers have been weakened by bad storing. But enormous cropping even to-day is less a matter for admiration than is absolute immunity from disease. A. D.

STRAWBERRY BEDS.—Different opinions have been expressed in regard to the mulching of the plants, and particularly upon the date when this operation should be performed. Few will condemn the mulching of light and gravelly soils, but I am convinced that little or no benefit follows the mulching of soils of a heavier texture. I have witnessed the system of applying a heavy dressing of manure in the autumn, and raking the same off in the spring, also that of forking the manure in—not a happy process for the roots. My own experience has led man to discountenance the mulching of Strawberries under any conditions. Several years ago it was my good fortune to serve for a time under the late Mr. Strathdee, in Gadgirth Gardens, Ayrshire, not unknown to many as the "Garden of Eden" of Ayrshire. Gadgirth has long been famed for its successful fruit culture, and especially for that

of Strawberries. I will try to explain the practices which were so successful during my stay at Gadgirth. Mr. Strathdee had then been head gardener there for forty years. Strawberries were grown on a large scale, for commercial purposes as well as private consumption. Mr. Jefferies stated in the Gard. Chron. on p. 90: "When all the fruits have been gathered, and a sufficient number of runners have been layered for a new bed," thus showing a system of taking young stock from plants pre-ducing fruits, which was never practised at Gadgirth. Runners were taken from plants put out in the previous August, and these plants were not permitted to fruit until the season following. treatment of these non-fruiting plants consisted in keeping all flowers and superfluous runners rigorously pinched off, plying the Dutchhoes frequently—they were seldom idle—and in watering the young runners, some of which were layered in pots and the others in the bed. No mulching was given other than that of fine soil provided by the hoes. When the flower-scapes began to appear upon fruiting plants, thorough soakings of liquid manure from the farmyard were afforded at intervals until the most forward fruits showed the least tinge of colour. At the same time the littering-down with strawy material was accomplished. If the manure-water was given sooner, it would tend to produce a superabundance of foliage. As soon as fruiting was over, all runners and old leaves were cut away, and, together with the litter, wheeled on to the bed which had produced its third crop, and was therefore to be trenched in. The hoe com-pleted the rest of the work deemed neces-sary until fruiting time again arrived, when the previous year's formula was repeated. In trenching-in the old beds liberal dressings of farmyard manure were afforded, and such ground generally produced a crop of early Potates, which could be cleared off by the time it was again necessary to plant with Strawberries. Before the young plants were put out a very light dressing of well-decayed manure was spread. on the surface and slightly pricked in. encouraged the rapid formation of roots. The young plants were usually put at distances of 2 feet each way. Many varieties were grown, but I think for dessert purposes the most satisfactory was Royal Severeign, and for making jam Vicomtesse Héricart de Thury. In many cases failure is the result of insufficient care in selecting varieties adapted to the nature of the soil. President has always been a favourite, but unfortunately it fails to give satisfaction here on a cold retentive soil. Royal Sovereign leaves nothing to be desired, followed by Waterloo and Elton Pine. J. McCallum, The Gardens, Burkham House, Alton, Hants.

SOWING ONIONS UNDER GLASS.-The plea by "B." p. 140, for an extension of this practice comes very opportunely at a time when the condition of heavy soils is the despair of those who have to get in early crops. I have from time to time, for many years past, advocated the sowing of Onions under glass, not merely for the production of very big bulbs, which is, after all, a matter of minor importance, but as a successful means of combatting the difficulties which beset the grower of Onions in bulk for home consump-To grow Onions successfully from seed sown in the epen, seed sowing has to be per-formed quite early in the year, and more often than not the ground is at that time not in a fit condition to be meddled with, and the work has to be put off week after week, so that when the first hatch of Onion Fly takes place about the early half of May, later or earlier according to district, the young plants are in the stage when they are most susceptible to attacks, and the crop falls before the enemy in a heartrending sort of way, in spite of any remedial applications that may be used. "B" alludes to the labour side of the question and seems inclined to believe side of the question and seems inclined to denote that it is increased under the planting-out system; but after many years' practice and observation I am not at all inclined to agree that there is any increase of labour, and for the following the property of the initial elements. lewing reasons: First, the initial cleaning of the crop is absolutely avoided and the young plants get a thoroughly good start of the weeds, as when planting is carried out the ground will be clean. Again there is no thinning

to be done—not that thinning is a process absolutely necessary for the production of useful sized bulbs when sown where grown, but very few people have the courage to sow thinly enough. I think it may be taken as proved that weight of crop is greatly increased under the planting-out system, for the bulbs undoubtedly are larger and they are also far more uniform in size. The space required to raise many thousands of young Onions under glass is very little. My practice is to sow quite thickly, as the growth-thus becomes more upright and the plants easier to handle. Should the roots become slightly matted before planting out, this will have but very little influence on the general results of the crop, for, as pointed out by "B," the young plants soon recuperate and grow away from the check. The one thing needtul is to prevent drawing during the early stages. Treat the plants as ordinary bedding plants, and they will give no difficulty. One is tied to no time as to planting out, and can afford to wait until the weather and soil are favourable. J. C. Tallack.

CURIOUS PEST IN GARDEN.—Two years ago I purchased a residence with about 2 acres of ground, with kitchen and flower-garden combined, and have since found that about the months of July, August, and September all my family, as well as myself, have been pestered with what at first appeared to be "hives" or heat-spots all over the body, the portion attacked being that not exposed. I have been informed that the trouble is caused by insects which get under the skin, and are known as orange-tawnies or harvest bugs. I may mention that for a few years previous the garden appears to have been neglected. Acting on advice, I have had a great deal of pruning done, and undergrowth cut away; in addition to which I have had the kitchen-garden cultivated and lime dug in, this latter being, as I was told, the chief aid in eradicating the pest. I am at a loss, however, to know how todeal with the grass in the flower-garden and on the tennis-lawn. I have a strong opinion that the pest must be in the grass, as we find after playing that we invariably get renewed attacks. Dilute petroleum has been suggested to me as a remedy, but I am loth to use it lest it might destroy the grass. A. S. H., Dublin. [Find the culprit and we will endeavour to help you; at present it seems all guess-work. ED.

GRAPE LADY HASTINGS. — This variety, worked upon the Black Hamburgh, fruited here in 1902 and 1903, and we have formed a very favourable opinion of its merits. It has a robust constitution, with distinct and good foliage. The appearance of both bunch and berry bears resemblance to those of Madresfield Court. But what may be termed the framework of the bunch is of more substance than that variety. The berries set and swell well, attaining to a large size and good colour. The bunches have been allowed to hang as long as they would keep well, for the purpose of testing them in the different stages and comparing the Grapes with Muscat Hamburgh, the supposed parent, also worked upon Black Hamburgh. The three grow in the same house. The first of the three to commence to colour was Lady Hastings. Lady Hastings has been pronounced by some to be the best of the three. But it must not be overlooked that the berry of Lady Hastings, being much larger than that of Muscat Hamburgh, it had a little advantage. All three varieties are again showing well for bunches; and to further test the matter I propose giving the Fruit Committee of the Royal Hotticultural Society, with the representatives of the Horticultural Press (generally keen critics), the opportunity of testing the three varieties during the summer. With White Gros Colmar I have had no experience, and this, from what I have read, is not to be regretted. W. Fyfe.

ALLAMANDA SEEDLINGS. — I was very interested to see on p. 141 the account of Allamanda Williamsii fruit which the Rev. W. Wilks showed to the Floral Committee. I had a plant of A. Williamsi which fruited in the summer of 1900. This capsule ripened sixteen seeds. I sowed seven of them on July 12, 1901, five of which I was fortunate enough to raise, and one of them flowered in September, 1902. All of them flowered last summer, and the five plants are all different, either in growth or in the flowers. I think the A. Williamsi must

have been crossed with the bees, because I had another Allamanda in bloom in the same house. They seem to be all improvements on A. Williamsi. I have shown them to several of the best gardeners around here, and they advise me to send them to one of the leading nurserymen for his opinion. If you think it would be advisable, I would send some of the blooms to the Floral Committee some time during the coming summer. H. Barton. [By all means send some flowers to the Floral Committee, and if possible let all the varieties come at one time in separate packages, and with flowers of the typical A. Williamsi for comparison. ED

separate packages, and with flowers of the typical A. Williamsi for comparison. Ep]

THE PROPOSED GARDENERS' ASSOCIATION.—As one who has long nad under consideration the desirability of a Gardeners' Association, perhaps you will permit me to say now pleased I am that such an Association is now about to ecome an accomplished fact. It is nearly tweoty years since I first advocated the banding together of trained gardeners, in the columns of a contemporary over a non-de-plume. The lapse of time and a more extended knowledge of gardeners and their circumstances, their trials and loys, their suppressed aspirations and open patience and endurance, their devolion to their callung, has strengthened my opinion that gardeners snould be registered and thereby be protected—as far as is possible by such means—from injury by impostors and by those who have failed in other walks of life. Many gardeners may say truly that they do not require protection from such persons. Some may even think that the status of gardeners cannot be raised by registration. But such gentlemen are rather thinking of individuals than of the whole body of gardeners. We know that many gardeners do not require any protection, nor can their status very welf be raised by any registration. But what of the remaining 19,676 persons out of 20,000 engaged in gardening work who have received training of some kind in horticutture? We must not individualise, but study the weifare of gardeners collectively. If we do that, I think few will be disposed to say that the general position of gardeners does not require improving and cannot be improved. When the Association is formed I think the first and most important question to be considered should be that of registration. All persons who can prove that they have received a certain number of years to be fixed by the Committee or Council — I think they should not be fewer than seven years—shall be entitled to have their names insertbed on the register; but that they shall be liable to removal on proof of conviction fo THE PROPOSED GARDENERS ASSOCIATION.

long life, and accord it my ucqualified support J. Udal; Superintendent of Horticulture for Worcester County Connect.

— The proposition of Mr. George Gordon, which was seconded by Mr W. Watson, of Kew Gardens, ought to have the support of all engaged in horticulture I, for one, shall support such an Association to the utmost of my ability. If I remember rightly, some nine or ten years ago Mr. F. W Burbidge suggested something of the kind in an able article in the Gardeners' Chronicle, but no one took any practical notice of it. Gardeners as a rule, take a lot of rousing, but the time has come, "and now ir," when they must be roused to a sense of the nightly of their calling. It is perfectly true, as Mr. Watson said at the meeting, that in many instances gardening had become the "dumping-ground for duffers," which must stop. Not only so, but as members of an aucient craft we have been neverybody's hands but our own. Systems which have existed in connection with gardeners must end. Then again the title "Gardener" belongs to all at present—the merest tyre claims it. Before anyone can lay claim to the title of gardener, he or she should be compelled to serve a certain specified time in a good garden under a fully registered gardener, who of course wound be a scientific and practical gardener." In many instances at present employers look upon their gardeners as little further advanced than a common labourer. I would in conclusion suggest that the provisional Committee insert a paragraph in the Gardening Press, asku g all gardeners interested in the proposed Association to send in their names to the Secretary, or to any member of the Committee, then they could form some definite idea how it was being taken up. The only way of reaching them is through the Gardening Press; no other Press recognises us. J. Corbett, Mugrave Castle Gardens.

NOTES FROM PENZANCE.

THE first week of February is perhaps about the most inauspicious time that could be selected for the inspection of an open garden in this country, but even at this season of the year thereis much to be seen in the neighbourhood of Penzance that is possessed of interest to the flower-lover. In walking through the town and adjacent villages, I saw in little gardens Ribes sanguineum and its white variety in flower, as well as Arabis albida, Anemone fulgens, shrubby Veronicas, great bushes of the Paris Daisy (Chrysanthemum Halleri major), Cytisus racemosus, Lithospermum prostratum, Megaseas, Snowdrops, Crocuses, Primroses and Chionodoxas, while Arums were in fine leafage, an Oleander was the picture of health, and Ivy-leaved Pelargoniums were common on cottage walls, on one of which a zonal Pelargonium had reached the eaves, a height of about 18 feet. Facing the main road to Land's End. Clianthus puniceus was in bloom, and in other gardens. Olearia stellulata, Erica lusitanica (codonodes), Teucrium fruticans, Camellias, Hamamelis arbores, an enormous bush of Datura sanguinea, 10 feet in height; Chorozema Lowii, Saxifraga Boydii alba, S. Griesbachii, and many varieties of Narcissi were blossoming. Amongstthe last I noticed a spike of Soleil d'Or, over 3 feet in height, carrying fourteen flowers. Henry Irving is a Narcissus that is much appreciated in this locality, where it is already extensively grown, it being found rather earlier than N. obvallaris, while it is also of a good golden-yellow colour. At Trewidden, near Penzance, the residence of Mr. T. B. Bolitho, I was grieved to find that probably the finest epecimen of Daphniphyllum glaucescens in the British Isles had died. This example was 12 feet in height and 20 feet in diameter. When it was taken down the roots were found to be rotten. It will be a great loss, as the young plants will require many years to attain to the same proportions. Two bushes of Rhododendron grande, better known as R. argenteum, were in tull flower. These are precocious examples, as the species does not usually bloom until the end of March. In the largest, which is over 12 feet in height, the pistils are crimson-tipped, but in the other they are white. A young plant of Guevina avellana, a seedling from the well-known specimen, 20 feet in height, at Mr. Bolitho's Devonshire seat, Greenway, on the banks of the Dart, is making fine growth, its foliage being particularly handsome.

The Rectory garden at Ludgvan, about 3 miles from Penzance, though not of great extent, is one of the most interesting in the county, the Rev. Arthur Boscawen, who has on several occasions won the premier prize for Narcissi at the Truro Daffodil Show, being a most successful cultivator of rare plants. At the time of my visit Correacarnea, C. virens, C. ventricosa, and C. picta superba, were in flower in the open air; as were Grevillea alpina, Diosma ericoides, Iris tingitana, Manettia bicolor, and a large plant of Clematis indivisa lobata, whose earliest blossoms were almost expanded.

Amongst other rare plants to be seen in the best of health in this garden are the New Zealand Phyllocladus trichomanoides, Alectryon excelsum, the white Cytisus proliferus, 12 feet in height; Corynocarpus lævigatus, Fremontia californica, Pseudopanax crassifolium, the New Zealand Lancewood, 10 feet in height; Clethra arborca, Cassia corymbosa, a fine specimen of Myoporumlætum, whose lanceolate leaves are spotted with innumerable transparent dots, and which I have seen flowering abundantly in the early summer; Meryta Sinclairii, Tricuspidaria hexapetala, Psoralea pinnata, a strong young shrub of Metroderos robusta from the Isles of Scilly, where it affords such a gorgeous summer display (the

Callistemons are a'mo t invariably catalogued by nurserymen under the name Metrosideros, but the two are totally distinct), Podocarpus Totara, Mitraria coccinea, Philesia buxifolia, several large, specimens of Abutilon vitifolium, Echium callithyrsum, 6 feet across; Callistemon speciosum, many fice bushes of Romneya Coulteri, which in this garden does not resent transplantation, though in the majority of cases this is followed by its speedy decease; Olearia nitida, Senecio Greyi and S. Fosteri, Abelia floribunda, Berberidopsis corallina, the rare Eucryphia cordata, 5 feet in height; Rhapiolepis ovata, Ozothamnus rosmarinifolius, Leptospermums, Pittosporums in variety, Nandina domestica, and other shrubs; while of Rhododendrons, the variety Pink Pearl, 5 feet in height and as much through, is worthy of mention.

Amongst other noteworthy plants are a fine specimen of Furcræa longæva, a collection of twenty varieties of Sprenger's Yuccas, Dracena lentiginosa with narrow, brownish - red leaves; Mandevilla suaveolens, an enormous clump of Libertia formosa, 5 feet in height; Cyathea dealbata, Iris Robinsoniana, I. fimbriata (syn. japonica), Myosotidium nobile, Crinums of several species, Agapanthus, Nerines, Watsonias, and Antholyzas. In the rock-garden Ourisia coccinea, usually considered difficult to grow, is a weed, rambling everywhere and flowering profusely; Lithospermum prostratum has formed a cushion about 9 feet across; Kalosanthes grow and flower well, as do the rarer Erythroniums and Fritillarias; Primula Cashmeriana, from self-sown seed, was in flower, as were several blossoming colonies of Narcissus cyclamineus, also self-sown, and the fine Galanthus Whittalli was in bloom.

The large and representative collection of Narcissi, which includes most of the newer and rarer seedlings, gave evidence of being in the best of health, and I saw two N. cyclamineus seedlings that were flowering for the first time. One, a cross between N. cyclamineus and Henry Irving, had a clear yellow flower showing traces of both parents, and the other, from a cross with Soleil d'Or, had a many-flowered scape of clear yellow.

There are well-filled herbaccous borders and a large assortment of Saxifrages and other dwarf subjects among half-buried rocks in sunny borders. S. W. Fitzherbert, February 25.

Obituary.

JOHN MITCHELL.-Born near Southampton in the year 1814, Mr. Jno. Mitchell died at Escrick, near York, February 20, 1904. Like most men who have attained to a great age, he had outlived most, if not all, of his contemporaries in early and middle life. John Mitchell was in his day one of the best known and most successful practical gardeners in Yorkshire. He began his gardening career in the then famous nursery of Mr. Page, of Southampton. Besides being a successful nurseryman, Mr. Page had a large connection as a landscape gardener. The writer has often heard John Mitchell speak with much respect of his first employer, although he must have been a very small boy when he went to work there, seeing that his wages were for a short time "a penny a day." By diligent attention to his duties and using every opportunity to make up for his lack of day-school teaching, he gradually but surely kept on improving his position in life. His first place as head gardener was at Eden Park, Beckenham, Kent. From there he went to Apley Castle, in Shropshire, the residence of Sir Thomas Charlton Meyrick. After about seven years' service there, he came, in 1854, to be gardener and forester to the late Lord Wenlock, at Escrick. At that time this wellknown Yorkshire nobleman was making extensive improvements in the gardens and home woodlands attached to his residence. Amongst other im-

provements was the formation of a very fine Pinetum, in which, amongst other choice conifers, were planted some of the first-reared plants of Wellingtonia in the country. After a faithful aervice of some thirty-seven years the present Lord Wenlock kindly granted him a pension with a cottage in the village for the remainder of his life. As recently as the Wednesday before his death he was out in the village. His only daughter was married to one of his former pupils, Mr. B. Hope, gardener at Middleton Park, in Oxfordshire, the raiser of the well-known Middleton Park Beet. Some years ago both of them died, leaving two young children, who were brought up and educated by their grandfather. His remains were quietly interred in the village churchyard on Tuesday the 23rd ult. Mr. Mitchell has often told me about subscribing to the Gardeners' Chronicle when it was first issued in 1841, H. J. C.

A NEW CYMBIDIUM FROM CHINA.

This remarkable species of Cymbidium (C. Wilsoni) was imported by Messrs. James Veitch & Sons, of Chelsea, from Yunnan, China. It is

not fasciate l. The condition was remarkable, having been persistent for six years on the same plant.

Silver Fir diseased—Mr. Massee showed a branch attacked by Æcidium elatinum. The Uredo form known as Melamprosella Cerastii attacks members of the order Caryophyllacce. He observed that the disease of the Birch caused by Phytoptus is spreading greatly in the neighbourhood of Kew.

Cypripedium malformed.—Dr. MASTERS described an unusual form (from Sir Trevor Lawrence's collection) of a blossom, which had four sepals, two petals, one column, with two stamicodes, but a three-lobed stigma and three parietal placentas. It was thus a case of locreased numbers of parts, or an attempt at forming a multifold flower.

Cineraria, supposed disease—Dr. Cooke reported upon some leaves sent by Mr. Vose, of S. Norwood:—"I have received during the past week leaves of Checraria from a Fellow of the Society who suspected them to be attacked by some mould. I examined and reported on these to the effect that I could find no parasitic mould upon the leaves; and although I examined the tomentum of the under surface as completely as it seemed possible to examine such a substance, I could find no mycelium mixed with the filaments of the tomentum, and no fragments of fungus hyphe or fungus spores. Subsequent examination of other leaves, which had



FIG. 66.—CYMBIDIUM WILSONI, FROM YUNNAN. Flowers green with red marks; lip cream-coloured.

closely allied to C. giganteum, but differs in being much dwarfer, the scape more slender, and the labellum less hairy. The sepals and petals are green, with some indistinct, dotted, reddish lines extending half-way up. The lip is cream-coloured, with sepia-brown lines inside the side lobes, and reddish markings on the front. The species received an Award of Merit when shown at the meeting of the Royal Horticultural Society on February 23 last.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

FEBRUARY 23.—Present: Dr. M. T. Masters, F.R S. (in the chair); Messrs. Hennesey, Chittenden, Odell, Baker, Veitch, Michaol, Saunders, Bowles, Massee, Douglas, and Holmes; Dr. Cooke; Revs. W. Wilks and G. Henslow, Hon Sec.

Coloured photos.—Mr. Hickley exhibited some more miscellaneous transparent photos of vases, bouquets, &c., by his new process. A vote of thanks was accorded to him.

Cyclamen malformed - Mr. Odell showed specimens in which petioles and peduncles were fused together, but

brownish and dead spots near the margin, furnished from these spots a few delicate fungus hyphe with a lew spores or conidia, evidently belonging to some species of Cladosporium. But as Cladosporium is so commonly found as a saprophyte on all kinds of dead vegetable matter, and so very rarely as a parasite, and in this iostance occurred only upon dead spots, I came at once to the conclusion that it was not connected with any disease. However, I ventured to state that I should never be surprised to find some species of Orlium, with its chains of conidia, on leaves of Cineraria as well as on other composite plants."

The failure of Beans in Houses.—Mr. Baker reported as follows upon this matter brought before the last meeting.—"Mr. Horseley writes that the plants and the unsown seed have been destroyed, and the earth thrown away. I have therefore to form an opinion from the loog record. Assuming this to be correct, there is very hittle, if any, doubt that the failures were due to, first and chiefly, unbalanced sunlight and fire heat. The period of failure was the eod of October to January, an unusually dull, sunless time this season, even for these mooths, and it seems no allowance was made for this. This has been a fruitful source of trouble this season elsewhere, and should teach the importance of regulating the beat by the sunlight available. Secondly, the soil was chiefly of humus and too light, and almost certainly very deficient in available lime, phosphate, and potash.

GLOUCESTERSHIRE ROSE.

FEBRUARY 16.—The annual general meeting was held at the Guildhall, Gloucester, on the above date. The financial statement for the past year showed that the receipts amounted to £145 78. 6d. (Including subscriptions £99 18_{γ} 9d. and gate money £41 13s), and the expenses of the annual show £188 88. vd. (prizes £83 12s.), thus leaving a deficiency of £43 1s. The halance-sheet was adopted.

ANCIENT SOCIETY OF YORK FLORISTS.

THE report of this Society for 1903, together with the schedule of prizes for 1904, has just heen issued. The Treasurer leports an adverse balance on the year's working of £9 13s, 11d. The receipts for admission to the Chrysauthemum Show were £60 4s. 6d. short of those taken in 1902. A balance of over £200, however, remains to the credit of the Society.

remains to the credit of the Society.

Social gathering, floral services, and numerous meetings and shows have been held during the past season, a special feature being the institution of a Dablia Show, the latter being so enthusiastically supported that it was a most gratifying success. At the Chrysanthemum Show, the exhibits were equal to any at previous shows. The schedule of prizes for 1904 is again very extensive, and the Entertainments Committee purpose arranging a series of evening drives to take place during the summer months to places of interest.

GARDENERS' DEBATING SOCIETIES.

HULL AND DISTRICT.—On February 23 Mr. McIntosh read a paper before the members of this Association on "The Tilth of the Garden," prefacing his remarks by an explanation of the origin and formation of solls. Air, frost, rain, wind, and seismic eruptions had prepared the soil so that the lower forms of vegetable life were enabled to find sustenance therein, and left it richer on their decay. Deep cultivation was strongly urged, and the essayist was of the opinion that there was scarcely any land but which could not, by deep delving and breaking up, either by human force or physical agencies, be made fertile. W. R.

LEE, BLACKHEATH, LEWISHAM, AND WEST KENT.—The monthly meeting was held on the 26th ult., when a lecture on "Roots and their Functions" was given by Mr. G. D. Judge, of The Gardens, Beechwood, Eltham Road, Lee. The lecturer dealt thoroughly with his subject, and illustrated his remarks by showing specimeus of roots in various stages, and by diagrams.

BECKENHAM HORTICULTURAL.—Mr. J. Cheal gave a lecture, on February 28 at the Public Hall, on "Horticulture in the United States of America and Canada," illustrated with lantern-slides. The lecturer, who went to America to see for himself, found there is plenty for the British gardener to learn in those places. Mr. Cheal gave an account of his journey to the back-woods to find an old apprentice, part of which journey was by rail, sleamer, lumber wagon, and on foot through the forest. Mr Cheal, when asked if there was any prospect of British gardeners succeeding in America, replied: "Yes, if they were thoroughly qualified;" and he found that most of the leading parks and gardens were managed by English or Scotch gardeners. This was the last lecture of this winter's session.

BRISTOL AND DISTRICT GARDENERS.—A well-attended meeting was held on the 25th ult., when Mr. J. Coutts delivered a lecture on "Greenhouse Hardwooded Plants." Mr. E. Poole eccupied the chair. The lecture included minute details for the cultivation of Ericas, Rhododendrons, Azaleas, Boronias, &c., potting composts, training, and general treatment receiving attention. The next lecture will be held on March 17, when Mr. Myers will lecture on "Ancient and Modern Gardens," illustrated with lime-light views.

SPEKEFIELD COTTAGERS' AMATEUR GARDEN—
Six interesting lecture, by Mr. John Stoney, of Aigburth, have heen given to the members of this Society,
the lecturer illustrating his remarks by a series of
diagrams, lantern-slides, and specimens. The lectures
on each occasion were highly appreciated and well
attended. Many questions on technical points were
asked, and fully answered by the lecturer. The Chairman at the clusing lecture presented a handsome
walking-stick to Mr. Stoney on behalf of the members.

DEVON AND EXETER.—At the meeting held on the 24th ult., Mr. W. Mackay, of the Royal Nurseries, Exeter, read a paper on "Employers and Employés." Mr. Mackay advocated employers gaining the esteem and confidence of their men by a firm but easy attitude. It was a mistake on the part of an employer to think that condescension was likely to bring about undue familiarity or carelessness. An employé's duty was to study his master's interests and wishes. The lecturer advocated recreasing

tion and rest for the men. The paper contained much excellent advice to the members, of whom a large number was present.

CHISLEHURST GARDENERS'.—The Chislehurst Gardeners' Society heid a meeting on Tuesday. 25th ult., when Mr. Henry Cannell, V.M H., Swanley, gave a lecture entitled, "Fruit, and how to eat it." Being a practical gardener, he felt it his bounden duty to tell the community what he thought, in fact he was certain fruit was the best food to cat. For the past eight years and over he had tived entirely on fruit, vegetables, and farinaceous foods, and was a great deal better in health now than he was when he started this mode of living. Stewed Apples and wholemeal bread made without yeast were, in his opinion, the best of all foods. Bananas were said to be the most nutritious, and are recommended for weak stomachs. Bilberry, Whortleberry or Winnberry, and Loganberry, Blackherry, Cranberry, all received a passing remark Cherries, Currants, Gooseberries, Dates, Eldetberries, Figs, Grapes, Pears, Pineapple, Melons, Strawberries, &c., were all more or less useful. During the evening specimens of vegetarian diet were handed round by Mr. Cannell, assisted by his son, Mr. Robert Cannell. Several preserved fruits were tasted and commented upon.

READING AND DISTRICT GARDENERS.—There was a large attendance at the last fortnightly meeting of the above Association, when Mr. T. Neve, of Sindlesham House Gardens, Wokingham, introduced the subject of "The Potato in Connection with the year 1903." He noted the value of the Potato; the universal failure of the 1903 crop; the different varieties of Potatos; spraying to prevent disease, and made the following suggested remedies to prevent disease, viz.—an entire chauge of ground for growing the crop, the use of manures that are suitable for Potatos, change of seed, giving more thought to the early and second-early varieties, and planting varieties with as strong a constitution as can be obtained.

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Feb. 27, is furulshed from the Meteorological Office:—
"The weather this week was dull in all districts, espe-

"The weather this week was dull in all districts, especially in the north and east of Great Britain. A considerable quantity of rain was experienced in Ireland and in many parts of Scotland, but over England the conditions generally were drier. Heavy snow and some sleet occurred, however, in the central and northern counties on Friday; and snow showers were very prevalent on the following day in the English districts, as well as in the east of Scotland.

"The temperature was high over the whole kingdom during the dirst two days, and conlinued fairly high in Ireland and the extreme north of Scotland, throughout.

"The temperature was high over the whole kingdom during the first two days, and continued fairly high in Ireland and the extreme north of Scotland, throughout the week; but elsewhere it fell suddenly and hecame very low. As a result of this change the averages were 1° or 2° below the mean over the kingdom generally, just equal to it in Scotland, W. and the Channel Islands, and a little above it in Ireland and the north of Scotland. The highest of the maxima, which occurred on Suoday, ranged from 60° in England, F. (at Cambridge), and 53° in the Midland Counties, to 50° in Scotland, N. and E, and to 40° in Scotland, W. The lowest of the minima, registered towards the end of the week, varied from 20° in Ireland, N., and 31° in the Channel Islands. The lowaverage temperature during the latter half of the period was due rather to the absence of heat in the daytime than to the severity of the nights.

"The rainful exceeded the mean in Ireland and the east and west of Scotland, and just equalled it in England, N.W., but in all other localities there was a deficit.

"The bright sunshine was greatly deficient in all districts. The percentage of the possible duration ranged from 27 in the Channel Islands, and Is in England, S., to 6 in the Midland Counties and Scotland, E., 5 in Scotland, W. and England, N.W., and to only 3 in England, N.E."

THE WEATHER IN WEST HERIS.

A WEEK OF WINTERLY WEATHER.—On the coldest day the temperature in the thermometer screen at no time rose more than 2° above the freezing-point, and on two nights the exposed thermometer registered 15° of frost. The ground is now about 2° colder at 2 feet deep, and about 4° colder at 1 foot deep, than is seasonable. There was no rain during the week, but on two days snow fell, and on one occasion the ground was just covered. Percolation has now almost entirely ceased through both gauges. The sun shone on an average for 2; hours a day, or for about three quarters of an hour a day less than the average duration for the time of year. Calms and light airs mostly prevailed, and for the last eight days the direction of the wind has

been in some point between north and east. The mean amount of moisture in the air at $3~\mathrm{P}$ M. was about 1 per cent. in excess of the average quantity for the end of February.

Taken as a whole, this was a month of about seasonable temperature, with continuous and heavy rains, and an unusual amount of cloud. There was no cold weather in the first half of the month, whereas during the remaining fortnight there occurred only three warm days or nights. On no night did the thermometer on the lawn show more than 15° of frost -which is a singularly high extreme minimum for the month. In fact, only twice before in February during the last eighteen years has the same thermometer falled to register a lower reading at some time during the month. Rain or snow fell on seventeen days, to the total depth of $3\frac{1}{2}$ inches—which is about $1\frac{1}{2}$ inch in excess of the February average. During the first three weeks there were only six days without rain; but after that time, with the exception of two moderate falls of snow, the weather remained dry. There was never enough snow to do more than just cover the ground. Fifteen gallons of rain-water, or nearly the whole of the rainfall, came through the gauge on which short grass is growing; and 17 gallons, or more than the rainfall, through the uncropped gauge. The sun shone on an average for 13 hour a day, which is about half-an-hour a day short of the average for the month. The winds were as a rule high, but in no hour did the mean velocity exceed 21 miles -direction west. The amount of moisture in the air at 3 o'clock in the afternoon was about 3 per cent. in excess of the February mean.

THE WINTER.

Seasonable in Temperature, but Wet and Sunless. This has been a winter of about average temperature. On no night were more than 16° of frost registered by the exposed thermometer, which is with two exceptions the highest extreme minimum recorded here during the last eighteen winters. In the middle of the season there occurred a remarkable period of wet weather. That is to say, during the twenty-six days ending February 19 rain fell to the total depth of 5% inches which is a greater quantity than the average amounts for any two of the winter months taken together During that remarkable period there occurred only four days without rain. The sun shone on an average for about half-an-hour a day less than is sea: onablemaking this the most gloomy winter yet recorded here -since the winter of 1886-7.

Our Underground Water Supply.—Since the winter half of the drainage year began in October last the total rainfall has exceeded the average for those five months by 5³, inches, which is equivalent to an excess on each acre in this district of 131,434 gallons. E. M., Berkhamsted, March 1, 1904.

TRADE NOTICE.

We understand that the architect of the Horticultural Hall, now in course of erection, has decided to employ the Lubrose paint, a material in which our correspondent, Mr. Druery, is interested.

THE LITERATURE OF CULTURES. - One of the great literary features of the day is the number of well-written, illustrated, and printed works-weeklies, monthlies, yearly reports, relating to almost everything which is of interest to any large section of the population. Horticulture, agriculture, the farm-all are extensively patronised by writer and reader, and very many are exceedingly worthy of patronage. Amongst others are the annual reports emanating from Government bureaus or departments; every one now issued is well worthy its important function. The latest to hand is the annual report of the Agricultural Department of Natal for 1902. Though late in appearing, the various reports of departments are full, and often well Industriate in appearance of departments are full, and often well illustrated from photographs and by means of elaborate tabular statements. The reading elaborate tabular statements. The reading matter is never involved, and the writers are men who endeavour to get to work without sacrificing space. It would be idle to discriminate where all is interesting, but readers who have the recently-published "guide" would find the annual report of value. Our South African friends may not be very energetic in their literary movements, but when they do move they appear to do it to some purpose.

MARKETS.

COVENT GARDEN, March 2.

(We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depreceding the date of our report. The prices de-pend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one

CUT FLOWERS, &C.: AVERAGE WHOLESALE PRICES.

	8.d. 8.d.	8.d. 8.d.
Anemones, per		Orchids: Odonto-
doz. bunches	16-26	glossums, per
Azalea mollis, bun.	1 0- 2 0	dozen blooms 20-30
Azaieas, per doz.	4 0- 6 0	 Cattleya, doz. 12 0-15 0
Bouvardias.bnch.	0 4- 0 6	- Cypripedium
Callas, per dozen.	2 0-4 0	insigne, per
Camellias, box	1 6- 20	dozen 0 9-1 6
Carnations, buch.	1 0- 3 0	 Cœlogyne, doz. 1 0- 1 6
Croton leaves.bun.	0 6-1 0	Pelargoniums,
Daffodils, per dez.		zonal, dozen
bunches	2 0- 6 0	bunches 40-60
Eucharis, per doz.	16 20	- white, dezen
Euphorbia, bun.	10-30	bunches 4 0-6 0
Ferns, Asparagus,		- double scarlet.
per bunch	10-26	p, doz. bunches 4 0-6 0
- French, per		Roman Hyactutns,
doz, bunches	0 3- 0 4	doz bunches 1 6-8 0
- Maidenhair,		Roses, Mermet,
doz, bunches	40 60	per bunch 30-60
Freesia, per doz.	1 0- 2 0	- white, bunch 1 0-3 0 - pick, bunch 1 6-3 0 - red. bunch 3 0-8 0
Gardenias, box	20-60	— pink, bunch 1 €- 3 0
Lilae (French),		- red. bunch 30-80
per bunch	16-30	- Safranos, beh. 1 0- 2 0
Lilium auratum		- French, bunch 1 0- 2 0
per bunch	26-40	Smilax, per doz.
- longiflorum,		trails 1 6- 2 0
bunch	3 0- 6 0	Snowdrops, doz. 1 0- 1 6
- lancifolium	16-26	Spingas bunch 10 -
Lily of the Valley,		Stocks, per doz 20-26
p. doz. bunches	6 0-15 0	Tuberoses, strong,
Marguerites, yel-		per bunch 10-16
low, doz bunch.	1 0-20	- per dozen 0 6-0 9
Mimosa (Acacia).		Tulips, Red, per
bunch	0 6- 1 0	bunch 0 6- 0 9
Narcissus, dz.bun.	1 0- 2 0	- various, per
-Pheasant Eyc,		bunch 0 6- 1 6
per doz	2 0- 4 0	Violets, p. dozen
- Soleil d'Or,		bunches 1 0- 1 6
per dozen	10-20	- Parma, p. bun, 1 6- 2 6

PLANTS IN POTS, &O.: AVI	ERAGE WHOLESALE PRICES.
s.d. s.d.	s.d. s.d.
Acacias, per doz. 12 0-50 0	Ferns in variety
Adiantums, doz. 40-80	doz 4 0-30 0
Aralias, per doz. 40-80	Genistas, per doz. 6 0-10 0
Arbor Vitæ, doz. 9 0-18 0	Hyaciuths, Roman
Arum Lilies, per	(48 po s), dcz, 80-90
dez 10 0-12 0	- Dutch p doz. 8 0-12 0
Aspidistras, doz. 18 0-36 0	Lycopediums, per
Aucubas, per doz. 4 0-8 0	dozen 3 0-4 0
Azalea mollis, pot 1 6-3 0	Marguerites, per
Azaleas, each 16-50	dozeu 60-80
Begonia, per doz. 8 0-18 0	Orange-trees, each 3 6-10 6
- Gleire de Lor-	Palms, var., each 3 0-20 0
raine, per doz. 8 0-24 0	Poinsettias, doz. 8 0-15 0
Cinerarisa, p.doz. 6 0-24 0	Primulas, perdoz, 40-60
Coleuses, per doz. 4 0- 5 0	Pteris tremula,
Crotons, per doz. 12 0 24 0	dozen 4 0- 8 0
Cyclamens, doz. 9 0-18 0	- Wimsettl, per
Cyperus, per doz. 3 0- 4 0	dozen 40-80
Daffedils, per doz. 60-80	- major, dozen 4 0-6 0
Dracenas, variety,	Solanums, dozen 40-60
_dozen 12 0-48 0	Tulips, red, doz.
Ericas, per dozen 6 0-12 0	roots 10 -
Euonymus, vars.,	- yellow, dezen
per dozen 4 0- 6 0	roots 0 9-1 0
Ficus elastica, doz. 9 0-24 0	— various 1 0→ 1 6

VEGETABLES: AVERAG	E WHOLESALE PRICES.
s.d. s.d.	s,d, s,d,
Artichekes, Globe,	Mushrooms(house)
per dozen 3 0- 3 6	per lb 1 0- 1 3
- Jerusalem, p.	Onions, per case. 7 0- 7 6
sieve 10-13	- per bag 3 6- 7 0
Asparagus, Sprue,	- picklers, eleve 3 0- 5 0
bundle 0 9-0 10	- English, cwt. 7 0- 7 6
- Paris Green 4 6- 5 0	Parsley, doz bun. 30-40
- English, bun. 70-76	- sieve 20 -
Beans, dwarf, lb. 16 -	Parsnips, per bag 20-26
- Madeira, per	Potatos, per ton 90 0-140 0
basket 30-40	- frame, lb 06-08
Beetroots, bushel 20-26	- New Teneriffe,
Brussels Sproute.	per cwt 12 0-14 0
per sieve 1 0- 1 6	Radishes, per
Carrots, per dez.	dozen bunches 0 9- 1 0
bunches 2 0- 2 6	Rhunarb, Yorks,
- per bag 20-40	per dozen 0 9-0 103
Cauliflowers, per	Salad, small, pun-
dozen 1 3- 2 6	nets, per doz 0 8- 1 0
Celery, doz. bun. 12 0-20 0	Savoys, tally 36-50
Cress, doz. pun. 0 8- 1 0	Seakale, per doz.
Cucumbers, doz. 36-46	punnets 15 0-16 0
Endive, per doz. 23 —	Shallots, lb 0 2-03
Garlic, per lb 03 -	Spinach, p. bush 30-40
Horseradish, fo-	Tomatos, Canary
reign, p. bunch 10-13	Deeps 30-40
Leeks, doz. bun 1 0- 1 6	Turnips,doz.bun. 16-20
Lettuees, Cabbage,	_ per bag 20 _
per dozen 1 0- 1 3	Watercresa, per
Mint, doz 3 0- 6 0	dozen bunches 0 4-06

FRUIT: AVERAGE WHOLESALE PRICES.

5.u. c.u.	0.04. 0.04.
Apples, home-	Grapes, Alicante,
grown, cookers,	per lb 1 6- 3 0
per bushel 3 0- 6 0	- Almeria, doz. 5 0-10 0
barrel 18 0-35 0	- Gros Colmar,
- American, in	A , per lb 2 0- 3 0
cases 8 0-14 0	- B., per lb. 1 6- 1 9
Bananas, per	Lemons, per case 10 6-18 6
bunch 6 0-12 0	Oranges, per case 6 0-40 0
- loose, dozen 1 0-1 6	Pears, per ease 12 6-14 3
•	Pines, each 2 3- 4 0
Cobnuts, per ib. 07 -	Strawberries, A.,
Cranberries, per	per lb 10 0-14 0
case 12 0 —	B. per lb 30-60

REMARKS - English Apples are practically past. Some Albemarle New Town Pippins, 35s. per harrel, are very fine. The fruits from Nova Scotia and the States appear past their best. The chief supply of Onions is from France. Argentine Peaches fail in quality; they from France. Argentine Peaches fall in quality; they are 2s. to 4s. per case. Cape Peaches. per case. 2s. to 6s.; Nectarines, 4s to 6s.; Plums, 2s. 6d. to 5s.; Pears, 3s. to 6s. Brussels-tops, per bag 2s; Turnip-tops, per bag 2s. 6d. to 3s.; Sprouting Broccoil per bag 2s.; Cornish Broccoli, per crate 6s. to 7s. 6d; Cherbourg, per dozen 1s. 3d. to 1s. 9d.; Italian, per basket 3s. to 3s. 6d.; Salsify, per dozen 3s.; Ce'eriac, per dozen 2s. 6d. The bunches of Mint vary much in size.

POTATOS.

Home-grown, 100s. to 120s. per ton; foreign, 80s. to 110s. do.; Dunbars, 120s. to 140s. do Seed-tubers in variety. John Balh, 32 & 34, Wellington Street, Covent Gorden.

COVENT GARDEN FLOWER MARKET.

The supply of good flowering plants is now very abundant. On Saturday the 27th ult., much good material remained on the stands at closing-time, and this on cold nights must cause great loss to growers, fer many of them are entirely spoiled before the market is opened on the following Tucsday. Genistas were particularly abundant and well-flowered Azaleas in various colours; of these, the pitk and salmonshaded varieties sell best. Marguerites were plentiful and good. Cinerarias were very good, but the cold weather was against the sale of these Callas were very plentiful, and a good many were sold at low prices. weather was against the sale of these Callas were very plentiful, and a good many were sold at lew prices. Some well-flowered plants of the old double white Primula are coming in, but single Primulas are very poor indeed. Several growers have sent plants of Spiræa japonica, but they are not yet first-rate. Narcissus in pots are very good. Cyclamen continue to be plentiful. Several good varieties of Acacias are coming in, but the abundance of the Freuch "Mimosa" (Acacia dealbata) spoils the sale for these. Erica Willmoreana and E. fastiglata are in, but there is not much demand for them. Hyacinths in pots are over-plentiful, and at the close of the market large numbers remained unsold. Solanums are still to be seen, but remained unsold. Solanums are still to be seen, but there is little demand for them. A few good Lilacs in pets are now coming in; also Azalea mollis and Lily of the Valley. Of Palms and Ferns the supply is good, but there is very little improvement in the trade for them.

CUT FLOWERS.

CUT FLOWERS.

Roses are now more plentiful, and goed red-coleured flowers are to be seen. Those of General Jacqueminot make from 6s. to 8s. per dozen blooms. There are also a few flowers of Maréchal Niel to be seen. Liliums are good and plentiful. L auratums make from 4s. to 6s. per bunch; L longiflorums about the same prices, but some may be sold for less; and goed L. lancifoliums make from 2s. to 3s. The supply of Carnations continues to increase, but best blooms still make good prices. Some fairly good heads of Poiosettas are still to be seen. Gardenias have been sciling better, and it seems likely that these are to become more popular again. Freesiss are plentiful. Tulips are still abundant, and the quality varies much. Some very fine deuhle deep bronze-yellows and also double reds were seen; of the singles, reds are most wanted. A very regular supply of Lily of the Valley is now maintained, and just now it exceeds the demand. Daffodis are an important feature, and the best quality sell at very good prices. Callas continue plentiful, also white Azaleas. Coloured Camellias are abundaut, but these being without stems do not find much favour. I believe it would pay to cut these with wood. Anemones of various colours are plentiful.

much favour. I believe it would pay to cut these with wood. Anemones of various colours are plentiful. In the French market there is now a large supply. There are several varieties of Mimosa (or Acacia); some are remarkably pretty, the branches being deusely covered with the long racemes of bright yellow flowers; there are also some with round heads of bloom. A. H., February 27.

FRUITS AND VEGETABLES.

GLASOOW, March 2 .- The following are the averages of the prices during the past week:—Apples, Maine (U.S.), 15s. to 26s. per barrel; Californian Newtown Pippin, 8s. 6d. to 10s. per box; Canadian, 16s. to 28s. per barrel, and 8s. to 12s. per box; Oranges, Valencia, 420's, Teneriffe, 3s. 6d. to 5s. per box; Mushrooms, 1s. 3d. to 1s. 6d. per 1b.; Onions, Valencia, 6s. 6d. to 8s. 6d. per case; Cucumbers, 8s. per degen.

LIVERPOOL, March 2. — Wholesale Vegelable Market (North Hay).—The following are the average of the (North Hay).—The following are the average of the current prices during the past week—prices varying according to supply:—Potatos, per cwt., Main Crop, 4s. 6d. to 5s.; Up-to-Date, 4s. 2d. to 4s. 6d.; Eruce, 4s. 3d. to 4s. 9d.; British Queen 4s. 2d. to 4s. 6d.; Turnips. 6d. to 8d. per dezen bunches; Swedes, 1s. 3d. to 1s. 4d. per cwt.; Carrots, 3s. 6d. to 4s. do.; Parsley, 8d. to 10d. per dezen bunches; Onions, foreign. 4s. 6d. to 5s. per bag; Cauliflowers, 2s. 6d. to 3s. per dezen; Cabbages. 6d. to 10d. do.; Celery. 9d. to 1s. 4d. 0c.—St. Johns: Potatos, 1s. 2d. per peck; new do., 6d. to 8d. per lb.; Grapes, English, 1s. 6d. to 2s. 6d. per lb.; do., foreign, 6d. to 8d. do.; Apples 2d. to 6d. do; Tomatos, 6d. to 8d. do., Eirkenhead: Potatos, 1s. 2d. to 1s. 4d. per peck; Cucumbers, 6d. to 1s. each; Grapes, English, 2s. to 4s. per lb; do., foreign, 6d. to 8d. do.; Tomatos, foreign

CORN.

AVERAGE PRICES of British Corn (per Imperial qr.), for the week ending February 27, 1904, and for the corresponding period of 1993, together with the difference in the quotations. These figures are based on the Official Weekly Return:

Де	scrip	tion.		190	03.	19	04.	Diff	fere	nce.
Wheat	•••		•••	8. 25	d.	8. 27	d. 10	+	8.	d.
Barley	•••	•••	•••	23	2	22	4	-	0.	10
Oats	•••	•••	•••	17	1	16	3	-	0	1(>

ENQUIRY.

PLANTS FOR BOMBAY.—I want for growing in the stove climate of Bombay some of the rarer flowering trees and shrubs, such as are not usually grown by nurserymen in this country. nsually grown by nurserymen in this country. I mean such shrubs as Astrapæa Wallichii, Dombeya Cayeuxii, &c. The authorities at Kew will only supply public institutions. I have tried without success the leading nurserymen in London, also some in Ghent and Bruges. Can any reader of the Gardeners' Chronicle help me?

ORCHID TUBERS FOR "SALEP."—Will any reader in the country say if the tuberous roots of British Orchids are still collected and used for making "Salep"? G. H.

ANSWERS TO CORRESPONDENTS.

Address: H. Ltd. Aug. Nonin, horticulteur, à Châtillon-sous-Bagneux (Seine), France.

Books; F. S., North Side. We have now in the press an enlarged and illustrated edition of the Calendar of Garden Operations, which seems to be just the book for which you enquire. It will' be ready in about three weeks, and may then be obtained on application to the Publisher of this journal.—W. H. Wood. Fertilisation of Orchids, by Darwin. Published by John Murray, Albemarle Street, London. Price 2s. 6d.—Orchid Review. This monthly periodical can be obtained from the Editor, Lawn Crescent, Kew.—Decorator. We do not know of any book obtainable on the subject of table decorations.—Nemo. A Dictionary of English Names of Plants, by William Miller, was published by Mr. John Murray, Albemarle Street, London.

CHRYSANTHEMUM HORACE MARTIN: J. S. This variety belongs to the early-flowering section, suitable for cultivation in horders out-of-doors. It is a sport from the variety Crimson Marie Masse, and the flowers are of deep rich yellow colour.

COLEUS THYRSOIDEUS: G. H. S. This new flowering species of Coleus may be raised from seeds, but after obtaining a stock, propagation by means of cuttings is easy enough, and this method gives excellent results. If you sow seeds, the present time is snitable for the purpose, and when sown let them be provided with a temperature at night of 60°, rising to 70° or so by day. In such an atmosphere the seeds will germinate freely. Old plants that have

passed out of flower should be rested in an ntermediate temperature until May or June, which will be soon enough to commence to propagate, as the plants grow very quickly.

W. L. Read above reply to G. H. S. You will have no difficulty in getting cuttings to make roots in May. A temperature of 50° at night is quite sufficient at present for the plants which have just flowered.

C PRIPEDIUM INSIGNE: F. W. T. The compost was charged with some manure or other substance containing much ammonia. We are not stance containing much ammonia. surprised that the plant is in ill-health. The best thing to do would be to remove it from the compost, wash the roots and repot in purer material.

- DESTRUCTION OF ELM STUMPS: Anxious Enquirer.
 It will serve no useful purpose to bore holes in
 the roots and pour paraffin into them, but if
 you use sulphuric acid in the holes, and repeat this occasionally, you will have no difficulty in breaking them up at the end of the year. stumps being already out of the ground, very great care would be necessary if you used dynamite, as portions of the roots would be likely to fly.
- DUBLE-SPATHED ARUM: W. D. We do not agree with you. We receive many such specimens. If another appears, try to fix it by sowing the seed, and ascertaining if the condition can be reproduced.
- E JCHARIS: H. S. The buds are attacked with the bulb mite. It has been found best in similar circumstances to burn the stock, and start with fresh bulbs. If you do this you cannot be too particular in throwing away all hot-bed material that may be in the house, and in cleaning every portion of the house as per-fectly as possible, so that the new stock may not be exposed to contagion.
- EXHIBITS OF ORCHIDS: E. T. Schedules are not always so explicit as they might be. It is not uncommon for them to contain a class similar to the one to which you draw attention—"Collection of Orchids arranged with any kind of Ferns or other foliage plants on a table 8 feet by 4 feet." We think that you should fill your table space with a collection of Orchids, and intersperse them with sufficient good Ferns to afford relief. It is impossible to say exactly how any particular judges would award the points in such a case, but it is safe to conclude that they would take into consideration the number of distinct varieties shown, the quality of the individual plants and flowers, and the general effect produced by arrangement. These are the points that should be kept in view by the exhibitora.
- Figura REPENS: J. S. This species will succeed best in very sandy loam with a little leaf-mould added. It is a greenhouse climbing plant, and may be used to cover a back wall or similar position.
- GARDENER'S EXPENSES OF REMOVAL: Journey-man. We do not think it is proper to take from your wages, the expenses that were allowed you four months ago, when coming to take up your situation. In the absence of an agreement the payment then made you was not upon the condition that you remained at the place for a certain time; but it would be, in the case of a domestic servant.
- GEOXINIAS: Anxious. Without knowing further particulars we are unable to assist you. The tubers are rotten and the roots dead. Have the tubers been kept in too low a temperature during the winter?
- GRUBS IN SOIL: H. A. M. The grubs you have ent are the larvæ of a small fly belonging to the Bibionidæ, several species of which live in the earth, feeding chiefly on decayed vegetable matter, and they often swarm in soil which has been heavily manured. It is highly im-probable that they had anything to do with the failure of the crop of Peas, but apply a dressing of lime and trench the ground.
- GRUBS FOUND IN CHRYSANTHEMUMS: J. W. The larvæ of the Ghost moth (Hepialis humuli), which are root-feeders. They have been introduced in the soil. The only remedy is to remove the soil and repot the plants in fresh

- HELIOTROPIUMS OR HELIOTROPES: R. H. "giant" Heliotropes we presume you giant" Heliotropes we presume you mean named varieties of this fragrant species. This being the case, you will not be able to propagate by seeds, as they would not all come true. To increase named varieties, it is usual to make cuttings from the young growing points in the spring or in August. If you have old plants and put them into a close, warm atmosphere, they will soon produce growths that may be used for this purpose. The cuttings will make roots easily in a pit having a temperature of 60° at night. When they have proted not them off singly into small have rooted pot them off singly into small pots, and repot them again when this is necessary. Let the rooting-compost be the same as recommended below for Ophiopogon.
- INSECTS ATTACKING CUCUMBER PLANTS: H. Y. Childs. The insects are two species of wire-worm belonging to the click-beetles or Ela-teridæ. They have undoubtedly been intro-duced in the compost. Beet-root, Carrot, or Rape-cake forms an attractive bait for these pests. The baits should be slightly buried. Your better course, however, is to clear out the old bed and make a fresh start; and if turf be used in the compost, see that it is not used from the outside of the stack. Fresh turn should on no account be used, unless it has been heated, as it harbours the insects.
- LEAVES OF CUCUMBER, SCHUHERTIA, AND BRUG-MANSIA: A. H. The leaf of Brugmansia has little the matter with it. The tiny spots lave been caused by Aphis. The immature Cucumber leaf arrived in a somewhat shrivelled condition, and it was only possible for us to see that it was much thinner in substance than it ought to be, and consequently would be an prey to disease. By proper ventilation and by washing the roof glass to allow more light into the house, endeavour to induce a stronger habit in the plants.
- MANURES: Chemicals. The manure described may be used for the plants in the stove, but be careful not to apply it in excess. Too little is very much better than too much. You do not make it clear what buds have failed to expand properly. Do you mean those of Ixomanda, Dipladenia, or Bougainvillea? Do you mean those of Ixora, Alla-
- MIGNONETTE: F. W. We are unable to discover any sign of disease, and believe your trouble to be due to some detail in the cultivation, such as excessive watering, &c.
- Mossy Lawn: C. C. If the lawn is in a very bad state it is probable that the grass is badly shaded by overhanging trees, or the ground is not provided with efficient means of drainage. he latter case the only permanent cure would be to provide such drainage, and make a fresh lawn by sowing seeds. But probably the moss is only troublesome in places, and the treatment may then consist in raking off the moss with a wooden rake, and affording a topdressing of fresh loamy, fine soil, with which you should mix a considerable quantity of wood-ashes and lime. Make this top-dressing moderately firm, and then sow seeds of lawngrasses. Later in the season the grasses should be encouraged to out-grow the moss by feeding them with nitrogenous manures.
- Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—B. R. J. Cymbidium Lowianum.—J. McC.: Sanseviera cymolatim Lowianim—3. McC.: Sanseviera zeylanica—T. R. B.: A very good form of Cattleya Trianæ.—G. J.: 1, Dendrobium × Ainsworthii; 2, Cypripedium (exul × bar-batum).—Zero. 1, Aloe saponaria; 2, Salvia; 3, Ficus repena; 4, Garrya elliptica; 5, Daphne Mezereum.
- Notice to Leave: Stenfold. If you are a journeyman gardener, one week's notice should. be sufficient, and we are unaware that it is necessary to tender your notice on a Saturday. Cannot you make arrangements agreeable to both parties?
- NEPENTHES LEAVES: J. R. The appearance of the Nepenthes leaves is not due to any fungus, but is an indication that they are suffering a check, probably due to the abnormal season and the absence of bright weather generally. Be careful in your treatment. Keep the tem-

perature steady and avoid draughts, and afford water carefully, always maintaining a suitable moisture in the atmosphere. Nepenthes similarly affected have with care quite regained their normal condition when the growing season has come round again. Nepenthes succeed best in a special house, where they can be given proper treatment without having to consider the requirements of other species of plants.

OPHIOPOGON: J. S. Pot the plant in a mixture of two-parts loam and one-part leaf-mould, and add half as much rough sand as leaf-mould. Cultivate the plants in the greenhouse. The roots may be divided in spring if you wish to increase the stock.

ORANGE: N. G. We are unable to name your specimen.

PANCRATIUM AND HIPPEASTRUM HYBRID: Hybridust. We do not see anything inherently improbable in such bigeneric hybrid as you suggest, but do not know of such a cross having been made. Mr. Worsley, of Isleworth, has attempted to cross Paneratium canariense, P. maritimum and P. zeylanicum with various species and garden forms of Hippeastrum, but without any result so far. Also vice versa, with no result whatever. We could probably tell whether hybridisation has taken place by looking at the alleged hybrid, even if not in flower at the time.

PANDANUS: Tudor. We find no disease. There has probably been some carelessness in watering. POTATO: Constant Reader. We cannot name the tubers at this late season.

SHOOT FROM APPLE-TREE: R. & R. This is a very bad instance of the effect of American blight or woolly-aphis. Wash the trees at once whilst still dormant with the caustic alkali solution prepared as follows :- Take a pound of caustic soda (commercial), and put it into a bucket half filled with water; taking care not to get a spot on your skin or clothes; then add delta the carbonate of potash to the liquid; stir this until dissolved, and dilute the solution to 10 gallons by adding water. Dissolve 10 oz of soft-soap in a little boiling water, and add this to the 10 gallons already prepared. Spray this over the trees on a dull day, when there is little or no wind, and take every care to prevent the spray blowing on to your skin or clothes. Such shoots as that you have sent should be cut off and burned before commencing to spray the trees.

VIOLETS: Enquirer. We cannot recommend individual firms, but you are not likely to meet with much difficulty if you apply for runners at a good nursery, choosing one where hardy-flowering plants are known to be cultivated. The variety Princess of Wales has very large violet-coloured flowers, but Princess Beatrice, California, and La France, are of nearly the same type. The fault of all of them, perhaps ia that they are too large, being like Pansies.

WHEAT PRICES: W. R. F. During the past ten years the highest price was in 1898, namely 34s. a quarter. In 1891 it was 37s. a quarter.

Worms in Lawns: C. C. (1) Dissolve $\frac{1}{2}$ an oz. of corrosive sublimate (Poison) in 15 gallons of water, and apply it over the lawn, and when the worms come to the surface sweep them up the worms come to the surface sweep them up If the fowls eat them they will be poisoned (2) If you mix a peck of freshly-made quick-lime in 40 gallons of water, allowing it to stand until clear, and then apply the liquid from a rose watering-pot, it will also serve to bring the worms to the surface. (3) You can obtain from Messrs. Cooper, Taber & Co. Ltd., 90 & 92, Southwark Street, London, S.E. a preparation known as "Chinese Worm Soap," which we have proved to be very valuable for the purpose, and easy of application. We have not used Residual Gas-water. not used Residual Gas-water.

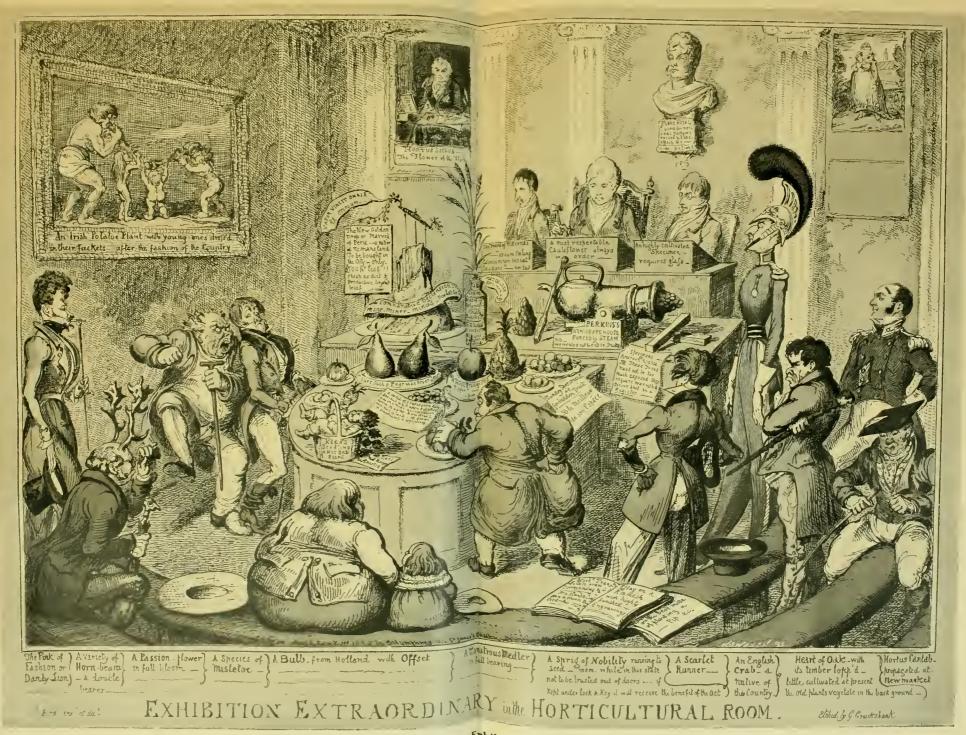
COMMUNICATIONS RECFIVED.—Sir T. L.—Louis Gentil—A. H., H. M.—T. E., G.—A. E. G.—W. E. G.—Old Tin—W. F.—A. S.—F. H.—J. B. P.—H., G.—B. H.—A. K.—Income Tax Adjustment Agency. Ltd.—Board o Agriculture and Fisheries—J. McD.—Ignorance—Constant Reader—A. A. Pettigrew—J. P.—A. Lee—A. W.—H. J. C.—T. W. W.—J. W.—A. K.—W. G. B.—H. W. W.—R. P. B.—Expert—F. S.—W. B. & Sons—R. W. D. J. C. T.—Justifiable Protection (you should have enclosed name and address, not necessarily for publication, but as a guarantee of good faith)—J. P.—W. M.—Attwood & Binsted—W. G.

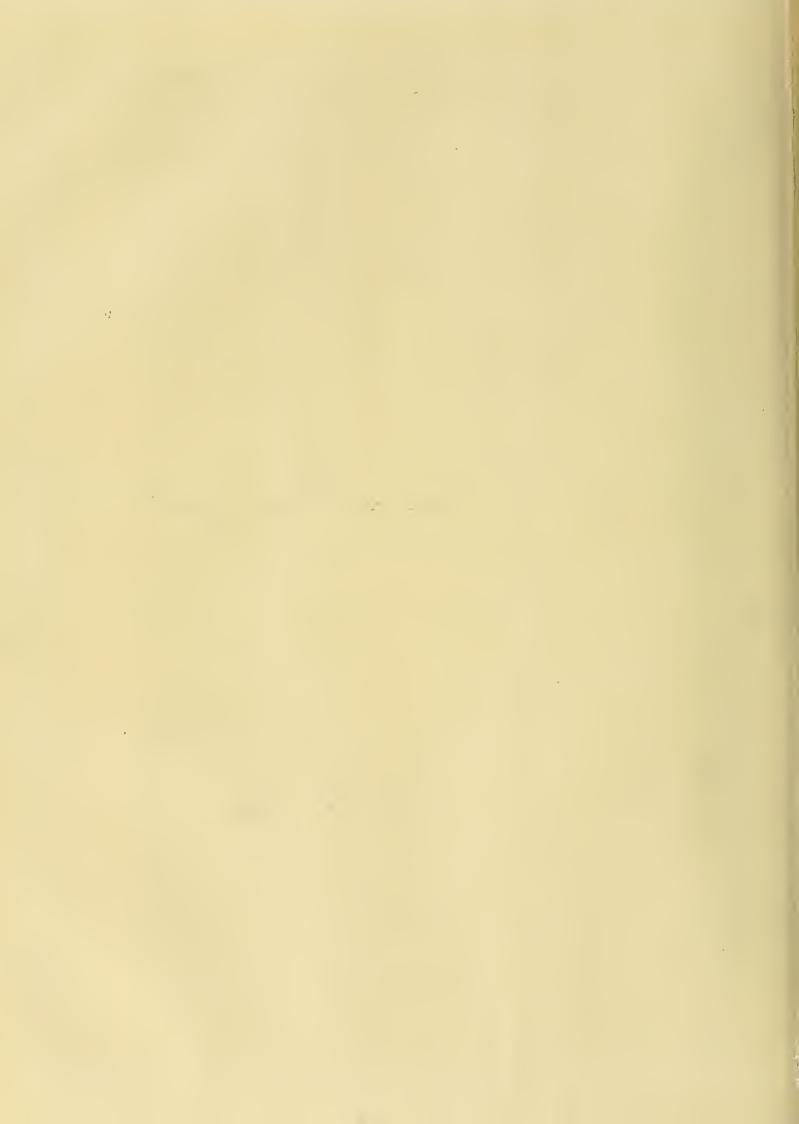




THE CENTENARY OF THE HORTICULTURAL SOCIETY.

Supplement to the Garden







Gardeners'

No. 898.—SATURDAY, March 12, 1904.

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NEW GARDEN WORMS.

IN some former articles published in these pages I have described certain of the earthworms which are found in our gardens and lawns. As these lowly creatures are of immense value and interest to the horticulturist, I feel it to be important that I should call attention to some new species which have recently been added to our lists. While on a visit to Oxford in the month of January, I had an opportunity of obtaining an introduction to the Curator of the famous Botanical Gardens. He at once placed himself at my disposal, and during the brief time I had at liberty we examined a few of the rubbish-heaps and the Lily-house for Annelids.

Among the species which were immediately forthcoming were half-a-dozen which I had already, some years before, recorded for Oxford-These included the sluggish green worm found under stones and near stagnant water; the little semi-aquatic worm known as Allurus, the red and purple worms, the long brown earthworm, and the striped Brandling. All these, with several others, are widely distributed in Great Britain, and are to be found in almost every garden of any dimensions throughout the country.

There were, however, among these familiar forms others, which, while they had all the character of English species, proved to be new to our catalogue. To these I call attention to-day.

The first is a worm which I think has most likely been observed in England before, but has not been distinguished as a distinct species. Like most other worms, it bears a considerable variety of names, but it is entered in Beddard's Monograph of the Oligochaeta, which is our standard work on Annelids, under the title Allolobophora cyanea (Savigny). He gives the following account of it. The length is 120 mm., the breadth 7 mm., and the number of segments 156. The girdle or clitellum extends from segment 29 to segment 34, and the tubercula pubertatis are on 30 to 33. The bristles or setæ are not strictly paired. The colour is dirty-grey, with a pale violet anterior. The other details which are supplied are technical, and do not help the reader to understand the appearance of the animal. I may, however, add that in the Oxford form the back of the girdle is smooth, each of the segments having entirely coalesced, though they remain distinct on the under surface. The length in alcohol is 31 inches. The male pores, which are found on the fifteenth segment, are seated on a swollen mass which affects the two adjoining segments. These appearances are

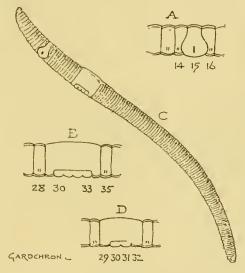


FIG. 67.-A NEW EARTHWORM.

A, B, c.—All represent Allolobophora cyanca (Savigny) **D.**—A. tepidaria, nov. sub-sp.

A.—A. cyanea (Male pore).
B.—A. cyanea (girdle).
C.—A. cyanea (diagram of entire worm).
D.—A. tepidaria (girdle).

A, B, and D are somewhat enlarged.

best understood by reference to the drawings and diagrams.

Much information respecting A. cyanea may be found in Rosa's Revisione dei Lumbricidi (Torino, 1893), and Ribaucourt's Etude sur la Faune Lombricide de la Suisse (Genève, 1896). It is found generally distributed in Europe, and is undoubtedly a genuine British worm. Now that attention has once been called to its presence in this country, one may readily believe that it will soon be found elsewhere.

In some respects the species which remains to be described is more interesting than the foregoing, because it is not only new to Great Britain, but seems to be also a sub-species new to science. It is most closely related to the Irish worm (A. hibernica), which is at present placed under the species veneta (Beddard, 713; Rosa, op. cit., 33; Ribaucourt, 42). That which distinguishes it from the type and the other sub-species is the fact that the girdle is limited in every specimen which I have examined to four segments (29 to 32), the tubercula pubertatis being on 30 and 31. It is, moreover, longer and more slender than hibernica, and when alive it differs from its congeners in colour. It emits a yellow colouring matter which is soluble in alcohol.

Although this interesting worm was found outof-doors, it was most abundant in the Lily-house in stiff soil around the roots of plants. On this account I think it might be well to name the subspecies tepidaria. The further details of its structure and appearance are better reserved for such journals as deal in the technicalities of science.

I may be permitted to express the hope that, as our English list has received these two additions, a stimulus may be given to those who are interested in natural history to try to add yet further to our catalogue of indigenous Annelids. Hilderic Friend, High Wycombe.

ORCHID NOTES AND GLEANINGS.

HYBRID DENDROBJUMS AT WOODHATCH LODGE.

WOODHATCH, Reigate, the residence of Mrs. Haywood, has for many years been known to the horticultural world, its late owner, T. B. Haywood, Esq., having gathered together splendid collections of fruit-trees, Chrysanthemums and Roses, as well as a very choice collection of Orchids. Dendrobiums form at the present time a very prominent feature, and the plants are exceptionally well cultivated by Mr. C. J. Salter.

These Dendrobiums are particularly strong and vigorous-growing plants, and many of them are among the most beautiful hybrids in cultivation. Some of the specimens surpass any I have seen before, and it would be difficult to find a had plant among them. The black "spot," so often seen upon the foliage of Dendrobiums, is altogether absent. The house has a lean-to roof, and the back wall is well furnished with Ficus repens, and this forms a splendid background for the plants now in flower. It is astonishing to see the grand specimens that have been grown from small propagated pieces. Many of these small plants have produced in one year three new bulbs, a considerable number of them over 2 feet 6 inches in height, and the two and three years old plants are undoubtedly examples of excellent culture. Several plants of D. splendidissimum grandiflorum and others of that type have from four to seven strong flowering pseudo-bulbs, carrying from forty to sixty flowers on each bulb. One particularly noticeable plant is D. Hildebrandti × D. Wardianum, with a growth over 5 feet in length carrying seventy-seven flowers, the latter being like some varieties of D. Wardianum. Very conspicuous and attractive is D. melanodiscus var. gloriosa one of the brightest coloured forms of the D. melanodiscus hybrids. D. m. Salteri is a lovely hybrid with bright rose-tinted flowers with white bases to the segments, the centre of the lip orange-colour with claret-coloured base. D. splendissimum Mrs. Haywood is a strong grower, and bears exceptionally large flowers heavily marked with purple lilac colour, with a dark maroon-purple blotch on the lip. D. Edithæ var. superba produces fine large bright-coloured flowers. There are also splendid specimens in flower of D. Ainsworthii, (Woodhatch variety); D. A. var. picturata (very distinct); D. A. var. intertexta with very fine blooms; D. nobile nobilius, D. rubens purpurascens, D. Cybele var. nobilior, D. Ballianum, D. Rolfeæ, D. Schneiderianum, D. Juno, D. pallens, &c. It is noteworthy that the leaves are all green, and of fresh appearance, being in perfect condition, and that in some cases there are as many as five flowers produced from a single node. It is unfortunate that Mr. Salter is unable to send a group of these splendidly cultivated plants to one of the Royal Horticultural Society's meetings, they would make a fine display, and at the same time give to Orchid lovers an opportunity to

see the results of Mr. Salter's care and patience in hybridising and successfully bringing to perfection such showy and new forms.

THE CULTIVATION AFFORDED THE PLANTS.

A few hints as to their culture may prove useful. The plants are potted when the young growths commence to push new roots from their base. The pots are provided with perfect drainage, and the compost consists of sphagnum moss, with a moderate quantity of coarse silver sand mixed with it. After repotting, the plants are kept fairly dry, but as soon as the roots are seen pushing through the new compost, the supply of water is gradually increased. No manure or manure-water of any kind is used. During the growing season the temperature of the house ranges from 75° to 90°, with plenty of atmospherie moisture, and the plants are kept well shaded from the sun. Air is admitted only from the top ventilators. About the end of August the blinds are removed, and the plants are exposed to full sunshine, at the same time air is admitted freely. From the end of November until February the temperature of the house is kept as near 60° as possible, and no damping-down is done, the plants being watered occasionally to prevent the pseudobulbs from shrivelling. At the commencement of February a little damping-down is done to assist the flower-buds to develop kindly; but when the flowers open it is again discontinued.

The other Orchid-houses contain many fine and interesting plants. A batch of Masdevallia tovarensis has recently produced over a thousand white flowers, which during the winter months are invaluable for cutting purposes. Miltonia vexillaria is represented by fine healthy plants. The same remarks are also applicable to such Phalænopsis as P. Schilleriana, P. amabilis, and P. grandiflora. The Odontoglossums are in good condition-a noteworthy fact when it is remembered that the majority of the plants have been on the place for nearly a quarter of a century. Among plants in flower are Epiphronitis Veitehii, Cœlogyne flaccida, C. ocellata. Lycaste cruenta. Chysis bractescens, &c. W. H. White, Burford Gardens, Dorking.

SIR FREDERICK WIGAN'S COLLECTION.

Time has proved that not only is there a very rich collection of Orchids at Clare Lawn, East Sheen, but that Mr. W. H. Young, Sir Frederick Wigan's Orchid-grower, is a most successful cultivator of them. The records of the plants in the Phalænopsis-house, where at present the principal display is to be found, show that a large number of the plants were acquired in 1888, new and fine varieties being added as they presented themselves. They have been allowed to flower profusely every year, and although they have been in better condition at some times than at others, they have made steady progress, and are at present as strong and vigorous as could be desired. This is attributed in some degree to the fact that on the last occasion when new compost was given them a proportion of decayed leaves was added to the sphagnum-moss, and the whole surfaced with good sphagnum-moss. A proportion of leaves is now being mixed with the potting material for most Orehids at Clare Lawn, especially for those which have hitherto proved not quite satisfactory, and with good results; but a watchful eye will be kept on the new venture, lest the improvement may be only the result of the change, and that later a reaction may set in.

Suspended from the roof of the Phalænopsishouse is a very fine representative collection, the greatest show being made by P. Schilleriana, one of which has a four-branched spike about 5 feet in length; the unique plant of the pure white P. Schilleriana vestalis is also showing bloom; and others noted were P. × easta, P. × leucorrhoda, P. Stuartiana varicties, P. Sanderiana

Wigan's variety, P. Boxalli, P. fuscata, P. Mannii, &c.

At the end of the house are two large specimens of Eulophiella Elizabethæ showing flower, two of the few survivors of the original importation; a small lot of Bolleas and Pescatoreas; some rare Cypripediums, including the fine C. callosum Sanderæ Jules Hye's variety, which is said to have at last eclipsed the original; a vigorous lot of the showy-leafed Hæmaria diseolor, and a collection of Vandas of the V. tricolor class. On the staging are a number of the warmhouse Cypripediums in flower, a batch of Miltonia Roezlii, old residents at Clare Lawn, one stout specimen dating back from the "Peacock collection" of many years ago. Several varieties of the elegant little Oneidium tetrapetalum were in flower, also Cypripedium × Gowerianum magnificum, C. x Eira, a pretty Chamberlainianum eross; C. × Statterianum, Saccolabium bellinum, two fine specimens of Phaius tuberculosus, the one with four and the other with three spikes, and many Cypripediums.

In the adjoining house, arranged as a rockery, and clad principally with Ferns, Ficus stipularis, &c., the enormous masses of Cymbidium Lowianum, which occupy the prominent situations, have still a goodly number of spikes on them, and in the cool range a fine collection of varieties and hybrids of Cymbidium are in splendid condition; three plants of C. grandiflorum having flower-spikes, one specimen bearing five. C. × Wiganianum, C. Devonianum (with seven spikes), good C. eburneum, C. x eburneo-Lowianum, C. Lowianum eoneolor, and others were remarked. Suspended from the roof the specimens of Lælia Jongheana, L. pumila, and L. Dayana promised well for flower; and with them was a strong tuft of the little scarlet Jamaican L. monophylla, a reputedly difficult plant to grow, but which has flowered well here annually for some years.

The next division of the same range has a collection of Masdevallias; a large specimen of M. ignea, the pale-yellow M. Hincksiana, M. ephippium, and some others being in flower. Also Maxillaria Sanderiana with seven buds, a very handsome new form of Zygo-Colax, and many Odontoglossums in bud.

In the Odontoglossum-houses were a great number of forms in bud and some in flower. Among those already expanded were some of the best type of O. erispum, O. × elegans, O. triumphans, O. luteo-purpureum and its variety sceptrum, O. Wilckeanum, O. Hallii, a number of O. Cervantesii, and O. Rossii majus, O. Oerstedii, &c. One fine specimen of O. polyxanthum had a very strong spike, and O. x ardentissimum and some good spotted Odontoglossums not in flower were in excellent condition.

Among species said to have been much benefited by the admixture of leaves in the compost were some grand specimens of Cochlioda Noezliana and C. vulcanica; also a batch of Miltonia vexillaria and M. x Bleuana, with many good forms in bloom, and which are now generally known to have a partiality for what is called leaf-soil. Other pretty plants noted in the coolhouses was a fine mass of Dendrobium Kingianum with many spikes, a very brilliaut Sophronitis grandiflora coccinea, the clear rose-coloured S. g. rosea, and some good pans of Pleione Wallichiana and P. lagenaria.

In a warm-house range was a collection of Sobralias, a fine lot of Cypripedium bellatulum, imported in 1895 and now large masses with very fine fleshy leaves; with them were C. bellatulum album, C. Godefroyæ leucochilum, C. niveum, and some of the hybrids of this section, all equally vigorous; and a large specimen of Aërides Vandarum, and a number of Cypripedium villosum

In the Cattleya-houses some of the forms of Cattleya Trianæ, including one very fine pure white variety, are in flower; also C. Percivaliana, C. × The Hon. Mrs. Astor, with very fine yellow flowers, and a few other Cattlevas and Lælio-Cattleyas are in flower; suspended overhead and making a good display are varieties of Dendrobium nobile, D. x splendidissimum, D. primulinum, D. signatum, D. × Clarense (signatum × Findlayanum), a neat hybrid raised at Clare Lawn, and with a great resemblance to D. Aphrodite (nodatum); the rare D. senile, with singular hairy pseudo-bulbs and pretty yellow flowers; D. suleatum, and various other Dendrobes and Lælia anceps varieties.

Other plants of special interest or remarkably well bloomed were the fine Zygopetalum : Roeblingianum, and its worthy companion, Z. × Sanderianum, a batch of Spathoglottis × aureo-Veillardi, with pretty yellow-and-crimson flowers; Stauropsis gigantea with a very fine spike, good specimens of Platychnis glumacea, the pretty pale-yellow Cirrhopetalum Makoyanum, a very pure white Dendrobium nobile album, good specimens of Coologyne cristata, Cattleya intermedia alba and nivea in bud, a batch of all the showy hybrids of Lælia Digbyana, and a good selection of the other handsome hybrid Cattleyas and Lælio-Cattleyas.

In regard to the show of Cattleyas of the C. labiata class, the summer-flowering varieties here give the best results, as the fogs and dull weather which militate against the winter and early spring - flowering kinds have not to be reckoned with. The varieties of C. Mossia promise a greater show of flowers than usual, one specimen in an 8-inch pot having eleven flower-sheaths, and others being extremely well set with flower-sheaths. J. O'B.

TREES AND SHRUBS.

ILEX PERNYI, FRANCHET.

THE most interesting addition that has been made to the evergreen Hollies for a long time is this species from Central China. First diseovered by the Abbé Perny, after whom it is named, about fifty years ago in Kiuchu, it was afterwards found by Dr. A. Henry in Patung, and has finally been introduced to cultivation by Messrs. Veitch through their collector, Mr. E. H. Wilson. Whilst it bears a resemblance to some of the small-leaved varieties of llex Aquifolium, it is perfectly distinct from all the Hollies we have in cultivation. According to Dr. Henry, it grows to 20 or 30 feet in height, but it is densegrowing and compact in habit. The leaves are small compared with the typical ones of our native Holly, but are similar in texture and lustre; they are 3 to 12 inch long, very shortstalked, and ovate-lanceolate in outline; the lower half of the leaf is armed with from one to three pairs of rigid, spiny teeth on the margin, whilst the terminal half is in the form of a narrow triangle with a spine-tipped apex. In texture the foliage is stiff and coriaceous; in colour it is a deep shining green. The fruit is globose and red.

PICRASMA QUASSIOIDES.

The natural order to which this tree belongs Simarubeæ, has a very familiar representative in our gardens in Ailanthus glandulosa, the so-called "Tree of Heaven." The Picrasma, however, is very rare. Personally I know of but one specimen, and this has been in the Kew collection since 1890. During the long series of droughty summers it never got properly established, but during the last two or three years it has grown well, and is now 6 or 7 feet high. As it promises to be an ornamental tree it will be worth while to give it brief mention in these columns.

It enjoys a wide distribution in a wild state and besides Japan-where it reaches as fa north as Yezo-it also occurs in Corea, Chin

Hong Kong, several provinces of North India, and even in Java. In the Flora of British India it is described as a large, scrambling shrub; but Prof. Sargent, in the Forest Flora of Japan, alludes to it as a slender tree, 20 to 30 feet high, with a trunk about 1 foot in diameter. Last summer the young tree at Kew was most noticeable for its neautiful bark; this is rich-brown on the young wood, thickly mottled with pale dots. The bark is very bitter, a small piece leaving in the mouth for a long time an intense Quassia-like bitterness. The leaves, alternately farranged, are pinnate, bout 1 foot long, with $4\frac{\pi}{2}$ to $6\frac{\pi}{2}$ pairs of leaflets.

plants than the English climate, and as the Picrasma survived the winter of 1894-95 at Kew, it may reasonably be deemed hardy. But whether it will acquire in this country the autumn beauty described above is doubtful. Frequent disappointment has led us not to expect too much in this matter. W. J. Bean.

EUPATORIUM PETIOLARE.

OUR illustration at fig. 68 represents a very pretty species of Eupatorium shown at a meeting of the Royal Horticultural Society on Feb. 23,

MARKET GARDENING NOTES.

MIGNONETTE.

Good Mignonette is always appreciated, but in the early spring it is most in demand, both for pots and cut flowers. When grown successfully it is a most profitable crop. For producing flowers for cutting the seeds should be sown in small pots about the end of February. Placed on a shelf close to the glass in a house where there is a little warmth, it will soon germinate. When the seedlings are well up, they



FIG. 68.—EUPATORIUM PETIOLARE, FROM SPECIMENS SHOWN BY MESSRS. H. CANNELL AND SONS.

The leaflets are ovate, obtuse, 3 to 4 inches ong, smooth and serrate. Our tree is too small to bloom, but the flowers are described as green, and of but little beauty. Professor Sargent says to most important quality as an ornamental tree is the beauty of its autumn foliage. "The leaves urn early, first orange, and then gradually deep carlet, and few Japanese plants which I saw are to beautiful in the autumn as this small tree, which, judging from its northern home in Japan, and be expected to flourish in our climate." This refers to the climate of Massachusetts, J.S.A., which is not more favourable for tender

when it was recommended an Award of Merit by the Floral Committee. The habit of the plant is rather lax, branching very freely, and producing flower-heads upon growths from every leaf-axil. Most of these growths, especially those from the lower part of the plant, need to be supported to a stake, but the upper ones are shorter, and quite stiff enough to be erect. The form of the leaves is shown well in the illustration. The flowers are pinkish-lilac and white, owing to the centre ones having a little colour before they expand. The species comes from Mexico, and appears to be new to cultivation.

may require a little thinning out, about four plants being left in each pot. It will depend a little on the weather, but if the plants show no sign of becoming drawn, they may remain on the shelf in warmth until they have made a good start, when they should be removed to a cooler position. They should be always near to the light, and if placed in a frame the lights may be taken off in fine weather, for Mignonette will always make more satisfactory growth in the open if the temperature is above 45° Fahrenheit.

For the earliest crop the seedlings may be planted out in shallow frames, or if in the open

ground some temporary arrangement may be made for protection on cold nights or in bad weather. Inverted pots may be sufficient for plants put out a little later. The ground should be well manured before planting, and a good dressing of soot will be beneficial as a manure, besides keeping slugs away. Press the ground firmly round the roots. Much depends upon getting Mignonette early in the spring, and anything that can be done to advance its growth should be done. If the weather be dry and windy, the lights may be kept on, and a sprinkling of water will help the plants; but in showery, warm weather they must be exposed. In good ground Mignonette may not require any stimulant, but if it is not making strong growth afford liquid manure.

Varieties.—Machet is now the general favourite for pot culture, and some growers also use this for providing flowers for cutting; but I have found Vilmorin's Grandiflora more satisfactory for planting out, the spikes being close and compact and very sweet-scented. It is not always that the true varieties can be obtained Most growers select and save their own seed, but when buying it will pay better to get seed from the most reliable source, even if the price is much higher. A. H.

TREE CARNATIONS FOR BLOOMING IN FEBRUARY.

Messrs. Cutbush & Son, of Finchley, although they do not grow the flowers for market, think they might be grown for that purpose at a profit, the culture being simple, and the fuel bill small, the plants only requiring sufficient heat to keep out the frost. When recently at their nurseries, I was convinced of the value of the variety Wm. Cutbush for market purposes. This is of a pleasing colour, strong in stem, and very fragrant. The well-known white variety, Mrs. S. J. Brooks, raised at Finchley, is doing well there, though the first flowers are over, and plants have been trimmed up for the second flowering. The firm have a very large demand for this free-flowering variety. G. H. Crane, brilliant scarlet, is very prominent. Mrs. Theodore Roosevelt, a new dark pink variety, is very conspicuous, and is being eagerly sought after. C. H. Curtis, just now in bloom, though rather smaller, is very strong in the stem.

EARLY MALMAISON CARNATIONS.

The variety Princess of Wales is in bloom at Finchley during about eight months of the year, being grown in cold houses with just enough fireheat to keep out frost and damp. This variety is of good size, and has many other points of merit. Princess May, deep rose in colour and of handsome shape, is also to be recommended. This variety, being so free, must be rigorously disbudded to secure fine blooms. Robert Burns, of a bright salmon colour, makes a very useful variety for early winter-flowering. Stephen Castle.

Out-of-doors or Natural Seakale.

This vegetable when grown naturally is nicer than when forced, and many people consider it quite equal to Asparagus. It is ready for use during March and April. Many market gardeners think that the cultivation is difficult, but it is one of the easiest crops to grow. The following method is most generally adopted in this district:—Procure the sets any time from November to January, and lay them in trenches in light soil, and by planting-time they will have formed crowns and be ready to start into growth at once, before the weeds appear. If preferred, the sets can be bought prepared ready for planting at a slightly higher price.

Prepare the land in the spring, digging in a good dressing of manure; and there is nothing better for this than horses' toe-nails from the blacksmith's shop. About the beginning of April the sets will generally have formed crowns. Work the ground down fine, and draw out drills

about $1\frac{1}{2}$ inch deep and 3 feet apart. In these drills plant the sets with a dibber, 16 inches apart, deep enough to be covered with an inch of soil when the drills are filled up. Nothing will be required after then except to keep the ground clean by frequent hoeings through the summer. In the following January or February, when the land will work well, dig out trenches between the rows, covering the crowns with about a foot of soil. As soon as the Seakale is through the soil, cut with a sharp spade about an inch below the crown.

When all the crop has been cut the beds should be levelled; new crowns will soon form, and the second season's growth commence, which will only require a dressing of artificial manure and frequent hocings. In the first year a row of Cos Lettuce may be planted between the Seakale, or any small-growing crop which will not remain long on the ground, such as Radishes, Spinach, or dwarf Peas. C. M., Evesham.

VEGETABLES.

CHOU DE BURGHLEY.

My experience of this useful vegetable this year is singularly unfortunate, as I have only 2 per cent. of the plants true to name. The others are a nondescript collection of rubbish resembling some of the Kales, and have not hearted. The seeds were purchased from a first-class firm, and I fear if others have been deceived in this way my old friend R. Gilbert's useful introduction will be soon lost altogether. By sowing seeds during the last week of June I expected to have a nice lot of heads like young Cabbages, ready to cut the first week in February, which is the chief merit of this vegetable when true to name.

SEARALE, BEDDARD'S IMPROVED.

This variety is a great advance on both the old red kind and the Lily-white. It is very much stronger in growth, and produces better "heads" when grown under the same conditions. Four days longer are required to force it than the older kinds, but this is no disadvantage, for the extra time may be easily allowed for at starting. W. H. Divers, Belvoir Castle Gardens, Grantham.

CARTERS' DAISY PEA.

So many satisfactory accounts have been given in these pages of this variety of Pea that it may seem superfluous again to write its praises, but having grown it for several seasons I can confidently recommend it as one of the best second early dwarf varieties at the present time. It is of robust growth, reaching nearly 3 feet in height last year, but in ordinary summers the plants do not get much above 2 feet, and are literally crowded with fine pods nearly 6 inches long, each containing from eight to ten fine Peas of excellent flavour. I have been much impressed by the length of time the pods will hang without getting dry, having saved the crop for seed. The pods are usually borne in pairs, and the raisers are certainly to be congratulated upon giving us such a good Pea. I advise those who have not yet grown this Pea to procure a quart of seeds from the raisers and sow as soon as the state of the soil will allow, and I will vouch for it they will not be disappointed.

POTATO SUPREME

is a most prolific variety in the garden here, and there has been very little disease in the past two adverse seasons. The tubers are of good size, thick pebble-shaped, with shallow eyes, and the quality when cooked is of the best. It forms a good second early, though retaining its good qualities up to quite the end of the year. Whilst not despising newer varieties, we ought to think twice before discarding favourites that have stood us in good stead for many years past. J. Mayne, Bicton Gardens, Devonshire.

NOTES FROM ISLEWORTH

FOR 1903.

(Continued from p. 132.)

Expansion of Flowers during Frost. — After seven consecutive days and nights of unbroken ground frost, on the last of which we had 6° of air frost, I found Iris histrioides expand its flowers in an air temperature of 33°. I do not think any British bulbous plant would open its flowers under such conditions.

EFFECTS OF MID-APRIL FROSTS ON SOME PLANTS.

All stone-fruit crops were lost, except a sprinkling of Nectarines on walls. The Pear crop was lost, and Apples carried half a crop.

Besides the disastrous effects on fruit-trees and Acers, I noted Asparagus (culinary) and Veltheimias cut down. Crinum Moorei, Camassias, various Iris, and Pelargoniums were severely injured. During this spell of frost the temperature in air never fell below 28°, and I have never known so little absolute frost do such vast damage. I think the long continuance of cold and the bitter Polar winds that blew at the time did the mischief.

SEEDLING CACTI.

On some forms the fruits will hang on for several years without rotting, simply undergoing a partial withering process; and it is by no means easy to tell the precise moment when the seeds have attained maturity.

Probably this has occurred when a vinous odour exudes from the fruit, for it would seem as though this was an invitation to eat it addressed to all and sundry. Inasmuch as reproduction is the main function of life, Nature would hardly precipitate matters by such allurements unless the object to be gained would be thus secured. On any other supposition we should be the witnesses of an abnormal tendency to embryonicide. In practice I have not sufficiently tested the relative germination and vigour of early-gathered and late-gathered seeds of Cacti, but I have made the following notes:-On a flat-stemmed, redflowered garden Cactus the fruit ripened in nine months, and a year after germination I found that 223 seedlings were alive from this single fruit. On one flat - stemmed, white - flowered plant, a night-bloomer (the flowers of which last two nights and one day in beauty, and are excessively fragrant), I fertilised on one week four flowers. One of these fruits ripened in nineteen months, two others in twenty - one months, and the fourth hung on for two years and seven months. In the last case the fruit had shrunk somewhat, and the seeds had lost that transparent envelope by which they are surrounded in the earlier stages of ripeness; but none of them had germinated in the fruit. The first fruit to ripen had fewest seeds (about 220), the others had about 350 to 400 seeds in each case. The fruits of both these Cacti are very sweet, with a strong vinous aroma, and a flavour something like an over-ripe Gooseberry. They are certainly edible, and are probably very sustaining food.

N.B.—Both these plants are called Phyllocactus in British plant-nomenclature, but as this alleged genus is founded upon nescience, it should be deleted.

Notes on Some Seeds, &c.

Jatropha podagrica.—This is an old inhabitant of our stoves, but is rarely seen outside a few botanic gardens. It is worthy of more extended cultivation, for its brilliant orange-red flowers are freely produced during the greater part of the year. I find no record of seed having been produced in English gardens, but this year it carried a seed pod at Isleworth. This was trillobate and carried one seed in each lobe. As is the case with an allied Euphobiaceous plant

(Euphorbia splendens), the casings of the lobes become very hard and woody, and (presumably by the contractile force of desiccation) finally curl up and discharge the seeds suddenly to some distance.

This violent dehiscence makes it somewhat difficult to secure the ripe seeds. These are nearly inch long and resemble the common Phaseolus vulgaris (French Bean) in general aspect. They are rounded on the outer side and flat on the two inner sides, being thus roughly three-sided. The rounded side is greyish-white and prettily spotted or marbled; the inner sides are dark brown with a distinct whitish line marking the point of contact of the seed with the placenta.

I noted this plant growing wild and flowering freely about Caney, near St. Jago (Santiago) de Cuba, in March, 1894 (vide my Notes on Distribution of Amaryllidea, p. 18-Wesley). It was here that the only important land battle of the Spanish-American war took place. It has also been sent to Kew from Panama. On germination the radicle extends quickly both upwards and downwards, and the upper part (caulicle) swells out to a roughly spherical shape, forming the true rootstock of the plant, the bulbous-shaped, fleshy mass of which forms an interesting study. The cotyledons remain on the plant long after their primary functions have ceased, and act as true leaves for a considerable time.

Tulbaghia violacea .- This plant stands the rains bravely, and flowers for some months without a break. Owing to the small size of the mauvepurple flowers it is necessary to plant closely to secure effect outside. The best plan is to establish well in pots and plant out as close as possible in May. This plant is of the same hardiness as Nerine, and flowers from June to the end of October. Each pod contains one or two black seeds, not much unlike those of Agapanthus. They are rough and irregular, about a quarter of an inch long by one-sixteenth wide.

Scilla hamorrhoidalis .- I gathered this in Grand Canary, flowering in December. The fruits turn bright yellow when ripe. A. Worsley, Feb., 1904.

(To be continued.)

OBSERVATIONS ON THE VEGETA-TION IN AN EQUATORIAL AFRICAN GARDEN.

(Continued from p. 131.)

THE vegetation of the elevated, well-drained grass tracts is quite interesting, and contains many effective garden plants. There occur here occasional small patches of forest-evidently outliers from that at the lake-the chief glory of which is a Bignoniad, Dolichandrone platycalyx, a tall, upright-habited tree when well developed, with broadly pinnate foliage and abundant clusters of Teconia-like flowers nearly 2 inches wide and $1\frac{1}{2}$ inch deep individually, and of a rich canary colour. It is a very fine sight indeed in its periods of bloom. The timber it produces is of quite first-rate quality, and a large local demand exists for it. Another Bignoniad is also found here, but is not common. It is Spathodea nilotica, likewise a large shady tree. Its flowers are brilliant scarlet in colour, and on the tree suggest the presence of some tropical bird of splendid plumage. The campanulate corolla is 4 inches or more across and 3 inches in depth; the woody seed - vessels — shaped like a quaint, sharp-pointed shoe—have a method of pointing skywards, and, protruding from the top of the tree, create a peculiar effect. Everywhere in Central Africa, on welldrained, and frequently on very dry, soil in open land, one finds members of the genus Erythrina, usually ungainly trees, but producing when in flower wonderful colour effects by the vivid scarlet spikes of bloom springing from the naked

branches. In the region under review, one of the showiest, E. tomentosa, is quite common. The timber of these trees is not of much account, but the bark seems to afford some medicinal product, which is extensively used by Central African natives.

In this region, on the inland edge of the lake forest, the genus Landolphia, from a garden point of view, is seen at its best. Here L. florida loved to convert the upper portions of tall trees into patches of glistening white with its handsome, fragrant flowers. It is a noble climber, and its rich green foliage forms a fine setting for the wealth of bloom it so freely and so often produces. Another species, probably L owariensis, has equally fragrant flowers, abundantly produced in terminal paniculate masses; but they are small individually, and not showy in colour. This species bears clusters of fruits, similar in size and appearance to a Tangerine Orange, which look very tempting. The fibrous pulp surroundgrowth was enormous, and although its debilitating effects were clearly evident, one could not fail to admire the fine floral effect produced. When out of flower it was quite possible tomistake this plant for a Ficus seedling, as it had small, roundly oblong, dark green foliage, somewhat felted beneath.

With regard to the dwarfer and herbaceous vegetation perhaps the most showy is a Vernonia, which formed broad patches amongst the lower grasses. It is about 2 feet high, of sturdy habit, and has purplish flower-heads changing to a whitish colour. It made quite a fine garden plant. A strong-growing Coreopsis, with abundance of rich yellow (inclining to orange) coloured flowers, was alsofound in grass. Often associated with this was a graceful Leguminous plant (Desmodium), withterminal, nodding masses of inflorescence composed of many small flowers of a pale-rose colour. A larger-growing species, D. Scalpe, is occasion-



FIG. 69.—VIEW NEAR THE LAKE SIDE IN AN EQUATORIAL AFRICAN GARDEN.

ing the flattened seeds is not to be despised; but the two species of small monkeys inhabiting the forest lay prime claim to most of the ripe fruits.

It is odd to find a member of such a well-known shrubby genus as Hibiscus developing a tendency to climb, yet H. furcatus, a common species in the eastern tropics, does so. The writer has observed some of its slender, armed branches up in climberclad trees to a height of nearly 20 feet. It has conspicuous yellow flowers, with a deep purple blotch, as large as a single Hollyhock.

A Mikania (close to M. scandens) is an extremely graceful and effective shrub in rather dry sunny positions. A good specimen suggested that pretty and loose effect which Plumbago capensis gives when in flower. This Mikania had corymbs of deep lilac-coloured flowers.

It may be remarked here that Plumbago was represented by the widely distributed P. zeylanica, which is a small shrub with pure white flowers. A Loranthus, bearing clusters of orangeyellow flowers in great profusion, is parasitic, often in considerable quantities, on a certain common tree with small foliage and a spreading habit. In some cases the mass of parasitic

ally met with. This forms a very handsomeplant when cultivated, and might be more frequently seen in our greenhouses. The ubiquitous-Cassia mimosoides, with remarkably finely-cut pinnules and pale-yellow flowers, is a charming little garden plant in rather dry, sunny places. Acanthus arboreus (Gardeners' Chronicle, 1902, p. 222), always groups itself in most effective positions, where it displays to advantage its handsome though prickly leaves and terminal spikes of bright rosy-purple flowers. It was found at its best on the higher, well-drained open land. Here, too, flourished a very fine Plectranthus (Labiatæ), with elongated panicles of bright lavender-coloured flowers. The plant forms a somewhat globose mass of foliage 2 to-3 feet high, which has a more grey than green tone, and emits a pleasant perfume when onebrushes past it. The flowers are almost constantly produced, and are most effective. At certain seasons the grass is freely dotted with the showy puce-coloured flowerspikes of a very pretty dwarf Tephrosia. Lissochilus arenarius, one of the finest of the African terrestrial Orchids, is frequently met with.

Ets flower-spikes were often seen 4 or 5 feet high; when well furnished with its large, light purplish flowers it is a very striking plant. It must be admitted it was found a difficult subject to cultivate even in its local habitat, for when lifted and replanted in the garden it re-establishes itself very slowly. It has a wide range of distribution in Central Africa. The other terrestrial species noticed were a long way behind it as showy objects. The epiphytic Listrostachys fimbriata, Rolfe, n.sp., is a fine Orchid. The flowers are produced in great profusion in long, graceful, drooping spikes. They are of a pale yellow or straw colour. L. Whytei has large flowers, not many being horne on a spike. The petals are pure white, and the spur is of considerable length, and brownish in colour. This species is not common, and was only known before from the Mlanji mountain range in Nyasaland. A very charming Crinum of small proportions is found in damp places. It generally bears but two or three flowers in the umbel. Another species has large handsome, pure white flowers. This we took to be a distinct form of C. giganteum; it was common in places inland. It is said the natives associate this species with a defunct king who had quantities of it planted extensively around his residence, and that consequently no native was permitted to injure the wild plants. If the legend is true it furnishes us with a rare instance of the untutored African native applying an indigenous plant to a purely decorative gardening purpose. M.

(To be continued.)

HARDY FLOWERING PLANTS.

PLATYSTEMON CALIFORNICUS.

This pretty little Californian Poppywort proves to be quite hardy here. Plants from seed sown last April flowered in due time, and were admired by many, chiefly, I suppose, for their distinct appearance, as they are of too modest a nature for those who admire showy plants only. The seeds ripened, and a quantity having been self-sown there are now some nice strong plants ready for the return of the summer sun to bring them into flower. It will be interesting to note if these are of larger stature because they were sown in autumn, as the Shirley and some other Poppies are. Plants raised from seeds sown in April are among those choice annuals worthy of a place among alpine plants, being quite in character with such species. W. H. Divers, Belvoir Castle Gardens, Grantham.

KEW NOTES.

DENDROBIUMS are well represented in flower at the present time, and notwithstanding the sunless season last year, the plants are flowering fairly well. D. Wardianum is making a fine display, included in which are several good varieties. D. luteolum is a rarer Burmese species, having primrose-yellow - coloured blooms, produced towards the end of the pseudo-bulbs. D. superbiens is also flowering, with its arched spike of reddish-coloured flowers, developed at the apex of the growth. D. nobile and its numerous varieties add greatly to the bright show. Amongst the named varieties of this species are D. n. nobilius, D. n. Cooksonianum, and the very pretty D. n. Sanderianum; there are also some very good unnamed varieties in bloom. D. Wardiano × japonicum is an exceedingly free-flowering hybrid, the flowers being almost white. The Australian species D. speciosum, which many fail to flower satisfactorily, is just now the feature of the cool Orchid-house; one specimen growing on a block of wood is carrying fifteen fine spikes. The delicate little D. sarmentosum, with its miniature growths, is also in bloom. D. Fytchianum, D. Johnsoniæ, D. Madonnæ, D. longicornu, D. Boxallii, and D. infundibulum are flowering. D. crassinode, with its curiously swollen joints, is a mass of beautiful flowers. D. Rolfeæ × is a charming hybrid between D. nobile and primulinum, having the soft primrose-yellow colour characteristic of the latter species. Amongst other species are D. aureum, D. primulinum, and D. lituiflorum; the hybrid Dendrobiums include D. × Ainsworthii, D. × Andromeda, D. × Juno, D. × burfordense, D. × Leechianum, and D. × Thalia. W. H.

BULB GARDEN.

FOUR NEW SNOWDROPS.

Among a number of hybrid and seedling Snowdrops, which I owe to the kindness of Mr. James Allen, whose painstaking efforts to give us new forms of several favourite bulbous flowers deserve even more appreciation than they have received, are those following:—

Virgin has flowers which must be described as small compared with those of many of the newer and some of the older Snowdrops. It differs from most of these, however, in being almost pure white, from the absence or nearly so of the green markings on the petals. It has not the long petals of G. nivalis poculiformis, but is a better grower than that beautiful but delicate plant.

Robin Hood is a beautiful hybrid raised by Mr. Allen, and a vigorous-growing plant with large, bold flowers and fine foliage. It is one of the free-growers and long-livers, as one may judge from the increase it has made, and from its healthy appearance.

Perfection is a very handsome Galanthus, with large flowers of great substance and with the petals cupped. Like the preceding it has strong foliage, and promises to be a good grower in suitable soil.

Acme is of dwarfer habit of growth than a number of Snowdrops, although not really a "dwarf." It has charmingly-formed flowers of an "ear-drop" shape, and of good substance. I have had this variety since 1901, and in that time it has increased well and has been quite healthy, although of course one never knows when the dreaded Botrytis galanthina may attack it. No Snowdrop seems proof against that destructive Snowdrop mould.

It is difficult to tell in words the differences between these four Snowdrops, but when growing side by side the distinctions are apparent. S. Arnott.

The Week's Work.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

The Sowing of Early Crops.-With a rainfall of 4:38 inches for February and 12° of frost on the morning of February 29, followed by 10° on the morning of March 1, it is difficult to know how best to proceed in regard to out-of-door crops. In most districts, however, it will be necessary to wait for better weather, especially if the soil be of a heavy nature, as this cannot under the circumstances be in fit condition for sowing seeds. But in order to obtain early crops seeds may be sown or plants put out into frames placed on a border. When the weather will allow, frames may again be moved to encourage other crops.

Rhubarb.—The ground for new plantations should be thoroughly well trenched and afforded a liberal supply of manure. After this has been done, take out holes 2 feet deep and 4 feet apart, putting in the bottom of each hole a quantity of manure. Make this moderately firm by treading, and then add a layer of soil, placing the roots on

this in such a manner that the crowns will be on a level with the surrounding ground. Work the soil and manure well in around the plant, making it moderately firm. It is better to place the manure conveniently near, so that the new roots will easily find it, than to put it actually in contact with broken or injured roots. When all is finished, afford a good mulching with manure. The stock may be increased if necessary by splitting up the crowns. In some instances these can be pulled apart easily, but where it is not possible, use the knife or spade, taking care not to make the wound larger than is needful. Much care should be exercised in respect to crowns which have been forced, as, being weaker, they are more liable to decay. Seeds of Rhubarb may be sown in September or October in drills, covering them an inch deep. Maintain a supply of Rhubarb for the kitchen by placing pots in an inverted position over the crowns out-of-doors, covering the pots with a few barrowfuls of stable-manure.

Globe Artichokes should be divided and planted towards the end of this month. Have the ground trenched and manured in readiness for them. Choose a well-drained part of the garden free from the drip of trees and well exposed to sunlight. To increase the stock, seeds may now be sown in boxes and placed in a house or frame having an intermediate temperature, until the seeds have germinated, and the plants have made rough leaves. They may then be hardened off gradually for planting out.

Peas.—Those raised in turves may now be planted out as soon as the ground is in a fit condition. Take out a trench wide and deep enough to admit the turves, which should be lifted off the slate carefully, and placed flat on the bottom of the trenches. Then work the soil well along the edges, and make it firm. Place short stakes along each row of plants, and on either side branches of evergreens to protect the young plants from winds. Autumn-sown Peas will also require protection. We have seen such Peas ruined by winds even when 2 feet high.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Imported Odontoglossums .- Judging from the enormous quantities of Odontoglossum crispum that were imported into this country during the past year, there must be thousands of plants just recovering from the severe ordeal of importation, and the consequent rough usage they received before the plants reached the growers' hands. Several of the plants here that were imported early in the season are now showing their flower-spikes, but they are not sufficiently well estab-lished to bear much strain, and it is advisable to remove most of the buds, leaving just one or two flowers to determine the variety. When the flower has opened and the variety is known the spike should be cut off immediately. The principal object then should be to grow the plant stronger each year until it has so thoroughly reestablished itself that it can produce strong flower-spikes without loss of strength. Even in the case of strong well-rooted specimens, it is the case of strong, well-rooted specimens, it is far better to cut off the spikes when the flowers have been open a reasonable time, than to allow them to remain on the plant until the pseudobulbs shrivel. Slugs and small snails like the young succulent spikes of Odontoglossums. a good plan to isolate the more hopeful-looking varieties by placing the plants on inverted flowerpots stood in pans kept filled with water; even with this precaution constant watching is necessary, and these pests should be diligently sought for every night and early morning. Baits of young Lettuce leaves, pieces of Potato, and bran are useful in clearing them out.

Plciones.—Immediately the plants of Pleione humilis and P. Hookeriaua pass out of flower they should be planted in shallow Orchid-pans, using a compost of peat, loam, and chopped sphaguum moss in equal proportions, with a sprinkling of coarse silver sand. Suspend them near to the roof ventilator in the cool house. Water sparingly until the growths are well advanced, when the supply may be considerably increased. Other

species of Pleione, as P. lagenaria, P. præcox, P. maculata, and P. Wallichiana, require to be grown in the Cattleya or intermediate house; they should also be suspended close to the roof glass. These varieties are growing rapidly, and water should be afforded in almost unlimited quantities. When the new bulbs commence to form afford the plants an occasional application of weak liquid cow manure. When the weather is warm and bright, syringe the under sides of the foliage with tepid rain-water two or three times a day.

Zygopetalum Mackayii, Z. crinitum, Z. Sedeni, Z. Perrenondi, Z. Clayii, Z. Burkeii, Z. brachypetalum, and others of that section that require fresh compost should be attended to at once, repotting them in a mixture of fibrous loam, peat, leaf-soil and moss in equal parts, adding a moderate quantity of coarse sand. Place them in a warm shaded corner of the intermediate-house.

THE HARDY FRUIT GARDEN.

Ву Н. Маккиам, gr., Wrotham Park, Barnet.

Figs.-Fig-trees in the more favourable parts of the country, whether on walls or as bushes, bear heavy crops of fruits, the variety Brown Turkey in particular. The soil for Figs should not be too rich, a firm, sweet, gritty loam containing plenty of chalk or old mortar-rubble, resting on a thoroughly well-drained subsoil, induces fruitfulness. The aim should be to prevent strong, sappy growths. Trees when planted and trained fan shape on walls facing south, and having their roots in a rich border of unlimited size, make too much wood. In such cases it is necessary to root-prune rather severely; pruning the branches would have little effect. Trees in narrow borders close to gravel paths seldom grow too strongly, and if the heads are allowed to grow at will usually fruit well, the wood being short-jointed and thoroughly matured. I have never seen better and healthier crops of Figs than in the gardens of J. T. Friend, Esq., Northdown, in the neighbourhood of Thanet, except at Falmouth, where I saw, two years ago, a tree growing as a standard and abundantly loaded with fruits in various stages of development. Thin out the branches of trees on walls sufficiently to prevent crowding, remembering that the leaves are of large size. Lay-in all the young fruiting wood at full length, it being on the young wood that the fruits are produced. The present is a good time to plant young Fig-trees, or the work may be done much later if the plants are in pots. Let the borders be well drained, and use the soil in a moderately dry condition, that it may be made pretty firm previous to planting. When planting pot-trees, shake away all the soil, and slightly shorten the very long roots. Lay-out and cover the roots at various depths. The weather has been very unfavourable, but if care be exercised, the planting of fruit trees may be successfully carried out for a few weeks longer.

Raspberry Canes .- Cut down newly - planted canes to within a few inches of the ground level, for they should not be cropped in the first season. The young canes which will spring up from the base should fruit heavily next year. A few of the double-fruiting kinds on permanent beds may also be cut down, preserving the young growths as they spring up for the production of a crop in autumn. Varieties which have been tied to stakes or trained on wires at full length may now be shortened more or less according to their length and strength, and any which untied should be secured as early as possible, as they are now commencing to grow.

THE FLOWER GARDEN.

By A. B. WADDS, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

The Rockery .- If it is intended to overhaul the rockery next month, suitable soil should be made ready for the different plants. Any vacant places that are to be planted may be dug up and new soil added. Clear away all decayed matter from round the plants. Some of the hardy Cyclamens are showing their flowers. These plants do not require a very damp position; they grow here on the ledge of a rock, planted in loam and cow-manure. Hepaticas, Iris, and Scillas are coming into flower. To protect them from sparrows stretch threads of black cotton or thread over and about them. Place a hand-light over Primulas coming into flower to protect them from

Hot bed for Annuals, &c .- This should be prepared now of fresh leaves and stable litter in equal proportions for use in a few weeks' time. When the bed has settled, add the necessary soil, and take care that such soil is made free from slugs and grubs. The bed will then be ready when required for use.

Bedding Plants. - Lobelia, Heliotrope, single Chrysanthemums (the variety Morning Star is one of the best), Phlox Drummondi, and East Lothian Stock may be sown now in boxes, and placed in gentle heat. Pot off all seedlings and cuttings directly they have rooted sufficiently. Old stock plants of Lobelias will now produce plenty of good cuttings, which I prefer to seedling. seedlings. Borders or beds that will be sown with annuals next month should be given a dressing of dung, lime, and soot, digging the ground and leaving the surface rough until wanted.

Dahlias .- Take cuttings of these when they are long enough. Pot them singly into small 60-size pots and plunge them in a hot-bed. Pot seedlings of single-flowered Dahlias as soon as they have made rough leaves.

Lawns, Shrubberies, &c.-The past week has been unfavourable for getting lawns ready to be rolled and mowed. They must not be rolled too long before they are mowed, or the worm casts will appear again and clog the machine. In previous years we have commenced to mow bere February, but the weather this season has hindered the work, and has, unfortunately, delayed returfing and planting operations. Where evergreens are to be planted next month, such as Hollies, Yews, Box, &c., trench the ground or make good-sized holes, and prepare fresh soil and material for planting and mulching. Trees and shrubs that were planted twelve months ago and still require supports or wiring, should be given attention. Remove the ties or bands and put the fresh ones upon a different position on the stem. Cuba bast is a good tying material for trees and shrubs, being soft, yet strong when twisted. Keep the soil for 2 feet around the stems of the trees free from weeds, loosen the surface soil, and apply a mulch.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Zonal Pelargoniums .- Where plants are quired to flower in winter, cuttings should be inserted now. Provide 5-inch pots with liberal drainage, and fill them with a sandy soil. Let about eight cuttings be inserted in each pot, and place them on a shelf or other position near to the glass in a temperature of 60°. much water until the cuttings have made roots. When they have become well rooted, place the cutting pots in a temperature of about 50°, to harden the plants, and at the same time pinch out the points of the shoots. After a few days the plants may be potted singly into small pots. As soon as these are filled with roots, transfer the plants to their flowering-pots, those 5 inches in diameter being sufficiently large for springstruck cuttings. A suitable compost for the final potting may be one of three-parts loam, half a part leaf-soil, and half a part rotten manure, together with a liberal quantity of coarse sand. Keep the plants in a light and airy house until the end of the spring, when they may be placed in a cold pit or frame. Towards the middle of the summer the plants should be stood on ashes in the open air thoroughly to mature the growth. Pinch the shoots once or twice, and continue to remove all flower-buds until a short time before the plants are required to flower.

Cordylines (Dracanas) and Codiaums (Crotons).-Plants which have become leggy may be utilised for propagation. Cut off the tops about 6 inches in length, and remove a few of the bottom leaves, cutting the base of each shoot back to apoint where it is not too hard and woody, otherwise roots will be made but slowly. Insert

the cuttings singly into small pots filled with loam and peat in equal parts, adding silver-sand. Press the soil firmly around the cuttings, and plunge them in the propagating-frame, or place them under a bell-glass in the stove. The plants may also be readily propagated by the process known as "ringing." To do this it is necessary toremove a few leaves about 5 or 6 inches below point of the shoot, and, using the knife, carefully peel off a ring of bark about 11 inch wide. A handful of sphagnum or other moss must then be placed around the stem where the bark was removed, and secured with matting. moss constantly damp, and after a few weeks the roots will appear, when the shoot should be cutoff the plant, potted carefully and placed under a handlight for a few days. Dracenas that need repotting should be afforded a compost of loam. peat, and leaf-soil in equal parts; while the compost for Codiæums may consist of three-parts loam, and one-part peat or leaf-soil, together with some silver sand.

Hot-house Blinds.—Have these put in order, so that they may be fixed without delay when the necessity arises.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Melons that were planted out early in February will now be showing fruit upon the first laterals. Should the plants be considered insufficiently strong, remove the fruit and stop the lateral back to the first leaf. Fruit will afterwards show on the sub-laterals, and this will afford an opportunity to secure an even crop of fruits over the area of the trellis. Supposing the trellis to be 6 feet high, stop the plants when they have made growth 5 feet long by pinching the point of the leading shoot. This will give strength to the plant and avoid waste of growth. There should be a bottom-heat of 80° to 85°, and when the plants are in flower the soil and atmosphere should be moderately dry, with a circulation of warm air passing through the house. Fertilise the flowers in the morning tunity to secure an even crop of fruits over the the house. Fertilise the flowers in the morning when the atmosphere is dry, and stop the shoots one joint beyond the fruit. If the plants are planted at distances of 2 feet, a crop of three fruits to each will be found sufficient. Fruits of the largest size have no special attraction. grown specimens of Hero of Lockinge and British Queen are good examples of what a Melon should be. In order to prevent canker or damping at the neck of the plants, I have for a number of years practised the system of planting recom-mended in a previous calendar. All water afforded the plants is applied directly upon the stem with satisfactory results.

Cherries .- When in flower these are so attractive that one is almost tempted to introduce them to the conservatory, where the conditions would be altogether unfavourable to the fertilization of the flowers. If fertilization has taken place the Cherries will be swelling at the base of the decayed flowers. Even if this be so, do not hurry the growth of the trees by the employment of high temperatures. Syringe the trees once only each day at present, doing this work in the forencen. Later on, when the weather out-of-doors is favourable, afford abundance of air and syringe twice daily. Pinch out the points of the shoots when they have made five or six leaves. Lightly fumigate the house at intervals. Keep a sharp look-out for grubs, which will be found rolled up in the leaves, and squeeze them between the thumb and finger. Maintain the temperature at night to 40°, or with ventilation to 50°. Fumigate trees placed under glass early in February and which are now unfolding their buds.

Early Figs in Pots.-It will be well not to over-crop these trees. Afford light top-dressings often, and if space is limited a layer of turves round the rims of the pots will prove of considerable assistance. When watering afford sufficient thoroughly to wet the roots, and afford occasional applications of liquid-manure and soot-water. Maintain a genial atmosphere by occasional and thorough syringing. Damp the paths and walls with liquid-manure. Admit air when the temperature of the house is 70°, which may rise to 80° at closing time.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WEITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents .- The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself re-sponsible for any opinions expressed by his correspondents.

4llustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, do.; but he cannot be responsible for loss or injury.

Local News .- Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapera. - Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

Birmingham Gardeners' Mu-tual Improvement Society tual Improvement Society meeting. United Horticultural Benevo-lent and Provident Society's Annual Meeting. MONDAY. MAR. 14-WEDNESDAY, MAR.16 Royal Botanic Society's Exhibition at Regent's Park.

THURSDAY, MAR.17 Eighton Horticultural Society meeting. SATURDAY, MAR 19 German Gardeners' meeting. Club

SALES FOR THE WEEK.

MONDAY and FRIDAY NEXT— Herbaceous Plants, Azaleas, Roses, Liliums, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 19 WEDNESDAY NEXT-

Roses, Palms, Greenhouse Plants, Perennials, Fruit Trees, &c., at 12 o'clock. At 3 o'clock, about 500 cases of Japanese Liliums, &c., at 67 & 68, Chesp-side, E.C., by Protheroe & Morris, — At 12 30 at Stevens' Roses, Fruit Trees, Magoolla grandiflora, Azaleas, Rhododendrons, &c. FRIDAY NEXT—

Imported and Established Orchids at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick - 42'6

ACTUAL TEMPERATURES :-

TOAL TEMPERATURES; —
 LONDON.—March 9 (6 P.M.); Max. 59°; Min. 41°.
 March 10, Gardeners' Chronicle Office, 41, Wellington Street (10 A M.); Temp., 45°; Bar., 30°2.
 Weather fine, cold; N.E. wind.
 PROVINCES.—March 9 (6 P.M.); Max. 52°, South coast of England; Min. 42°, East coast of England.

THE forthcoming "World's St. Louis Exhibition. Exposition to be opened next May at St. Louis will, doubtless, prove to be the largest Exhibition that has yet been seen, eclipsing as it does in magnitude and beauty of the buildings and the extent of the grounds the wonderful Exhibition at Chicago in 1893, and those held at intervals in Paris.

The Exhibition is well advanced towards completion, and, judging from illustrated accounts, it will be all that the Americans say about it. Besides the great buildings set apart for collections of international exhibits, it is customary in American Exhibitions to erect isolated buildings as special "pavilions" from the various States; and each foreign country builds a "pavilion" characteristic of its native architecture, and surrounded by a garden also characteristic of the style peculiar to it.

There will be at St. Louis pavilions erected by Great Britain, France, Germany, Austria, Italy, and other European countries, China, Japan, and other Eastern countries, as well as from the South American Republics. Great Britain will be well represented in its section, and the Royal Commission appointed last year, with the PRINCE OF WALES as its head, to represent this country, comprises a representative body of our leading men.

The Royal Commission, in its selection of a characteristic existing building in England for its Royal Pavilion, made choice of an interesting type. It was felt that the Banqueting Hall or Orangery of the Royal Palace of Kensington would be representative of English domestic building at one of its happiest periods, and would be a tribute to the memory of a great architect, Sir Christopher Wren, to whom, after INIGO JONES, we owe the distinctly English development of the Renaissance of Italy, by which the Gothic and Tudor methods of building had been superseded.

From this master's hand there was the wide choice of St. Paul's, Greenwich Hospital, and the many fine City churches; but in the Orangery of Kensington was found a building that could be strictly reproduced to its real size. With dignity and fine proportion it unites a pleasant homeliness and simplicity peculiarly belonging to English work. They forthwith commissioned Messrs. eighteenth century. Previous to this period, the large English mansion gardens were mostly in the Tudor style, and continued so during the troublous times of the Stuarts; but many a fine garden as well as house suffered at the ruthless hands of the Commonwealth leaders.

WILLIAM, Prince of Orange, brought over Dutch ideas of gardening, and it was he who introduced what was then and has since been termed "Dutch gardening." He introduced this style of gardening about the Royal residences, and it was not long before the fashion became established and general throughout the country. The Dutch landscape gardeners whom William engaged to carry out his ideas were soon followed by numerous noteworthy English practitioners in the art, so that during Queen Anne's reign a great impetus was given to this Dutch style throughout the country, to be followed later by a school of landscape gardeners opposed to the Dutch ideas of design; and in consequence many of the finest examples of the Dutch type of gardens were destroyed, to give place to what was termed the "natural" style, in which formality and "natural" style, in which formality and straight lines were replaced by irregularity and absence of symmetry.

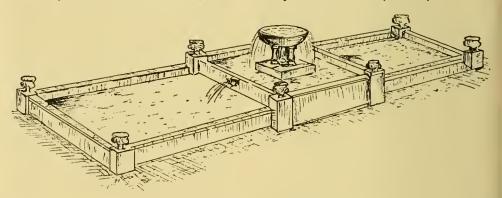


Fig. 70.—St. Louis exhibition. Sketch of Fountain, with Water Lily basin at either end. [See Supplementary Illustration.]

ERNEST GEORGE & YEATES as architects to reproduce a replica of this building, which is of red brick and white stone, and 170 feet in length. In the replica at St. Louis of WREN'S building, the only departure from the original is the introduction of an enriched plaster ceiling, such as would be found in a house of the period. On the south side of the building is a stone-paved terrace of corresponding size, and on this, no doubt, Royal groups have gathered above the quaint parterres, clipped Yews, fountains, lead statues, and other departed glories of Queen Anne's favourite garden. The work of building the Pavilion was carried out by Messrs. Trollope & Sons, of London.

Mr. W. Goldring, Kew, was appointed by the Royal Commission to design a garden to harmonise in character with the building, and he adopted in his plans a modified type of a formal garden of the period at which the banqueting-hall was built.

In the garden surrounding the Pavilion an attempt has been made to reproduce on a small scale the style of garden that was generally attached to the mansion residences in England during the reigns of WILLIAM III. and MARY, about the latter part of the seventeenth century, and at the time of Queen Anne, in the early part of the

The Queen Anne Gardens were a pleasing combination of the Tudor, Jacobean, and Dutch styles. Their characteristic features were stately terraces, shady avenues—or "pleached alleys," as they were called formal parterres enclosed by hedges clipped into shapes and embellished with topiary work, the forms of animals and birds cut out of Yews and Box.

This topiary work was distinctly a special introduction from Holland, and was at the time considered to be the highest form of art in the garden. The fashion became a craze, and was carried out to such an extent that it came under the scathing ridicule of Pope, and after that declined.

There are fortunately, still some of the most noteworthy examples of these Queen Anne gardens preserved in England, and the tendency at the present time is to continue the style, and a decided reaction has set in in favour of its re-adoption.

There is a charm about a genuine old formal garden that appeals to many people, and the idea of such a garden is shown in the British Royal Pavilion Garden, formed in six months, though the matured example would require six generations to perfect.

A water basin and fountain were always associated with an old garden, and generally the bowling-green and pleached alley were as inseparable from it as were stone and lead statues, urns and vases, which were generally admirable, though the making of these seems to be a lost art nowadays.

The long borders of old-fashioned flowers appeal to everyone in England, and the targe beds of simple outline are more in vogue than the embroidered parterres in the Italian style, that do not accord with the present prevalent practice of massing harmonising groups of colour.

The work of carrying out Mr. GOLDRING'S plans was entrusted to Mr. T. W. Brown, formerly of the Royal Gardens, Kew, and subsequently superintendent of the gardens of the Emperor of Morocco, at Fez; and he has carried out the work well under the disadvantages of restricted time and a severe winter climate.

EXPLANATION OF PLAN.
See Supplementary Illustration.

(Reduced one-half from the original plan of 16 feet to 1 inch.)

Description on line from C to D.

Bowling-green (sunk 1 foot 6 inches), shade trees behind.

Terrace (20 feet wide) with statues at end, surrounded by Yew hedges.

Pavilion, inner court with fountain and Palms. Terrace (24 feet wide by 100 yards long), with sundials at ends.

Fountain (90 feet long by 25 feet wide), centre basin 1 foot 6 inches above side basins.

Pleached alley of shade trees, raised 3 feet above general surface.

Flower-garden panels on each side of

Fountain (120 by 100 feet), sunk 1 foot 6 inches below general surface, and 3 feet below south terrace.

Design of panels outlined by clipped dwarf evergreen hedges.

Centre of panels of turf, paths around beds of paving stones.

Area of Garden (including Pavilion) about 3 acres.

The material for planting the garden beyond the trees and hedges has been contributed by the various firms in England, the chief exhibitors being the following:-Messrs. Cannell & Sons, Swanley, hardy herbaceous plants and seeds; Messrs. J. CARTER & Sons, High Holborn, bulbs and seeds; Messrs. J. CHEAL & SONS, Crawley, Dahlias; Messrs. Cutbush & Sons, Highgate, specimens of topiary work, clipt Yews, Box, &c.; Mr. J. FORBES, Hawick, Phloxes; Hobbies, Ltd., Dahlias; Messrs. Kelway & Sons, Langport, Gladioli, Delphiniums, and other plants and seeds; Mr. Amos Perry, Winchmore Hill, hardy herbaceous plants; Messrs. Sutton & Sons, Reading. Gladioli, Lilies, Narcissi, and other bulbs.

THE ROYAL HORTICULTURAL SOCIETY.—A congratulatory address from the Société Royale d'Agriculture et de Botanique de Gand has been received by us for presentation to the Society on a suitable occasion. The address is signed by Comte de Kerchove, and is very elegantly got up. The Ghent Society is only four years the junior of the Royal Horticultural Society, and, to say nothing of its ordinary exhibitions, its quinquennial celebrations have a wide-world reputation. A similar address from the Prussian Society has also been announced.

THE ROYAL BOTANIC SOCIETY OF LONDON has just completed arrangements for a grand Horticultural Exhibition to be held in the

gardens of the Society, Regent's Park, London, from June 6 to June 11 inclusive. Conferences and lectures on many subjects connected with gardening will be held during the exhibition. The prizes will comprise medals-gold, silver-gilt, silver, and bronze; cash prizes and diplomas. Bands will play during the afternoon and evening, and the gardens will be illuminated. The horticultural section will include exhibits of plants, flowers, fruits, vegetables, seeds, &c.; forestry, market gardening, horticultural buildings, implements, &c. An interesting section is promised under the head of "Colonial," comprising fruits, vegetables, &c., grown in the Colonies. There will be competitions in table decorations, and the decorative uses of flowers. The first of the monthly floral exhibitions will take place on Wednesday next.

LINNEAN SOCIETY.—The next meeting of the Society will be held on Thursday, March 17, 1904, at 8 p.m. Paper: Mr. A. W. WATERS, F.L.S., "Bryozoa from Franz Josef-Land." Exhibition: Mr. F. ENOCK, F.L.S., Natural-Colour Photography of living Insects and Flowers. A ballot will be taken in respect of Mr. John Lewis Bonhote as a Fellow.

BOTANICAL MAGAZINE.—The March number contains coloured illustrations and descriptions of the following plants:—

Oldenburgia arbuscula, de Candolle, tab. 7942.

—A South African Composite of striking appearance, figured in our columns at p. 9, fig. 4, of the present volume. Hort. Kew.

Tanakwa radicans, Franchet and Savatier, tab. 7943.—A Japanese plant allied to the Saxifrages, with long-stalked radical ovate, green leaves, with a reddish serrate margin, and an erect panicle bearing numerous small white unisexual flowers, in appearance like those of an Astilbe. By a misprint it was called Janakea in our columns, 1903, i., p. 209. Hort., Beamish, Cork.

Kirengeshoma palmata, Yatabe, tab. 7944.—A very remarkable and attractive Japanese plant allied to the Saxifrages, with palmately-lobed leaves, the lobes acutely toothed, and with loose cymose panicles of funnel-shaped yellow flowers, each about an inch in diameter. See Watson in the Gardeners' Chronicle, ii., 1903, p. 187; Garden, ii., 1903, p. 245. Hort. Kew.

Solanum glaucophyllum, Desfontaines, tab. 7945.—An erect shrub, native of S. Brazil and Uruguay, with glabrous, shortly-stalked, lanceolate leaves, and terminal cymes of numerous bell-shaped lilac flowers, each about 1 inch in diameter, succeeded by oval purplish berries. It is a very elegant species, long cultivated at Kew, but still little known outside botanic gardens.

Megaclinium platyrhachis, Rolfe, tab. 7946.—An Orchidaceous plant, native of British Central Africa. Like other species of the genus, it is remarkable for its flattened leaf-like flower-stalk, from the centre of which emerge in linear series the numerous small flowers characteristic of the genus. Hort. Kew.

"FLORA CAPENSIS."—We are glad to note the issue of Vol. IV., Sect. II., of the Flora Capensis, edited by Sir William T. Thiselton Dyer. The present section deals with Hydrophyllaceæ, Boraginaceæ, and Solanaceæ, by C. H. Wright; Convolvulaceæ, by J. G. Baker and C. H. Wright; and Scrophulariaceæ, by W. P. Hiern. It may be noted that under the Kalahari region are included the Orange River and Transvaal States.

AN ENGLISH GARDENER IN GERMANY.—Mr. J. S. Tonn, late gr. to Count Hahu, Basedow, Mecklenburg, Germany, and formerly in the gardens of the Duke of Sutherland, at Trentham, has been appointed gr. to His Serene Highness Prince Henry of Pless, Fürstenstein, Silesia, Germany.

PRESENTATION AT LEEOS.—On the occasion of the Annual Social Dance in connection with the Leeds Paxton Society, on March 2, when 150 members and friends were present, a presentation of a gold Albert chsin, with a gold medal attached suitably engraved, was made to the Chairman, Mr. William Moore, gr. to H. J. Bowring, Esq., Gledhow. This was subscribed for by the members of the Society in recognition of Mr. Moore's valuable services during the past nine years as their Chairman.

THE WINTER'S SUNSHINE.—The table below shows the total amount of sunshine that has been experienced at twelve representative stations in Great Britain during the three months December to February. The great difference between the number of hours of sunshine on the south and south-west coast and that in the great cities is very striking and particularly interesting to the gardener. The number of hours recorded during the past winter was in every case less than the average.

Falmouth ... 155 hours. Oxford ... 108 hours.
Scilly Islands 143 ., Aberdeen ... 69 ...
Jersey ... 146 ., London ... 66 ...
Southampton 140 ., Birmingham 63 ...
Bath 118 ., Manchester ... 37 ...
Cambridge ... 115 ... Glasgow ... 34 ...
Harrogate ... 110 ...

GERMAN HONOR CONFERRED ON AN ENGLISH GARDENER.—On the occasion of the German Emperor's birthday, His Majesty conferred on Mr. E. W. GILBERT the order of the House of Hohenzollern. Mr. GILBERT was formerly in the gardens at Trentham, and also in the gardens of Her late Majesty at Frogmore.

PROPOSED GARDENERS' ASSOCIATION.—At a meeting of the Provisional Committee held on March 9, it was decided to arrange for a public meeting of gardeners, to be held in London on the second day of the Temple Show (June 1), when a scheme for a National Association of Professional Gardeners will be submitted for approval. It was also decided to ask for donations to enable the Committee to print for circulation all over the country a pamphlet setting forth the main objects for which the Association is to be formed, and the advantages of co-operation and registration. Donations should be sent to the Secretary protem., W. Watson, Descanso House, Kew Road, Kew.

EXTENSION OF FRUIT CULTURE. — A correspondent writes: "An important meeting was held in Edinburgh on February 23, when Mr. Hodge, of Blairgowrie, met a representative gathering of horticulturists to confer with them on the extension of fruit culture, and the means of removing any hindrances to its progress. Hodge is a lawyer, and the Board of Agriculture representative of the Fruit Committee of the Board. In his remarks he proved himself to be intimately acquainted with the subject. His remarks on Raspberry culture in Blairgowrie, where that fruit is extensively grown, were most interesting, and suggested the thought that commercial ends might be best met by adapting the crop to the climate and the soil. Mr. GEORGE SINCLAIR, The Orchard, Preston Kirk, where he tenants a mixed market garden, and is also a lecturer in the Heriot-Watt College and the Royal Botanic Gardens, Edinburgh, was appointed by the meeting to represent the interests of the Edinburgh district before the Departmental Committee in London. A curious development in the flower trade has been effected in Edinburgh by the street merchants. Several months ago a number of lads combined and formed a kind of trading company to purchase flowers and distribute them to members. Purchases are made in the cheapest market-that is to say, if flowers are cheaper in Newcastle than in Edinburgh on a given morning,

their agent in Newcastle is advised to purchase and consign what is required, and an equal division of the goods is made as soon as they arrive in Edinburgh. It is a pretty sight to see at every few yards along Princes Street one of the lads with his portable flower-bench suspended from his neck, and every one of them exactly alike as to quantity, quality, and variety of flower."

STOCK-TAKING: FEBRUARY.—According to the Board of Trade Returns for the past month the figures for both imports and exports show an improvement. The total imports are placed at £44,110,519, against £40,560,585—a difference in favour of the past month of £3,549,934. Our summary figures read as follows:—

IMPORTS.	1903.	1904.	Difference.
Articles of food	£	£	£
and drink—duty free	7,922.377	8,617,536	+695,159
Articles of food & drink—dutiable	7,425,996	8,399,236	+973,240
All other Imports	25,212,212	27,093,747	+1,881,535

It will be remembered that people fighting, or about to do so, are ever in want of funds; that we are approaching Budget times, and that harvest prospects are being discounted—prices inclining upwards (as per "Corn Average" reports). There have been endeavours to make "corners" on Wheat, but they do not appear to have succeeded as yet. Fruit prospects are looking up, as noted below; but firstly we have other imports of fruit, roots, and vegetables:—

IMPORTS.	1903.	1904.	Difference.		
Fruits, raw-	Cwt.	Cwt.	Cwt.		
Apples	258,604	347,121	+88,517		
Apricots and Peaches	72	1 034	+ 962		
Bananas bunches	173,142	163,439	-9,703		
Grapes	1,196	477	-719		
Lemons	63,553	90,735	+27,182		
Nuts-Almonds	10,551	8,561	-1,990		
Others used as fruit	18,919	21,510	+2 591		
Oranges	863,344	737,661	-125,683		
Pears	1,920	1 263	-e57		
Plums	200	377	+177		
Unenumerated	6,360	6,310	-50		
Vegetables, raw-					
Oolonsbush.	670,591	750,095	+ 79,504		
Potatos ewt.	196,483	991,803	+795,320		
Tomatos ,,	41,376	37,122	-4,254		
Vegetables, raw, un- enumeratedvalue	£ 37,699	£39,553	+£1,854		

A somewhat rare phenomenon in London streets is the sale at kerb-stalls of several classes of Peaches. South America and South Africa are in competition, and we have Peaches selling at $1\frac{1}{4}d$. each and up to 3d. The business done seemed good. Since our last note here on the subject of Cape fruit supply, we have received notification of the arrival of four steamers from Cape Town with Plums, Peaches, Pines, Grapes, &c., apportioned as follows:—Plums, 8,034 cases; Peaches, 5,528; Pears, 2,066; Nectarines, 786; Apples, 32; Grapes, 11; Pines, 22; grand total, 16,489 cases. The Orient Company send us information respecting Tasmanian and Australian Apples now at sea, to the amount of 51,000 cases. The value of the imports for the past two months was £90,243,039; against £86,787,100 for the same period in 1903—a difference of £3,455,939.

EXPORTS,

The value of exports for last month was £23,894,813 against £22,775,436, a difference in favour of last month amounting to £1,119,377. This aspect of

things is somewhat clouded over by the twomonth comparison. Thus the two past months total up £47,978,178; the total for the same period in 1903 is £47.679,072—the difference (plus) falling to £299,106, but it is a difference on the right side.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

CROCUS CHRYSANTHUS AND ITS VARIETIES. —In Crocus chrysanthus and its varieties we have a series of flowers of much diversity of colouring, and varying much also in size. None of the other species seems to vary so much in colour as this, and were it taken in hand, as C. vernus has been for many years, we might have an almost endless array of pretty and valuable early flowers. We all know how rich is the wealth of colour and marking which has come from C. vernus; but the gamut of colour has not such an extensive range in this species, while some of the forms of chrysanthus are of tiny size to begin with, and might be induced to give us a set of Lilliputian Crocuses as the antithesis of the manmoths among the forms of the Dutch Crocuses. All have a place, and these miniature flowers would stand the rude weather of spring better than the great flowers of the larger forms. This remark is not intended to disparage the larger Crocuses, but to be suggestive of future developments possible among these charming flowers of spring. What may be taken as the type form of C. chrysanthus comes from the type form of C. chrysanthus comes from the neighbourhood of Smyrna, is of a deep, rich orange colour, and of medium size, the segments of the perianth being about 1½ inch long. Sometimes the outer segments are feathered or suffused with bronze, a feature strongly marked in some of the varieties. The filament is orange, as are also the anthers, while the style divides at about the level of the while the style divides at about the level of the anthers into orange or yellow stigmata, variable in shade and size. The leaves reach to the level of the flowers, and are about 10 inches long at maturity, while the corm is rather like that of C. biflorus. Mr. Maw includes the species with his nudiflori and annulati. C. chrysanthus is an early bloomer, February being its usual time of early bloomer, February being its usual time of opening in average British gardens; but such varieties as C. c. fusco-tinctus and C. c. fusco-lineatus often open early in January with me. These two varieties are charming little plants, with small flowers of great beauty, bright orange-yellow in the interior, and marked with bronzy-brown on the exterior. Fusco-tinctus is suffused with this colour, while fusco-lineatus is more lined in its bronzy colouring. They vary somewhat, however, in these respects. In C. c. albidus we have a pretty white variety, but suffused towards the base of the flower with yellow. It is a pleasing have a pretty white variety, but suffused towards the base of the flower with yellow. It is a pleasing but somewhat scarce form. Mr. Maw also figures two varieties named var. corulescens, the one of a pleasing lulac-blue and yellow towards the base, and the other white with a bluish or lilac mark running from the base of the flower halfway up the segments, the greater portion of the base being yellow. Then there is another form of C. c. albidus with a blue base. Two newer varieties are Canary Bird, a pleasing Crocus with rich yellow flowers, and with the attraction of a rather pleasing sweet odour. One of the latest varieties to be offered is C. c. superbus, a very handsome form with rich or the latest varieties to be offered is C. c. superbus, a very handsome form with rich orange-yellow flowers, which are increased in beauty by the handsome scarlet stigmata. Not all of these varieties are readily procurable from the bulb trade, but the greater number are. Canary Bird, albidus, and superbus are the most expensive, but the type with the varieties. expensive; but the type, with the varieties fusco-tinctus and fusco-lineatus, are of a moderate price. S. Arnott, Carsethorn-by-Dum-fries, N.B.

PLANTS FOR BOMBAY.—If "H. K." will apply to M. J. Sallier, Horticulteur, 9, Rue Delaizement, Neuilly-sur-Seine, he will be able to procure Astrapæa Wallichii, Dombeya Cayeuxii, and other plants suitable for the climate of Bombay. L. B. Makowski, West Brayton.

CURIOUS PEST IN GARDEN.— If your correspondent "A. S. H," Dublin, p. 156, will strew sufficient fresh soot over the grass on his flewergarden and tennis-lawn while damp to discolour the whole surface, it will probably produce the desired effect by eradicating the pests complained of, and rendering the grass and ground distasteful to the lodgment therein of future colonies of the insects. I can fully sympathise with "A. S. H." some members of my family having had a similar experience last summer and early autumn. In addition to the surface-dressing of soot resulting in the probable eradication of the insects located in the short grass of flower-garden and tennislawn, it will greatly improve the condition and appearance of the grass itself by imparting renewed strength and vigour to the roots, and arich dark-green shade of colour to the young growth. So far as my experience goes soot is easily obtainable in the neighbourhood of any town of ordinary size at from 5d. to 6d. per bushel—money well spent by any householder in possession of garden and field-land, seeing that soot is apowerful fertiliser and purifier of the soil. The soot should be passed through a fine sieve and then distributed over the grass as evenly aspossible. H. W. Ward, Limehouse, Rayleigh.

— In this district of Cambridgeshire the same pest is very prevalent during the months stated by "A. S. H." They are to be found in the grass, trees, hedgerows, and even in the house, being apparently carried about by the wind. In appearance they resemble red spider, scarzely to be seen with the naked eye, but when examined under an ordinary lens, they are orangered in colour. We have tried various means as a preventive against the bites of this pest, but nothing seems to reach them or to prevent usfrom being bitten by them, as they work in under the skin (which can be proved by pinching the flesh immediately after being bitten, when the mites may be ejected). We have tried rubbing the body with Eucalyptus oil, ammonia, vinegar, &c.—these simply allay the irritation for a time. The mites do not trouble all persons alike, as I have known men when fruit-gathering not to betouched by them, while others have been covered with bites; and I have known persons to be badly bitten who have not been outside the house. I should feel greatly obliged for information respecting the life history, &c., of this minute insect. A. E. S., Meldreth, Cambs.

STRAWBERRY BEDS.—I cannot agree with your correspondent, Mr. Jefferies, p. 139, as to-digging between the rows in Strawberry beds. Supposing the manure was only buried two-inches under the surface, the plants would makenew roots in the manure and freshly upturned soil, but in the decomposing of the manure and settling of the soil, it would be found that the roots were little over an inch underground, so that when again digging the Strawberry beds, the roots must be destroyed. I have just examined the beds in these gardens to see how far they would bear out my statement, and find masses of roots at an inch from the surface; had I dug amongst these in the autumn, the crowns must necessarily have been weakened. I have never had any trouble with water standing in the rows, as the ground is in no way puddled, and in dry weather the strawy litter placed between the rows for the purpose of keeping the fruits clean, helps to distribute the water, when watering has to be done, also prevents cracking. If the soil in Strawberry beds requires to be loosened, what a great mistake we must all make by ramming the soil so firmly in potting Strawberry plants for forcing! Mr. Jefferies must have plenty of space for Strawberries at his disposal. J. Stocks, Fen Place Gardens, Turners Hill, Sussex.

— How does Mr. Jefferies conclude that the placing of a thin covering of short stable litter over a mulching of decayed manure from 1 to 2 inches thick, beaten down evenly with the back of a fork before and after applying the litter in January or February, when the weather permits of its being done, is injurious or stiffing to the plants? Has he ever experienced any injury to the plants from that cause, or is it merely an assumption? If it has a stiffing effect, why should it not be equally so when applied a few weeks after-

wards? Why should this thin layer of straw harm the plants more than soil, which he so strongly advocates? The litter is not intended to be beneficial to the plants, but to save further time and trouble, and in due time to protect the fruits from any objectionable matter. The digging or sorking of manure into the ground 2 inches deep in midwinter, disturbing, breaking, and damaging a portion of the roots when the land is cold and wet, to be followed perhaps by heavy falls of

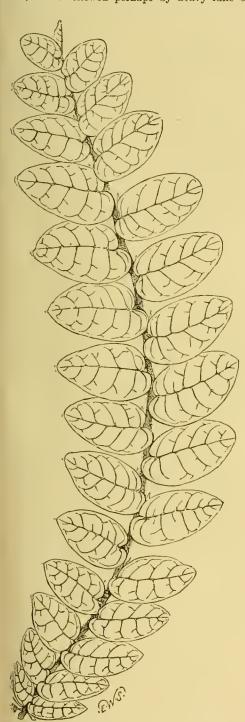


FIG. 71.—ORDINARY FOLIAGE OF CREEPING FIG, FICUS REPENS.

snow, during which time the broken roots lie practically dormant, is a practice I cannot advise. Water when applied through the water-can or garden-hose is not more evenly distributed if the tand has been previously mulched, than is the case when applying it direct to a dry loose surface. H. Markham.

SPHAGNUM-MOSS IN ORCHID-HDUSE. — Referring to your correspondent's enquiry respecting sphagnum-moss in Orchid-houses (p. 155),

I do not think that sea air has anything to do with this trouble. I have known one or two cases where soft water was scrupulously used for watering Orchids, but it was still found impossible to grow healthy sphagnum. The cause was eventually found to be in the too free use of lime-wash and whitening for shading, which in a rainy season found its way in sufficient quantities to the water-tanks to kill the sphagnum. Perhaps this hint may help your correspondent. Chas. E. Pearson.

FICUS REPENS was planted in the conservatory here about thirty years ago upon a north and east wall, and for over twenty years retained its original and well-known character. Some eight or nine years ago, however, one of the plants developed, at about 14 feet from the ground, a quite distinct and robust character, with ovate or egg-shaped leaves, beautifully ribbed and veined on the under-side. In this respect it resembled F. repens, but the leaves being nuch

Obituary.

EMILE LAURENT .-- As was announced in a recent issue, M. E. Laurent, the Professor at the Agricultural Institute of Belgium, at Gembloux, died suddenly, on February 20, between Accra and Sierra Leone, on board the Albertville. on his return to Europe. His career at the School of Horticulture at Vilvorde was marked by great distinction, and as soon as his studies were terminated he was nominated Professor in that establishment. Far from allowing himself to be dazzled by his success, he undertook further studies, and entered the University of Brussels. He frequented from its foundation in 1884 the botanical laboratory founded by Prof. Leo Errera, and passed with great distinction his examination for his Doctorate of Natural Science. Influenced by the example of Pasteur, whose immortal writings he had deeply studied, he betook himself to Paris

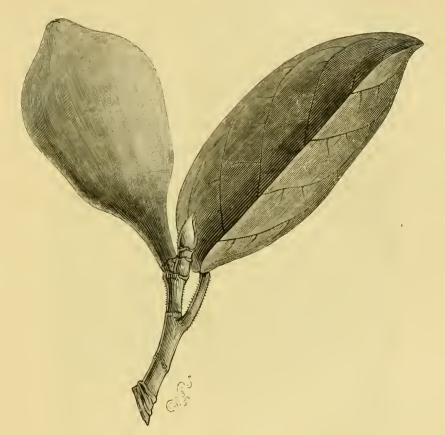


FIG. 72.—FRUIT AND LEAF OF ARBORESCENT FORM OF CREEPING FIG, FICUS REPENS.

larger with considerable more substance, these markings are much more distinct and beautiful. It has fruited this season for the second time. The fruit I now enclose, together with foliage of the two kinds. W. Fyje, Lockinge Gardens. [The larger leaves are those of the arborescent form of Ficus repens, which, being a climber like the Ivy, has dimorphic leaves. The arborescent forms in Ficus are equivalent to the larger leaves developed by "Tree" Ivies. Both forms have been illustrated in Gardeners' Chronicle, and we now reproduce them. The fruit sent is that of F. repens, and similar to that shown in fig. 72. F. repens and F. stipulata are names for the same plant. Ed.]

THE RAINFALL IN 1903 AT BELVOIR CASTLE AND BELVEDERE HOUSE. — Belvoir Castle, Leicestershire: 30.76 inches; rainy days, 200. Belvedere House, Co. West Meath, Ireland: 48.28 inches; rainy days, 231. Belvoir is 260 feet above sea-level, Belvedere 367 feet. Both have a similar geographical position and distance from the sea in centre of their respective islands. Brinsley Marlay.

to work in the laboratory of that savant. There also he came to the front. In 1891 he was charged with the re-organisation of the botanical studies in the Agricultural Institute at Gembloux, where he was enabled to devote himself entirely to the study of physiology as applied to agriculture. With scanty resources he got together collections of living plants worthy of a university. He gathered there at his own cost the richest collection that exists in Europe of the plants of the Congo.

Laurent interested himself keenly in the colonial movement promoted by the King of the Belgians. Twice, in 1893 and in 1895-6, Laurent travelled in the Congo region for scientific and agricultural purposes under the auspices of the Government. He acquitted himself of his task in a particularly brilliant manner. It is to him that we owe the most precise information and the most judicious advice as to the vegetable resources and the agricultural future of this immense territory. Amongst the numerous

documents which he collected in the course of his travels some were published by the Government of the Congo State in the Annales du Musée du Congo, others were sent to the botanic gardens at Brussels, where they were made the subject of memoirs by MM. Durand and De Wildeman. His friends were not a little surprised to learn during the course of 1903 that he had determined to undertake a new scientific expedition to the Congo. Six months sufficed for his observations; it was to be a pleasure trip, in which he was accompanied by his nephew. Remonstrances that were made to him were in vain; having survived two sojourns in Africa under less favourable conditions, he had reasons to think he could resist the fatal climate. It

viscous bread, and his discovery of the means of preventing the appearance of that diseased condition, and to his studies on the variability of fungi and microbes. Allusion may also here be made to his researches on the conditions governing the dispersion of Misleto, and to his recent memoir, in collaboration with M. Emile Marchal, on the problem of the formation of albumenoid matter in plants. Two facts of great scientific importance have been established by Laurent. Experiments carried on together with the French chemist, Th. Schloesing Fils, and which will remain models of precision, have afforded decisive proof that certain plants have the faculty of assimilating, of fixing as it is said, the gaseous nitrogen of the atmosphere. The importance of



THE LATE M. LAURENT.

was not, however, without apprehension that his friends bade him farewell at Antwerp, but they received with much pleasure the news of his progress. In his letters he spoke of the fine condition of the plantations which he had inaugurated in 1895-6. At last, when they knew that he was returning to Europe, they thought him safe, and were preparing to receive him in Antwerp in a few days, when the telegram announcing his death spread consternation among them.

The scientific reputation of Laurent was well established beyond the Belgian frontiers. He was elected last year a Correspondent of the Institute of France, and the King named him Chevalier of the Order of Leopold. We cannot here enumerate all his scientific publications, marked at once, as Professor Errera has stated, by their originality and critical acumen. But I may allude to his bacteriological experiments on

this matter may be estimated when the amount expended on nitrogenous manures is considered. The second point is the demonstration furnished by him of the conditions under which certain ordinarily inoffensive microbes become dangerous to plants and vice versa. The great interest of such researches in all questions of vegetable and animal pathology is manifest.

Laurent was about to be named Director of the National Agronomic Station on his return, but he has been taken from us at the age of forty-two, leaving his work unfinished. He had many friends in England, especially at Kew, which he adored—friends who estimated him for his loyal and amiable character. He was a true wan of science, a thorough patriot. He was characterised by a charming vein of humour, conscientious, faithful to principle, full of energy and individual enterprise. He was a protector of the weak and a helper of the workers. Louis Gentil.

SOCIETIES.

ROYAL HORTICULTURAL.

MARCH 8.—The usual fortuightly meeting of the Committees took place on Tuesday last in the Drill Hall, Buckingham Gate, Westminster.

Orchids were again shown extensively, and the Orchid Committee had a large number of novelties before them for certificate. Their awards included one-first class Certificate and three Awards of Merit.

Many very interesting groups of plants and flowers were exhibited before the Floral Committee, and a few novelties, but no Certificates or Awards of Merit were recommended.

An interesting species of Lebelia from Southern India was shown by Messrs. Paul & Son, The Old Nurseries, Cheshunt. The Committee were not satisfied on this occasion that it would make an effective flowering plant for the conservatory. In any case, it would appear to be capable of affording a new type for crossing with other species.

The FRUIT and VEGETABLE COMMITTEE met, but, as on the last occasion, this body found nothing of importance to inspect.

The NARCISSUS COMMITTEE sat for the first time this season, but no awards were called for. At the afternoon meeting there were forty-two new Fellows, four Associates, and three Societies elected to the privileges of the Society; and a paper by Mr. ALEX. DEAN, on "Cottage and Allotment Gardening," was read by the Assistant Secretary.

Floral Committee.

Present: W. Marshall, Esq. (Chairman); and Mcssrs. H. B. May, R. Dean, J. F. McLeod, R. Wilson Ker, C. T. Druery, J. Green, J. Hudson, J. Jennings, W. Howe, C. Dixon, W. Barr, J. A. Nix, C. J. Salter, C. E. Pearson, C. Jeffries, H. J. Cutbush, R. W. Wallace, W. Cuthbertson, C. E. Shea, W. P. Thomson, H. Turner, G. Paul, J. W. Barr, R. C. Notcutt, E. H. Jenkins, R. Froebel (?), Ch. Blick, Geo. Nicholson, R. Hooper Pearson, C. R. Fielder, and E. T. Cook.

Mr. J. Douolas, Edenside Nurseries, Great Bookham, showed two pots containing Saxifraga Burseriana major. They were in 5-inch and 6-inch pots, and the plants had not only completely covered the surface, but they themselves were literally hidden by the pretty white blessoms with yellow centres. A Cultural Commendation was awarded.

Messrs. H. Cannell & Sons, Swanley, made a very fine exhibit of Cyclamens, the plants being freely flowered, and the blooms were of good size and substance; also flowers representing their atrain of Chinese: Primulas. The same firm showed a considerable number of Cactaceous plants of various sizes, and all of them in excellent condition of health and growth (Silver Flora Medal).

Lobelia nicotlanifolia was shown by Messrs. PAUL &2 SON, The Old Nurseries, Cheshunt, The two plants were in pots, and were considerably mere than 6 feet. high. The leaves are lanceolate acuminate, 2 inchesacross the widest part, and more than a foot long. The seeds were sent home from Southern India, and the plant is probably a biennial. The terminal spike of flowers is more than 2 feet in length, and the whiteflowers are very numerous, but not large. The plants were grown out of doors during last summer, and have been cultivated in a cool-house since. Apparently the plants would need to be treated similarly to Humeas except that this Lobelia will flower in March. The plant was awarded a Botanical Certificate by the Scientific Committee. A number of plants of a strawcoloured Italian Hyacinth was also shown. These varieties have larger flowers and are rather later than the Roman varieties.

Mrs. Pilkington, Wellaton, Nottingham, exhibited two shallow pans filled with Primula Forbesii in flower, but although very freely flowered the plants had been grown rather weakly.

Pteris Wimsetti plumosa, exhibited by Mr. W. A. Cull, Bury House Nursery, Bury Street, Edmonton, is a plumose variety of this type.

Lachenalia hybrids were shown by Mr. F. W. MOORE, Glasnevin Botanic Gardens, Dublin. Like others that have heen shown from the same garden, these were very interesting, but if plants could be sent they would afford a better idea of them then.

Begonia Perle de Lorraine was shown by Messrs. T. CRIPPS & SON, Tunbridge Wells Nurseries, Kent. It is one of M. Lemoine's introductions, and makes avery pretty plant for flowering in March and ouwards. The flowers are palest pink, small in size, but produced in large, pendant racemes. The leaves are

bronzy green, and sparsely covered with rough hairs, which grow from the margins also.

Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, Chelsea, exhibited groups of flowering plants, each kind being grouped separately. The pretty hybrid Primula × kewensis (P. floribunda × P. verticillata), figured in Gardeners' Chronicle, March 31, 1900, p. 195, was shown in flower in 4-inch pots and & inch pots, the first blooms having just opened. Of greenhouse Rhododendrons, R. Veitchill (white), and R. Ne Plus Ultra (very fine reddish crimson), were well represented, Ne Plus Ultra being as effective as Veitchii is charming. About one cozen 11 ints represented hybrids of Clivia minlata, and there was a batch of Loropetalum chinense, and an excellent plant of Cheiranthus × kewensis (Silver Banksian Medal).

Mr. H. B. MAY, of Dyson's Lane Nurseries, Upper Edmonton, staged some good Ferns, and several ornamental plants — Oleander "rosea variegata," Boronia heterophylla (scarcely in flower). Some small plants of Gardenia florida showed planty of buds, the few flowers open being very fragrant; Adiantum Farleyense showed a splendid colour; A. grscillinum, A. digitatum, Nephrolepis Plersoni, and several species of Gymnogrammas were included (Silver Banksian Medal).

Messrs. J. HILL & Sons, Barrowfield Nurseries, Lower Edmonton, had the premier exhibit of Ferns, and displayed some rare varieties of these plants. The group was very nicely set up, the members being worked in to produce a pleasing effect: some Davailias on tall supports were at the back, and grand specimens of Platyceriums graced the centre and ends of the collection, whilst several tinted varieties of Ferns were arranged along the front. The plants were well grown, and included Platycerium athiopicum, P. Hillii, the rarer l'. Veitchii (a good plant), a fine plant of Adiantum asarlfolium, several tinted varieties of Adlantums, Lastræas, &c. Doodia aspera multifida and Lomaria attenuata were also noticed. Several Davallias were growing on Tree Fern stems, notably D. assamica and D. pentaphylla; Gymnogramme dobroydense and G. argyrophylla were both good (3llver Flora Medal awarded).

M. FRANTZ DE LXET, of Belgium, exhibited through Mr. R. Anker, of Addison Nursery, Napier Road, Kensington, W., some varieties of hardy Cacti and miniature succulents in tiny pots. Opuntia phæicantha major was conspicuous; Aloe Saliaris was shown in flower. Several small potfuls of a four-leaved Shamrock were also shown by this exhibitor. The leaves were small, but prettily spotted like those of a Medicago.

Mr. John Russell, Richmond Nurseries, Richmond, set up a group of forced flowering shrubs and plants, somewhat similar to their exhibit at the last meeting. The exhibit was very pleasing in effect and tastefully arranged, the plants were well flowered, and the colours harmonised. A background of Palms lent an additional feature to the group. Prunus triloba was interspersed through the exhibit. Staphylea colchica, Viburnum plicatum, Azaleas, and Prunus sinensis alba were the principal features (Silver-gilt Banksian Medal).

Messrs. R. & G. CUTHBERT, The Nurseries, Southgate, Middlesex, gave an interesting display with their group of forced Azaleas, relieved with Japanese Maples, Ferns, Palms, and similar plants. At one end of the group were some well-grown specimens of Stsphylea colchica. Several plants of standard Azaleas, all profusely flowered, were placed at intervals, and a fine bank of rich yellow-flowered Azaleas occupied the centre of the display. Azalea occidentalis var. magnifica was very fine, the effect of the white flowers with their upper petal tinged with yellow being enhanced by their light-green leaves. Azalea pontica, A. mollis, and A. mollis × sinensis were all represented by varieties (Silver Banksian Medal).

Messrs P. S. Williams & Son, of Upper Holloway, N., also showed Azaleas, but included many other specimens of forced shrubs in their group, and made the most of the corner allotted them. Shrubs in flower, on both standard and bush plants, edged with some tiny Palms, were very brilliant, and well covered with blossom. Ribes sanguineum and the variety alba were flowering freely, the latter having a very graceful appearance. Small plants of Lilacs, just suitable for the table, with others as standaads: Viburnum opulus, members of the Fruuus and Pyrus genera, together with some well-flowered Azaleas, were prominent in this pretty group (Silver Banksian Medal).

The exhibit of Messrs. WM. CUTBUSH & SONS, Highgate London, N., was a very tastefully-arranged and well-grown collection of plants. Two very beautiful members of the Leguminoseæ at once caught the eye io this collection—the Laburnum, with its chain of golden flowers, and the handsome Wistaria chinensle. Cytisus [Laburnum] Adami was interesting, its creamy-pink flowers being less glaring than its ye'low relative. The same firm displayed a stand of alpices. At the back of the group was a number of small shrubs and Conifers, all useful for rockwork culture. We may mention some fine Hepaticas, both blue and pink; a large hatch of Shortia galacifolla, and S. galacifolla rosea; Primula denticulata alba, Fritillaria Thunbergi, some fine Irises, Saxifrages, Tulips, Narcissus, &c. The same firm also displayed cut Carnations, and the pretty climbing Rose Dorothy Perkins (Silver-gilt Flora Medal).

Messrs. WM. BULL & SONS, Chelsea, London, set up a group of Azaleas, backed by some nice Cocos Palms. There was a variety of colours, and plenty of bloom. Mdlle. Estelle Cuveller, a fine white variety with large flowers, was noticed. A Vote of Thanks was awarded Messrs. Bull for their contribution.

Mr. JOHN R. BOX, West Wickham, staged some good plants of Begonia Gloire de Scaux, intermixed with some plants of Asparagus (Vote of Thanks).

A lesson in wail-gardening was afforded by an exhibit from Messrs. T. S. WAHE, LTD., Feltham, Middlesex. The improvised wall was covered on either side with cork, and the "pockets" were formed with the same One side was supposed to have a south aspect, and in the pockets were plants in flower, including Saxifraga Burseriana, Cyclamen Aucmone blanda, Daphne Blagayana, &c., and a number of species not in flower. On the north aspect were coloured Primroses, Shortia galacifolia, Primula denticulata, &c., also a number of hardy Ferns The exhibit may have done good by inspiring visitors to attempt "wall-gardening," but it would hardly be prudent to copy the model in detail, either in respect of the making of the peckets or the selection of plants (Vnte of Thanks).

Mr. A. R. Upron, Guildford Hardy Plant Nursery, Millmead, near Guildford, had hardy species of Veronica. The bushy little plants had been lifted from the open ground and put inio puts. The twenty-six species shown represented those that have proved most hardy. They are very interesting, even when not in flower, as the foliage varies very considerably in the different species, as, for instance, in V. cupressoides, V. salicifolia, V. pimeloldes, and V. Hectori (Silver Banksian Medal).

The Fox HILL NURSERY, Keston, Kent (Mr. G. Reuthe), had a few hardy and alpine plants, among which was Crocus Balansæ, the flowers of which were very distinct owing to the three outer segments being purple nearly to chocolate colour.

The approach of the Daffodil season was evinced by a fine display of these beautiful bulbous plants, brought by Messrs. Barr & Sons, of Covent Garden, and arranged among a fine collection of hardy spring flowering plants. The season having arrived when these latter plants are at their best, the individuals exhibited were even better than at previous shows this season. Pots, vases and boxes were all requisitioned to display these pretty subjects, and a miniature rock-garden was presented in a box, including, Primulas, Irises, Narcissi, Crocuses, Saxifragas, Scillas, Hepaticas, &c. A fine bowl of Freezlas, F. refracta alba, was displayed; some good forms of Primula obconica, Lachenalias and Fritillarias. Anemones, Irises, and Scillas. Petasites japonica glgantea was interesting, but lacked the fragrance of P. fragrans (Silver Banksian Medal).

Messrs. J. CHEAL & SONS, Crawley, staged some trays containing alpine plants, which included Soldanella alpina, and S. alpina rosea. There were also good trays of a fine blue Primrose. Conifers and dwarf shrubs formed a background to the whole.

The Misses HOPKINS, Mere, Knutford, Cheshire, staged a small collection of hardy plants, consisting principally of coloured Primroses and Polyanthus.

Messrs. R. Wallace & Co., Colchester, exhibited bulbous plants and alpines in boxes and pots. Crocuses were a feature—C. versicolor violacea, C. biflorus, were both good. Pans containing Saxliraga Burseriana major, Fritillaria citrina, F. armena, Anemone blanda, of fine colour; A. Pulsatilla, and Primula megasæfolia were all noticeable. Other good plants were Iris Heldreichi, I. reticulata, Hepatica triloba, Sternbergia Fischeriana, and the tiny Narcissus minimus (Silver Flora Medal).

A most interesting lot of sprays of Catkin-bearing trees was shown by Lord ALDENHAM (gr., Mr. E. Beckett), and demonstrated the numerous families of plants which depend on the agency of the wind to pollinate

them. Several species of Alnus, including A. cordifolia, Poplars, Willows, Corylus, and Garrya elliptica, were placed in vases; Hippophoe rhamnoides, the Sea Buckthorn, was included; Populus alba canescens pendula, had large catkins with bright red anthers.

Mr. G. P. EGGETT, of Angel Road, Thames Ditton, presented two structures of a portable nature for growing Ferns, &c., being composed of virgin cork, dressed with a greyish mixture of tufa, with pockets for the reception of Ferns, &c.

Orchid Committee.

Present: H. J. Veitch, Esq, in the Chair; and Messrs. Jas. O'Brien (Hon. Sec), De B. Crawshay, J. Gurney Fowler, J. Douglas, W. Cobb, H. Ballantine, J. W. Potter, F. Sander, Norman C. Cookson, H. Little, M. Glecson, J. Colman, J. W. Odell, H. T. Pitt, W. Boxall, J. Charlesworth, H. A. Tracz, W. A. Bilney, R. G. Thwattes, A. A. McBean, W. H. Ydung, W. H. White, F. W. Ashton, E. Hill, F. J. Thorne, T. W. Bond, and F. Wellesley.

There was a very fine show of Orchids, Dendrobiums, principally hybrids, predominating.

The highest award, a Silver-gilt Flora Medal, was given to Sir HENRY SCHRODER, Bart. (gr., Mr. Ballantine), for a very fine group of choice varieties. The best of each section of the season were represented. The forms of Odontoglossum crispum Included the beautiful O. c. Mrs. H. G. Moor, a perfectly-formed white variety, with an occasional dark reddish spot on one or two of the segments, and distinct markings of the same colour on the lip. The Calanthes included forms of C. Regnieri, and C. \times Baron Schroder pallida, a large flower with white sepals and petals, and rosy claret lip. Others noted were the handsome Odontoglossum × Adrianæ Memoria Victoriæ Reginæ, Epidendrum × Dellense, Cypripedium × Lathamianum, with cleven flowers; C. × Decdmani anum, well bloomed; C. × macrochilum, Lælia × vitellina, fine forms of Cattleya Trianæ, bright Masdevallias, Sophronitis, &c.

JEREMIAH COLMAN, Esq., Gatton Park (gr., Mr. W. P. Bound), was awarded a Silver Flora Medal for an excellent group of finely grown Orchids, comprising several good torms of Cattleya Trianæ, Vanda Catteartii, varieties of Phaius x Norman, Cymbidium x Lowideburneum, Dendrobium x Wiganianum, and other Dendrobes; the purple-flowered Masdevallla cuculata (which flowers at Gatton the greater part of the year). M. rosea. Odontoglossum Edwardl; forms of O. crispum, including one with very rich purple spotting on the segments; Brassavola nodosa, and the singular and pretty Acineta Colmani, with wax-like whitish flowers evenly spotted with purple, and which was voted an Award of Merit subject to its name being verified.

R. G. THWAITES, Esq , Christchurch Road, Streatham (gr., Mr. Black), secured a Silver Flora Medal for a fine group in which the Dendrobiums raised by him were the feature, and of which the fine strain of D. × Cybele elegans had round, brighly coloured flowers, varying considerably in tint, but all good. An interesting exhibit was a pure white Dendrobium nobile virginale, raised from seeds, and proving that 'albinos" may be perpetuated in that way. A novelty was Den drobium × Blackianum (Findlayanum × Wiganiæ), and its variety electrum, the former having flowers resembling D. × Wiganiæ, and with a dark eye; and the other of a peculiar white with vellow disc. Also noted were fine specimens of D. nobile Murrhinianum, several varieties of the new D. x Thwaitesire, D. x Wiganiæ, finely bloomed; Lælio-Cattleya x Warnhamensis, Odontoglossum crispum, &c.

Messrs. SANDER & Sons, St. Albans, had a select group for which a Silver Flora Medal was awarded. The most prominent things noted were the handsomelyblotched Odontogiossum crispum Mariæ, a flower of fine form; an equally remarkable dark variety of O. triumphans, the new Lælio-Cattleya x Edwardii (L. cinnabarica × C. Hardyana), a showy reddish-orange flower with ruby lip; a very large flowered Cymbidium grandiflorum, C. × Ballianum, C. × Lowio eburneum, Phaius tuberculosus Warpuri, and some showy hybrid Phaius; a good set of varieties of Cypripedium × aureum, a curious variety imported with C. Curtisii, and probably a natural hybrid; Chysis × Chelsoni, Trichopilia suavis, fine specimens of Dendrobium nobile nobilius, various hybrid Lælio-Cattleya, Ada aurantiaca maculata, Oncidium superbum and Houlletia Brocklehurstiana.

Messrs. Charlesworth & Co, Hea'or, Bradford, were awarded a Silver Flora Medal for an excellent group principally of fine hybrids, the most remarkable

of which were two very bandsome forms of Lælio-Cattleya × Haroldiana, one of which secured the only First-class Certificate of the day (see Awards). centre of the group was composed of a number of Lælio-Cattleya × Charlesworthii, whose glowing reddishorange, purple-lipped flowers make it one of the brightest of the scason. At one end were several forms of L.-C. × Myra, varying from primrose colour to orange, Etoile d'Or being all dark yellow and without the purple on the lip, as in the others. A good selection of Lycaste Skinneri varieties were included, Exquisite and Fascinator being very fine. Other remarkable things were several Lælia × Briseis, L. × Digbyano-purpurata, several Cattleya × Enid, the fine new Cypripedium × Cravenianum (Hera Lucienianum x Spicerianum magnificum), a noble and pleasingly coloured flower, Odontoglossum prænitens, and well-bloomed Oncidium concolor.

Messrs. Jas. Cypher & Sons, Cheltenham, secured a Silver Flora Medal for a fine group principally of Dendrobiums, which constitute one of their specialties. Among them were finely-flowered D. nobile nobllius. and D. n. Sanderianum, which in size and colour are still two of the best; D. n. giganteum Berkley's variety, a model flower and prettily coloured; D. n. Cypheri, very distinct and bright, and many other forms of D. nobile, D. xrubens, and D. xsplendidissimum varieties. and other hybrids, two of the largest and most deli-cately tinted being D. × Virgil and D. × Apollo album. Others noted were Cypripedium × Thompsoni, C. × Ashburtoniæ giganteum, a very remarkable form; C. villosum giganteum, C. x Chas. Richman; and the still rare emerald green and white C. × Mandiæ. Among the species shown were several nice plants of the graceful Dendrobium barbatulum.

W. THOMPSON, Esq., Walton Grange, Stone (gr. Mr. W. Stevens), staged a small group of his hybrid Odontoglossoms, which included several forms of O. × Waltonieuse, two dark-coloured O. × Vuylstekei; the handsome rose-purple tinted, finely blotched O. \times crispo-Harryanum purpureum; and the pretty O. x Adrianæ Babette (Silver Banksian Medal).

Messrs, Hugh Low & Co . Enfield, staged an interesting group, in the centre of which was a finely-flowered mass of the pretty and rare Dendrobium × Boxalli. With it were D. Brymerianum, D. × Roeblingianum, D. × Dulce Oakwood var., D. crassinode, forms of Cattleya Trianæ the prettiest of which was C. T. Enfieldiensis, a clear white flower with a blush-pink tip to the lip. Also noted were Oncidium barbatum, O. obryzatum, Cattleya amethystoglossa, Angræcum citratum, and the fine Cypripedium × Helen II.

NORMAN C. COOKSON, Esq , Oskwood, Wylam (gr., Mr. H. J. Chapman), showed the singular Dendrobium x Mac-jap (MacCarthiæ x japonicum), with white flowers tinged with pink; and D. x nobile-Wiganiæ (nobile Burfordiense × Wiganiae), with white flowers tipped with rose, and with a sulphur-yellow disc. The peculiar feature was the perpetuation of the dark purple lines on the lateral sepals, as in D. nobile Burfordiense.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), again showed the finely-blotched Odontogloseum crispum Stanley J. Pitt, the still unique dark coloured O. x Adriana Cobbianum, a fine mass of Dendrobium aggregatum majus, and a purple-flowered Liparis near to tricallosa.

DE BARRI CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. Stables), showed Odoutoglossum × Waltoniense rosefieldiense (crispum x polyxanthum), a very charming and interesting flower, as it shows the leatures of O. polyxanthum much more plainly than in the original, the fine canary-yellow flowers having the peculiar purple-brown central blotching on the segments as in O. polyxanthum, and the lip showing very strong indication of that species. Mr. CRAWSHAY also ehowed O. crispum De Barri, a perfectly shaped large flower, heavily tinged with purple on the reverse side, the colour showing through to the surface, each segment of which bears clusters of irregular reddishpurple blotches.

The Right Hon. Lord ROTHSCHILD, Tring Phrk (gr., Mr. E. Hill), sent a fine branched spike of Phalænopsis × intermedia Brymeriana

Messrs. Jas. Veitch & Sons, Chelsea, showed Cypripedium × Harri-Leeanum, a fine dark-coloured flower; and a good Lælio-Cattleya × Myra.

 $\mathbf{F},\,\mathbf{A},\,\mathbf{Rehder},\,\mathbf{E}\epsilon\eta$, Gipsy Hill (gr., Mr. Norris), sent Cypripedium villosum excelsum of the giganteum class. Captain G. L. HOLFORD, Westonbirt (gr., Mr. Alex ander), sent Ada aurantiaca Westonbirt variety, a large and bright form; Odontoglossum × Adriance Lady Crawford, with pale yellow ground, finely spotted; Dendrobium × Clio Eurford variety, and Cypripedium

× Scipio (Sallieri Hyoanum × Mrs. Tautz), a finelyshaped handsome flower.

F. WELLESLEY, E3q., Westfield (gr., Mr. Hopkins), again showed the handsome Cypripedium × Memoria Jerninghamiæ and a brightly coloured Lælia Jonglieana

Messrs. WM. Bull & Sons, Chelsea, showed two remarkably good and distinct forms of Lælio-Cattleya x Myra, the one with bright yellow and the other nearly white sepals and petals.

Awards.

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya × Haroldiana magnifica (L. tenebrosa × C. Hardyana), from Messrs, Charlesworth & Co. resembling the beautiful L.-C. × H. John Bradshaw, which recently secured a similar award, but generally darker; sepals and petals with a bronzy-yellow ground, the greater part of the surface being tinged and veined with claret-purple; lip intense claref-purple, and of fine size and shape.

AWARDS OF MERIT.

Odontoglossum crispum Kinlesideanum, from NORMAN C. COORSON, Esq., Oakwood (gr., Mr. H. J. Chapman), -A peculiar and pretty form with white flowers, having the stalked petals decorated with closely-arranged cinnamon-brown markings in the middle. It is of the O. c. Lady Jane, and Oakfield Sunrise class, and is very attractive.

Odontoglossum crispum Rossendale, from J. Wilson POTTER, Esq., Elmwood, Croydon (gr., Mr. W. Young), flowers white, tinged with purple, and showily decorated with large red-brown blotches on the inner halves of the segments.

Dendrobium × melanodiscus gloriosum from Mrs. HAYWOOD, Woodhatch, Reigate (gr. Mr. C. J. Salter). A very bandsome large-flowered form equal in beauty to D. × Juno, flowers white, heavily tipped with carminerose, the lip having a dark purple eye surrounded by an orange band, the tip rose.

CULTURAL COMMENDATION.

To Mr. W. H. WHITE, gr. to Sir Trevor Lawrence, Bart., for a large and finely-flowered specimen of the pearly-white Dendrobium × Luna.

To Mr. J. Howes, gr to Walter Cobb, Esq, Tunbridge Wells, for a fine specimen of Tetramicra (Leptotes)

To Mr. THURGOOD, gr. to H. T. Pitt, Esq., for a finely-flowered mass of Dendrobium aggregatum majus.

The Lecture.

COTTAGE AND ALLOTMENT GARDENING.

A lecture by Mr. A. DEAN, on "Cottage and Allot-ment Gardening." was read by the Assistant Secretary, in the absence of Mr. Dean through illness.

The lecturer advocated the encouragement of this work among cottsgers and allotees, as it was not only a healthy form of recreation, but it resulted in an appreciable adjunct to the weekly wage. These men, although at the beginning making many mistakes, ulti-mately become good cultivators. The local societies, are the outcome of their enthusiasm, which the work of County Council lecturers, &c., has fostered. Allotments are of diverse forms and situations, but the best is one with a south aspect. The size is determined by the amount of time at the disposal of the holder, some having as much as 40 rods or even 4 acrethese of course are large holdings; but 6 rods are hardly sufficient. Of these plots a moderate portion is usually devoted to flowers and fruit, the major part being cropped with vegetables, especially potatos. Land for Allotments is provided by County Councils and landowners. That at Richmond, Surrey, is leased from the Crown. Of course the soil of allotments varies greatly in character; yet all soils respond to good cultivation and manuring. The holders are persons of all trades, one of 40 rods being worked by an ex-policeman, whilst another skilfully-worked plot is cultivated by a railway signalman. The interest evinced by the holders is apparent when it is mentioned that some are at work as early as 3 o'clock in the morning.

Vegetables occupy the major portion of the plots. Fruit is represented by Gooseberries, Currants, Strawberries, Apples, and Plums, as low standards, and Raspherries. The cottager is not a good fruit grower; one seldom sees a well-trained fruit-tree on a cottage wall, but Roses, Clematis, Honeysuckle, and such plants are grown to perfection. The flowers mostly grown are Dahllas, Carnations, Begonias, Petunias, Fuchsias, Pelargoniums, and annuals.

The cottager knows the value of deep cultivation, hence he trenches his ground. He knows this to be of use in case of drought, and that it enables the roots to penetrate in the deeper and moister soil. The planting is generally done in rows running the length of the garden; bush fruit is usually planted so as to enable the fruit to be protected from birds by netting.

The judging of allotments can be done very rapidly, especially by those who have to inspect many hundreds of gardens and allotments each year. The number of judges should never exceed two in number. The following is the schedule of marks adopted by the Surrey County Council :-

MAXIMUM MARKS.

20 for superior work, order, good regular cropping,

cleanliness, and evidence of high-class culture.

10 for Potatos, Peas, winter and summer Onions,
winter Greens, including Broccolis, BrusselsSprouts, Savoys, Kales, and Coleworts. To bardy iruits, and where there are no flower-garden classes, to flowers, also.

8 each for Runner, Dwarf Kidney and Broad Beans, also to Beet, Carrots, Cabbages, Caulif Parsnips, Turnips, and Vegetable-Marrows Cauliflowers,

6 for Asparagus, Celery, Lecks, Cucumbers, Lettuce, Rhubarb, Seakale, and Tomatos. 4 for Artichokes, Red Cabbage, Shallots, Spinach, Herbs, Small Salads, and anything else that may be found unenumerated.

These maximum numbers indicate the value to the grower which the compilers of the schedule attach to the various crops. It is as a rule found that cottagers and allotment-holders themselves also value the crops in similar ratio.

The total number of marks attainable is 236. But The folal number of marks attainable is 206. But no garden or allotment ever exhibits perfection in every crop, although the maximum for cleanliness, order, &c., is often attained. The highest pointed garden in Surrey so far, and a splendid garden it was, accured 184 marks; whilst the highest number yet given to an allotment was 179.

The following is the schedule of marks found best to adopt for flower gardens .-

MAXIMUM. 10 for order and neatness, and the same for brightness and general effect.

8 for hardy flowers and for tender flowers.

6 for Ferns, vases, or hanging plants, and to other unenumerated features including window decora-tion. There is also a total maximum of 38 marks, divided between cultivation and quality, tasteful arrangements, variety in plants, and any other special features.

Some cottage fronts are very beautifully decorated, exhibiting great taste, skill, industry, and not infre-

eximiting great tark, sain, industry, and the development of the less of the absence of Mr. Dean, and referred to the less on taught by good and bad cultivation side by side. The value of a good medium crop is estimated at the rate of £90 per acre. Surrey is training estimated at the rate of and per acre. Surrey is training some hundreds of youths in allotment work, and their crops would defy competition from many able gardeners. Lord Onslow has placed land at the disposal of the Surrey people to plant model allotments for examples as to the best manner of managing them,

LINNEAN.

MARCH 3.-Prof. S. H. Vines, F.R.S, President, in the chair.

Mr. L. A. Boodle, F.L S., exhibited photographic lantern slides demonstrating the formation of secondary wood in certain regions of the stem of Psilotum triquetrum. In parts of the rhizome immediately below the acrial stems, and at the base of the acrial stems them-selves, tracheides occur, often in considerable numbers, outside the primary wood. These external tracheldes are found to be still in course of development, as shown by the imperfect lignification of their walls, at a time when the primary wood has long been completed; in some cases the external elements of the wood further show a distinct radial arrangement. These stems thus exhibit distinct remains of the secondary vascular tissues characteristic of the Palæozoic Sphenophyllales

tissues characteristic of the Palæozoic Sphenophyllales, with which on various grounds there is reason to believe the Peilotaceæ to be allied.

Mr. C. B. CLARKE, F.R.S., F.L.S., then gave an account of his paper, entitled "List of the Carices of Malaya." After defining his meaning of the term Malaya, the author explained that be had been obliged to confine his remarks to the material existing at Kew, with certain additional specimens lent by Dr. Zahlbruckner, of Vienna, who had kindly sent over some of the types of Zollingei's collections. The British Museum Herbarium could not be utilised, owing to the impracticability of comparing the specimens belonging Museum Herbarium could not be utilised, owing to the impracticability of comparing the specimens belonging to the two institutions. In all, 54 species are here enumerated, of which 36, including the 11 here characterized as new belong to the subgenus Caricandra, a natural group essentially tropical, and difficult to diagnose as to *pecies; all possessing a triffd style, with a terminal spike male in the upper portion and female at the base. and female at the base.

The author, in a few concluding remarks, observed that species of Mapania from the north east of Brazil were not only closely allied to species on the west coast of Africa, but some of them were intermediate in character.

Dr. J. G. DE MAN'S paper "On some Species of the genus Palæmon, Fabr., from Tahiti, Shanghai, New Guinea, and West Africa." was communicated to the Society, and its scope explained by the Rev. T. R. R. Stenning, Sec. L.S.

s.d. s.d.

HORTICULTURAL CLUB.

The usual meeting of members of the Horticultural Club took place on Tuesday evening last in the Hotel Windsor Westminster. Mr. Harry J. Veitch presided, and there were twenty four members present. The subject for discussion was "The Uses and Abuses of Botanising Excursions," which was introduced in a very interesting discourse by Prof Geo. Henslow. He said we saw boys and girls gathering Buttercups and Daisies in quantities, but they frequently left them in the fields when they returned home. They found their enjoyment in gathering the flowers, and were therefore "gatherers." Of another type of botaniser were some ladies who not only gathered the flowers but fore "gatherers." Of another type of botaniser were some ladies who not only gathered the flowers but took them home and fixed them very neatly into books, and then got some botanist of their acquaintance "just to stick the names to them." They were "collectors." Prof. Heoslow proceeded to explain very neintedly how that convenience of facts. They were "collectors." Prof. Heoslow proceeded to explain very pointedly how that some collected for the very love of collecting, and others in order to obtain something that no one else possessed. In either case there followed very little, if any, improvement of the mind. Those who so eagerly sought that which no one else should have were frequently noscrupulous in the means they took to obtain this end. instances having occurred in which collectors have found rare plants, and either taken all of them, or destroyed them. These practices represented the abuses of botanising. But there was the other side, and Prof. Henslow, in proceeding to speak of the uses of this interesting occupation, reterred to the history of botanical science since the middle ages, when botanists were mere herbalists, and knew little of the true characters of the plants they handled, nutil Linneus provided a scienplants they handled, until Linneus provided a scientific classification to Botany.

Some extraordinary particulars were given in respect some extraordinary particulars were given in respect to Culpepper's Herbal, which a publisher is even now issuing to the public. In this work there is no botany whatever, and every plant is described as being under the especial influence of some planet. Prof. Henslow read a very amusing quotation, in which the author maintained that the Henbane was a Saturnite, though a previous writer had described it as being under the a previous writer had described it as being under the influence of Jupiter. Yet there have been issued 68,385 volumes of the small edition, and 9,864 of the

large edition.

large edition.

Prof. HENSLOW then said a few words about the "lumpers" and the "splitters" among botanists, Bentham, being a lumper and Babington a splitter. The former botanist made five Blackberries, five Roses, seven Hawkweeds, and fifteen Willows. Babington made forty-one Blackberries, eighteen Roses, thirty-three Hawkweeds, and thirty-two Willows. In his subsequent remarks the Professor explained how the differences that were supposed to have divided the differences that were supposed to have divided species have been broken down as a greater number of plants has been discovered, and that by evolution it has been shown that different plants have not a separate but a common origin, but he was not disposed to accept Darwin's theory of the origin of species. He proceeded to speak of plants of quite different families so far as the structure of the flowers is concerned, which develop much the same structure and habit when grown under the same conditions, especially if the conditions be of an extreme nature, and spoke of an experiment that had been made with a water-plant (Proserpinaca), that develops a different kind of leaves when growing in water than out of water. But by thickening the water with chemical salts, the plant is made to produce similar leaves to its ordinary ones. All this showed that variation was indefinite, and was in response to environment, and the study of these matters was the real value of a botanising excursion. has been shown that different plants have not a separate

environment, and the study of these matters was the real value of a hotanising excursion.

In the discussion which followed, Messrs. Veitch, Druery, Pearson, Geo. Paul, Sinders, and Waterer, took a part, and very strong denunciations were made of the practice of exterminating rare plants, whether it be done by the botanist, the mere "collecter," or by people who gather them for sale.

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Mar. 5, is furnished from the Meteorological Office:

"The weather -During the greater part of the week the sky was densely clouded in all districts, except the north of Scotland. Cold rain, sleet, or snow showers occurred frequently in the south of Ireland and most parts of Great Britain, but the falls were generally very

The temperature was much below the mean, the "The temperature was much below the mean, the deficit ranging from 5° in Scotland, E., England, N.E., and Ireland, N., to as much as 8° in England, S. and S.W. In Scotland, N., however, the deficit was no more than 2°. The highest of the maxima, which were registered on Sunday in Ireland and at most Scotch stations, and on Saturday in England, varied from 52° in Ireland, S., to 4° in England, N.E. The lowest of the minima were recorded about the middle of the week, and ranged from 18° in Scotland, E., 19° in Scotland, N, and Ireland, N., and 20 in the Midland Counties and and Ireland, N., and 20 in the Midland Counties and

England, N.W., to 25° in Scotland, W., and to 31° in the Channel Islands.

"The rainfall was slightly in excess of the mean in England, S. and E. Ireland, S., and the Channel Islands, and just equal to it in England, N.E., but less in all other parts of the kingdom. In Scotland, N. and in England, N.W., the fall was scarcely appreciable. appreciable.

The bright sunshine was considerably less than the mean in all districts excepting Scotland. N., the deficit being especially large over England. The percentage of the possible duration ranged from 34 in Scotland, N. and 23 in Scotland, W., and 21 in the Channel Islands, to 10 in England, S. At many southern stations bright sunshine was entirely absent during the latter days of the week."

THE WEATHER IN WEST HERTS.

Another cold week.—On the coldest day the tempera-ture in the thermometer screen at no time rose more the in the thermometer screen at no time rose more than 3° above the freezing-point, and on the coldest uight the exposed thermometer registered 11° of frost. The ground has now become cold, the temperature, both at 1 and 2 feet deep, being about 3° colder than is both at 1 and 2 feet deep, being about 3 colder than is seasonable. Rain or snow fell on all but one day, but to the total depth of only about \(\frac{1}{2}\) inch. On the morning of the 4th, the ground was covered with snow to the average depth of an inch—which Is a greater depth than any recorded during the previous three winter months. Each day some rain-water has come through both of the percolation gauges, but the amounts have been small. On the first day of the week the sun shope for two hours, but during the rest of the week results of the percolation gauges. have been small. On the first day of the week the sun shone for two hours, but during the rest of the week no sunshine at all was recorded. The winds were light, and came almost entirely from some point between north and east. The mean amount of moisture in the air at 3 o'clock in the afternoon was unusually large, being as much as 21 per cent. in excess of the March enterprise for that hour. E. M., Berkhamsted, March 8, 1994.

MARKETS.

COVENT GARDEN, March 9.

CUT FLOWERS, &O.: AVERAGE WHOLESALE PRICES, 8.d. 8.d. 8.d. Orchids: Odonto-Anemones, per Anemones, per doz. hunches ... 1 6-2 6
Azaleamollis, hun. 1 0-2 0
Azaleas, per doz. 4 0-6 0
Bouvardias.hnch. 0 4-0 6
Callas, per dozen. 2 0-4 0
Camellias, box ... 1 6-2 0
Carnations, boch. 1 0-3 0
Crotonleaves.hun. 0 6-1 0 glossums, per dozen blooms 2 0-3 0 Cattleys, doz. 12 0-15 0 Cypripedium lneigne, per Insigne, per dozen ... 0 9- 1 6

Coelogyne, doz. 1 0- 1 6

Pelargoniums, zonal, dozen bunches ... 4 0- 6 0

- white, dozen bunches ... 4 0- 6 0

Roman Hyacintns, doz. bunches ... 1 6- 8 0

Roses, Mermet, per bunch ... 3 0- 6 0

- white, hunch 1 6- 3 0

- pink, bunch 1 6- 3 0

- pink, bunch 1 0- 2 0

- French, bunch 1 0- 2 0

- French, bunch 1 0- 2 0

- Safranos, bch. 1 0- 2 0

- French, bunch 1 0- 2 0

- Smilax, per doz. 1 0- 1 6

- Spiræas, bunch ... 1 0 - 1 6

- Spiræas, bunch ... 1 0 - 1 6

- Spiræas, bunch ... 1 0- 1 6

- Spiræas, bunch ... 1 0- 1 6

- per dozen ... 0 6- 0 9

Tulips, Red, per bunch ... 0 6- 0 9

- various, per bunch ... 0 6- 0 9

Violets, p. dozen Daffodis, per doz.
bunches... ... 2
Eucharis, per doz. 1
Euphorbia, bun. 1
Ferns, Asparagus,
per bunch ... 1
French, per
doz. bunches 0 20-60 Ferns, Asparagus, per bunch ... | 1 0- 2 6 | Prench, per doz. bunches | 3 0- 6 0 | Asparagus, doz. bunches | 4 0- 6 0 | Roman Hyacintus, doz. bunches | 4 0- 6 0 | Roman Hyacintus, doz. bunches | 4 0- 6 0 | Roman Hyacintus, doz. bunches | 1 0- 2 0 | Gardenias, hox ... | 2 0- 6 0 | Liliao (French), per bunch ... | 2 0- 6 0 | Lilium auratum per bunch ... | 2 0- 6 0 | Lilium auratum per bunch ... | 2 0- 6 0 | Safranos, bch. | 1 0- 2 0 | French, bunch | 1 0- 2 0 | Siliax, per doz. | 1 0- 1 6 | Spiræas, bunch... | 1 0- 2 0 | Spiræas, bunch... | 1 0- 2 0 | Spiræas, bunch... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 1 0- 1 6 | Evaragus | Per dozen ... | 2 0- 4 0 | Soleil d'Or, per dozen ... | 2 0- 4 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Soleil d'Or, per dozen ... | 1 0- 2 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 0- 1 0 | Tuberoses, strong, per bunch ... | 0 10-26

PLANTS IN POTS, &c.: AVI	RAGE WHOLESALE PRICES.
s.d. s.d.	8.d. 8.d
Acacias, per doz. 12 0-50 0	Genistas, per doz. 6 0-10 (
Adiantums, doz. 4 0-8 0	Hyacintne, Roman
Aralias, per doz. 40-80	(48-pots), dcz, 80-90
Arbor Vitæ, doz. 9 0-18 0	- Dutch, p. doz. 8 0-12 (
Arum Lilies, per	Lilac-trees, each. 46 -
doz 10 0-12 0	Lycopodiums,per
Aspidistras, doz. 18 0-36 0	dozen 3 0- 4 0
Aucubas, per doz. 4 0-8 0	Marguerites, per
Azalea mollis, pot 1 6-3 0	dozen 60-80
Azaleas, each 16-50	Orange-trees, each 3 6-10 6
Begonia, per doz. 8 0-18 0	Palms, var. each 3 0-20
- Gloire de Lor-	Pelargoniums,
raine, per doz. 8 0-24 0	double scarlet,
Cinerarias, p.doz. 6 0-24 0	per dnz 6 0- 8 (
Coleuses, per doz. 4 0- 5 0	Poinsettias, doz. 8 0-15
Crotons, per doz. 12 0-24 0	Primulas, perdoz, 4 0-6
Cyclamens, doz. 9 0-18 0	Pteris tremula,
Cyperus, per doz. 3 0- 4 0	dnzen 4 0-8 (
Daffodils, per doz. 60-80	- Wimsettl, per
Dracenas, variety,	dozen 4 0- 8 0
dozen 12 0-48 0	- major, dozen 40-60
Ericas, per dozen 6 0-12 0	Solanums, dozen 40-60
Euonymus, vars.,	Tulips, red, dez.
per dozen 4 0- 6 0	roots 10 —
Ferns in variety	- yellow, dozen
doz 4 0-30 0	roota 0 9-1 (
Ficus elastica, doz. 9 0-24 0	- various 10-1
,402, 0 0 2, 0	

VEGETABLES: AVERAGE WHOLESALE PRICES.

s.d. s.d. |

Andiele See Clark	0.00.0.00			
Artichokes, Globe,	Mushrooms(house)			
per dozen 2 6- 3 0	per lh 10-19			
- Jerusalem, p.	Onions, per case. 7 0- 7 t			
sieve 10-13	- per bag 3 6- 6 6			
Asparagus, Sprue,	- picklers, sieve 3 0- 5 (
bundle 0 9-0 10	- English, cwt. 76-80			
- Paris Green 4 6- 5 0	Parsley, doz bun. 30-40			
- English, bun. 5 0- 7 6	- sieve 20 -			
Beans, dwarf, lb. 16 -	Parsnips, per hag 20-26			
- Madeira, per	Potatos, per ton 90 0-140 0			
_ basket 20 —	— frame, lb 0 6-0'7			
Beetroots, bushel 26-30	- New Teneriffe,			
Brussels Sprouts,	per cwt 12 0-14 0			
per sieve 10-16				
Carrots, per doz.	dezen bunches 0 9- 1 0			
bunches 20-26	Rhubarb, Yorks,			
- per bag 26-40	per dozen 0 11- 1 2			
Cauliflowers, per	Salad, small, pun-			
dozen 1 6- 3 0	nets, per doz 0 8-1 (
Celery, doz. bun. 12 0-24 0	Savoys tally 36-60			
Cress, doz. pun. 08-10	Seakale, per doz.			
Cucumbers, doz. 4 0- 5 0	punnets 18 0			
Endive, per doz. 16 -	Shallots, lb 0 2-0 3			
Garlic, per lb 0 3 -	Spinach, p. bush. 20-31			
Horseradish, fo-	Tomatos, Canary			
reign, p. bunch 1 0- 1 3	Deeps 30-40			
Leeks, doz. bun 1 6 -	Turnips, doz.bun. 1 6-2 0			
Lettuces, Cabbage,	— per bag 20 —			
per dozen 0 10 -	Watercress, per			
Mint, doz 30-60	dozen bunches 0 4- 0 6			
FOURT AND AND MAIN TO BE THE				
FRUIT: AVERAGE WHOLESALE PRICES.				

Apples, home-grown, cookers, per bushel ... 40-60 barrel 180-350 — American, in Grapes, Alicante,
per lb. ... 1 6-3.0

— Almeria, doz. 5 0-8 0

— Gros Colmar, Darrel 18 0-35 0

— American, in cases ... 12 0-15 0

Bananas per bunch 6 0-14 0
— loose, dozen 1 0-1 6
Cobnuta, per lb. 0 7½ — Cranherries, per case ... 12 0 — Figs, per doz. ... 12 0 — Figs, per doz. ... 12 0 — REMARKS,—The Figs are from Cuarpear The Arcon

s.d. s.d.

REMARKS.—The Figs are from Guernsey. The Argentice Peaches are quite a failure, and sell as low as 6d, per box. Cape Peaches, per case, 2s. to 6s.; Nectarines, 4s. to 6s.; Plums, 2s. 6d. to 6s.; Pears, 4s. to 6s. tarines, 18, to 68.; Flums, 28. 66., to 68.; Fears, 18, to 68. Some of the Kelsey Plums are of very fine quality. Broccoll in Cornish crates, 78. to 98.; Cherbourg Broccoll, per dozen, 18. 6d. to 28.; Italiau, per basket, 48. fo 48. 6d.; Brussels Sprouts, per bag, 28.; Coleworts, per bag, 18. to 18. dd. 4. Turnin Trans per bag, 18. dd. to 28. dd. 28 to 28, 6d; Turnip Tops, per bag, 18, 6d, to 28, 6d.

POTATOS.

Home-grown, 100s, to 120s, per ton; foreign, 75s, to 110s, o.; Duubars, 130s, to 140s, do. Seed-tubers in variety. John Bath, 32 & 34, Wellington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

A WEEK of bad weather again put things back, and there were not nearly so many flowering plants in the market on Saturday, March 5, as in the previous week. Yet the supplies were more than equal to the demand. Yet the supplies were more than equal to the demand. Cyclamens continue plentiful. Erica Wilmoreana was better flowered than previously; E. persoluta alba is in good condition; E. gracills vernalis is very poor. On one stand I saw some small plants of E. hyemalis, they were well flowered and of fresh appearance. Spirea japonic is very plentiful, also Spirea astiboides floribunda, but this does not force well, and the plants seen were poor examples. Good Azaleas were not abundant, but there were plenty of second quality. Begonia Gloire de Lorraine is again coming in, but the not abundant, but there were plenty of second quality. Begonia Gloire de Lorraine is again coming in, but the colour is not very good. Cinerarias are good and of bright colours. Some good Lilies of the Valley in pots are still coming in, and they make high prices. Daffodls are good and plentiful, chiefly the varieties Van Zion and Golden Spur. Hyacinths are still over plentitul. There were not so many good Genistas. There were hardy Conifers and other evergreens in large quantities, and they are offered at very low prices. Hardy flower roots for spring and summer flowering are now to be seen on many stands. Prim-

flowering are now to be seen on many stands. Primroses in flower are abundant.

CUT FLOWERS,

Daffodils are still the most prominent feature of this market. Fair prices are made for those of the best quality, but many have to be cleared at a low price or left over. Tulips continue over plentiful, and growers must find a very small margin of profit at the prices many of them make. Red Roses are more abundant and the prices are a little lower. Flowers of the variety General Jacqueminot have made 5a, per dozen blooms and of Liberty 128, per dozen blooms and of Liberty 128, per dozen blooms. variety General Jacqueminot have made 5s, per dozen blooms, and of Liberty 12s, per dozen blooms, but these were a little lower on Saturday. Catherine Mermet is very good now, also Niphetos; Sunrise is very pretty, but the blooms are small. The Bride is very pretty, but the blooms are small. The Bride is very fine, and has a great advantage over Niphetos, because when cut with long stems the flowers stand up well. A few Maréchal Niels are seen. The imported blooms of Perle des Jardins are good, but nots o deep in colour as those home-grown. Good Carnations continue to be more plentiful. Good scarlet Pelargoniums (Geraniums) are plentiful. White Azalea is abundant, and sells slowly. Gardenias have suffered in price; Pancratiums and Eucharis are moderate. The supplies in the French market were shorter;

The supplies in the French market were shorter;

one' salesman who had over 6,000 packages the previous Saturday had only 1,500 on March 5. White Narcissus and Mimosa (Acacia) made double the prices they did in the previous week. A. H., March 5.

JAPANESE PRODUCTS AT THE SALE-ROOMS.

On the 2nd inst., at Messrs. Protheroe and Morris's Auction Rooms, large quantities of Davallia bullata Mariesi were sold, and from the prices made it is evident that the various grotesque designs made up of the rhizomes of this pretty Davallia are still very population. the rhizomes of this pretty Davalla are still very popular. There was a considerable difference in the quality of the various lots offered, some of the ordinary "ballabape" being very inferior in make. There were, however, many of this shape well made, and in splendid condition, and sold in large quantities, would average nearly 12s. per doz. The fancy designs, such as monkeys on bicycles, junks, houses, balloons, men on horses, boys with drums, birds. &c., were well "made up," and the rhizomes appeared in good condition. A case of these, containing 14s large and small designs, made £14 10s. 6d. In these large consignments there are always some of indifferent quality, and some that do not start well, therefore high prices must be made by the retailer of the best, to get anything like a profitable return for the investment. return for the investment.

The balls do not give much frouble to start them into growth, but with the fancy designs, unless they can be given a moist atmosphere, the slender parts do not hold enough moisture to keep the rhizomes fresh. They do not require so much heat, but a close damp atmosphere.

atmosphere.

Nearly a thousand cases of Japanese Lilies, a large proportion of which were L. auratum, were sold. There was a good attendance of buyers, but the sale was not quite so brisk as it was earlier in the season. Most of the samples shown were in flue condition, and many of them of great size. The highest pricas made by L. auratum was 103, per dozen, but medium-sized bulbs sold very cheaply. Some very fine hulbs of L. cordfolium giganteum sold at the rate of about 208, per dozen; L. macranthum platyphyllum a little over 128, per dozen; L. rubrum cruentum about 98, per dozen; L. speciosum Melpomene about the same price; L. auratum platyphyllum, extra large bulbs, about 138, per dozen. The L. speciosum rubrum and album sold fairly well at moderate prices; a few extra-sized rubrum would average nearly 68, per dozen, and a few albums went nearly as high, and smaller and a few albums went nearly as high, and smaller bulbs went at much lower rates. L tigrinum eplendens about 63, per dozen. L'lium Harrisi (from Bermuda) sold at about 30s, per 100 bulbs.

Gladiolus brenchleyensis made from 338 to 403, per 1000, and hybrids of G. gandavensis the same price. Excelsior Pearl Tuberoses sold at about 20s. per 1000. Berlin crowns of Lily of the Valley made about 31s. per 1000, and good clumps made 24s per 100. The Gladstone variety of Spirea (Hotea) japonica made from 16s to 20s. per 100.

An importation of Iris Kæmpferi was also sold, and coloured plales were shown illustrating the varieties. The buyers did not seem to be much influenced by the pictures, for the prices made for good clumps would only average about 6s. per dozen. An interesting collection of Japanese Maples was sold, but these were not in very good condition.

PALM SEEDS.

The best samples of Cocos Weddelliana made about 15s, per 1 00), but there were some sold considerably below this price. The best samples of Kentia Belmoreana made about 9s, per 1 000; Kentia Fosteriana, 5s, per 1 000; the small lots of Latania borbonica made 64. per 1,000, and in large quantities, 58. per 1,000. Geonoma gracilis, 208. per 1,000; and Cocosinsignis, 5s. per 1 000.

FRUITS AND VEGETABLES.

FRUITS AND VEGETABLES.

LIVERPOOL, March 9. — Wholesale Vegetable Market (North Hay).—The following are the averages of the current prices during the past week—prices varying according to supply:—Potatos, per cwt., Main Crop, 4s. 9d. to 5s. 3d.; Up-to-Date, 4s. 3d. to 4s. 9d.; Bruce, 4s. 6d. to 5s.; British Queen 4s. 3d. to 4s. 9d.; Turnips, 6d. to 8d. per dozen bunches; Swedes, 1s. 3d. to 1s. 4d. per cwt.; Carrots, 3s. 6d. to 4s. do.; Parsley, 9d. to 1s. per dozen bunches; Onions, foreign, 4s. 6d. to 5s. per bag; Cauliflowers, 2s. 6d. to 3s. per dozen; Cabbages, 6d. to 1s. do.; Celery, 8d. to 1s. 4d. do.—St. Johns: Potatos, 1s. to 1s. 2d. per peck; Cucumbers, 6d. to 1s. each; Grapes, English, 2s. to 2s. 6d. per 1b.; do., foreign, 8d. to 10d. do.; Pines, foreign, 3s. 6d. to 6s. each; Mushrooms, 1s. 6d. per 1b.—Birkenhead: Potatos, 1s. to 1s. 4d. per peck; Cucumbers, 8d. to 1s. each; Cobnuts, 8d. to 10d. per 1b.; Grapes, English, 2s. 6d. to 3s. 6d. per 1b.; do., foreign, 6d. to 8d. do.; Tomatos, foreign, 6d.; Mushrooms, French, 1s. to 1s. 4d. do.

SEEDS.

LONDON, March 8.—We have to report that the unfavourable weather still affects the demand for agricultural seeds, but prices of all varieties continue remarkably firm. Hurst & Son, 15), Houndsditch.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending March 5, 1904, and for the corresponding period of 1993, together with the difference in the quotations. These figures are based on the Official Weekly Return:

Description.	1903.	1904.	Difference.
Wheat Barley Oats	s. d. 25 3 23 1 17 1	s. d. 28 8 22 6 16 5	8. d. + 3 5 - 0 7 - 0 8

ANSWERS TO CORRESPONDENTS.

Addresses of Seed Merchants in Britain: W. R., U. S. of America. The Horticultural Directory and Year Book, price 1s., published at 12, Mitre Court Chambers, Fleet Street, London; or the Garden Annual, price 1s., published at 17, Furnival Street, Holborn, London, will furnish the addresses you require.

ALLAMANDA; Ixora. The cause of the flower buds of Allamanda falling before they expand, must be sought in the house itself. 'All we can say is that it is the result of a check; but whether this check be from cold draughts, too much or too little water at the roots, or unsuitable temperatures in the house, cannot be determined here.

AMERICAN GARDENING PAPERS: A. American Florist, price to Europe 2 dollars per annum; address, American Florist Co., Chicago. Gardening, 2 dollars per annum; address, The Gardening Company, Monon Building, Chicago. American Gardening, subscription 2 dollars per annum; address, 136, Liberty Street, New York. The Florist's Review, subscription 2 dollars per annum; address, 201, West 135th Street, New York. The last is supplied to the trade only.

ARTIFICIAL COLOURING OF FLOWERS: Ignorance. Ask your chemist for any aniline dye, and put the stems into water in which a little of the dye is mixed. They will absorb the colour by means of suction.

BIRCH: G. H. G. Your tree is affected, as many Birch-trees are, by a very minute insect (Phytoptus), which sets up irritation, swelling, and production of numerous adventitious shoots. As a rule they do little harm beyond disfiguring the tree. Cut out the "burrs" and burn them.

BOOKS: W. G. Sweet Violets and Pansies, by E. T. Cook. Published at Country Life Office, Tavistock Street, Covent Garden, London.

CONTINENTAL HORTICULTURAL PAPERS: F. PAPERS: F. L. Revue Horticole, address, Rue Jacob 26, Paris; Gartenfora, Gebrüder Borntraeger, Dessauerstrasse 29, Berlin; Revue de l'Horticulture Belge, Digue de Brabant 3, à Gand, Brussels; American Gardening, 136, Liberty Street, New York. We do not think any of these publications could be purchased in London, unless ordered. You might try Messrs. Williams & Norgate, Henrietta Street, Covent Garden, London, who would supply them to order.

GARDENERS' WAGES: Head Working Gardener, J. P. The facts as you state them appear to be as follows: Your employer gave you permission to go to see a gentleman to whom you had applied for a situation, but told you at the same time that he should not give you your wages as usual. You went, and he stopped one day's money from your week's wages, notwithstanding that you attended to the fires in the morning and evening of the day you were absent. Remembering also that you have always to attend to the fires at night and on Sundays, we think the action of your employer was ungenerous.

GARDENIA BUDS DROPPING: A. W. doubtedly the result of a check to growth, but we cannot say the cause without knowing all the conditions. Are you using manures or manure water of a very strong nature?

GOLDEN PRIVET: J. M. Privet is one of the very easiest plants to propagate by cuttings, and the golden-leaved variety, though a little less easy

than the type, offers no difficulty. Take off cuttings about a foot or more long, cut back to a point below the leaf nodes, and remove a few of the lower leaves. Then plant them in rows under a north wall or in some shady corner.

IXORA DISEASE: E. C. T. The spots are due to a fungus called Septoria cruciata. Remove and burn all diseased leaves, and spray all the plants twice a week with a rose-red solution of permanganate of potash. It would be well to separate the diseased plants from those that are healthy.

Loofah: T. W. W. Luffa ægyptiaca, a kind of gourd. We do not know where you can get seeds. Try Vilmorin et Cie., Quai de la Mégisserie, Paris.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A. F. A seedling variety of Clivia miniata.—Constant Reader. 1, Picea excelsa var. Clanbrassiliana; 2, Cupressus sempervirens; 3, Juniperus sp.; 4, Thuya gigantea; 5, Cupressus Lawsoniana; 6, Cupressus Goveniana.—A. B. R. Retinospora squarrosa.—H. J. P. 1, Cymbidium Lowianum; 2, Dendrobium suavissimum; 3, Cattleya Loddigesii; 4, Codiæum (Croton) interruptum; 5, Codiæum Johannis; 6, Begonia subpeltata.— Codiæum Johannis; 6, Begonia subpeltata.— C. E. F. Bristol. The smaller is Cypripedium Hookeræ; the other Cypripedium tonsum.— A. J. B. Not Cattleya Mossiæ but a very fine form of Cattleya Percivaliana.—Corres-pondent. No name. Spray of white Orchid Odontoglossum pulchellum.—J. J. D. 1 Sela-ginella Mertensii; 2, Blechnum occidentale; 3, Nephrolepis davallioides furcans; 4, Davallia cauariensis: 5. Nephrolepis tuberosa: 6. Adiancanariensis; 5, Nephrolepis tuberosa; 6, Adiantum cuneatum variety; 7, Polypodium pustulatum.—C. G. Surrey. It is impossible to name garden Codiæums. The characters even on the same plants vary considerably. The on the same plants vary considerably. The better way is to match the leaves with those on plants in some specialist's collection.—Old Tim. Billbergia species, probably B. Moreli.

PALM-HOUSE: G. H. G. You do not specify what your Palms are. Some are all but hardy, and require greenhouse temperature only; others require the temperature of a stove all the year.

PLANTS FORCED BY FIRE: J. C. M. As a rule we look with suspicion on statements made in the lay press, but there is nothing improbable in the circumstance you mention. Similar instances where a check of any kind results in the unfolding of flower-buds by anticipation are not uncommon. The second flowering of Horse-Chestnuts after a long drought is a case in point.

Sanseviera zeylanica: J. McC. This plant belongs to a genus which affords fibre for the making of hemp. The genus is included in the Natural Order Hæmodoraceæ. The plants are herbaceous perennials in tropical and South Africa, and East India. S. zeylanica is by no means a new plant, having been introduced to this country in 1731.

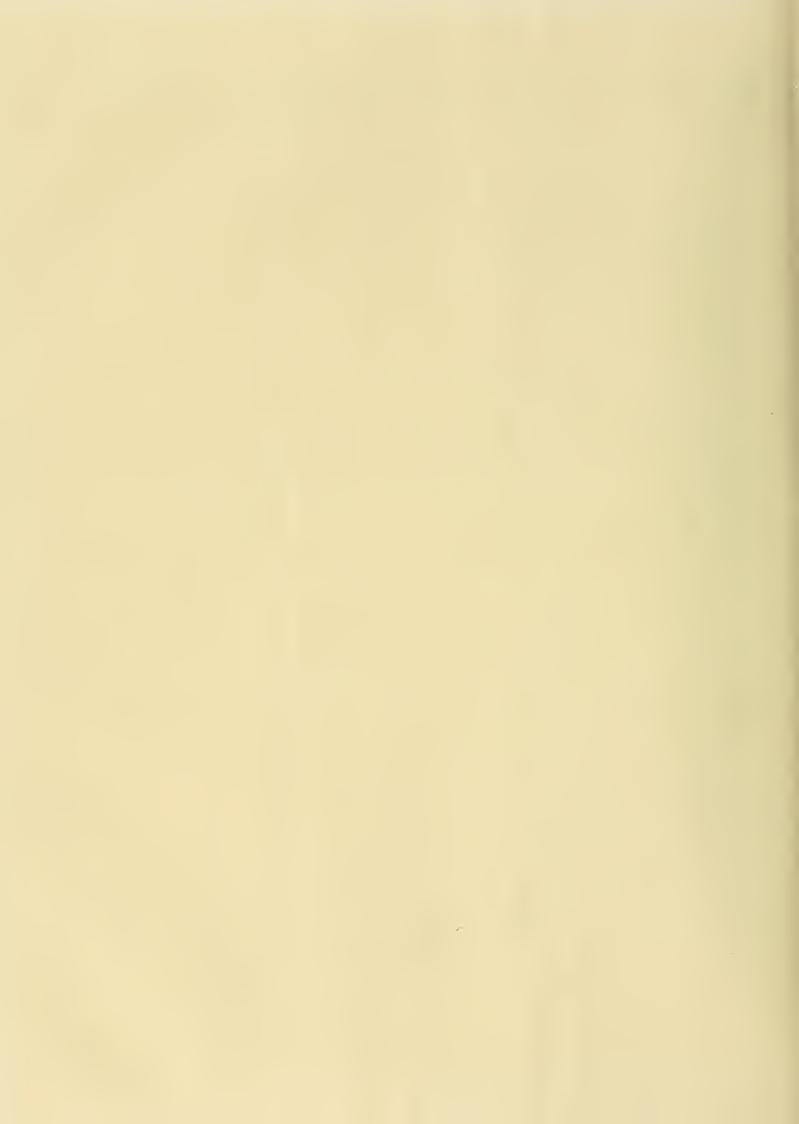
TEMPERATURES: Constant Reader. Several cases EMPERATURES: Constant Reader. Several cases of the thermometer falling to zero—32° of frost—occurred in 1879-80. You will find a very elaborate account by the Rev. G. Henslow in vol. viii. of the Journal of the Royal Horticultural Society. See also "The Report on the Meteorological Observations made at Chiswick between 1826-1869," by James Glaisher, Journal of the Royal Horticultural Society, ii., 1871. We think the record 40° below zero F. must be erroneous. When we do away with our silly erroneous. When we do away with our silly system and adopt the Centigrade plan such confusion will not arise.

VIOLETS: G. S. The plants are quite free from any fungus pest, and the unfavourable symptoms are undoubtedly due to some local conditions that can only be determined on the spot.

COMMUNICATIONS RECEIVED.—Comte de S., Turin.—M. W.—Baron v. Fürstenburg.—E. W. R.—Comtesse de K.—Lord V.—J., Lisbon.—L. de C., Ghent.—R. M.—II. M.—Hops.—A. S.—J. B. P.—G. H. II.—L. M. A.—J. C.—T. S.—A. J. C.—J. G. W.—Pinus.—A. A. P.—J. M. L.—Miss Procter, Shanghai (thanks for photographs).—C. C., Montreal.—R. D.—G. B. L.—A. A. F.—J. W.—Much Annoyed.—W. R.—F. P.—M.—M. L.—A. K.—G. S.—G. N.—W. J. L.—T. H. W.—C. T. D.—H. W. W.—A. J.—E. II. J.—A. L.—R. D.—Young Gardener.—R. K.—W. H. M.—A. J. B.—S. A.—W. Miller.—Dr. Bonavia.—J. S.—R. P. B.—H. E. A.—J. R. J.—Vanda, Yorks.—F. S.—G. C.—J. C. T.—W. E. C.







THE

Gardeners' Chronicle

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NEW ROSES.

Some of the finest Roses of recent origination have been raised at Newtownards and Waltham Cross. Though Mr. Wm. Paul is a veteran rosarian, his activities as a raiser still continue to be exercised, with splendid results. In this beneficent direction be is no doubt very materially assisted by his gifted and genial son. Mr. Arthur W. Paul, whose lecture on "Autumnal Roses," delivered in September, 1901, before the Royal Horticultural Society, was greatly admired.

Of Waltham Cross creations the latest and finest are Field Marshal, a distinct advance on the French crimson China Rose, Cramoisie Supérieure, being much deeper in colour and more perfect in formation; Corona, a greatly-improved White Lady (and this is saying much); Golden Queen, an exquisite climbing Noisette Rose, richer in colour than Rêve d'Or; Floribunda, Arethusa, and Elizabeth Kitto, of which the beautiful variety last mentioned somewhat resembles Madame Abel Chatenay.

Some valuable Roses have of late emanated from Mr. George Paul's famous nurseries at Cheshunt, where the production of single varieties has received much attention. Among the latest achievements of this eminent firm have been a new hybrid rugosa, entitled repens alba, and

Mrs. Allen Chandler, a pure white sport from Mrs. Paul, one of the grandest of Bourbon introductions.

Of the artistic merits of the varieties Mr. and Mrs. Ben Cant, given to the horticultural world by the great Colchester firm of Benjamin R. Cant & Sons, I need hardly say more than this: that they have won the Gold Medal of the National Rose Society. I am glad to have these Roses in my garden, for they perpetuate the memory of a great rosarian, from whom I received much kindness. I have given them, therefore, very conspicuous situations. Lady Roberts, a richer and more exquisitely beautiful Anna Olivier, was raised by Messrs. F. Cant & Co., another very eminent Colchester firm; while Mr. Cooling, of Bath, has given us Purity, Mr. A. Piper, Sunrise; and the Messrs. Veitch, of Chelsea, Queen Alexandra, essentially an effective pinkcoloured Crimson Rambler.

Among the most distinguished of recent introductions from Newtownards are the almost incomparable Mildred Grant, which its great raisers pardonably characterise as the finest variety that has ever been raised; and Alice Lindsell, both Gold Medallists, and without doubt magnificent creations, rivalling Frau Karl Druschki in splendour and renown, though they are not satinywhite, like that famous German Rose, but pale pink in complexion (Mildred Grant somewhat resembles Mr. Wm. Paul's Clio, but is of more splendid petal, and deeper hue); Ards Pillar, an extremely valuable crimson climber; Edith d'Ombrain, and Florence Pemberton. These far more than sustain the reputation of the raisers of Mrs. Sharman Crawford, Helen Keller, and Margaret Dickson.

England's Glory (Wood, 1902) is a Rose which I have not yet had an opportunity of seeing to great advantage, but I have it in my garden; and I can only hope that the anticipations of one of my friends, a son of the late Mr. Henry Bennet, regarding its capabilities and future achievements may be amply fulfilled.

What strikes me chiefly in reviewing those Roses of unquestionable merit which I have endeavoured, perhaps not very successfully, to characterise is the predominance of varieties of a delicate pink hue. These are no doubt, in most instances, highly effective; but there is a manifest danger of this special colour being far too much in evidence in our gardens and rosariums. A few more introductions of the types of Ards Pillar, Field Marshal, Ben Cant, and above all of that glorious variety Frau Karl Druschki (which I previously described as "a German Rose, of French extraction, with a Russian name"), would be of the greatest possible value for artistic effect. We require more crimsons of the velvety texture of Duke of Edinburgh, but stronger in petal and finer in formation; more yellows of the substance of Medea and Madame Hoste, but deeper in complexion; a hardier Maréchal Niel, less drooping and sensitive, suitable for open-air cultivation; a pure white Tea Rose, more obtrusive in its aspect and less pendulous in its habit than Souvenir de S. A. Prince; an improved William Allen Richardson, somewhat fuller in the centre than Madame Pierre Cochet, is also a possibility, and would be undoubtedly a great acquisition. David R. Williamson.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT GATTON PARK, REIGATE.

THE well-appointed blocks of Orchid-houses in the fine gardens of Jeremiah Colman, Esq. (gr. Mr. W. P. Bound) are devoted mainly to the raising and perfecting of good hybrid Orchids, and to the culture of exceptionally good forms of the showier species. So well has Mr. Bound succeeded that the outcome of his efforts compare favourably with these of any of the now large number of amateur establishments carried out on similar lines. "Increase and multiply" on the method so strongly set forth in the Gardeners' Chronicle some time ago, is a fixed principle at Gatton. First get a plant into good condition, and then remove the younger active leads from the inactive and unproductive old bulbs. This is the plan adopted with all fresh arrivals, and with the most remarkable success, for by this means even the species of the worst reputation as "bad doers" are overcome. One of the best examples of this kind at Gatton is the instance of a plant of Epidendrum (Diacrium) bicornutum, which no one has hitherto succeeded in growing well for any length of time, and which was bought some years ago in a very poor condition. It was brought round, and Mr. Bound removed the leading pseudo-bulbs and potted them up separately. They became vigorous, were again divided, and now there are ten fine specimens in splendid health and again about to flower. Another instance of what may be accomplished with freegrowing plants is given by the plant of Cypripedium insigne Sanderæ, bought by Mr. Colman in 1901, a small plant with seven leaves. It has been increased until now, when there are eleven plants having in the aggregate thirty-seven growths.

Increase by seeds seems to be still more prolific, for batches of Cattleyo-Lælia and Lælio-Cattleya crosses by the thousand now approaching flowering stage have been but a short time in hand, the best instance being given by a batch of L.-C. × Hippolyta, sown in March 1901, and among which some are already sending up flowers. A few of the points on which Mr. Bound bases his success worth noting. First, ordinary flower-pots instead of pans or baskets are used, the smaller pots having three holes under the rims for the suspending wires, and no other opening except the one at the bottom. Crocks in the pots are almost entirely dispensed with after the smallest pots (thumbs or small 60's) are passed, and from them a roomy shift is given. The compost used is ene-fifth leaves, and the other four-fifths of peat and sphagnum-moss, apportioned to suit the class of plants for which it is intended, the Cattleyas, &c., having the larger proportion of peat. For the rest a genial temperature with pure air but no cold currents, and cleanliness everywhere, even to the keeping good the paint, in which particular Mr. Bound thinks very highly of the new "Lubrose" paint, as its quality is always alike, and the injurious effect of the eld-fashioned

paints is not risked by using it. In addition to large quantities of showy hybrids in various stages of growth some very interesting crosses were noted. As the outcome of the fine culture of Epidendrum bicornutum before mentioned, are batches of several crosses with it-E. bicornutum × E. Ellisii, E. bicornutum × Brassavola grandiflora, and E. bicornutum × E. radicans were noted. Of the lastnamed cross were several sturdy plants of two distinct classes, the one having the growth and stem-rooting habit of E. radicans, and the other mere Cattleya-like in growth. Many crosses of interest have been made, such as Lælia x Lucasiana × Epidendrum ciliare, whose fimbriated labellum should give a distinct feature; Cattleya maxima crossed with Lælia anceps, Lælia Jongheana × L. anceps Dawsoni, L. Jongheana × L. flava, and a great number of others destined to give novelty rather than large flowers. Of this class a lot of Epidendrum × Boundii (radicans × Burtoni) has numerous heads of bright orange flowers, and as a winter flowerer it is decidedly acceptable.

Of the showy things all available good varieties for several years have been crossed and raised. Dendrobiums have been worked on considerably, and at present two or three of the houses have a fine show of them, and the process of weeding-out has been commenced.

Odontoglossums have given the most trouble, but they are now well in hand, for about 150 healthy little plants of good crosses are in evidence, and many more germinating. And still there are numerous new crosses of which the plants are yet but an inch high.

The process commences with the securing of good seed-capsules, a number of which are to be seen in the houses. The seeds are sown on an oval surface of gauze or "scrim" shading placed over moss, the cushion so formed being arranged about an inch below the level of the rims of the pots. The pots are placed in glass cases fitted inside the specially-constructed seedling-house, and the desired crop seems to follow with tolerable certainty, although the proportion of plants which reach the flowering stage is very small compared with the larger number which germinated.

In the specimen plant-houses the Odontoglossum-house is a pleasant sight with its fine, large-bulbed specimens, bearing in many cases very strong flower-spikes. Even the rare spotted forms grow with robust vigour, and Odontoglossum crispum Mary Colman, O. c. Colmani, O. c. Eleanor, O. c. Margery Tyrrel Giles, and other beauties which lately appeared at Gatton Park as small plants, now match the ordinary kinds in free-growing qualities. Oneidium macranthum and Odontoglossum Edwardii are very strong, and have stout spikes; O. superbiens, O. zebrinum, and other cool-house Oncidiums are equally good; and in flower suspended from the roof are many showy scarlet Sophronitis, wellbloomed Odontoglossum Rossii majus, Oncidium concolor, and other dwarf species. The section occupied by the Masdevallias has some in bloom, M. × Courtauldiana and the dark purple M. cucullata being very attractive.

In one of the Cattleya-houses C. Trianæ Courtauldiana was very beautiful, C. T. Russelliana, C. T. Mrs. Dorman, C. T. albida, and some others in bloom. In one corner were specimens of most of the white Cattleyas. In the larger Cattleya-house are the general collection of Lælias and Cattleyas with more of the Cattleya Trianæ in flower, those noted as specially vigorous or well-flowered being C. Trianæ Corningii, which this year is almost wholly white, while formerly it has had rose-colour on the lip; C. T. Mr. J. Colman, a fine dark form.

In the Nepenthes-house, where a very fine show of Pitcher-plants adorn the roof, Phaius × Norman, P. × Cooksoni, Vanda Cathcarti, and Acineta Humboldti, are in bloom. In another division are a good collection of Sobralias, some hybrids of which have been raised; a fine lot of Cymbidiums, the specimens of C. grandiflora and others being still in bloom.

In a span-house the collection of Lælia anceps are suspended from the roof, a batch of Miltonia vexillaria, Lælia flava, and other dwarf Lælias being in bloom on the stages. In another house one side was filled with examples of Cattleya labiata, which are said to have given six hundred fully expanded flowers at one time, and in other houses good Dendrobium Wardianum and D. crassinode album and many other pretty Dendrobes in flower were remarked, and throughout evidence of the best possible culture.

SOILS AND MANURES FOR SPECIAL CROPS.

THE growing of crops under glass has come to be a more or less highly specialised business. In fact, the work is more than a business-it has become an art as well. Messrs. A. F. Woods and R. E. B. McKenney, of the Bureau of Plant Industry, Washington, U.S., and others, are devoting their best energies to the production of plants reaching nearer and nearer to the highest standards. To get an idea of how successful these workers have been one needs only to bring to mind some of the wonderful creations among Roses, Carnations, and Chrysanthemums. But, after a plant has been produced with ideal possibilities, it will reach its best and hold its own only with the most intelligent care. A plant is much more than a delicately balanced machine; it is a sensitive living being, with its likes and dislikes and individual peculiarities. Thus, Messrs. Woods and McKenney say, the successful grower must learn to interpret the plant's silent language and to meet its varying wants, moulding it to his ideal, or perhaps to other people's ideals, according to the demands of the

The authors say that, among all the questions to be dealt with, there is no one more important than plant-feeding. What to feed, when to feed, and how to feed, are questions often asked; and we have to depend for answer upon the experience of expert growers and experimenters. While there is a very great deal yet to be learned by careful experiment in this field, a concise statement of the general practice in feeding or manuring certain crops may not be without interest and value. The questions of temperature, watering, and ventilation are extremely important in connection with plant feeding, but they cannot be discussed on this occasion.

It may be stated at the commencement that plants cannot be grown by rule; experience and individual experimenting by the gardener himself along conservative lines are necessary to success in the culture of any crop. In the present article attention will be directed especially to crops forced under glass, including Roses, Carnations, Chrysanthemums, Violets, Tomatos, and Lettuce.

THE ROSE.

The following table shows the amount of the most important chemical constituents in the various parts of the Rose-tree and also in the flowers. The nitrogen is given in the dry substance, that is in the portions of plant from which all the water has been driven off by artificial drying. The portions of plant having been fully dried are burnt to ash, so as to drive off all the organic constituents, which the plant obtains mostly from the air; there then remains the ashes, which, on analyses, show the amount of constituents which the plant obtains from the soil. These are given in parts per hundred.

CHEMICAL CONSTITUENTS OF THE ROSE.

Constituents.	In the Roots.	In the Stems.	In the Leaves	In the Flowers.	
	per cent.	per cent.	per cent	per cent.	
Potash	14.37	15.61	37.68	47 39	
Lime	41 26	51 60	11 29	10.25	
Phosphoricacid	28.16	11 21	12 13	29:43	
Iron oxide	2 13	2:31	4 29	0.86	
Nitrogen in dry substance	9 31	15 26	23.29	26 31	

We see from the above data that while potash is much the larger constituent in the construction of the leaves and flowers, which are the maturing organs of the plants, lime is greatly predominant in the roots and stems, the structural portions of the plant, because this element aids the convergence.

sion of available organic substance into "building material."

It is somewhat remarkable that the Rose flowers should contain such a large proportion of phosphoric acid in their ashes and of nitrogen in their dry substance, but there is reason to believe that the element phosphorus plays a very important part in the production of nitrogenous proteids.

Iron is in the largest percentage in the leaves, and it is known that this element is very necessary for the formation of the green colouring matter known as chlorophyll.

SOIL FOR ROSES.

A great variety of soils can be successfully used for forcing Roses, but a moderately heavy loam from rotted turf-sods is generally recommended. The lighter types of soil are most. favourable for such varieties as La France, Perle des Jardins, Duchess of Albany, and Niphetos; while a good stiff loamy soil is required for Brides, Mermets, Madame Hoste, Gontier, and Souvenir de Wootton. If the right type of soil cannot be found, light and heavy soils can be mixed to secure a soil of the desired texture. Assuming, however, that the proper sod-loam can be obtained, cut the sods in the autumn, and compost with cow or horse-manure, using one part of manure to three parts of soil. Turn and mix the heap two or three times during the winter, breaking up all lumps, and getting into good, even condition. At the last turning, which should be made several weeks before the compost is to be used, add 10 to 15 lb. of fine-ground bone, free from common salt, to each cubic yard of compost. This should be thoroughly mixed. Fine-ground steamed bone is best for greenhouse use, as it decays more quickly than raw bone, and its phosphoric acid thus becomes available earlier. If raw, coarse bone is used, only a small part of the phosphoric acid becomes available during the first season, but the nitrogen content of the bone-manure is a little higher.

It is also safe and desirable in the case of Roses to add to the bone manure some form of potash, especially in the lighter classes of soil We see from the foregoing analyses that potash bears a very important relation to the formation and to the storing up of the other chemical constituents in the plant.

About 1 lb. of sulphate of potash or 6 quarts of pure wood-ashes to the cubic yard, applied with the ground-bone, will be sufficient for the compost, which must not be too rich to start with, or the roots of the young plants will be injured. After the Rose-trees get a good start, and the soil is filled with fibrous roots, additional food will be required. The compost prepared as stated is adapted for plants from 3-inch or 4-incb pots.

The potting-soil used for the plants up to the time they are ready for the beds should be very thoroughly rotted sod-soil, as described above, mixed with one-sixth to one-eighth thoroughly rotted cow-manure or horse-manure, but with no bone or so-called chemical fertilisers.

SOIL STERILISATION.

It is considered best, if possible, to sterilise the potting-soil with steam from a high-pressure boiler. This will destroy the plant and animal parasites likely to injure the young plants, so that they will usually be able to take care of themselves when set from the pots to the beds.

Some of the most successful growers also sterilise their compost-soil for the beds. If this is properly done it destroys all nematodes (eel-worms), grubs, and all plant and animal parasites likely to attack the roots, as well as all weed seeds. In large establishments, at least, it will certainly pay to sterilise all soil used, especially where nematodes or other root parasites occur.

The usual method of sterilisation for greenhouse use is to build a large bin, about 4 fee wide by 10 or 15 feet long, and 3 feet deep, cunning pipes through the bottom of the bin (or through the bin a foot from the bottom) a foot apart lengthwise. In a 4 foot bin there would be three pipes, with one-sixteenth-inch holes drilled in them on the under side, about 1 foot apart. Fill the bin loosely with soil; turn in steam of about 80 pounds' pressure; put a few Potatos in the top of the soil, an inch or so under the surface, then cover the surface with tight boards or cloth, in order to prevent escape of the steam. Usually one or two hours under good pressure, if the soil is not too heavy, will cook the Potatos in the top of the soil; then one may be sure that the parasites and weed seeds have been destroyed. If high-pressure steam is used the soil will dry rapidly after the steam is turned off, and can be shovelled out of the bin without much difficulty, especially if one side of the bin is removable.

In sterilising soil without the use of a bin, the same process is used. The pipes are laid in the ground to be sterilised in a similar manner as in the bin. If it is desired to sterilise a foot of soil, the pipes should be placed under the soil about a foot, with the drill-holes on the under side; the surface should then be covered with boards, or something to prevent the escape of the steam, and the soil should, of course, first be loosened, so that the steam can circulate through it.

A few Potatos distributed over the area will tell when the sterilisation has become complete. After the sterilisation the pipes can be removed. It is a good plan before sterilising to mix in the farmyard or stable manure that is to be used, as this often contains numerous weed seeds. If artificial manures are used, of course it is not necessary to add them first.

Any small high-pressure boiler will serve to make the steam. Some use a small independent boiler for the purpose, others attach the apparatus to their high-pressure boiler. A low-pressure boiler is usually unsatisfactory, as it takes a longer time to circulate the steam, it leaves the soil wet and soggy, and does not do the work very well.

Soil sterilisation is rapidly coming into favour for all intensive work where the process is practicable. J. J. Willis, Harpenden.

(To be continued.)

THE PINES OF CUBA.

The Cuban Pines are confined to the two extremities of the island. They are found in the eastern province of Santiago, and in the western province of Pinar del Rio, and the neighbouring Isle of Pines. The two sections are separated by a pineless interval of about 350 miles. The specimens of Pinus in the Gray Herbarium, brought from Cuba by Charles Wright, represent actually three distinct species, although all are dabelled P. cubensis, Grisebach. Those collected by Wright before the year 1860, and some of them after that date, are native to the eastern end of the island. They are included under the Nos. 598, 3190, and a part of No. 1462. They all belong to a single species.

P. Wrightii.—This Pine has two (rarely three) slender leaves, about 6 inches long, and a subterminal young cone (beeoming reflexed at maturity) whose scales terminate in a distinct spine, so frail, however, that it usually does not persist on the ripe cone. The leaf section shows abundant marginal strengthening cells, detached from the epidermis, and similar cells with the two fibrovascular bundles. Usually there are two characteristic large resin ducts against the angles of the centre.

Specimens collected by Hamilton at Guama, on the south coast near the city of Santiago, and those collected by Underwood and Earle at Baracoa on the north-east coast, correspond in all particulars with Wright's specimens from the interior of the same province. No species of Pine other than this one has been found in eastern Cuba, nor has this Pine been collected at the western end of the island. This is the species these species, and No. 1462 (unfortunately used also for the eastern species) one of them.

P. terthrocarpa.—Of these western Pines one is P. terthrocarpa, Shaw, a Pine with two (rarely three) stout leaves 6 to 9 inches long, and a subterminal spineless cone. The leaf-section shows

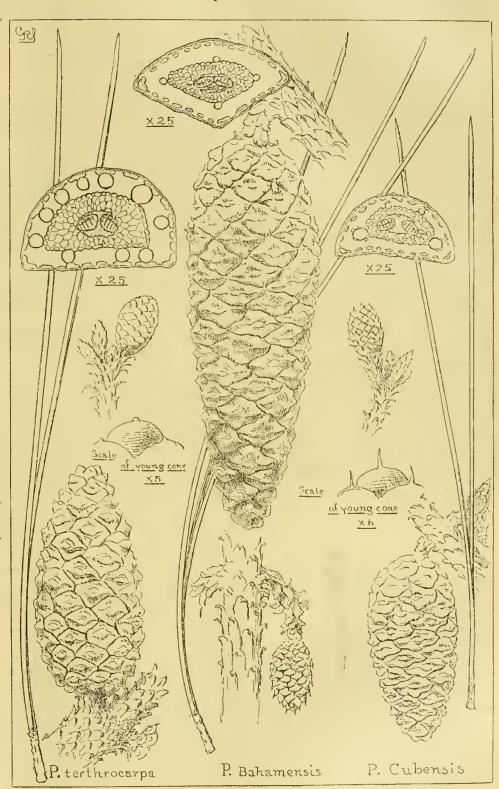


FIG. 74.- THE PINES OF CUBA

that Engelmann named P. Wrightii on Wright's Nos. 3190 and 1462 (in part). His mistake in supposing the cone to be lateral was due in all probability to imperfect material.

During the period from 1860 to 1864 Wright also visited Pinar del Rio, the extreme western province; and the result, in Pine specimens, was two other species. No. 3189 includes both of

strengthening cells close against the epidermis and with the two wood bundles. It is chiefly remarkable for the extraordinary size of the resin ducts. This Pine has been recently collected on the Isle of Pines and in Pinar del Rio, but has not been found in eastern Cuba.

P. bahamensis.—The other specimen of No. 3189, and the western specimen of No. 1462, belong to

the species variously known as P. heterophylla, Sdwth.; P. Elliotti, Engel.; P. bahamensis, Griseb., and often considered identical with P. cubensis, Griseb.

In Cuba this Pine usually has three leaves 8 to 10 inches long, and a leaf-sectio like that of P. palustris, Mill. Its most characteristic peculiarity lies in the long-stalked, reflexed, lateral young cone. It has never been found in castern Cuba, but is abundant on the Isle of Pines.

Grischach's original description of P. cubensis (1862) is founded on Wright's Nos. 598 and 1462. His later description (1866), where for the first time he mentions its position, specifies a latera cone, and cites Wright's Nos. 598 and 1462b., evidently confusing the two species. The name "cubensis" belongs properly to the eastern Pine with a subterminal cone, for it is very clear that Grisebach in his first description had the eastern species only in hand, and that description perfeetly describes the Santiago Pine.

The name of the western species, with the lateral cone, needs further consideration. Sudworth calls it heterophylla, basing his name on Elliott's P. taeda var. heterophylla in Sk., 11., 636 (1824). This description of Elliott specifies the staminate flowers as "yellow tinged more or less with violet," appearing in "early April." This is not our Cuban Pine, whose very striking rose-purple flowers open in late January or in early February. On the other hand, he describes the bark "as smooth as that of palustris," and the leaves "by twos and threes indiscriminately mingled," which are characters applicable to the Cuban Pine. The two species, P. taeda and this Cuban Pine, are found together in the locality of Elliott's variety, and inasmuch as the existence of the Cuban Pine was not at that time suspected, it is very probable that Elliott confused the two. In any event, his description, in important particulars, cannot be applied correctly to our species, and in that connection at least should be abandoned. The name cubensis being no longer available, P. bahamensis, Griseb. (1864), takes the precedence of P. Elliotti, Engel. (1880). The three Cuban Pines may therefore be arranged as follows :-

Cones subterminal, leaves in twos, rarely in threes.

Young cone armed, becoming reflexed, leaves slender.

- 1. Pinus cubensis, Grisebach, Mem. Amer. Acad., viii., 530 (1862). P. Wrightii, Engel., Trans. Sl. Louis
 - Acad., iv., 185 (1880).
- Young cone unarmed, remaining erect, leaves stout.
- 2. Pinus terthrocarpa, Shaw, in Sarg. Trees
 - and Shrubs, i., 149 (1903). P. cubensis var. terthrocarpa, Wright,
 - in Grisch, Cal. Pl. Cub., 217 (1866).
 - P. cubensis var. anomala, Rowlee, Bull. Torr. Club, xxx., 108 (1903), in part.

Cones lateral, reflexed, leaves in threes.

- 3. Pinus bahamensis, Grisebach, Fl. Br. W. Ind., 503 (1864).
 - P. occidentalis, Rich., Fl. Cub., iii., 233 (not Swarz), (1853); Griseb., Cat. Pl. Cub., 217 (1866).
 - P. cubensis, Griseb., Cat. Pl. Cub., 217, in part (1866). P. Ellietti, Engel., Trans. St. Louis
 - Acad , iv., 186 (1880).
 - P. heterophylla, Sudworth, Bull. Torr. Bot. Club, xx., 45 (1893); Sargent, N. A. Silva, xi., 157 (1897).
 - P. recurvata, Rowlee, Bull. Torr. Bot. Club, xxx., 107 (1903).
 - P. cubensis var. anomala, Rowlee, Bull. Torr. Bot. Club, xxx., 107, in part (1903).

The goographical position of these Pines now becomes consistent. P. cubensis lies in close touch with its nearest relative, P. occidentalis, south-west of Hayti, while P. bahamensis is in direct line with the trend of its namesakes of Florida, the Bahamas, and British Honduras. P. terthrocarpa seems to be a Pine of a very restricted area. George Russell Shaw, Arnold Arboretum, February 7, 1904.

BOOK NOTICE.

A MONOGRAPH OF THE COCCIDÆ OF THE BRITISH ISLES, Vol. II. (Robert Newstead), 8vo., pp. viii. +270, pl. 42 (1903). Price 25s. (Ray Society).

THE second volume of this work rivals the first in excellence. The descriptions of the whole of the known British Coccide are completed by its appearance. Mr. Newstead records eighty-eight species and four varieties; of these fifty-one species and two varieties are only found under glass. There is no doubt that these hothouse scale-insects have been introduced into this country, some more than fifty years ago, others during the last few years. There is every possibility of many more making their appearance.

These importations should be guarded against, as we can never foretell how an introduced scaleinsect may behave.

The groups of scale insects so ably dealt with in this volume are the Conchaspine, Lecaniine, Hemicocinæ, Dactylopiinæ, Coccinæ, Ortheziinæ, and Monophlebine.

A very careful and full account is given of all the British species found in the second group, which contains several very important plant posts. Several genera of Lecaniinæ occur in this country, but some of these infest only Grasses. Carex, Luzula, and other wild plants, and are thus of little economic importance. Now and again Lichtensia viburni occurs in great abundance on Ivy. The strange yet beautiful Ceroplastes eistudiformis (Townsend) is recorded on an Orchid, Chrysis bractescens, at Tring Park, and a strange star-like scale (Vinsonia stellifera) on Cypripediums. The Vine Scale (Pulvinaria vitis) occurs under glass on Vines and Peaches; whilst out-of-doors it attacks Alder, Birch, Hawthorn and Willow.

Mr. Newstead deals with the White Woolly Currant Scale, the Pulvinaria ribesiae of Signoret, as only a variety of P. vitis. This is a pity, as it has always been known as P. ribesiæ. I do not think we have any record of the Currant form attacking the Vine, or vice versa, and there is a great difference in size; one cannot help thinking that they are in some way specifically distinct. Except for this unfortunate alteration, the account given here of this pest is all that can be The other and more abundant Current Scale the Brown Current Scale (Lecanium ribis of Fitch) has also been abolished as a distinct species, and is described in the body of the work as L. persicæ var. coryli, Linn.; but in the appendix as var. sarothamni, Douglas. All these changes and synonyms make one feel very much inclined to speak of our "insect-pests" only by means of their popular names. The Brown Currant-Scale is the Brown Currant-Scale, but it has had no less than five scientific designations given to it, and even now no one seems agreed as to its right name. I doubt if it is wise to heed these changes of nomenclature when dealing with wellknown pests. The account of these Current Scales is followed by that of another Lecanium well known to Fern growers. The Fern Scale (Lecanium hemisphæricum) is a most prolific species; but, says Mr. Newstead, "it never gains headway on well-kept plants, as being a large

species it is easily seen on Ferns, and quickly removed with the fingers.'

The British Dactylopine are grouped in nine genera, the most injurious being the mealy-bugs (Dactylopius) and the Beech-louse or Felted Beech-coccus (Cryptococcus fagi). The females in this section are either active or sedentary, and may be naked, but most are either covered with a mealy coat, or with waxy, horny, or glassy covering; the female ovisacs are usually formed of loose, white flocculent matter. Mr. Newstead describes no fewer than five mealy-bugs. Two only occur under glass, the Dactylopius citri and D. longispinus; the three others are described for the first time, and occur on coarse grasses. An account of the destructive Felted Beechcoccus (C. fagi) runs to six pages, and is quite the best account yet written of this pest; but Mr. Newstead is surely wrong in saying spraying has not any effect on it. It may easily be cleared from a tree by caustic alkali wash in winter, and a few good sprayings of parassia emulsion in spring.

Another genus fully entered into is Orthezia (Bose), the adult females of which are more or less covered with plates or lamellæ of waxy secretion, those at the posterior end of the body forming an ovisac. The winged males have the abdomen furnished with a pencil of long filaments. The Orthezinæ are the prettiest of all scales, due to the wonderfully symmetrical arrangement of numerous glistening white, waxy plates, which partly or wholly cover the body; these females are always active, and carry their young or eggs in the ovisac. The genus Newsteadin is closely allied to Orthezia, but is of little economic importance, as the single species is a grass and moss feeder. The so-called Latana Bug of Ceylon, Orthezia insignis (Douglas) is a well-known insect in many greenhouses. strange scale insect is spreading in hothouses very rapidly, and is certainly very harmful. The adult female is dark bottle-green, short and oval, surrounded, except the head, by a marginal series of snow-white laterally connected lamelle, the posterior ones being directed backwards and downwards; behind projects the white ovisac. which reaches, when mature, four times the length of the body. The long legs project freely, and so do the antennæ, both reddish-brown in colour.

The body of the text closes with a short account of the Egyptian Cushion Scale, Icerya ægyptiacum (Douglas). Most people have heard of the enormous damage done in America by the Iceryapurchasi, an introduced Australian species. Orange and Lemon are equally destroyed by it in the Cape, and in Auckland whole orchards have been devastated. In Egypt an allied species occurs, which Mr. Newstead describes, and tells us that it has occurred in Britain on a freshly imported plant at New Gardens, which was promptly destroyed. As this pest has caused endless harm in Egypt, it behoves us to follow at once Kew's example, and burn any infested plant right away. This scale insect can at once be told by the great exudation of white waxy and cottony matter, with a fringe of large tapering white processes all round.

At the end of this work is a very valuable adjunct to such publications, "A Glossary of Terms," by means of which the technical descriptions of the various species become at once intelligible to non-entomological readers.

The work is illustrated by forty-one plates ef great beauty, the scales and the insects coloured, and many outline drawings of various characteristic structures, by which alone we can separate and identify certain allied species, are given.

The work will prove of great value to all interested in plant cultivation, and especially to those who have the care of hothouses, Fred. F. Theobald.

ALPINE GARDEN.

SHORTIA GALACIFOLIA VAR. ROSEA.

This plant was shown lately at the Drill IIall by Mesars. Cutbush & Sons. While some will think that the purity of the typical kind can hardly be excelled, this variety will be a charming companion to it. The colour will probably be deeper when seen in full exposure. The flowers, too, will increase in size when the plants are more established, even as the old kind has so vastly improved in the past few seasons. Fortunately the cultural requirements of the Shortia are well understood.

Anemone (Hepatica) angulosa alba.

This fine plant, shown recently by Mesars. Barr & Sons, while not absolutely white, is quite a near approach to it. The large florin-sized blossoms are a distinct gain in these plants, and the variety alba would appear to be of larger size than the well-known form. These Hepaticas, as they are still called, are popular with all, and the charming array of colour they represent, together with their simple cultural requirements, justify this appreciation. E. J.

SAXIFRAGA BURSERIANA MAJOR.

The fine examples of the above plant brought by Mr. Jas. Douglas to the Drill Hall recently were splendid specimens. The larger plant had probably 100 fine flowers. I did not count them, but having a plant of my own in flower with some seven dozen blossoms, I could readily see how much greater was the mass of bloom in Mr. Donglas's plants. The rosettes of this variety major are larger and bolder, the plant more pronouncedly silvered or encrusted, and the flowers larger than those of the type. A greater distinction, which is also a decided attraction, is the rich crimson foot-stalks, that render it distinct from the very first appearance of the buds, the latter being of the same fine colour. I allude to this marked characteristic specially, inasmuch as there exists another so-called major, which is obviously a slight enlargement of the typical kind—a much varied plant. The variety shown by Mr. Douglas I call "major" true, and it flowers several days earlier than all the others. I get the best results by growing the plant in rich loam, sand, and old mortar, with the fullest exposure at all times, and unplunged. The plants require an abundance of moisture in summer. E. Jenkins, Hampton Hill.

CACTI IN ARIZONA.

WE are indebted to the Curator of the Royal Gardens, Kew, for permission to use the accompanying illustrations (figs. 75, 76). One shows some plants of Echinocaetus Wielizeni as growing in the mountains of Arizona, a dry, hot, stony region near the borders of Mexico. The size of the plant can be estimated by the portrait of the collector, Dr. R. E. Kunze. In the background is a plant presumably of Cereus giganteus.

The other view, fig. 76, is taken in the garden of Dr. R. E. Kunze at Phenix, Arizona. In the foreground is a plant of the Barrel Cactus, Echinocactus Emoryi, estimated to weigh 300 lbs., and having a height of $3\frac{1}{2}$ feet. The spines are 5 inches long.

In connection with these illustrations we may call attention to a publication which has reached us from the Carnegie Institution at Washington, and which gives some account of the Desert Botanical Laboratory at Tucson, Arizona. This institution has been inaugurated by Dr. Common, of the New York Botanical Garden, under the auspices and direction of Messrs. Coville and MacDougal, who had previously visited the region on several occasions, and who made a special journey for the purpose of finding a suitable site for the laboratory.



FIG. 75.—ECHINOCACTUS WISLIZENI GROWING WILD IN ARIZONA.

The details of their journey are given in the publication above referred to, and are of a very interesting character. They are illustrated with a series of photographic reproductions, which give a vivid idea of the sand-danes, the rocks and other features of the scenery, as well as of the curious plants which by their structure and conformation are adapted to live under what would seem to be ungenial conditions. The laboratory has been established for the purpose of studying thoroughly the relation of plants to an arid climate and to substrata of unusual composition. Special studies have already been made at various stations of the

relations of plants to alkaline soils, and of the effects of irrigation. The immediate purpose of these investigations was to obtain information for the use of the horticulturist and agriculturist. At the laboratory now erected a wider outlook will be taken, and the investigation is expected to produce results concerning "the fundamental processes of protoplasm as important as any in the whole realm of Botany." The laboratory will be available for the use of students under suitable regulations. A journey of four or five days from Washington suffices to bring the visitor to the desert regions of Texas and Arizona.



FIG. 76.—ECHINOCACTUS EMORYI, 31 FEET IN HEIGHT, FROM A GARDEN IN ARIZONA.

OBSERVATIONS ON THE VEGETA-TION IN AN EQUATORIAL AFRICAN GARDEN.

(Concluded from p. 166.)

ALTHOUGH grasses are frequently both dangerous and unpleasant in Central Africa, even the most casual observer must be struck with the beauty of some species. A dwarf grass, forming little colonies, is quite common, which in the flowering period makes delightful patches of colour; the soft silky plumes seem of every tint from silverywhite to a deep rose-pink, and it maintains the display for several weeks. There are other sorts, tall and dwarf, with the inflorescence arranged in loose, graceful panicles of many pleasing tones. A charmingly decorative grass bears a dense silky plume of a peculiar brown tint. The flower-stem is from 5 to 6 feet high, and when cut for house decoration, the colour is retained for a considerable time. A perennial grass-like plant with a rigid, npright growth like an Irid, about 3 feet high, having broad, strong leaves, bears white downy plumes. It converts acres of ground into a mass of waving white. It is very common and is unexcelled for thatching purposes owing to the tough, durable nature of its leaves. It takes complete possession of land where it grows, and to exterminate it is almost hopeless. The matted mass of roots and tough root-stocks defy the native hoe.

The note of quaintness in the vegetation is furnished by the peculiar leguminous aquatic tree, Herminiera, and by the huge Ficuses enveloping other large trees. Herminiera Elaphroxylou is a monotypic genus found alongside some lakes and rivers in tropical Central Africa. It occupies a position in the order close to Æschynomene-a genus which is of some economic value in the eastern tropics, its pith being extensively used in manufacturing such things as helmets, &c. Herminiera seems to be a purely aquatic tree, as the writer has only observed it either in extremely swampy ground or just in the water, and most frequently in the latter position, where it forms dense groves. It will be remembered that outside the Mangrove family, trees of an aquatic habit are not numerous. In open positions the Herminiera forms a somewhat spreading tree about 20 to 25 feet high. The branches are copiously armed with short, sharp spines, and the foliage is sparse, like some Acacias. The flowers, usually produced singly, are of a fine orangeyellow colour, the standard being from 11 to 2 inches wide. The trunk has a swollen appearance, often attaining a considerable diameter below, tapering upwards, and is covered with a thin, dull-grey bark. The wood is extremely light and soft, so light indeed that a man can with little difficulty carry an almost entire large trunk. Some of the Nile-country natives use the wood as a float to assist them in crossing the river, and by others, according to Schweinfurth ("Heart of Africa") a peculiar light raft is made of bundles of the wattles, which they carry about like huge shields! But when allowed to remain in the water the bucyancy soon departs from the wood. The growth is extremely rapid, and it might well be called a weed amongst trees.

The remarkable manner in which members of the genus Ficus take possession of the trunks of other arboreal vegetation, enfolding them completely with growth, and in some instances gradually killing them out, is a feature frequently met with in the tropics of the eastern and western hemispheres. The Figs attain the proportions of gigantic trees in this way—if not in stem girth (and often in this), at least in branch spread. An instance occurred where the stem of a Phœnix Palm enveloped was probably 30 feet in height, and where the Fig commenced to give off its main branches

at a height of about 20 feet from the ground. In another example existing in the garden the Phoenix was in quite a flourishing condition, although at first sight it seemed to be growing from the centre of a huge, wide-spreading Ficus. The process of growth and trunk formation is very interesting. The seedling Ficus may begin life in a fork or other suitable part of the host-tree. The slight amount of debris that accumulates there, coupled with ahundant moisture, affords sufficient nourishment for the time during which the seedling is sending a number of delicate roots along the crevices of the bark towards the soil. Once that is reached, root-growth becomes extremely rapid, and the young plant appears to concentrate its energies on root-production, for soon almost the entire surface of the host-trunk becomes covered with delicate, pink-coloured roots about the size of small string. As growth develops these roots coalesce, forming a complete mass of tissue that looks in the early stage like a thick bark on the host.

It is odd what a prederence the Ficus shows for the Phænix Palm; but of course other trees carry their fig burden also. The genus is represented in great numbers and wide diversity of form in the lake-country vegetation. The prepared bark of several species clothes thousands of people with a garb like finely-tanned leather and of a rich brown colour. It is not the case that every Ficus begins life as an epiphyte, for many seedlings and saplings are found in the soil flourishing in the normal way. It will be recalled by those interested in the subject that in the case of the celebrated Assam Rubber-tree (Ficus elastica) advantage has been taken of this epiphytic propensity in establishing plantatations. M.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Peach and Nectarine Trees .- The flower buds on Peach and Nectarine-trees are now moving, and it is therefore very important to complete any pruning that remains to be done, otherwise many of the buds may be damaged when carrying out the work. Allow the young fruiting shoots ample room, so that the shoots that will be made in the coming season may also have sufficient space to grow properly. As soon as the pruning has been done, syringe the trees with an insecticide, but the more forward the buds are the weaker should be the solution used for syringing. Any of the trees likely to need increased nourishment may be afforded a good dressing of bone-meal, which should be pricked in over and about the roots after a little of the old surface-soil has been removed. If the land is of a heavy and alone returns some land is of a heavy and close nature, some burnt earth or old brick mortar may be advantageously employed. In some seasons, and where the soil is light and porous, a mulching of manure early in the season will be helpful; but as the land this year is at present so excessively wet, it will be better to defer top-dressing or mulching with manure for a time Young and newly planted trees may now be trained. If the young shoots are long and unripe, shorten them. Although some gardeners do not recommend the pruning of young trees, I generally use the knife with care until I have made sure of a good foundation of young shoots to form an evenly balanced tree. Before finally securing the young shoots to the walls or wires, tread the soil well over about the roots to prevent any further sinking. Allow plenty of room in the ties, and examine these at intervals, loosening them or replacing them when occasion requires.

Protection of the Blossoms.—In some seasons it may not be necessary to protect the flowers, but after last year's experience it is better to be on the safe side. Let everything be got in readiness for the moment when protection may be necessary. Apricots are usually the first to flower, and unprotected flowers are certain to be injured in the

event of severe weather. There are various methods by which protection may be employed. Trees on walls having glass coping need only have two or three thicknesses of fish-netting hung in front of them, reaching from the coping half-way to the ground, being kept at a reasonable distance from the trees by poles driven into the ground. A very satisfactory method of protecting the flowers is by the use of blinds. These were used at Longford Castle many years ago, and during the three years that I was foreman in those gardens very heavy crops each year were produced. Mr. H. W. Ward has frequently recommended the use of blinds in the Gardeners' Chronicle. Other means may be employed, such as Spruce-boughs, canvas, &c. The flowers need all the light and sun possible, therefore the protection should only be employed during frosty nights and cold biting winds, &c. The protection of the Peach-flowers by the use of blinds is fully described in a capital book on the Peach by Mr. Ward, in which he gives the details as to fixing, &c., and the cultivation of Peach-trees generally.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir Trevon LAWRENCE, Bart., Burford, Dorking.

Cattleya Triana.—There are few Orchids at this season more useful than Cattleya Trianæ and its numerous varieties. As soon as the plants have passed out of flower, the young growths will start away, and from their base numerous new roots make their appearance. Before these young roots begin to grow, re-pot any of the plants that require more pot room or fresh material to root into. When re-potting strong, healthy specimens, do not disturb or injure any of the old roots more than is absolutely necessary. My method with well-rooted plants is to break the old pot with a hammer, and carefully take away the pieces of crock by degrees down to the base of the drainage. Select a pot of suitable size, and for drainage place a few well-dried pieces of Fern rhizome from the peat over the bottom, so that when the plant is placed in the pot, the surface of the old compost will be just below the rim. Then fill up around the roots with a compost consisting of fibrous peat, leaf-soil, and sphag-num-moss in equal parts. The peat and moss num-moss in equal parts. The peat and moss should be cut up roughly, adding a moderate quantity of coarse silver sand; mix the whole well together. Make this compost moderately firm about the roots, and fill up to within 3 of an inch of the rim, then surface up to the top of the rim with chopped sphagnum-moss. By this method of repotting few sticks will be necessary to keep the plant in its proper position. When the opera-tion is completed, give each plant a moderate supply of water, after which an occasional sprinkling of the surface moss with water from a fine rosed-can will suffice until the plants are growing freely. The strong-growing Lælia superbiens may be included with the above as regards its present requirements.

Thunias.—Such species as T. Marshallii, T. Bensonæ, T. alba, T. pulchra, T. candidissima, and the hybrids T. Veitchiana × and T. Brymeriana ×, must now be shaken out and be repotted. The general practice of growing several bulbs planted about 3 inches apart is a convenient one. The pots should be made half-full of drainage, over which let a thin turf of fibrous loam be placed, putting the grassy-side downwards. The roots will reach this loam, to the benefit of the plants, just before the flower-spikes appear. The rest of the compost should be composed equally of peat, loam, and moss, with small crocks and silver-sand. Every bulb will require a stake, and the base of the young growths should just rest upon the surface of the compost. The plants should be afforded the lightest position available in the stove or East Indian-house, for unless these obtain all the light possible they will not flower well. Do not afford much water until the growths lengthen and roots become plentiful. When in full growth an occasional dose of weak cow-manure water will be helpful.

Cymbidiums.—Any plants of C. giganteum, C. Hookerianum, C. H. grandiflorum, C. (Cyperorchis) Mastersii, and C. (Cyperorchis) affine, that require potting should be seen to at once. Pot them in the mixture advised for the Thunias, using

pots of a moderately large size. If the plants are watered with discretion and kept well shaded from strong sunlight, they will make strong growths and fine flower-spikes.

The deciduous Calanthes will soon require to be reported. Prepare the necessary quantity of good turfy-loam and lay it in a suitable place to get warm. Do not allow the loam to become dust-dry or it will be useless.

THE KITCHEN GARDEN.

By JOHN PENTLAND, Gardener to C. H. B. FIRTH, Esq., Ashwicke Hall, Marshfield, Chippenham.

Onions.—Autumn sowings will now require attention, and if the ground has been well prepared and is dry enough to be worked to a level surface without binding together, a start should be made to transplant the seedlings. This operation requires more care than is often given to it. When taking up the plants handle them carefully, so as not to injure the roots; and when planting place in rows 14 inches apart, with 5 inches between the plants in the rows. Make the holes with a dibble large enough to allow the roots to drop straight down without doubling up. Keep the bottom of the bulb slightly under the surface of the ground, and plant firmly, care being taken not to leave a vacant space below the in which the leading roots hang, without coming in contact with the soil. To obviate this drive the dibble well down a few times, a couple of inches or so from the plant, and press the soil towards it, filling up the hole completely. The roots will thus have solid ground to start in, and if there should come a sharp frost they will not be thrown out of the ground. When the planting has been done give a good dressing of lime between the lines, not allowing sufficient on the plants to injure them. A good dressing of the same mixture over the newly-sown seed-beds will be beneficial as a manure, and help to ward off the dreaded magget, whose acquaintance I have yet to make on a bed of our own sowing. Those who followed the advice to sow in frames, given in the Calendar for January 16, should take every precaution to harden the plants as much as possible by admitting plenty of light and air, and, as the outside temperature increases, exposing them on all favourable occasions until they are strong enough to be planted out, when they should be treated similar to those from autumn-sown seeds. Sow the main crop as soon as possible if not already done.

Asparagus Beds should have the surface soil slightly loosened with the fork, taking care not to go deep enough to injure the crowns. A slight mulching of short rotten manure will be beneficial, followed by a dressing of salt, which will wash in with the rain and act as a stimulant to the plants. Prepare the ground for making fresh beds.

Seed Sowing.—Sow on the open border Chervil, Corn Salad, Dandelion, Lettuce, Mercury, Kohl Rabi, Carrots, Broccoli, Brussels-Sprouts, Cabbage, Leeks, and if Parsnips are not already in, let them be amongst the first sown.

Sow in Heat seeds of Gourds, Ice-plant [Mesembryanthemum crystallinum], Tomatos, and Celery. Look well after growing crops, and as soon as the ground is in fit condition commence to hoe between early Cabbage and Lettuce.

THE FLOWER GARDEN.

By A. B. WADDS, Gardener to Sir W. D. PEARSON, Bart., Paddockburst, Sussex.

Mixed Beds and Borders.—Where borders or gardens of this description are appreciated, and time and labour can be afforded, they are unsurpassed for furnishing large supplies of cut flowers for use in decoration. To keep the borders neat and tidy and well stocked with plants, requires much attention, but it will repay the trouble. A south or south-west aspect is best, away from the shade of trees. No formal arrangement is necessary, but the border may have a background of shrubs, introducing in the beds a few ornamental or choice flowering shrubs, such as Cupressus Lawsoniana erecta viridis, C. L. nana and lutea, Daphne Cneorum, Kalmia latifolia, and Lilacs.

Herbaceous and Perennial Plants may be planted next to these in groups, and to furnish the beds or borders in the winter after the herbaceous plants have died down, a few hardy plants may be introduced, as Alyssum maritimum, Potentilla reptans, Thymus, dwarf Veronicas, Genista prostrata, &c. The soil for these should be in good working condition, and if at all stiff will require the addition of some leaf-mould, fine peat, lime rubble, or any suitable material to keep it open. The old-fashioned lines or one plant system can be dispensed with.

Biennials sown on a warm border about the end of May will be ready for transplanting in September, and should be planted to make large groups. Any plants that show flowers the same season should be pinched off; they will then make good plants for the next spring. The list of biennials is a large and useful one.

Planting.—Blend the colours so as not to clash with one another. Plant taller-growing varieties at the back, keeping smaller-growing sorts to the front.

Hardy and Half-Hardy Annuals, if grown on a stiff, cold soil, during wet summers will not be satisfactory unless much attention is given them. The seedlings must be protected from the ravages of slugs and other pests. The ground should be dug now, that the winds may help to sweeten and pulverise the soil previous to sowing seeds next month. Thin the seedlings out on a dull day, and place a little fine soil between them, carefully pressing them firm'y into the earth.

Bulls may also be planted in these mixed beds and borders; these should be labelled so as to prevent them from being disturbed in winter, and should be planted in the beds where they will finish blooming before the other plants grow sufficiently to hide them. In filling out the fronts of these beds and borders, bedding plants of flowering and foliage types may be used. Saxifrages, Sedums, Arabis, Funkias, and numberless others may be requisitioned. Neat, green-painted stakes should be used for staking purp ses, and the tying should be done loosely, especially in the case of annuals, otherwise they will fail to have a good effect. Mulching should be done as soon as planting is finished. Annuals will require to have a piece of netting or black cotton placed over the beds after the seeds are sown, or the birds will make the fine soil of the seed-bed a dusting place.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Haifield, Hertfordshire.

Anthuriums.-If not already done, re-pot such lants as require it without further delay. Turn the plants out of their pots, and with a pointed remove as much as possible of the old compost, taking care not to injure the roots more than is avoidable. The compost, which should be warmed before using, may consist of three parts good fibrous peat, one part loam, and a little fresh sphagnum-moss, together with some coarse silver sand and broken charcoal. Let the pots be thoroughly clean, and provide liberal drainage. Work the compost carefully among the roots, raising it an inch or two above the rims of the Place the plants in a house where a stove temperature with a moist atmosphere is maintained, and when the roots have become active afford them plentiful supplies of water.

Propagating—The majority of stove and greenhouse plants may be propagated during this month. As a general rule those cuttings strike the most readily which are taken from plants that have newly started into growth after a period of rest; therefore plants from which it is intended to propagate should be encouraged to make suitable growth. This may be readily done by affording such plants a slightly higher temperature and a moister atmosphere. The suitable length of shoot for a cutting varies in different plants, but shoots are generally long enough when they have from three to five joints. Many soft-wooded plants make roots readily from any part of the young shoots; hut as a general rule it is best to make a clean cut immediately below a joint.

Amasonia punicea. — This very! pretty stove plant is not grown so largely as its merits entitle it to be. Probably the reason for this is that the method of progagation is not generally understood. Propagation by cuttings made of the young shoots is possible but slow, and the readiest way of raising a batch from an old plant or two is to cut the stems up into eyes, similar to the plan adopted for Vines, every joint of the stem providing an eye. A suitable soil is peat and

loam in equal proportions, with some silver sand; and a dozen eyes may be inserted in a 5-inch pot. Place them on the surface of the soil, and press them in with the bud uppermost. Plunge the pots in the propagating-trame, and when the plants have rooted shift them into 3-inch pots, transferring them later to others 4½ inches in diameter. The plants may be allowed to flower in these pots, as they require but little root-room. Shake the soil from the roots of old plants, and prune the stems back. Repot into small pots and afford the plants a stove temperature, being careful not to over-water them. When well rooted repot into a larger size than that recommended for the young plants.

FRUITS UNDER GLASS.
By W. FYFE, Gardener to Lady WANTAGE, Lockinge
Park. Wantage.

Strawberries.-At this season the plants will becoming into flower almost daily. Should the weather be cold with cutting winds, avoid giving much ventilation during occasional outbursts of sun by keeping the fires well in check. A very moderate supply of air is all that is necessary tosecure a good setting of fruit. A little air left on constantly is best, for March winds are generally unfavourable to tender flowers, foliage, or fruit. When the flower-stalks are strong, throwing the blooms well above the foliage, a good setting of fruit is almost assured. As soon as this is apparent thinning the fruit should not bedelayed, bearing in mind that perfect fruits must possess size, colour, and flavour combined. plants must not be allowed to lack sufficient water at the roots. Rain-water at the same temperature as the atmosphere of the house is the most suitable to use, with diluted drainings from the stables, guane, or soot-water occasionally. When the fruit shows signs of colouring, clear water only must be given; and to produce high colour and flavour, a few days before the fruits are gathered, if possible give more and drier air, with a night temperature of 65°, increasing to a maximum of 80° in sunshine. Later plants can be induced to fruit better by encouraging them to root through the pots into some rich material which can be provided in many ways, and the plants will be found to be strengthened considerably if they can be left in one position until after the fruit is gathered. Strawberry foliage is very subject to the attacks of red-spider; this should be kept in check by syringing the plants on every favourable opportunity. Fumigation may be necessary in the early stages for the destruction of green-fly; do not fumigate when the plants are in bloom.

Vines .- Muscat of Alexandria .- In the earliest house here of this variety the buds are upon the point of bursting; and during the past sunless. weather high temperatures from artificial means have been avoided, keeping the growth in check, in hopes of a clearer sky. This house was planted over thirty years ago with single and pruned upon the close-spur system, with a rafter 20 feet in length. Eight years ago the taken from as near the ground-level as possible, and these are now 16 feet in length. In two more years they will complete the 20 feet. I state this. to show that with borders in good condition thisrenovating work can be accomplished without loss. of crop, and induce a considerable increase of energy in the Vines themselves distinctly visible from the time the young rods start to grow. This proves the advantage derived by the introduction of young wood, resulting in more vigorous and healthy root action. Where desirable, this process may be commenced now by leaving, when disbudding, a well-placed break near the base of the old rod, about the ground-level. These new canes should be allowed to extend 2 feet yearly, the spurs on the old vines should be removed at pruning time to the same distance. In late houses, of such varieties as Alicante and Lady Downe's, which have had a long season of rest, I notice thebuds are swelling. About April 1 these should receive attention by having the present amount of ventilation considerably reduced and applying a little fire-heat, the stoking to be guided by the external conditions.

Grape-room.—The fruit here will be exhausted by the end of March, being about six weeks earlier than the general time, the necessary conditions not having been quite so favourable as in former years.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London-Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPEA, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News .- Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Hewspapers. - Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, MAR. 19 German Gardener's Club meet-

TUESDAY, MAR. 22 { Royal Horticultural Society's Committees meet.

THURSDAY, MAR. 24 Torquay District Gardeners' Assuciation, show.

MAR. 25 General Meeting of the Royal Botanic Society. Lady Day. FRIDAY.

SALES FOR THE WEEK.

MONDAY NEXT— 1,000 Roses of sorts, 250 Azaleas, Rhudodendrons, &c. Hardy Border Plants and Bulbs, Perennials, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris,

WEDNESDAY NEXT-

WEDNESDAY NEXT—

800 Azaleas, Paims, &c., from Belgium: 2,f0) Roses,
Blandards, Dwarfs, and Climbers, Liliums, Herbaceous Plants, 6000 Begonias, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 - At 12 30 at
Stevens', Roses, Japanese Fern Balls and Designs,
13 cases of Iris Kæmpleri, Azaleas, Khododendrons,
Fruit Trees, &c.

FRIDAY NEXT—
Imported and Established Orchids, at 67 and 68,
Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

UAL TEMPERATURES:—
LONDON.- March 16 (6 P.M.): Max, 50°, Min, 36°,
March 17, Gardeners' Chronicte Office, 41, Wellington Street (10 A.M.): Temp., 41°; Bar., 29 9
Weather vary hright.
PBOVINCES.- March 16 (6 P.M.): Max, 50° North of
Ireland; Min, 41°, South coast of England.

THE following remarks, which we borrow from the Selection. Agricultural News (Bar-

bados), apply not only to Cotton, but with the necessary modifications of detail to all cultivated plants, on which account it will be of interest to our readers in general: -

"An article by Mr. HERBERT J. WEBBER, physiologist in charge of the plant-breeding laboratory in the Department of Agriculture, on "Improvement of Cotton by Seed-selection,' in the Year-book of the Department of Agriculture, contains suggestions which, if generally adopted, would lead to a large increase in the Cotton production of the United States. The extent to which this is possible by the adoption of scientific methods is shown by the fact that, while the average yield of Cotton in the United States is only about 190 lb. of lint per acre, yields varying from 500 lb. to 800 lb. per acre are frequently obtained on many large, carefully cultivated tracts. Mr. Webber does not believe that it is possible to greatly increase the acreage devoted to Cotton in the United States; but while a much larger acreage of Cotton could be grown in the old Cotton-producing States if necessity demanded it, there is a tendency in those States toward diversified farming rather than to-

wards further specialisation in Cotton-production. He concludes, therefore, that the most important problem now before Cotton-growers seems to be that of increasing the production on the same acreage, rather than of extending the acreage itself. He thinks that, while Cotton-growing in other countries is capable of being considerably extended, such extension will doubtless be slow, and will only slightly affect the industry in the United States, and that the American planter should strive, by the application of improved methods and machinery and by the use of improved varieties of Cotton, yielding more and better staple, to keep well in advance of competitors in foreign countries, where cheaper labour is available.

"Mr. WEBBER recognises that the character of the soil is the factor of greatest importance. He believes, however, that there is great opportunity of improving the industry on all lands, both good and poor; and he estimates that the Cotton crops could be doubled, on the same acreage now grown, by proper attention to two factors necessary to success-namely, the universal use of good seed, and by careful methods of tillage and fertilisation. While both of these factors contribute largely to success, Mr. WEBBER believes that the importance of good seed is probably more commonly overlooked than the matter of cultivation. The use of good seed, and its production by a regular system of selection, is just as important a factor in the production of crops as that of cultivation. No intelligent method of farm management disregards the production and use of good seed. The day when growers can afford to plant any sort of Cotton seed has passed. Only seed of a known variety, selected because of its desirable qualities and adaptability to local conditions, should be planted.

"The traditional belief that an occasional change of seed is necessary, if good crops are to be regularly secured, is attacked by Mr. WEBBER, who contends that, to secure the best results, plants must be bred and adapted to soil and climatic conditions, and that Cotton-planters, and growers of cereal crops as well, if they are to obtain the best results, must select their seed in the locality where it is regularly grown, in order to adapt it to the particular soil and climatic conditions.

"The paper outlines a system of selection based on the principle that, while plants reproduce their main characters unchanged, and the stability of the cultivated plants and natural species depends upon this law of heredity, still they are not absolutely fixed, but are very unstable and highly variable in minor characters. The system outlined, which is one that any planter can carry out on his own plantation, is based on the use of the seeds of only such plants as show the characteristics which it is desirable to reproduce, such as quantity of production, length of fibre, and earliness of maturity. It is recommended that after these have been carefully selected, the seed from the middle pickings of each plant be carefully gathered; that that from each one be ginned separately, in a gin that has been carefully cleaned, so as to prevent mixture of unselected seed; and that the seed of each plant be planted separately the following year, so as to test its quality for the reproduction of the qualities desired to be perpetuated. All that do not come up to the standard are to be discarded in the second year, and the seed of only the very best are to be used for planting the third year. By the beginning of the fourth year a sufficient supply of highly selected seed for seeding a large plantation will he secured. The system of selection can be indefinitely continued, however, from year to year on a tract of ground set apart for that purpose, and thus the quality of the Cotton can be kept to a high standard or constantly improved."

Laboratory at Cinchona (Jamaica).

THE Jamaican authorities The Botanical having decided to abandon their station at Cinchona, certain American botanists came to the conclusion that

it would be most desirable to establish a nursery for the raising of tropical plants prior to their removal to New York and other American towns for culture under glass, and to establish a laboratory there for experiment and research. The laboratory is to be managed by American botanists; but Mr. FAWCETT, the Director of the Public Gardens and Plantations, is offering every facility in his power, and will supervise the students who avail themselves of the privilege of studying there.

The illustrations given in the Journal of the New York Botanical Garden may in the future serve as suggestions for the erection of that research laboratory which it is so much to be desired should be erected at Wisley. Those who are alarmed at the prospective cost of the buildings will be reassured when they see the very modest erections which are considered sufficient for the purpose. At Wisley we have not so much in view a laboratory for the use of advanced students and general research as a small station where the direct applications of science to practical horticulture may be carried on. Of course we should always welcome a fully equipped laboratory for the purposes of pure science, being well aware that practical horticulture would profit in the end; but for the present our aspirations are limited to the immediate requirements of practical horticulture. Every year there erop up many questions of direct importance to practical gardeners-questions some of which at least could be settled in a few weeks, or even less, at a very small cost. We quite agree that the main consideration for the Council at present is to complete the accommodation for the offices, library, and exhibition hall as speedily and efficiently as possible. No more should be expended at Wisley than can be avoided till this is accomplished; but we should hope that this is now only a question of a few

WATER-LILIES (see Supplementary Illustration).- Few flowers excel these in beauty, but to the ordinary gardener they do not appeal so forcibly as do other flowers which can be used for decorative or exhibition purposes or as cut blooms. Nevertheless, as Mr. Hudson and Mr. Amos Perry have shown us at Holland House and at the Royal Horticultural Society's Drill Hall meetings, they can be used most effectively for exhibition purposes. We do not think any reader looking casually at our Supplementary Plate would do otherwise than think that the Water-Lilies there represented were growing in a lake in the open air. They were, in fact, shown at a floral exhibition at Amsterdam by Messrs. Zocher, of Haarlem, who kindly furnished us with the photograph. The lats Mr. JOHN WILLS was one of the first to make use of these levely plants for the decoration of apartments on grand occasions, but he had not the resources we now have. Visitors to the Oxford Botanic Garden in bygone times will also remember the series of troughs (of copper if we remember aright) partitioned into compartments and of varying depth, in which aquatic plants were grown from the time of SIBTHORP to that of DAUBENY. In truth the methods of growing these plants are so varied that they may be adapted to any garden, large or small, and among the

splendid hybrids raised by M. LATOUR-MARLIAG are several that can be as well grown without as with the aid of the hot-water pipe. A tub tarred on the inner side will suffice to grow many of them if no other means be available.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on Tuesday next, March 22, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "Heredity of acquired Characters" will be given by the Rev. Prof. G. Henslow, V.M.H. At a general meeting of the Society held on Tuesday, March 8, fifty new Fellows were elected, making a total of 351 elected since the beginning of the present year.

THE SURVEYORS' INSTITUTION. - At the ordinary General Meeting, held at 12, Great George Street, Westminster, S.W., on Monday, March 7, 1904, the President (Mr. ALBERT BUCK) in the Chair. A paper was read by Mr. Thomas BINNIE (Fellow), entitled "The Land Purchases for the New Naval Base at Rosyth, on the Firth of Forth." The second Afternoon Meeting will be held at the Institution on Monday, March 21, 1904, instead of on Monday, April 18, as shown on the Kalendar. A discussion will take place on the paper recently read by Mr. H. J. ELWES, F.R.S., entitled "British Timber and its Uses." The Chair will be taken at 4 P.M. The Council have accepted an invitation from the members of the Northumberland and Durham, and the Cumberland and Westmoreland Provincial Committees, to hold their next Country Meeting at Newcastle-on-Tyne, on May 26 and 27. With a view to encourage the reading of Papers at the ordinary General Meetings, the Council have decided to award a Gold Medal for the best Paper, if of sufficient merit, read by a Member of the Institution during the session. Subject to a sufficient number of entries being received, the next Special-Certificate Examinations in Forestry, Land Surveying and Levelling, and Sanitary Science, will be held on Tuesday, Wednesday, and Thursday, June 7, 8, and 9. Particulars of these Examinations can be obtained from the Secretary. Applications must be sent in not later than April 20 next. Mr. F. T. GALSWORTHY, who recently retired from the Vice-Presidency, having placed the sum of £500, invested in Trustee Securities, at the disposal of the Council for the endowment of a Prize in connection with the Professional Examinations, it has been decided to devote each year's interest to a Prize in respect of that year, to be awarded to the Fellowship Candidate who, having passed the Associateship Examination while a Student, is found to have obtained the highest number of marks in his Associateship and Fellowship Examinations combined. By the Donor's special request the amount of the Prize is to be devoted. until exhausted, towards the payment of the winner's annual subscriptions, or, under special circumstances, partly towards that object and partly to the purchase of books or scientific instruments.

THE CHELSEA CEDAR.—The last of the old Cedars in the Physic Garden at Chelsea has been removed. It was one of the first planted in the country, in 1683. The trunk had been dead for years, but it still formed an imposing landmark, so that its removal, however necessary, will be a subject of regret. The history of the tree, with illustrations, has often been given in the Gardeners' Chronicle—see September 11, 1886, p. 336, fig. 70.

A SUGAR-PRODUCING PLANT (Caá-êhê or Azucá-caá).—In the early part of 1901 the authorities at Kew, as we learn from Mr. HILLIER, received from H.B.M. Consul at Asuncion, Paraguay, fragments of a Composite plant bearing the above mames, and credited with possessing a remarkable sweetening property, a few leaves being sufficient to sweeten a strong cup of tea or coffee, giving

also a pleasant aromatic flavour. The plant was discovered growing in the highlands of Amambai and near the source of the river Monday by Dr. BERTONI, and described by him in Revista de Agronomia, ii., pp. 35-37 (1899) under the name Eupatorium Rebaudianum. From the meagre material received at Kew, it was found that the smallest portion caused a persistent sweetness in the mouth, and further that the floral structure of the specimen agreed more nearly with the genus Stevia than with Eupatorium, its affinity being with S. collina, Gardner. The foregoing facts are gathered from the Kew Bulletin for 1901. p. 173; and we find upon enquiry that living plants or full herbarium specimens are still desired at Kew to facilitate the identification of this interesting plant.

CHISWICK.—Chiswick Gardens, which have so often been the scene of shows, conferences, committees, and such-like gatherings, were on Thursday, March 10, the meeting place of an assembly whose visit was prompted by motives of a more self-interested nature. The exhibitions were concerned with constructive horticulture; the recent meeting with destructive measures. In place of the Chairman stood the auctioneer; instead of the Committee were ordinary people; the Superintendent was at hand, not to guide the judges, but to indicate the features of a "lot," or to locate its position. Not many seemed anxious to assist in the breaking up of these historic gardens, and when the auctioneer commenced his duties there was plenty of room. Bidding was not very brisk, and it needed all the inducement at the auctioneer's command to obtain offers at all for some of the lots. Commencing with the stock in the lower garden, a plantation of young bush Apple-trees was disposed of. Here one could purchase for the sum of Gs. or 7s. ten or more Apple-trees true to name, whilst halfa-dozen really good pyramid Pear-trees only realised 6s. Nobody seemed to want fruit-trees, the cost of removal and transit no doubt accounting for the low prices obtained; still the season is now favourable for planting and removing fruit-trees, and to those who purchased them they were bargains. The auctioneer was disappointed, and then led the way to the plantations of Rhubarb, indulging in some witticisms as a preliminary to offering these plants. He spoke of having had champagne which had a suspicion of being prepared from Rhubarb. Some spirited bidding seemed to result from these statements, for hids were at once forthcoming, and prices reached as much as 16s. for one group of five stools, Linnæus being among the varieties. Prices soon dropped, and towards the finish "lots" of these plants failed to obtain bids at all, or were cleared out for a trifling sum; curiously enough, the standard variety Victoria was unsaleable. Standard Gooseberries went cheaply, but beds of Roses seemed in demand, although two dozen in a bed for Ss. was about the average price of these plants. A small bed of Carnations roused keen competition, and seemed to be amply valued at 19s. The shrubs and edgings of Box, Privet, &c., were in demand, probably for villa and suburban gardening, and for these plants prices were very fair. The Box seems to thrive especially well at Chiswick, and no doubt many persons have been struck with the beautiful hedges of Box which are to be seen there and are so nicely trimmedindeed, they were quite a feature of the place: of course, these were not included in the sale, but only smaller edging plants about 18 inches in height. When it came to two fine beds of Yucca recurvifolia near the Council Room excitement was keen among the would-be buyers, and after much competition they were knocked down for over £8, averaging about 8s. 6d. a plant; another row on the opposite side of the wall realised £4. Golden Privet and Box hedges near the Paxton

house sold well, but the shrubs and Conifers at the back of the vinery were almost given away. Prices were no doubt influenced by the size and the trouble in removing the plants. Some fairly good Camellias in the entrance-house, which were clean and of a nice colour, sold very well, but on adjourning to a plantation of Peach-trees near by prices reached zero, and after vainly trying to obtain more the auctioneer with a pang of regret knocked down about thirty nice trees for the insignificant sum of 8s.! In the large vinery were sold the Palms, Ferns, and bedding stuff, and we noticed among the buyers several persons of the "coster" type, who no doubt had expectations of retailing these plants at splendid profits to the unwary householder; but they should have devoted their attention to the fruit-trees, for now the plants were fetching very fair prices, especially the Palms and small Ferns-in fact the small Ferns fetched their full value. The auctioneer felt somewhat cheered at this, and as he led the way to the Fig-house reminded the people that now he had something worth offering, and hoped to obtain anything from £200 or thereabouts for this fine collection. Alas, he was disappointed! In vain he assured his hearers that they were not realising the situation; a choice Fig-tree in a large pot for 2s. was too absurd, but he could get no more. He then suggested offering several together, but the buyers would have none of it, so he continued knocking them down for a few shillings each, and sold the entire collection for a matter of less than £25. Another of the features of Chiswick was the collection of Ivies presented some years ago by the late SHIRLEY HIBBERD. These were offered as they grew on the walls, but the price fetched viz., 14s.—was indicative of the demand for them. No doubt they were bought for propagating purposes. The plants in Peach-house were offered, but no bid was made for them, and the sale was closed.

EXHIBITION SCHEDULES RECEIVED:

NATIONAL CARNATION AND PICOTEE SOCIETY (Southern Section).—Annual Exhibition at the New Hall of the Royal Horticultural Society, Vincent Square, Westminster, on Tuesday, July 26.

Beighton and Sussex Horticultual—Spring Show, April 12 and 13; Summer Show, August 23 and 24; Chrysanthemum Show, Nov. 1 and 2.

Kent County Chrysanthemum — Annual Exhibition on Wednesday and Thursday, November 2 and 3, at The Rink, Blackheath, S.E.

Hanley (County Borough), Staffs.—Annual Floral Fête in Hanley Park, Wednesday and Thursday, July 6 and 7.

IPSWICH AND EAST OF ENGLAND HORTICUL-TURAL SOCIETY'S DAFFODIL SHOW, to be held on Wednesday, April 13, 1904, in the Public Hall, Ipswich.

CROYDON HORTICULTURAL SOCIETY'S SUMMER SHOW, Wednesday, July 6, at Brickwood House Gardens.

THE LIVERPOOL HORTICULTURAL ASSOCIATION announce their Spring Flower Show to be held on Wednesday, April 13. The Secretary's Office is 7, Victoria Street, Liverpool.

THE FRUIT INDUSTRY.—The Departmental Committee appointed by Lord Onslow to enquire into and report upon the Fruit industry of Great Britain held sittings on the 9th, 10th and 11th inst. The following members were present: Mr. A. S. T. Griffith-Boscawen, M.P. (Chairman), Col. Long, M.P., Mr. C. W. Radcliffe-Cooke, Mr. Hodge, Mr. Monro, Mr. Vinson, Dr. Somerville, Mr. P. Spencer Pickering, the Rev. W. Wilks, and Mr. Ernest Garnsey (Secretary). On March 9, Mr. W. W. Berry, Mr. Edward Pink, Mr. John Wood, and Mr. George Smith, as four Kent

growers; en March 10, Mr. John Riley, Mr. John Watkins, and Mr. J. H. Wootton, as three Hereford growers; and en March 11, Mr. W. J. Lobjoit and Mr. W. Poupart, as two Middlesex growers, gave evidence. In addition, en March 11, Mr. J. Struthers, C.B., of the Scotch Education Department, and Mr. Buckmaster, of the Board of Education, furnished information.

BOARD OF AGRICULTURE.—We are informed that the departmental committee appointed by the Board of Agriculture and Fisheries to enquire into the working of the Fertilisers and Feeding Stuffs Act, 1893, held sittings on the 1st and 2nd inst. The Right Hon. Lord Burghtclere was in the chair, and the other members present were Dr. T. E. Thorpe, C.B., F.R.S., Mr. J. W. Clark, K.C., Mr. R. Burnard, Mr. A. M Gordon, Mr. I. Pearson, and Mr. J. W. Spear, M.P. The following witnesses gave evidence: Mr. John Hughes, F.I.C., F.C.S., representing the District Agricultural Analysts' Association, Dr. B. Dyer, D.Sc., Mr. J. Alan Murray, B.Sc., Mr. G. D. Macdougall, F.I.C., and Dr. J. Augustus Voelcker, Ph.D.

THE NEWEST ROSES.—We are much edified with a poster, forwarded to us by a correspondent, giving a list of Roses and other shrubs lately sold by auction in a certain Hertfordshire town. The public were offered an opportunity of buying such new Roses as Witte Ethos, Welrich Briuner, and Mahonia. Desirous of obtaining Jules Margottin, they had to seek for Yules Murgotten; Lausi van Haute proved to be Louis Van Houtte, and General Yucuminal to be Général Jacqueminet. No doubt Madame Charles Wood was not merely a harmless but a desirable acquisition, but Mad. guro Feshant sounded a little alarming. As to Chape de Napolian, Prins cum a Bohn, Mis John Ling, and Loun vun Rauffethese, with certain other treasures, suggested the oft-quoted lines-

"What's in a name? that which we call a Rose, By any other name would smell as sweet."

FORESTRY IN SCOTLAND.—At a meeting of the Edinburgh University Court it was resolved to approve of the following resolution, which had been passed unanimously at the jubilee meeting of the Royal Scottish Arboricultural Society, held in Edinburgh on February 16:-"That it is the opinion of the members of the Royal Scettish Arboricultural Society assembled in annual meeting that the Beard of Agriculture should now take steps to give effect to the recommendations of the Departmental Committee on Forestry as far as regards Scotland by providing an estate to serve as a State forest demonstration area, and also by providing example plots in connection with Edinburgh University; and, further, that forestry education in this country will not be adequately provided for until the foregoing are supplied and a thoroughly - equipped forest school is established in Scotland."

TURIN HORTICULTURAL AND FLORICUL-TURAL EXHIBITION.—Much support has been promised from foreign sources to the Turin Horticultural Exhibition, which is to be held in May. The exhibitors will include important representatives from France, Belgium, Germany, and Holland. Messrs. VEITCH, of Chelsea; Messis. William Bull & Sons, Messis. Sander & Co., of St. Albans, will be among the exhibitors from England. It is hoped that Messrs. PEETERS, of Brussels, will show some of their famous Orchids. The gardens of the Prince of Monaco (with greenhouse plants, collections of Crotons, Platycerium, &c.), and the gardens of the Casine of Monte Carlo will also probably be represented. From Trieste come specimens from Martin, Maron, Fonda, and Perotti. The Executive Committee of the Exhibition have received other effers of assistance and various

prizes for their competitors, besides numerous medals. The Royal Horticultural Society of Tuscany (under the patronage of the King of Italy) is organising a Committee of horticulturists, especially of Tuscan gardeners and amateurs, and is also offering medals for competition among them. The Horticultural Society of Palermo will award two diplomas and prizes. Already a fence is built round the Park Valentino, where the Exhibition is to be held, and many bulbs and Rose-trees have been planted there, under the superintendence of Messrs. Krelage, and Gemen & Bourg.

WINTER PRUNING COMPETITION .- This competition, as we learn from Mr. CRUMP, took place at Madresfield on March 3, in an orchard at Gnarlford, a place noted for good fruit-trees. The competition is open to all members of the Club, or to those nominated by members, and is divided into three classes, viz.: Class 1, for farm hands-that is, farmers or labourers; Class 2, open to other than farm hands, such as gardeners, amateurs, &c.; whilst Class 3 is the champion class, open only to 1st prize winners of the previous years, and who are perforce debarred from competing in a class that they have wen a 1st in for three yearstherefore the champion class becomes a battle of the giants. It should be mentioned that these competitions are the sequel to the season's technical instruction and demonstrations given on winter pruning, and as a matter of fact they have already been the direct means of turning out some very useful and skilled men, who are now in great demand. The Club itself has a scheme in working order for supplying two of these trained men all through the pruning season to its members and to the tenautry on the Madresfield estates at nominal charges. The trees were all set out and numbered some days previously by two stewards, and as each cempetitor had to prune three trees, care was taken that the trees selected should be of as varied a character as possible, but of equal difficulties as regards the ability and skill required, two and a half hours being allowed for the work. Thirteen competitors entered, and a ballet fer numbers having been taken, the signal was given and the workers commenced their allotted tasks. The judging was entrusted to Mr. James DAWES, of Ledbury Park Gardens, who has a very wide and practical experience in such matters. It may be here mentioned that Mr. Dawes judged the competition last year, and having secured the confidence of the competitors in his impartial awards, his decisions this year gave the same general satisfaction. The results arrived at were awarded by a scale of points, and as each competitor finished a tree, points were entered on one side for merit, and on the opposite side, for errors or faults, the whole being balanced and totalled at the finish. A lecture was also given by Mr. DAWES in the schoolroom at 7 o'clock the same evening, when the results were read out and enthusiastically received by a large audience. A large number of the spectators who were present in the afterneon and evening had correctly prejudged the competitions, a fact which goes very far to show the interest aroused in fruit-growing and the Club's good work.

RESULTS.

Class 1—Farm Hands... ... 1st, Joseph Powell. ,, 2—Open to All 1st, A. Bradshaw, jun. ,, 3—Champion 1st, C. F Crump.

Mr. Dawes pointed out some of the faults to the audience, and explained the value of good work, and a very instructive evening was realised. Next week a course upon vegetable cultivation will be given.

SOME ENGLISH GARDENS.—Miss Jekyll has in the press a book on this subject, with coloured illustrations by G. S. Elgood. It will be published by Messrs. Longmans & Co.

OLD WEST SURREY.—A book under this title, written by Miss Jeryll, will shortly be published by Messrs. Longmans & Co.

THE NATIONAL SWEET PEA SOCIETY: PRO-VINCIAL PRIZES .- The Committee of this Society, as we are informed by Mr. Horace WRIGHT, has arranged with the Wiltshire Horticultural Society, whose exhibition will be held on August 10. to include in the schedule a special class for Sweet Peas, for which the National Society will provide the prizes. The class is identical with the audit class on p. 19 of the National Sweet Pea-Society's schedule, and all members of this Society may exhibit free; others on paying the usual fees of the Wiltshire Society, of which Mr. LEONARD SLY, Salisbury, is the Secretary. The total prize-money offered by the National Sweet Pea Society is £3 2s. 6d., and a Silver Medal to the winner of the premier place. Mr. SLY will send full particulars. The Society has also been able to arrange with the Galashiels Horticultural Association for a class on behalf of Northern growers, the prizes being identical with those in the previous case. The class here is similar tothe classification class on p. 19 of the National Sweet Pea Society's schedule, and it will be contested on September 10. Members of the National Sweet Pea Society are entitled to exhibit free of special entry fee. The Secretary of the Galashiels Horticultural Association is Mr. JAMES-MALLEN, Galashiels, who will be pleased to send complete details of the class.

MISSOURI BOTANICAL GARDEN, ST. LOUIS .. -Toward the end of the year 1903 a fire, which originated from a defective flue in the boiler pitfrom which the newer range of plant-houses isheated, damaged the adjacent structures to the extent of about \$1,000 00. It chanced thatabout this point, in the hot and intermediatehouses, were clustered most of the Orchids and Platyceriums, and many other choice plants, andalthough the efficient service of the fire department reduced the loss on the buildings to aninconsiderable sum, the heat and smoke destroyed a large part of these collections, and so seriously injured the remainder that their recovery is likely to be at best a matter of several years" time. By the prompt action of the Beard, however, says Dr. Trelease in his annual report, these collections have been replaced by otherplants of the same or equally decorative species, and it is expected that the early spring will find the Orchid collection as large, varied, and interesting as before the fire. In connection with this loss Dr. TRELEASE records his appreciation of the courteous action of the New York: Botanical Garden, the Director of which, Dr. N. L. Britton, immediately offered such duplicates as could be spared from its collections; and a consignment of eighty plants, representing seventy-eight species of Orchids, was received from this source as soon as the buildings weresufficiently repaired for their reception.

NOVA SCOTIA FRUIT.-The Agent-General for Nova Scotia informs us that the Crystal Palace authorities have presented a special Commemorative Medal to the Nova Scotia Government for the exhibit of dessert, cooking, and cider Apples, which have been displayed by the Fruit Growers' Association in the Canadian Court during the last three months. Nova Scotian fruit. says the Agent-General, holds the first place among all the Apples imported into this country from abroad. By a process of systematic selection directed towards securing flavour combined with long-keeping qualities, and by limiting production to comparatively few varieties possessing these characteristics, Nova Scotian growers have won for their fruit this enviable position. Apple crop in Nova Scotia was unusually large last year, and over half a million barrels have already been shipped to this country.

THE ACTION OF ETHER ON PLANTS.

WE have already spoken of the use of ethervapour in accelerating the flowering of forced shrnbe, a process introduced by Dr. Johannsen, of Copenhagen, and now extensively practised in Germany and in France for commercial purposes. It is not long since we called attention to a pamphlet published by M. Maumené en the subject, and we have now the opportunity, thanks to the courtesy of that gentleman, of giving two illustrations from Le Jardin, which show better than words the effect of the process, and the great saving of time and fuel which results from its use. One cut shows a plant of Spirea Thunbergii (fig. 78) which had been exposed to the other treatment for forty-eight hours and then forced in the ordinary way. In fifteen days the plant was covered with flowers. A plant of the same species treated in the same way and in the same period, but not etherised, is shown for comparison.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

sowing onions under Glass.—The labour attached to this process is in itself quite sufficient to prevent its being adopted generally, especially as there is no real need for such a departure being made in raising an ordinary kitchen-garden crop—a crop that has been secured from time immemorial from seed sown out-of-doors. I have raised young plants of Onions under glass for exhibition purposes, the seed being sown in January, and afterwards treated as so clearly described by "B.," the bulbs thus raised being staged at the August shows in the class provided for "spring onions." This circumstance implied no deception on the part of any individual exhibitor, as the fact was well known to one and all of the leading exhibitors in the vegetable classes, as well as to the show management. "B." says in the beginning of the second paragraph of his article on p. 140, "I have tried all kinds of treat-

rich, and from 2 to 3 feet in depth and resting on a gravelly subsoil, dried up quickly. I once had the Onion-bed in the firm grip of "Jack Frost" for three weeks after the seed was sown, without experiencing any bad effect therefrom. Onions raised thus were never molested by the maggot, for the very good reason that there were none. The perfect freedom of the ground treated in this manner from the maggot and other creatures that prey upon underground growth, must be attributed to the combined efficacy of deep and generous cultivation, early sowing of the seed, solidifying of the ground before and after the seed was sown, and in a great measure to the free use made of soot before sowing the seed. The same remarks will apply to other root crops, Parsley, Lettuces, &c., which in ordinary circumstances are attacked by the grub, &c. As soon as the young plants appeared aboveground, the Dutch-hoe was run pretty deeply between the rows, the operation being repeated once or twice in April and three following months, as much with a view to accelerate growth in the plants as to destroy seedling weeds. The young plants were thinned out as soon as large enough to handle to 2 or 3 inches in the rows, weeds being removed at the same time, showery weather being preferred for doing the work, as the weeds and plants can be removed more

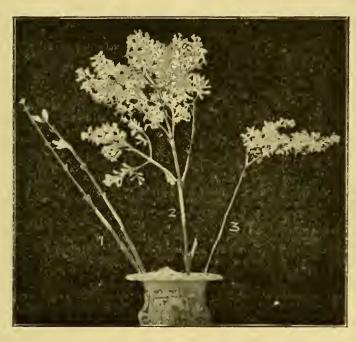


Fig. 77.—Showing the effect of ether in forcing lilac.

Fig. 77 represents three branches of Lilac. No. 1 is a branch not subjected to ether-vapour. No. 2 shows a branch which has been subjected to the ether and to a temperature of 16° to 17° C. (62° to 64° F.). No. 3 is a branch forced in the ordinary way, with a temperature of 30° C. (86° F.). No. 1, not etherised, was placed in the forcing-house at the same time as No. 2.

We must refer to our previous articles on the subject for full details, merely repeating that the operator must exercise the greatest caution not to bring a light of any kind near the apparatus, and that except for experiment sake it is hardly worth while to try the process commercially at this late period of the forcing-season.

This is one of many experiments that might have been carried out at Chiswick at a small cost without any costly laboratory. We may hope to see some trials of this new process made at Wisley, as the matter is clearly one of great practical importance.

PUBLICATIONS RECEIVED.—Prediction of the Weather for all parts of the World for March. By Hugh Clements. Mr. Clements claims to have discovered how to forecast the weather correctly. It is, he says, due to natural causes—the tidal action of the moon and sun. The prediction for March is not very cheerful, but indicates a continuation of unsettled weather.

ment in the endeavour to secure spring-sown Onions free from maggot, but in every instance the result was a failure till, trying the large-growing varieties from early-raised plants, the continued absence of maggot induced me to attempt the production of the whole crop in the same way, with the result that maggot is now, and has been for some years, a hearsay difficulty only." In view of "B's." statement, it may be as useful as the subject is opportune if I give for the benefit of young readers of the Gardeners' Chronicle particulars of the way in which I grew heavy crops of spring-sown Onions annually for over a quarter of a century without any loss from attacks of the maggot. My crop of Onions was always raised from seed sown in ground previously cropped with Celery. The ground was simply dug over, trodden down, the surface dressed with new soot in sufficient thickness to discolour the soil prior to raking the ground level, and drawing shallow drills about I inch deep at I foot apart, running north and south. The seed was sown thinly in these, the soil being afterwards closed in with the feet, trodden over, and raked over once more in the same direction as the drills. The operation was carried out as early in February as the condition of the ground would permit of its being done without the soil adhering to the boots of those engaged in the work—usually between February 8 and 20. The ground being light,



Fig. 78.—Spir.ex Thunbergii.

To the left, plant subjected to Ether previous to forcing: to the right, plant forced in the ordinary way, other conditions being identical.

expeditiously and effectively when the soil is moist. At the time of thinning out the rows, I extended the crop by transplanting some twenty or thirty rows of the thinnings in the same plot of ground from which the few remaining ridges of late Celery had just been removed and laid-in their full depth in the soil in a border under a north wall for future use. The roots of these little plants were shortened back nearly to the embryo bulbs, the plants being let into the ground, prepared as advised for the reception of the seed, the same depth as they were before, making the soil fairly firm about them with the setting-stick in planting. I never noticed any difference in the weight and quality of the produce obtained from transplanted plants and those which were left undisturbed in the rows, the crops in both cases being excellent. H. W. Ward, Lime House, Rayleigh.

CYANIDE OF POTASSIUM AS A FUMIGATOR.—I was very interested in reading in the Gardeners Chronicle for February 27, Dr. Bonavia's note on the new gardens at Wisley. I quite agree with him that nicotine as a fumigator is expensive. He mentioned the use of cyanide of potassium treated with sulphuric acid and water, by which hydrocyanic acid gas is evolved. I have used this for more than a year, and have saved myself a lot of time, trouble, and expense. It will kill mealy-bug, scale of all kinds, woodlice, ants, thrip, cockroaches—in fact, anything that has life, just as easily as nicotine will kill aphis. I have been most successful with it, so much so that some of my friends have advised me to give up gardening and become a professional. Of course it is a very dangerous poison, and should be

used only by a responsible person. Some time, if you will allow me space in the Gardeners' Chronicle, I will give some of my experience as to what plants I have fumigated, and the results. I enclose a spray of Camellia tree which had been infested with the mealy-scale—which we so often find on Camellias—for twenty-five years previous to my coming here. They have cost pounds for cleaning. Now they have no scale on them at all. I have cut in one week this year from one tree of the variety alba plena twelve dozen good flowers. There is not a spot of dirt on the leaves, though they used to be quite black at the time the flowers opened. W. G. Bushell, The Gardens, Rownhams House, Rownhams, Southampton. [The leaves are perfectly clean, and unusually bright in appearance. Ed.]

THE GARDEN RUBBISH-HEAP.—After reading the remarks of your various correspondents on this subject, I must confess to being one of the old school, and having a refuse heap, I treat it as a choice subject. Here we have a large kitchen-garden and orchard, and very little manure, the stud being small, consequently we are obliged to save every scrap of refuse for manure. Our soil, being on the clay, is heavy and wet, and it is only a few feet above sea level. My practice has been for many years to use all the rough refuse for trenching, placing this at the bottom of the trench and using the shorter refuse for single-digging. This adds to the subsoil after its decay, and at the next trenching one can go a little deeper. I do not object to the trench being nearly filled with this rough stuff; it keeps the ground open and allows water to drain away better. We do this every season for crops such as Onions, Parsnips, Carrots, Beet, &c., and have no reason to complain of the result. I use the ashes from the bonfire heap to put in the drills at sowing time, which helps the young seedling plants to grow, and adds potash to the soil. By the spring our rubbish corner is cleared out and made ready for the next season's refuse. I always advocate digging-in green refuse or crops, even the grsss mowings from pleasure-grounds, which Potatos and such crops, and keeps the ground open. I do not like digging in stumps of the Brassica tribe or old Turnips, as I fancy they tend to produce clubbing. All these I burn and make ashes of them. As your correspondent Mr. ashes of them. As your correspondent Mr. Miller says, "It is not wise to be prejudiced against any new system; circumstances alter cases." A. Lee, Beaulieu.

— I have read with interest the various letters criticising Mr. Simpson's article on "The Garden Rubbish Heap," lut none has given his method encouragement, as the results of his system would prove disastrous to the soil. The practice of digging - in all garden rubbish was at one time carried on extensively in this garden, for last year the weeds were entirely beyond the power of manual labour to get rid of. When I came here last April weeds were everywhere, in some places 2 feet high, which was in anything but accordance with the reputation of the place. Much trenching and deep digging have been done this winter, and it may not surprise the readers of Mi. Simpson's article to know that Cabbage stalks, hard prunings, and even Pea-stakes have been turned up in quantities, after having been buried for nearly six years. Surely, common-sense must have a wider distribution nowadays. A Young Gardener.

SPECIFIC AND VARIETAL FERN NAMES.—The awards made at a recent meeting of the Floral Committee of the Royal Horticultural Society to two new Ferns, named respectively Pteris Hilliand Cyrtomium Butterfieldii, lead me to point out the inadvisability of naming Ferns in this unscientific manner. A glance through the awards of recent years will show that this sort of thing is becoming the rule rather than the exception. This means a constantly increasing source of confusion, which should be checked by some rule prohibiting awards in such cases until duly authorised specific names can be attached. With regard to Pteris Hillii, "said to have been introduced from Brazil," there were certain charactera in it, especially the curious right-angled arrangement of the subdivisions of the basal pinnæ, that

may indeed constitute it a new species; but if so, it would be very desirable that the authority for the specific name should be stated or confirmed by the authorities at Kew. Otherwise it is quite possible that the species may already figure there under another name, and thus increase the already appalling synonymic fog. With the Cyrtomium, however, it is quite different, since it is undoubtedly no new species, as the name given implies, but merely a subthat it should be named Cyrtomium falcatum, so that it should be named Cyrtomium falcatum var. Butterfieldi. To my mind, the [correct names of] species of new plants should always be stated and insisted upon by the Committee. Except in the case of accidental hybrids this should always be ascertainable by reference to Kew, and by attaching it with the varietal name appended, we should have a proper record instead of a misleading one. Furthermore, if this is not insisted upon when the plant is put before the Committee, it is never likely to be done later, and in time its origin is very likely to become obscured. Why, too, should P. Hillii be merely "said" to have been introduced from Brazil? Surely the exhibitor should know its origin, especially as his name is attached to it, as it would have been had he discovered it! These points constitute precisely that sort of information which the Royal Horticultural Society should aim at securing, while as matters stand the great bulk of new plants is put forward with an utter absence of historical and guiding data. With British Fern varieties these data are always given, and I should never think of giving a new variety the name of the finder or raiser in a specific fashion, as is done with so many exotics. Polypodium Knightii, certificated some time back, is undoubtedly a plumose variety of a species; and I then pro-tested against an award being given under a specific name, richly as the plant merited one per se. This and the others above cited are types of scores. Chas. T. Druery, F.L.S., [A very old story. We entirely sympathise with our correspondent. He probably knows, as well as we, that repeated efforts have been made to induce the Society to do its duty in this matter. He probably knows also that in former years meetings have been held and committees appointed to deal with this very question, and that excel-lent rules for the guidance of the Committees have been laid down; but we fear they have been observed only on rare exceptions. Ep.]

DATES OF FLOWER SHOWS.—It is to be desired that in arranging for annual flower shows societies near to each other should avoid clashing. I note that the Ealing Society has fixed on June 29 for their summer show, which they hope may be held in Gunnersbury That is, as the crow flies, not more than two miles from the Old Deer Park, Richmond, where the usual great summer show will be held on the same day. The Richmond Society has had its schedules out for several weeks past. It is so obvious that two great local shows such as these are cannot be held with success so close together. The Ealing people fear, if held a week later, to clash with the National Rose Society's show at the Temple. Croydon show did so last year, but obtained a splendid display of Croydon show comes on July 6 this year, and the committee have no fear as to the result. Roses then are in abundance, and there would be plenty for Ealing. D.

THE WAY TO WISLEY.—In your number for January 23, there appeared an account of the Royal Horticultural Society's new gardens at Wisley. I must take exception to the directions given as to reaching the gardens by rail. The directions were evidently written by someone who was a stranger to the district. I have lived in Byfleet for a number of years, and of my own personal knowledge should like to state: (1) that the nearest station to the gardens is Byfleet, the distance being under four miles. (2) That the roads are not "exceedingly tortuous," and, except in extremely wet weather, are equal to the others in the neighbourhood. (3) That the road from the station to the gardens is exceedingly pretty and picturesque, and is frequently chosen by people for drives. (4) That there is a good service

of trains from London to Byfleet, which is on the L. & S.W. main line, and the next station to Weybridge. (5) The Railway Company already grants cheap tickets to other Societies visiting this neighbourhood, and would, if approached, no doubt afford the same facilities to the Royal Horticultural Society. (6) Conveyances meet every train, and special arrangements could be made for parties by writing to Mr. E. Finch, Byfleet Station. G. Carpenter, West Hall Gardens, Byfleet. [If our correspondent will refer to the note mentioned, he will see that the particulars were extracted from The Book of Arrangements issued by the Royal Horticultural Society. We are therefore not responsible for them. Ed.]

THE CLIMATE OF BRITISH COLUMBIA.—On p. 105, under the heading "Fruits from British Columbia," you speak of the climate of that country as being "less cold in winter and less bright in summer than that of Nova Scotia." The first part of this comment is quite correct, but the summers are as bright if not brighter than those of Nova Scotia, particularly in the interior, where probably the best Apples are grown. J. A. Turner, Secretary to the Agent-Genera? for British Columbia.

STRAWBERRY CULTURE.—I have read with much interest the discussion on Strawberry plantations, and I can fully endorse all that. has been said by Mr. McCallum on p. 155. My mode of cultivation is to plant onground that has carried a crop of early Potatos by the end of July, levelling, and dressing the soil with bone-meal, and lightly forking this in—Plant early in August with runners taken from Plant early in August with runners taken from a one-year-old plantation which has not been allowed to carry a crop of fruit, and only the required number of layers. In my experience I findthat runners from such plants take more kindly to the soil and start away more strongly than when taken from plants that have carried a full crop. The second autumn after planting they are mulched with spent hot-bed manure, which by the following spring is well decomposed, and requires no raking off. The hoe is brought intorequires no raking off. The hoe is brought into-use and well plied between the rows, and all runners are cut off. When the flower-scapes are well up they are bedded with long manure. Immediately the crop is gathered the plants are cleared of runners, weeds, and straw. The hoeis kept going until they are mulched again in the autumn. This system obtains for three-years, when the whole is trenched, and a goodcoating of manure applied, the ground being planted the following spring with early Potatos or early Cauliflowers, which is cleared off by August, when it is again planted with Strawberries. Our soil being very shallow, and overlying gravel, I think it well to apply a winter-I may state that under this treatment wenever fail to get a heavy crop; even last year we had an exceedingly good one; and after repeated trials of many varieties I find, with Mr. McCallum, that Royal Sovereign and Vicomtesse Héricart de Thury respond to my treatment best. R. Kidd, Hope Park, Bonnybridge, Slirlingshire.

Acts provide that no repayment can be made, save in certain quite exceptional cases, unless the claim is made within three years. April 5 next is, therefore, the last possible day on which a claim for the year ended April 5, 1901, can be lodged. Claims for repayment can be made or various grounds in respect of income from all sources, even when said to be paid "free of income tax," and we shall be happy to advise any of your readers, without charge, whether or not they can make a claim for repayment, on receiving full particulars of their incomes, and a stamped envelope for reply. The Income-Tax-Adjustment Agency, Limited (W. J. Andrews, Secretary), Poultry, London, E.C., March 2, 1904.

THE VITALITY OF SEEDS. — With reference to the recent correspondence which has been appearing in the Standard on "The Vitality of Seeds," I feel sure the following will be of interest to your readers. "During last year a collection of vegetable and flower-seeds, specially packed in a sealed tin box, came into my possession at Dawson, Yukon Territory. The box and its contents, which had been given to a missionary in

1895, had been left unopened by him on leaving the Klondike in 1900, and for years these seeds lay amongst a lot of rubbish subjected to a winter below zero, followed by as much as 90° Fahrenheit below zero, followed by as much as 90° Fahrenheit each summer. Planted by me in 1903, these seeds grew perfectly well, a circumstance which not only throws light on the vitality controversy, but testifies to the fact not generally, I believe, realised by people in this country that Dawson, situated as it is in a portion of Canada almost within the Arctic Circle, is yet not entirely a barren waste from a horticultural point of view. C. C. Chataway."

To this Mr. Martin Sutton appends a note as follows :-

"Some five-and-twenty years since I read a Report, written early in the nineteenth century, from an Indian Government official, calling attention to the fact that he had had seeds raised by his gardener in his English country home for his use in India; that while some of these seeds had proved excellent, others were absolutely worthless. On enquiry he found that in the one case the pods containing the seeds had been hung up in the chimney corner of the kitchen of the English mansion for some time and the seeds placed while warm in bottles and sealed. The seeds that failed, although dried in a similar way, had not been bottled for a considerable time afterwards. This hint was sufficient to start me on a long series of experiments, having for their object the safe elimination of the excess of moisture which all seeds contain as harvested in the English climate, however dry they appear when handled. This moisture has been a cause of very great trouble when English seeds, packed in hermetically sealed boxes, passed through the tropics, where the heat in the ship's hold caused the seeds to sweat and become mouldy. Naturally, I found there was a very great diversity in the amount of such moisture contained in the different varieties of seeds, and that, while some seeds could safely lose an amount of moisture equal to ten per cent. of their weight, others could not part with more than five per cent. without injury; consequently, the degree of dry heat to which seeds could be safely exposed, and the proper duration of such exposure before packing, varied very much, while some seeds required much more gradual desiccation than others. But before the experiments were completed, knowledge on these details was acquired, with the result that there seems hardly any limit to the period during which the germination of seeds may be conserved if they are properly prepared by drying in a suitable high temperature and hermetically sealed in that temperature. For many years past, seeds thus packed by my firm have been successfully used in all climates, and have been successfully used in all climates, and the box Mr. Chataway mentions was one of those which every agent of the Church Missionary Society, the London Missionary Society, and the Baptist Missionary Society receives annually, containing seeds for his personal use in Mission gardens from the Tropics to the Arctic Circle. Martin J. Sutton, Reading, February 23."

LAURELS AND TELEPHONE - WIRES. — Last February I planted a bank, previously covered with grass, with three-year-old transplanted Laurels that were well rooted. The bank contained five rows of plants. After a few weeks the foliage of the plants in the second and third rows commenced to fall in an alarming manner. from a hose-pipe was applied frequently during the few days of fine weather in early summer, but without effect so far as the loss of foliage was concerned. At the present time the plants are mere skeletons; the old wood is quite sound. The young wood I cut well back in the latter part of April. The first row and the fourth and fifth are all right, and have become well established; yet the foliage of these in places has the appearance of being burned, as if by some caustic substance. Directly over the two rows that have suffered so much are twenty or thirty telephone-wires (20 feet or so high). Is it possible these wires are responsible for the failure of the two rows? Most of the wires are new, having been put up since the bank was planted. Have any readers of the Gardeners' Chronicle experienced anything of the sort? Vanda, Yorkshire.

THE PROPOSED GARDENERS' ASSOCIATION.—One of the most lamentable incidents in the gardener's career is one that happens to a great many at one period or other, viz., the weary waiting for and the constant striving to obtain another place. If the Association can remedy this state of affairs, then it will be a boon to the gardening profession. Mr. Owen Thomas would exclude gardeners who haveless than five men under them. This would be unfair, as there are many gardeners in smaller places who are equally as intelligent and have as much love of their profession, whose knowledge and abilities are far beyond what is demanded in the place they happen to fill, having heen trained in the greater establishments. But what have they in common with us? The Commercial Gardeners' Association should be a separate branch for the interest and benefit of those in trade establishments. Mr. Watson's apsech is sanguine and enthusiastic, but his remark that gardeners are themselves to olame for the low state of wages is hardly norme out by facts. If an employer or his agent atpulates a certain yearly salary, the gardener who is an applicant must either accept those terms or lose the appointment. Mr. Watson truly says there is a great amount of inefficiency in the gardening fraternity; but there are also gardens which are under-manned, and which from constant changes of gardeners have become most disorderly. In such places many gardeners of ability submerge their lives in constant and unremitting toil, and obtain little or no encouragement. The bothy system is undoubtedly at the root of this congested state of our calling. Why have some gardeners a preference for young men? Labourers can do much of the work equally as well, if not better, and are more settled. F. Street, The Gardene, Ardwell, Wigtownshire.

— To prevent confusion (with other societies), and to include all branches, might not this be called the

of the work equally as well, if not better, and are more settled. F. Street, The Gardens, Ardwell, Wiglownshire.

— To prevent confusion (with other societies), and to include all hranches, might not this be called the National Horticultural League? Could it not be managed by twenty-one or more Councillors, who would meet once a quarter, and form committees to deal with the various subjects in detail. These to a great extent must be local men (London), and would meet as occasion required, work up reports, &c., to be brought before the quarterly meeting (of Council). Rules ought to be few at first, for they can always be improved upon and added to. Councillors and all officials should have been engaged in horticultural pursuits for at least ten years, other members not less than seven years. Subscriptions should be if possible as low as 22. 6d. per annum. All head gardeners, nurserymen nursery and market foremen who have held appointments for at least five years, and whose wages have been equivalent to a minimum of 30s. per week, should be able to join, for the first year at least, without nomination. All others eligible to become members to be proposed by two members and elected by the Council. The other questions, such as hours of working, wages, examinations, &c., ought not to be brought forward till an Association has been formed. These and other important questions should then be taken up by the Council, who might, perhaps, invite a lew outside members interested in particular subjects to give opinions, &c., at committee meetings. Perhaps the most important of them ought to be brought before the membere at annual or other meetings, so that all members may feel directly interested in making and huiding up the Seciety. If a Council of practical men can be selected, who are willing to devote considerable spare time to the cause, success must follow, and good truits be produced in due season. William E. Close.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

MARCH 8 .- Present: Dr. M. T. Masters, F.R.S., in the chair; Messrs Chitteoden, Nicholson, Michael, Veitch, Bowles; Drs. Rendle and Cooke; Revs. W. Wilks and G. Henslow, Hon. Sec.

Lobelia nicotianæfolia -A fine plant was exhibited by Messrs. PAUL & SON, Cheshunt—a native of Neilgherry Hills and Ceylon. The flowers were white, but the figure (Botanical Magazine, tab. 5587, 1886) shows them pale violet-coloured. A Botanical Certificate, proposed by Mr. Veitch and seconded by Mr. Chittenden, was unanimously awarded to Messrs. PAUL.

Jasmine with Tuberous Growths .- Specimens received from Mrs. STREET, Woodside, Caterham, were examined by Mr. SAUNDERS, who reports as follows :-" It is difficult to account for the growths, as there are no sigos of insect or fungus. Growths of a similar appearance occur on the roots of Roses, being caused by the irritation set up by ants."

Palms and Scale Insects -Mr. HALL, of Mowbray Park, Sunderland, sent some specimens, upon which Mr. SAUNDERS reports:—"The insects unfortunately arrived in a bad condition. (1) a parasitic fly (?), nearly allied to the Ichneumons; (2) undiscoverable; (3 and 4) two-winged flies (fam. Mycetophilidæ), or fungus gnats, as the grubs feed on fungi or decaying vegetable matter; they are of no importance; (5) scale insects, but so covered with germs as not to be identifiable.

' NATIONAL FRUIT GROWERS' FEDERATION.

MARCH 14 -The monthly meeting of the Council was held at the Westminster Palace Hotel on Monday last. Colonel Long, M.P., took the chair, but, being compelled to leave at an early stage of the proceedings, his place was filled by Mr. F. S. W. Cornwallis, the President-Elect.

A letter was read from Messrs, W. & H. Bracey, of Martham, near Great Yarmouth, respecting their claim against the Midland and Great Northern Railway Companies under owners' risk, which had recently been tried in the Yarmouth County Court, where a verdict was given in their favour, but against which the railway companies appealed. As the Board of General Managere have promised to further consider and define the Conditions of conveyance of fruit at owners' risk the conditions of conveyance of fruit at owners' risk, and as the matter is also being dealt with by the Departmental Inquiry, it was decided to defer the conalderation of Messrs. Bracey's case.
A discussion took place on the question of Preferen-

tial Rates, which was raised by an Instruction to the Committee in the House of Commons on the Lancashire and Yorkshire Railway (Steam Vessels) Bill, to be moved by Sir W. Tomlinson after the Second Reading.

The lostruction reads as follows:

"That it be an Instruction to the Committee that they insert provisions in the Bill requiring the Lancashire and Yorkshire Railway Company, in respect of any through rates for the carriage of merchandise between foreign countries and places in the United Kingdom which the Company make or charge, or to which they are party, to set out in their public rate-books at the ports of Goole and Hull, and any ports which may be hereafter established between those places, how much of each such rate is justly and reasonably appropriated by them, or is paid, payable. or agreed to be paid to or by them for (1) land carriage abroad; (2) dock, harbour, and shipping charges abroad; (3) conveyance by sea; (4) dock, harbour, and shipping charges at the British port; (5) and conveyance by railway, either by goods or passenger trains, ior luding any terminal and cartage charges in the United Kingdom." United Kingdom.

The Council passed a resolution fully approving of this Instruction, and calling on all Memoers of the House of Commons who are members of the Federation to support it.

The next meeting of the Council was fixed for Monday. April 18, and the annual general meeting for May 9.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

MARCH 14.-The annual meeting of this Society was held at the Caledonian Hotel, Adelphi, London, on the above date; Mr. HORACE J. WRIGHT in the chair.

Never in the history of this organisation has the Committee been able to place before the members a more gratifying report, as on every hand there are signs of substantial progress. The actual gain in membership during the year was fifty, giving a total of 1 016. As far as it goes this is satisfactory, but it does not go far to prove the anxiety of the your g gardeners of the day to make substantial provision for their old age. It is probable that hundreds of men know nothing of the "United" beyond the mere name, and those in rural districts, if they join a benefit seciety at all, which is by no means certain, are attached by one of the general associations, which cannot provide similar advantages to those which accrue to membership of the Society which was established by gardeners for gardeners, and for whose benefit it is still maintained. The organisation is a benefit society and a bank as well, and in this bank the depositor secures a higher rate of interest than is given by any (except one or two) of the reputable banks of the country.

The sum of £1,800 has been invested during the last

year, which goes to swell the total of the funds to £22,018 12s. 7d., which justified the chairman in describing the financial position as impregnable. A little upwards of £300 was disbursed in sick pay, this involving a levy of 7s. 2d, from members paying under involving a levy of 18, 2a, from hembers paying under the society's higher scale, and 48, 10d, from those under the lower scale. About £130 have been paid from the Benevolent Fund during the year, and the Convalescent Fund distributed £1108, between three applicants. This is given in sums of 10s, a week, and it appeared to be the one thing for which the Chairman had small respect,

he evidently considering that it could not be of material advantage as disbursed at present.

In moving the adoption of the Report the Chairman was emphatic in praise of the secrety and its management, and failed to understand why the young gardeners of the kingdom did not rush to join its ranks. As they did not do so he urged the acciety to advertise the substantial claims of the "United." but recognised the difficulty of finding adequate means of distributing reliable knowledge.

Mr. Chas. H. Curtis seconded the adoption of the

Report and Balance sheet, which was carried without dissent. It was resolved to print and distribute 3,000 copies of the Report.

ROYAL BOTANIC.

MARCH 16.—An exhibition of plants and flowers was held by the above Society in their gardens at Regent's Park on this date, many in eresting exhibits being brought forward. Held in the conservatory, and with more suitable surrouncings than are the exhibitions of the Royal Horticultural Society at the Drill Hall, the plants and flowers presented themselves to greater advantage, to which the increased light added not a little.

One of the finest stands at the show was that set up by Mesers WM. CUTBUSH & SON, nurserymen, Highgate, London, N. Their contribution extended the entire width of the great conservatory and consisted of forced shrubs and plants, with a variety of Alpine and spring bulbous flowers on an adjacent table. Standard, bush, and pyramid forms were arranged to the best effect, and the colours were blended. The Alpines included some fine blooms of Iris Haynii (Gold Medal).

Mesars. B. S. WILLIAMS & Son, of Upper Holloway, London, N, staged a similar group of forced plants, prominent amought which were some fine standard plants of Prunus triloba and Viburnum Opulus. Dwarfer plants, such as Azaleas, Lilacs, &c., with a suitable setting of foliage, completed a very fine group (Silver Meda)

Camellias comprised the main feature of the group arranged by Messrs. WM. PAUL & SON, Waltham Gross, and come fine plants of Clematis indivisa lobata were worked in with good effect. Amongs the Camellias, C. alba plena and fimoriata, fine whites; Mathotlana, fine dark red, with flowers of good form; Marchioness of Exercer, salmon-pink, and imbricata were noticable. Among the single section we noticed Kotope and Lady Ackinnon, the latter having petals splashed with white. Some new varieties were presented for Award, of which the varieties Mercury and Jupiter were awarded Certificates (Silver-gill Medal).

A really credia de exhibit of Cyclamen Laifolium.

A really creditable exhibit of Cyclamen latifolium was brought by Mr. Joun May, Gordon Nursery, St. Margarets, Twickenbam. The colours were of various shades, and the plants were well-grown specimens (Silver-gilt Medal).

Another group of Cyclamens was exhibited by Mr John Odell, Co.ham Green, Hillingdon, Uxbridge, but although they contained plants well flowered and of good colours, they suffe ed by comparison with the former show. The group was very extensive, and, together with some good Primu as, was awarded the Large silver Meual.

Messrs John Laine & Sons, The Nurseries, Forest Hill, London, exhibited Begonia gigantea, carminata interspersed with Ferns, and B. argentea guttata, having a batch of Asparagus sprengeri forming a pleasing shower along the front (Brunze Medal).

Messrs. Bakk & Sons, King Street, Covent Garden, displayed a group of Alpines, flacked at either end with varieties of Narcissus of home in vases. Some fine forms of Primula obconica were included, a variety Crimson King being of a striking colour; Fritillarias, Hepaticas, Scillas, Saxifrages, &c., were all shown well (Silver-gilt Medal).

Mesers J. HILL & Son, Barrowfield Nurseries, Lower Edmonton, had a very interesting group of Ferns, comprising some rare and interesting apecies, well grown, and of good colour (Silver-gitt Medal).

grown, and of good colour (silver-gill Medal).

H. T. Pitt, E.q. (gr., F. W. Thurgood), 57, Stamford Hill, Loodon, N., had a display of Orchids (Gold Medal). Many genera were represented, including some good Odout glossum crispum varieties, O. c. Persimmon, O. Adrianæ Cobbianum O. cordatum. Of Cypripediums, C. Curtisii, C. Chamberlainianum were eapecially good. Cymbidium granoiflorum was fine. Some good Cattleyas and Læ io-Cattleyas were included, also C. Enid maguifica, large petals with a fine rose coloured lip; C. Trianæ Our King; L. C. Digbyano Mossiæ, a pleasing light-pink colour with fimbriated llp, marked with a red line on a yellow ground; O. c. Stanley James Pitt received a Floral Ceruficate.

Mr. Thos. S. Ware. Feltham, Middlesex, showed cut blooms of Narcissus, including many of the best varieties.

warieties.

Messrs. W.M. Bull & Sons, King's Road. Chelsea, staged a group of Azaleas and Palms (silver Medal).

GARDENERS' DEBATING SOCIETIES.

CHESTER PAXTON.—The Curator of the Grosvenor Museum (Mr. Robt. Newstead, A.L.S., F.E.S., &c.), gave a lecture on "New and Noteworthy Pests and Parasites," on the 5 h is st. The introductory part of the lecture was devoted to a de-cription of the external characters of some typical insects. Life-histories of the noteworthy pests wore given special reference heing made to those occurring in the county of Cheshire. These iccluded the Crane-fly, the larva of which is ganerally known as the "Leather Jacket." Observations with regard to the last-named were made on the golf links near Chester, where many acres of grass were completely destroyed. The White Clover, however, proved immune, and not a particle of the

plants was found in any way injured. The comparatively new Potato-disease, which has proved so destructive to the tubers in certain localities in Cheshire, was dealt with; experiments proved that the disease readily perpetuated itself if infected tubers were planted. The lecture was illustrated by lantern-pictures, and a series of specimens of the various pests and examples of the injury caused by the latter.

REDHILL, REIGATE, AND DISTRICT.—On March 1, Mr. Magner gave a very interesting lecture on the "Ventilation of Greenhouses" The lecturer said it was not possible to grown healthy plants without ventilation and other sanitary conditions. In ventilation the principle advocated was, that air should be warmed before it reached the plants. A good discussion followed. A hearty vote of thanks was accorded Mr. Magner for his lecture. Mr. Blackwood showed an abnormal flower of Richardia æthiopica.

CROYDON AND DISTRICT.—This society held a meeting on Tuesday, March 1, when a paper was read by Mr. W. HARRIS on "Hardy Summer and Autumn Bulbs." In opening his subject the lecturer alluded to the apparent neglect of many of these beautiful flowers, which for heauty and fragrance are unsurpassed. Passing onto the Gladiolus, he discoursed on the treatment required by these showy plants, which rank high as herbaceous border flowers. The Raquiculus, Ixia, Sparaxis, Fritillarias, Alstromerias, Montbretias, Tigridias, Crocosmias, Colchicums or Meadow Saffron, Sternbergia, Zephyranthes or Zephyr Flower, and Cyclamens were amongst some others mentioned, and for each species cultural directions were given. A discussion followed. A hearty vote of thanks was given to Mr. Harris for his paper.

HULL HORTICULTURAL.—Mr. Clayton, of Grimston Gardens, Tadcaster, read a paper on "Gardens and their Management" hefore this Society on Tuesday, March 8; Mr. J. P. Leadbetter in the chair. The essayist referred to the antiquity of gardens. The making of gardens probably received its greatest stimulus during the Victorian era when there was great wealth in the country. Speaking of public gardens, he was of opinion that much money now directed to other channels could be utilised to more advantage in these places. Mr. Clayton gave some sound advice on the relations between employers and employes, and expressed an opinion that young men should commence at the bottom and work upwards, not neglecting a thorough grounding in the kitchen-garden and other outdoor work, for the more alluring department under glass. W. R.

DEVON AND EXETER GARDENERS'.—The meeting held on the 9th just, was an open one Por convenience the place of meeting was in the lecture-room of the Royal Albert Memorial College, and the lecture was illustrated by lime-light pictures thrown on a large screen. The lecturer was Mr. Ralph Morgan, a local hotanist and science student, the subject being "Insectivorous Plants," such as Droseras, Dioneus, Nepenthes, Sarracenias, and similar well-known subjects.

CHISLEHURST GARDENERS'.—On Tuesday, March 8, Mr. A. Hemsley gave a very interesting lecture upou "Rock and Alpine Planta," illustrated with lanternstilder. Many pictures of Alpine scenery, together with views of rockeries (both natural and artificial) in this country, were thrown on the screen. The whole lecture was full of valuable information regarding the formation and management of the rock garden, and a profitable evening was spent by those interested.

LIVERPOOL HORTICULTURAL. — On Saturday, March 12, Mr. Sherry, Botanic Gardens, delivered, the last lecture of the session in connection with the above Society before a good attendance of members. "Troublesome Pests under Glass" was the subject dealt with, and the life-history of beetles, thrips, redspider, and mealy-bug was fully explained. Remedies for trapping and killing these insects, which the lecturer had adopted successfully, were described. At the conclusion a brisk discussion took place in regard to eradicating mealy-bug and red-spider, several members advocating washing the rods when in a dormant state ten or twelve times with soft-soap. &c. A novel idea was brought forward by Mr. Hazelton, that of placing sulphur in frying-pans over ordinary portable oil-stoves to jet rid of thrips and spider.

READING AND DISTRICT.—The last fortnightly meeting of the above Association was held to the Abbey Hall, and there was a good attendance of members, Mr. W. Barnes presiding. Mr. J. Crook, of Forde Abbey, Chard, gave a most interesting lecture on "Spring Flowers," confining himself principally to the Snowdrop, Narcissus, Primrose, Iris, Myosotis, Anemone, and Chionodoxa. He strongly advocated that these should he planted in as natural a manner as possible, doing away with all formality in their arrangement, and growing them as far as circumstances would permit in the grass. The exhibits consisted chiefly of spring flowers.

Obituary.

WALTER HILL .- I regret to have to inform you of the death of one of your constant readers, Mr. Walter Hill, who died, at the age of eighty-three years, on the 4th inst. He was the first Colonial Botanist and Director of the Brisbane Botanic Gardens. Since his retirement in 1881, he has been living upon his property about eight miles from Brisbane, where he devoted his attention to the introduction of fruits, and in some instances met with remarkable success, especially with Japanese Plums, which he has freely distributed among growers. Mr. Hill was always more of a gardener than a botanist, although in the early days of the Colony he collected the indigenous plants and forwarded specimens of them to Kew, and to Baron von Mueller for determination. However, the economic interest was always uppermost in his mind, thus in his early days at the Gardens might be seen plots of a vast number of economic plants; and doubtless this was the means of starting in the minds of a number of colonists the idea of planting such plants, many of which he either imported himself or they were imported at his suggestion. This is enough to show that his life at the Botanic Gardens was a busy and useful one. His official duties often caused him to visit distant localities, and on his travels he made a point of collecting specimens of the indigenous flora. Several botanists have attached his name to plants, of which probably the most important are the following :-

important are the following:

Keraudrenia Hillii, F. v. M., a pretty Sterculiaceous under - shrub with blue flowers; Tecoma Hillii, F. v. M., a beautiful climber; Grevillea Hilliana, F. v. M., a handsome tree, producing a useful wood for the cabinet-maker; Musa Hillii, F. v. M., an indigenous erect - fruiting Banana (vide Botanical Magazine, 7401); Dendrobium Hillii, Hook. f. (now placed as a variety of D. speciosum), a superb Orchid; Myıtus Hillii, Benth., which forms a beautiful tree with a thin smooth bark, the wood being so extremely hard that few axes will cut it, hence its vernacular name "Scrub Ironwood;" Syncarpia Hillii, Bail., the Peebeen or Fraser Island Turpentine, a very large tree producing one of the most valuable of our hard woods; Platycerium Hillii, Polypodium Hillii, Baker, a somewhat rare Fern useful for clothing damp rockwork; Ectropothecium Hillianum, Hampe—this little moss being the most humble plant that bears the name of the deceased colonist.

Standing at the grave-side yesterday at his funeral, I noticed several old acquaintances and the sons of former friends of the deceased, as well as several nurserymen and gardeners. It was refreshing to find that all those present remembered and spoke only of the good which had been done by Mr. Hill. It was in fact a company of mourners—no pomp, no show, which was a great relief from that usually displayed at such gatherings. F. Manson Bailey, Brisbane, Queensland, February 7.

SAMUEL AINSWORTH. — On Saturday last, there passed away at Kilburn, in the person of Samuel Aiusworth, an interesting old link in the seed trade. Originally intended for a doctor, he studied for his degrees in London, but never practised, having become connected with the late James Carter, at that time at the height of his fame as a seedsman. Mr. Ainsworth's knowledge of foreign languages including Latin, brought his services into request in the compilation of the scientific section of the exhaustive catalogues for which Mr. Carter had a reputation. In those days he was also an active member of the Floral Committee of the Royal Horticultural Society, and frequently occupied the Chair. About 1870, Mr. Ainsworth took a trip round the world, and on returning, again found a position in his old firm, where he remained in harness until last year—his association with Messrs. James Carter & Co., of High Holborn, having extended over a period of more than fifty years. Those of the old school still left will remember "Sam" Ainsworth as a hearty and cheery individual, and one of those men who could never have made an enemy.

DAVID DRUMMOND.—The death is reported of Mr. David Drummond at Dublin, age 91; founder of the firm of Drummond & Co., Nurserymen.

MARKETS.

COVENT GARDEN, March 16.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the prin-Thursday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day, Ed.] day. ED.]

CUT FLOWERS, &c.: AVERAGE WHOLESALE PRICES. s.d. 8.d. 1 8.d. 8.d.

				B.G.
Anemones, per		Narcissus, Soleil	*****	~
doz. bunches	0 9- 1 6	d'Or, per dozen	1.0-	- 2 0
Azalea molils, bun.	1 0- 2 0	Orchids : Odonto-		
Azaleas, per doz.	4 0- 6 0	glossums, per		
Bouvardias buch.	0 4- 0 6	dozen blooms	2 0-	6.0
Callas, per dozen.	2 0- 4 0			12 0
Camellias, box	16-20	- Cyprlpedium		
Carnations, bneh.	1 0- 3 0	insigne, per		
Croton leaves.bun.	0 6-1 6	dozen	0.9	- 1 6
Daffodils, per doz.		- Cologyne, doz.		- 1ิ ฮ
bunches	2 0- 6 0	Pelargoniums,		- 0
Eucharis, per doz.	16 26	zonal, dozen		
Euphorbia, bun.	1 0- 3 0	bunches	4 0-	9.0
Ferns, Asparagus,		- white, dozen		0
per bunch	10.26	bunches	4 0-	6 0
- French, per		- double scarlet,	•	0 0
doz. bunches	03 04	p doz. busches	4 0-	6.0
- Maldenhair,		Roman Hyacinths.	1 0	0 0
doz. bunches	40 60	doz bunches	4.0-	8 0
Freesia, per doz.	1 0- 2 0	Roses, Mermet.		0 0
Gardenias, box	20-60	per bunch	9.0-	40
Lllao (French),		- white, bunch		3 0
per bunch	16-30	- pink, buuch		3 0
Lilium auratum		- red. bunch		6 0
per bunch	2 0- 4 0	- Safranos, beh.		2 0
- longiflorum,		- French, bunch		2 0
bunch	16-601	Smilax, per doz.	1 0	- 0
- lanelfollum	16-26	trails	1 6-	2 0
Lily of the Valley,		Snowdrops, doz.		1 6
p. doz. bunches	6 0-15 0	Spirmeas bunch		0 9
Marguerites, yel-		Stocks, per doz		2 6
low, doz hunch	10 20	Tulips, Red, per		
- white doz. bun	1 0- 3 0	buneh	0.6-	0 9
Mimosa (Acacia).		- various, ner		~ ~
bunch	0 6- 1 0	bunch	0.6-	1 6
Narcissus, dz.bun.	1 0- 2 0	Violets, p. dozen	- 0	- 0
- Phessant Eye,		bunches	1 0-	1.6
per doz	20-40	- Parma, p. bun,		
_				
PLANTS IN PATS	P.O . Ave	PRACE MUCHECALE P	30.00	

PLANTS IN POTS, &o.: AVERAGE WHOLESALE PRICES.

8.d. s.d.
Hyacinths, Roman
(48-po s), d.z. 80-90
- Dutch. p doz. 8 0-12 0
Litae-trees, each. 30-40
Lycopodiums, per
dozen 30-40
Marguerites, per
dozen 60-80
Orange-trees, each 3 6-10 6
Palms, var., each 3 0-20 0
Pelargoniums.
double scarlet,
per doz 60-80
Poinsettias dnz 8 0-15 0
Primulas, perdoz, 40-60
Pteris tremula,
dozen 40-80
- Wimsettl, per
dozen 4 0- 8 0
- major, dozen 4 0- 6 0
Solanums, dozen 4 0- 6 0
Spiræa, per doz., 60-80
Tulips, red, doz.
rnots 10 -
- yellow, dozen
roots 0 9-1 0
- various 10-16

VEGETABLES: AVERAGE WHOLESALE PRICES.					
8.d. 8.d.	8.d. s.d.				
Artichokes, Globe,	Mushrooms(house)				
per dozen 3 0- 3 6	per lb 10-13				
- Jerusalem, p.	Onions, per case. 76 -				
sieve 10-13	- per bag 3 6- 6 6				
Asparagus.Sprue.	- picklers, sieve 3 0- 5 0				
bundle 0 11 -	- English, cwt. 80 -				
- Parls Green 4 6- 5 0	Pareley, doz bun. 30-40				
- English, bun. 60-76	- sieve 20 -				
Beans, dwarf, lb. 10 -	Parsnips, per bag 20-26				
- Madelra, per	Potatos, per ton 70 0-140 0				
basket 20 -	- frame, lb . 0 5- 0 6				
Beetroots, bushel 26-30	- New Teneriffe,				
Brussels Sprouts,	per cwt 12 0-14 0				
per sieve 1 0- 1 6	Radishes, per				
Carrots, per doz.	dozen bunches 0 8- 20				
bunches 20-26	Rhuoarb, Yorks,				
- per bag 2 6- 4 0	per dozen 0 11- 1 2				
Cauliflowers, per	Salad, small, pun-				
dozen 16-30	nets, per doz 0 8- 1 0				
Celery, doz. bun 10 0-20 0					
Cress, doz pun. 0 8-1 0	Savoys tally 40-60				
Cucumbers, doz. 4 0- 5 0	Seakale, per doz.				
Endive, per doz 16-19	punnets 15 0-20 0				
Garlie, per lb 0 3 —	Shallots, lb 0 2- 0 3				
Horseradish, fo-	Spinach, p. bush. 3 0- 4 0				
reign, p. bunch 1 0- 1 3	Tomatos, Canary				
Leeks, doz. bub 10-13	Deeps 30-36				
Lettuces, Cabbage,	Turnips, doz.bun. 1 6-20				
per dozen 0 10- 1 0	— per bag 20 —				
Mint, doz 4 0- 6 0	Watercress, per				
4 0- 6 0	dozen bunches 0 4- 0 6				

FRUIT: AVERAGE WHOLESALE PRICES.

Apples, home- Grapes, Alicante.	
grown, cookers, per lb 2	0-30
	0-80
	6-30
	6-20
	0-18 6
	0-35 0
	L-14)
	1-40
Cranberries, per Strawberries, A.,	
_ case 12 0 - per lb 6 (0-90
Figs, per doz 12 0-18 0 - B, per lb 3	0-50

REMARKS.-Home grown Radishes are now upon the REMARKS.—Home-grown Radishes are now upon the market. Broccolt and Rhubarb are lower in price. Cape Fruits include Peaches in case 2, 78., 108.; Plums, 38., 58.; Pears, 48., 108.; Grapes, 158. 188. Old Potatos remain much the same in price. Cherbourg Broccoli, per doz are 18. 6d to 28; Cornish Crates, 108. to 128.; Green Onions, per doz, 38.; American Apples afford great variety in barre's and cases, the Oregon and Albemarle are now the best. Madeira Beans are nearly over.

POTATOS.

Home-grown, 100s, to 120s, per ton; foreign, 80s, to 110s, do.; Dunbars, 130s, to 140s, do. Seed-tubers in variety. John Bath, 32 & 34, Wellington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

WITH a brighter week trade has revived a little, and WITH a brighter week trade has revived a little, and growers have been tempted to set d in larger supplies. Messrs. T. Rochford & Sons have kept their stands clear of large Palms for some time, but last week they made a fresh start and had a fine lot of large specimens ou sale. There had been a little trade for them during the week, but on Saturday there were very few moved. Ferns now sell better, and with continued fine weather further improvement may be expected. No great improvement has yet been made in flowering plants. Cyclamens are very fine, but on saturday morning some remained unsold at closing time. Spireas are now remained unsold at closing time. Spliceas are now plentiful and are better flowered than earlier samples; plentiful and sre better flowered than earlier samples; Genistas continue good. Several growers have Cherarias in large quantities, and some are very good, those on Mr. Sweet's stands oring exceptionally bright. Some very fine pots of Lity of the Valley are now arriving. Indian Azaleas are plentiful. A lew double scarlet Pelargoniums are also coming in, but they are not of first quality, being rather tail. Hardy llowering plants include Lilaes, Pyrus, Prunus triloba, Prunus sinensis fi.-pl., and Deutzia Lemoinet. Azalea mollis is pleutiful and good; Genistas continue very good, but one or two growers who start early have now finished. Some of the finest flowered Erica Wilmoreana I have seen were in on Saturday, but the trade for these does not seem very brisk. E persoluta alba sells better; Hyacioths and Daffodils coutinue plentiful. plentiful.

CUT FLOWERS.

There is a considerable improvement in the cut-flower trade, and brightly coloured flowers are more abundant. Scarlet Pelargonium is lower in price. Car-nations are also cheaper, the supply of bright colours being considerably sugmented, the American varieties with long stems now being a leading feature. A few Malmaisons are to be seen, but they are not of high quality. I have notyet observed any good yellows. One salesman had some very fine English Violets, which salesman had some very fine English Violets, which were making 6s. per dozen bunches, with six blooms only in a bunch. Ordinary blue Violets continue plentiful, also Parma Violets.

plentiful, also Parma Violets.
Of Orchids, Odonteglossums, Dendrobiums, Ceelosynes, and a few Cypripediums are still to be seen. Some good Cattleyas are also arriving, but they are not yet very plentiful. Eucharis, Gardenias, White Azalea, Liliums, Callas, and Lily of the Valley, vary but little. Daffodils continue to come in from all sources in fine quality. Roses are now getting very plentiful, Caroline Testout on long stems with good foliage is very fine; also Catherine Mermet, Bridesmaid, and the Bride, the strong stems giving this a great advantage over Niphetos; but this good white Rose will take somethic g very good entirely to supersede it for many purposes, and very fine blooms are sede it for many purposes, and very fine blooms are now coming in. Anemones are now a great feature, the St. Brigid varieties are very fine, A. stellata double and single, and the scarlet fulgens. Large quantities of scarlet Coronaris are also seen; Ranunculus flowers lo several colours are very good.

FRUITS AND VEGETABLES.

GLASGOW, March 16.-The following are the averages GLASGOW, March 16.—The following are the averages of the prices during the past week:—Apples, Maine (U.S.), 15s. to 20s. per barrel; Californian Newtown Plppin, 9s. 6d. to 16s per box; Canadian, 16s. to 28s. per barrel, and 8s. to 12s. per box; Oranges, Valencia, 42°s, 9s. 6d. to 11s. per box; large, 13s. to 15s.; 714's, 11s to 13s. 6d.; Lemons, 4s. to 6s. per box, aud 8s. to 12s. per case; Grapes, home, 1s. 6d. to 2s. 6d. per lb.; Tomatos, Teneriffe, 3s. 6d. to 5s. per box; Mushraoms, 1s. 3d. to 1s. 6d. per lb.; Cucumbers, 8s. per dezen; Onions, Valencia, 9s. to 10s. per case. LIVERPOOL, March 18. — Wholesale Vegetable Market (North Hay).—The following are the averages of the current prices during the past week—prices varying according to supply:—Potatos, per cwt, Main Crop, 48 9d. to 5s. 3d.; Up-to-0a*e, 4s. 3d to 4s. 9d.; Bruce, z. 6d. to 5s. 6d.; Sritish Queen 4s. 3d to 4s. 9d.; Turnips, 8d. to 10d per dozen bunches; swedes, 1s. 3d. to 1s. 4d. per cwt.; Carrots, 3s. 6d. to 4s. do.; Parsley 8d. to 10d. per dozen bunches; Ontons, foreign, 4s. 6d. to 5s. per bag; Cauliflowers, 2s. 6d. to 3s. per dozen; Cabbages, 6d. to 1s. 2d do.; Cetery 6d. to 1s. 3d. —Fruit; Oranges, 7s. 3d. to 9s. 6d per case; do selected, 10s. to 18s do.; large, 11s. to 20s., do; Jaffa 7s. 6d to 9s. 6d. per box; Patermo bitters 5s to 8s.; Messina, 6s. 6d. to 9s. 6d.; Syrian, 8s. 6d. per box; Lemons, Palermo and Messina, 4s. 6d. to 5s; large cases, 5s. 3d. to 9s. 6d.; Naples, 7s. to 9s. Apples, American, 12s. to 18s. per barrel; Cahadian 13s. to 22s. 6t.; Newtown, 7s. 6d. to 9s. 6d. do.—St. Johns: Polatos, 1s. to 1s. 2d. per peck; Cucumbers, 6d. to 1s. each; Grapes, English, 2s. to 2s. 6d. per 1b.; do. foreign, 8d. to 10d. do.; Pines, Inreign, 3s. 6d. to 6s. each; Mushrooms, 1s. 6d per 1b.—Birkenhead: Potatos, 1s. to 1s. 2d. per peck; Cucumbers, 8d to 1s. each; Cobnuts, 8d. to 10d. per 1b.; Grapes, English, 2s. 6d. ro 4s. per 1b.; do., foreign, 6d. to 8d. do.; Tomatos, English, 6d. to 8d. do.; Mushrooms, French 1s. to 1s. 4d. do.

SEEDS.

LONDON, March 15 - Owing to finer weather, we have to report an increased demand for agricultural seeds. Red Clover, White Glover, and Alaske remain unchanged in value. Lower grades of the new crop English Trefoil are being sold at easier rates. Perennial and Irish Italian Rye grasses are also essier, owing to forced sales by dealers. Hurst & Son, 152, Houndsditch.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending March 12 1904, and for the corresponding period of 1993 together with the difference in the quotations These figures are based on the Official Weekly Keturn:

De	scrip	lion.		19	03.	19	04.	Dif	fere	ence.
Wheat Barley Oats	***	•••	***	8. 25 22 17	d. 1 10 0	8. 29 22 16	d. 1 5 8	+ -	8. 4 0	đ. 0 5 4

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Mar. 12, is furnished from the Melcorological Office:—
"The weather during this period underwent many changes, especially in the south. It was, on the whole, fairer than of late, and at about the middle of the week brilliantly fine in nearly all districts. Thunder was experienced on Wednerday at Clitton, Portland

Bill, and in London.

The temperature was below the mean generally, but "The temperature was below the mean generally, but owing to some biga readings on Tue-day and Wednesday, it just equated the normal in England, 3, and E. and the Channel Islands. The highest of the maxima, registered as a rule on the 8th or 9.h. ranged from 60° in England, 8, and the Midiand Counties (London, Southampton, and Oxford), to 51° in Scotland, W. and Ireland, N., and to 48° in Scotland, N. The lowest of the minima occurred towards the end of the week, except at some Scotch stations. In Scotland, N., the thermometer feil to 21°, and in England, E., the Midland Counties, and Ireland, N. to 23°, elsewhere the readings ranged from between 24° and 26°, except in the Channel Islands, where the thermometer fell no lower than 38°.

"The rainfall was less than the mean generally, but equal to it in England, N.E, the Midland Counties, aud England, S.E

aud England, S.E. "The bright sunshine was more abundant than for many weeks past, and exceeded the mean in almost all districts. The percentage of the possible duration ranged from 47 in the Channel Islands, 42 in Iroland, N., and 40 in England, S.W., to 27 in England, N.E., and 22 in Scotland, N. At Bournemouth and Jersey the percentage was as high as 54, and at Aberdovey as 55.

THE WEATHER IN WEST HERTS.

Six consecutive rainless days .- The first day of the past week proved very warm for the time of year, the temperature in the thermometer screen rising in the middle of the day to 59°. Owing to the previous cold spell, which had lasted exactly a fortnight, it was difficult on that oceasion to believe that the thermometer had not

understated the actual temperature by at least 10°. On the other hand on the coldest night the thermometer on the lawn showed 13° of frost. Both at 1 and 2 feet deep the ground is now of about seasonable warmth. No rain at all fell during the six days ending the 13th, and the percolation through both the bare soil gauge and that covered with short grass has now nearly ceased. The sun shone nn an average during the week for $4\frac{1}{2}$ hours a day, or for about $\frac{3}{4}$ hour a day longer than is usual at this season. Light airs and calms mostly prevailed. The direction from which these light currents came was, however, very variable, nearly all points of the compass being represented. The atmosphere was drier than in any previous week this year. The mean amount of moisture in the air at 3 o'clock in the afternoon was six per cent. less than is seasonable. A selected clump of Chionodoxa Luciliæ came into flower in my garden on the 8th, which is one day later than its average date for the previous sixteen years, and as much as seventeen days later than last year. E. M., Berkhamsted, March 15, 1904.

ANSWERS TO CORRESPONDENTS.

- ** Editor and Publisher.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the uotice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the Editor. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.
- APPLE-SHOOTS DISEASED: Hops. Your trees are affected with a fungus called Eutypella Prunastri. Seep 235 of the Gardeners' Chronicle, September 27, 1902, which contains an illustrated article on the subject.
- Apples: F. E. S. The result of American blight. Cut out the affected branches and burn them so far as you can. Dress the trees with paraffin, ½-oz. to a gallon of scap-suds, keeping the liquid stirred constantly.
- CINERARIAS: Anxious. The plants are unable to withstand bright sunshine, because they are unused to it, the winter having been more sunless than usual. Afford them plenty of fresh air, and do not over water the roots nor apply strong manures. It will be best to discontinue the manure-water altogether.
- Cucumbers and Tomatos: W. Some societies, including the Royal Horticultural and Royal Caledonian Societies, publish the papers read before the meetings of members; but the majority of societies do not do so. You would do well to obtain a book upon the cultivation of vegetables and salads.
- Current: bud Mite: W. S. Your assumption is correct; they are badly infested with the Current: bud mite. Prune and burn all affected shoots, and scrape the soil from around the stem and burn that also. If badly infested, it would be advisable to replant in another site of the garden some healthy bushes, and grub up those having the disease, taking care to burn them.
- CYCLAMEN FLOWER: E. G. C. The flower frequently takes on this character; the fusion of stalks is probably induced by high cultivation.

 The grubs were received safely; see next issue.
- DOUBLE ARUN: B. K. See answer to "A. S." under "Sport in Calla."
- FERTILISATION: Constant Reader. Any text-book on botany will furnish the information you require. A good and cheap work is Scott's Structural Botany, in two parts, published by A. & C. Black, Soho Square, London. The volume on Flowering Plants is the one you should purchase.
- Garden Walks: J. W. If the work of repairing the walks has not been done, it should be given attention at once. Salting and weeding must be done as often as the condition of the walks renders this necessary.

- GENISTA MONOSPERMA: G. C., Montreal. Several plants have been called by this name. The one retained is a native of the West Mediterranean region. Another is synonymous with G. Retama, figured in an early volume of the Bot. Mag., t. 683.
- GERMAN GARDENING PAPERS: Correspondent.
 Möller's Deutsche Gärtner Zeitung, published
 weekly at Erfurt; Der Deutsche Garten Rat,
 published weekly in Berlin; Die Gartenwelt,
 weekly, Leipsig, Lindenstrasse, 2.
- HYACINTH, TULIP, AND DAFFODIL BULBS: S. D. § Sons. The Hyacinth appears to have been forced quickly, and has not made many roots. The bulb is small. The Narcissus bulb is doing well in the matter of growth and rootaction, but it had no embryo flower present in it, which accounts for its non-flowering. The Tulip is a very good bulb, and has no doubt failed owing to bad cultural treatment.
- Ivr: J. W. Ivy on walls, and Ivy generally, may be cut back in April. The plants will then appear bare of foliage only for a very short time.
- LAWNS: J. W. You may apply a top-dressing of rich light soil at the present time, making the dressing about $\frac{1}{2}$ inch thick. The soot can be added to this soil, and will have a good effect upon the grasses.
- LOAM FOR VINES: A. S. We cannot undertake to analyse samples of loam received at this office. In appearance the sample is good, and would not be likely to prove so injurious to Vines as you suspect. Fellows of the Royal Horticultural Society can have soil tested by an eminent analyst by paying a very small fee. Address Dr. J. Augustus Voelcker, 22, Tudor Street, New Bridge Street, London, E.C.
- Melons: W. J. B. See under "The Week's Work" for last issue an article on "Melons" by Mr. W. Fyfe.
- Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number. — Pinus 1, Thuya gigantea; 2, Cupressus Lawsoniana var. erecta viridis; 3, Abies concolor; 4, Pseudovar. erecta viridis; 3, Abies concolor; 4, Pseudotsuga Douglasi (the Douglas Fir); 5, Picea Engelmanni (?); 6, Picea Khutrow.—J. G. W. Iris japonica, often called Iris chinensis, and commonly known in gardens as Iris fimbriata.—D. R. F. Agathæa cœlestis.—A. I. C. Gerbera Jamesoni (Transvasl Daisy).—H. M. 1, Cupressus sempervirens; 2, Ilex latifolia; 3, Quercus Ilex var. latifolia; 4, Photinia serrulata: 5 Cupressus sempervirens.—L. M. A. 1 ata; 5, Cupressus sempervirens.—L. M. A. 1, Berberis Wallichiana; 2, B. Neuberti; 3, B. stenophylla; 4, Elæagnus macrophylla; 5, Lonicera sp.; 6, ? Ceanothus sp.; send better specimens.—A. W. G. 1, Ophrys insectifera; 2, Ornithogalum lacteum; 3, Ledum palustre; 4, Cupressus funchis reports steep.—G. F. G. 4, Cupressus funebris, young stage.-You send twice the number you should have done, but as the specimens are good and well labelled, we will oblige you. 1, Juniperus sinensis; 2, Cupressus nootkatensis; 3, Thuya gigantea; 4, Retinospora plumosa of gardens: 5, Juniperus Sabina. 6, Curio speciments of contract of the contr 3, Thuya gigantea; 4, Retinospora plumosa of gardens; 5, Juniperus Sabina; 6, Cupressus Lawsoniana variety; 7, Thuya occidentalis var. Vervæneana; 8, Cupressus nootkatensis variegata; 9, Thuya orientalis var.; 10, Cupressus Lawsoniana; 11, Thuya orientalis var.—F. D. Heuchera sanguinea, easily grown as a border plant; propagate by parting the root, or from seed, a slower method.—Caldecote. Dendrobium speciosum; an Australiau species, growing well in a warm greenhouse or conservatory in full sun. may be put out-of-doors with advantage in the summer. — Constant Reader. 1, Dendrobium bigibbum; 2, Cypripedium villosum.—J. J. D. Eranthemum pulchellum; 1, Jacobinia (Sericographis) Ghiesbreghtiana, probably; 3, Juniperus Sabina; 4, Thuya orientalis; 5, Retinospora plumosa aurea; 6, Cupressus Lawsoniana; 7, Thuyopsis dolabrata; 8, Abies concolor; 9, Abies Pinsspo.—R. G.

- Ayrshire. 1, Rosa, White Banksian; 2, Pelargonium Little Trot; 3, Selaginella Wildenovi; 4, Todea superba; 5, Cœlogyne cristata; 6, Dendrobium nobile.—W. D. C. One of the garden forms of Begonia subpeltata.—B. S. N. Gladiolus tristis, illustrated in the Bolanical Magazine, t. 272. It may be grown as a potplant, and dried off after flowering, or in the open garden, lifted and dried-off in early winter.—Artis. 1, Epidendrum virens; 2, Oncidium barbatum; 3, Oncidium flexuosum; 4, Odontoglossum constrictum; 5, Maxillaria variabilis.—Wartus. 1, Quercus Cerris; 2, Phlox frondosa; 3 and 5, send flowers; 4, Arabis albida; 5, Arabis albida flore-pleno.—C. E. F. We are unable to trace the other Cypripedium.
- ODONTOGLOSSUM LEAF: F. H. The leaves are affected by a fungus, and should be burned. Wash the healthy ones with liver-of-sulphur solution, at the rate of ½ oz. to a gallon of water.
- Orchid Bulbs: G. T. Your treatment of the Orchids has been proper in every respect. The leading growths have of course the first and main support of the active roots, and if some of the old back bulbs do not look plump and green, it is of no consequence. In fact all such had better be removed.
- Pelargoniums Decayed: T. K. The Pelargoniums have been injured by excessive damp. The prolonged dull weather we have passed through has heen partly accountable for this. You may take off the healthy portions and root them if further stock is desired.
- Potatos: Young Gardener. Yes; one of the tubers is affected by the disease figured in these columns on p. 187, fig. 81, March 21, 1903.
- RAINFALL: A. B. The weight of an inch of rain per acre is 101 tons, or 4½ gallons per square yard.
- SCARLET NARCISSUS; G. T. The stalks have been placed in some aniline dye.
- Sphagnum-moss: W. L. Spread the moss out thinly on a board floor if available, or upon an empty stage in a cool shady house. Keep it turned over until nearly dry, afterwards syringe it over very lightly occasionally, it will then commence to grow and last a long time in a fresh condition.
- Sport in Calla: A. S. The sport is what is commonly called a double Arum, although of course it is only the spathe which is duplicated. They are quite common, but no one tries to perpetuate the variation; we have received many similar cases this season.
- Tomato Plants Affected: W. B. You are right in assuming the cause to be eel-worms. Burn the plants which have the pest, and sterilise the soil before using by baking it. Syringing overhead with Veltha emulsion would be of no use in this case.
- Tomato Seedlinos: A. K. The seedling are affected with the damping-off fungus, which is induced by growing your seedlings too thick and keeping them over moist. The soil appears to be a very good compost, and has had no injurious effect on your plants. Sow thinly, and when removed from the seed-pan, keep the seedlings in a position exposed to the light, and allow the air to circulate freely amongst them, being careful not to apply water in excess of the needs of the plants.
- VIOLETS: A. J. M. Many thanks. A good sample of a good variety, pleasing in colour.
- WATER OLASS FOR PRESERVING EGOS: W. D. Apply to Mr. K. B. Baghot de la Bere, Burbage Hall, Leicestershire.
- COMMUNICATIONS RECEIVED.—A. D.—Country Life in America.—A. H.—C. II. B., Canada.—T. G. Peaches, next week.—J G.—W. T. H.—W. J. B.—Prof. Ward.—J. Odell—D. R. W.—E. A. T.—C. E. F.—A. M.—D. McD.—J. S.—C. B. P.—G. H. H.—J. C.—T. S.—J. B. P.—T. G.—J. Mc., New Zealaud—E. G. C.—G. S.—W. H.—W. P. L. & S., Ltd.—T. B.—W. Veebles.—W. P.—Cordingley & Co.—J. S. U.—G. N.—Dr. E. B.—A. J. B.—S. A.—H. M.—R. D.—J. S.—K. P. B.—T. H.—E. H. J.—H. F. H.—Rev. D. W.—W. M.



GROUP OF HARDY WATERLILIES, STAGED AT AMSTERDAM BY MESSRS. ZOCHER & CO., OF HAARLEM.





THE

Gardeners' Chronicle

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IN A SPRING GARDEN.

THE yearly miracle is once more being accomplished. Spring, with its new hopes and mysterious renewal, its disappointments and delays, its cruel nipping winds and frosts, is again here. Yet it is to its bright sun and lengthening days that we chiefly turn, its promise of a high summer which no doubt will be fulfilled in due time, though there may be yet long weeks of dismal days between us and it; and it will very likely disappoint us when it comes, just as we are disappointed with the tardy honours and prizes of middle life. But at present all is promise, and hope blossoms, like the outer world, for young lives and old, every flower that blooms is a new birth, to be tenderly guarded and cared for on account of its weakness and charm, as is a young child. Later on, when the old world seems a mass of blossom, and the springing hedges are hidden by perfect constellations of Prim-roses and Violets, and the woods are gay with Anemones and Bluebells, and the meadows golden with Buttercups, there

is hardly the same delight in renewal, as is produced by the first Snowdrop or Crocus peeping through the grass. The year has come to its lusty growth, beautiful indeed, but somewhat arrogant too, and self-sufficient, rejoicing in its rude strength, like the growing boy. Yet it is always beautiful, as is high summer itself, when the birds' songs are hushed, and the thick-leaved woods "make for themselves a cooling covert," and the haymaker whets his scythe, and treads at every step through wonders of crested grasses and lovely flowers undreamt of a few weeks back. Just now the thrushes are waking the whole country side with a perfect riot of formless melody. It is pleasant to walk through the woods and search for the first Violet and Primrose shyly peeping forth from the carpet of dead leaves. "Renewal" is what they preach with clamorous insistence—" Renewal, Resurrection, the Easter-tide of Nature," like that of our mortal life, which will have its winter, and will lie hidden too, "till like a clarion-note the Spring shall sound," as a verse-writer of my acquaintance has it. No man cares for them nor gives them shelter, yet, like the birds and the bees, who are in like case, they come forth when the sun calls them, prepared for another chequered year of homely cares and pleasures, some withering when summer comes, all ending with winter at last. I do not believe that mankind will lose its great Hope while the world lasts. and is renewed, and clothes itself with glory and brightness year after rolling year.

PREPARING FOR SPRING.

Just at present it is in the carefully tended glasshouses that the first files of the advancing pageant are most fully seen. I know nothing pleasanter than the air of such a place, not unduly warm or damp; not devoted to the uncanny Orchid, which spells death to so many honest lads who come out at dawn from the reeking heat to be striken with death by the cruel east wind; but in a house facing due south, with only a moderate artificial warmth-to assist the growing heat of the returning sun, the prospect just now is enchanting. The Vines are just starting into pale leaf, making ready for the time when the lithe canes shall stretch out and the tendrils wind round every possible support, and the curiously insignificant green flowers expand with that delicious vinous bouquet, which very few notice, but which is as powerful as that of the little red tufts on the Larches a month or so later. It was at a great Yorkshire house with acres of glass that I first experienced the charm of the subtle odour to which an old friend and poet—the late Lord Houghton — directed my attention. He quoted, I remember, a line from his own poems, which at this moment I forget, but which proved that he had long been familiar with the scent. Looking with the eye of imagination, one can see the bare rods laden with the heavy purple bunches which have played so large a part in the story of man, and will again; but it is in the Peachhouse that there is the tenderest yet most lavish display of innocent gaiety of colour. Roof and walls are alike covered with a pink cloud of the exquisite blossoms of Peach and Nectarine. They are waiting a little auxiously, it would seem, for the honey-bees, who, alas! have not come yet, chilled and torpid from the past weeks of frost. Very soon now there will come a fine warm morning when the gay suitors, newly awakened, will wing their way through the windows opened to the balmy air, and the hum of life will be everywhere, and the blossoms will fall and the fruit begin to gather in their stead.

The Oranges, and Lemons too, are beginning to feel the force of the spring, and to break cut with those curiously minute shoots and flower-buds which very soon will fill the house with their perfume. Azaleas are already hidden in bloom. Cyclamens, white and purple, are at their best, lifting up on long slender stalks, their coronets of graceful flowers. Outside, the lawns are studded with Crocuses, yellow, white, and purple, which, springing from the short grass, remind one irresistibly of the Sicilian meadows where Persephone, wandering with her gay companions, long long ago, was snatched away by her lover, the King of the unseen realms, to bear rule over the dead. Renewal, Restitution, Resurrection-this is the universal voice which sounds everywhere from the awakened world.

SUMMER'S PROFUSION.

Perhaps, as I have said, here and elsewhere, this sense is not so vivid later on, when every hedgerow and covert is bright with Anemones and golden Celandines, pale with Primroses or blue with wild Hyacinth, and be starred later still with pink Lychnis, and the enamclled white of the Stitchwort and blue of the Speedwell, and the Hawthorn, and virginal Cherry and Pear, and Apple and Lilac and Laburnum, make the world a thing of unmixed and almost cloying beauty and delight. But it will be then no longer a place of wonder as it is now, but of fruition, deep, but, alas, not complete, material splendours dulling the spiritual sense, as they do in the full flush of successful manhood. It is rather by the fugitive nature of these charms that we are impressed, looking forward half impatiently, with a certain sense of satiety, to the time when these vain and lavish shows shall be done, and sober autumn shall have come with its wealth of harvest-tide to crown the year of our life with a content which, indeed, it will hardly bring. But how bright meanwhile and splendid is the pageant of summer. There is not a square foot on the lawn or meadow so bare and monotonous new and disfigured still with last year's dead leaves that will not be transformed into a beautiful garden ground, lit with a hundred gay blossoms and grasses which no husbandman's hand ever sowed. When at length the queenly Rose appears with the crown of midsummer sweetness and grace, and the Pansies with their innocent childlike eyes and faces, and a score of others are lighting the parterres of the garden, it seems as if nothing was wanting to complete the picture of beauty. But we must not forget the Rhododendrons; great masses of varied blossom, of almost every shade of colour, which precede and proclaim the coming of their kinswoman the Queen. Twenty years ago I planted them in congenial peat soil in great numbers, and now they are from April to July, in every year, a delight to the eye as they mount blossomed to the top, a blaze of colour against the bright blue sky. Nor that surest sign of high summer, the

vestal Lotus of the fish-ponds, white or pink, or golden, rising like a jewel from amidst its broad-spread leaves.

A STRIKING CONTRAST.

I am afraid all these simple pleasures will seem sadly vapid and unattractive, not to say effeminate to those who are devotees of what is known as "sport," the survival of the primitive instincts of slaughter, necessary for the savage man, no doubt, and on which the whole fabric of modern society still rests, but somewhat anomalous, if not ridiculous, where the poulterer is well established and prospers. These violent delights are for the young — whether in years or undeveloped intellect, and the absence of that pity for the weak and suffering which seems, in the male at any rate, only the precious possession of Age. Some of these days, one would hope, young Englishmen of high birth and breeding will be ashamed to send to the papers glowing accounts of the massacre of thousands of harmless and unresisting little birds and beasts, accomplished between a late breakfast and afternoon tea, with an interval for hot luncheon between, and a luxurious dinner to follow. Probably one would think the chase of the wily fox will fall into disuse too. But here a doubt takes one. What is the use of crying Peace, where no peace is, when, in fact, the whole constitution of Nature and of man rests upon bloodshed and force? Think of the immense mass of human and animal suffering which it was in the power of an ignorant old Dutch farmer to ensure by a fatuous application to his own very different case of the promises to the Hebrews against the Amalekites. How are such fanaticisms to be met with success, unless our young people are taught, like the Persians of old, to shoot and to ride, and not to shrink from bloodshed and death, whether for themselves or others? No, it is of no use ignoring facts. It is possible to be so full of the peaceful aspects of Nature as to ignore the ceaseless warfare on which it is based. It is necessary perhaps that the growing animal, and the growing nation, if it is to do its destined work in the world, should have sterner work to do than Epicurean pleasures, however innocent in themselves.

THE EVENING'S REST.

But for those whose work in the world is wellnigh done, there is no fitter pleasure than that which comes from the garden, A charming book, In Praise of Gardens, published a couple of years back, from which I have before quoted with profit, in an essay under that title, brings this out with peculiar force. The author has brought together an extraordinary collection of passages from great writers of all ages and countries, all concurring in this, that the greatest pleasure of Age is the contemplation and cultivation of Nature as shown in her yearly pageant of flowers and fruits. "'Solomon in all his glory was not arrayed like one of these,' and in all his wisdom," says Southey, describing a flower-garden, "never taught more wholesome lessons than these silent monitors convey to a thoughtful mind and an understanding heart." "There are two books," says Sir Thomas Browne, "from whence I collect my Divinity; besides that written one of God, another of his servant Nature, that universal and public manu-

script that lies expanded unto the eyes of all. Those that never saw Him in the one have discovered Him in the other. Surely the heathen knew better how to join and read these mystical letters than we who cast a more careless eye on those common hieroglyphics and disdain to suck divinity from the flowers of Nature." "I look upon the whole country in spring-time as a spacious garden, and make as many visits to a spot of Daisies or a bank of Violets, as a florist does to his borders or parterres. There is not a bush in blossom within a mile of me which I am not acquainted with, nor scarce a Daffodil or Cowslip that withers away in my neighbourhood without my missing it." That is what Joseph Addison says in one of his letters to Mr. Spectator; and it seems to me that it is the right attitude of mind for one like him, who has retired from the active cares and struggles of life to the tranquil delights of the country. "To this complexion all must come at last. It is rather a shock at first if you feel that your powers of brain and your strength of body are still undiminished to find that room must be made nevertheless for younger people. It is not that one is not happy in retirement. The delight of Society, the cares of politics, the bustle of town, even the charms of art or the theatre no longer allure. "I am in my garden and shoot strong and tenacious roots, says the old worlding Bolingbroke writing to Dean Swift; "I have caught hold of the earth, to use a gardener's phrase, and neither my friends nor my enemies will find it an easy matter to transplant me again." Nor is the feeling peculiar in this age to old statesmen. "Devote your energies if you are wise to municipal life," said Lord Rosebery at Swansea. "The worst of a seat in Parliament is that it involves your turning your backs upon the country, when it is that full flush and beauty of summer, which is the best gift of the Creator of men." We should pity the poor rich for whom so great a source of innocent pleasure is only to be enjoyed by snatches, on weekend visits from the stifling town, or at a time when the best of the pageant is over for the year.* Lewis Morris.

COLONIAL NOTES.

THE TOOLASI.

In the Gardeners' Chronicle for January 16, on p. 48 it was stated that the Toolasi (or Toolsi, as it is pronounced here) is Michelia Champaca. What was stated of the Champak is true, and probably in other parts of India this tree is called Tulsi, but here and in Bengal the name is applied to species of Ocimum, especially O. sanctum, Willd., a small shrubby herbaceous plant, with dark aromatic stems and leaves, held to be sacred to Krishna and Vishnu (and probably others, as I have seen it planted on places made for the worship of Kali). The species of Ocimum have been noticed in the correspondence of the daily press lately as being a preventive of mosquitoes. G. H. Cave, Curator, Lloyd Botanic Gardens, Darjiling.

"Matoppos," Rhodesia.

On Sunday (February 14) I had a most delightful and interesting day—the first of such for many months. I went with two others to visit

the Matoppos, those wild and lonely hills beneath whose shadow Rhodes lies buried. There is a railway to the commencement of the hills 27 miles away, and then a drive of 7 miles to the imposing spot not unworthily called "The World's View, where the great organiser of the area of 750,000 square miles named after him lies. The scenery is weirdly picturesque, and quite distinct from anything I have yet seen in the South African colonies. All round rise fantastic-shaped kopjes, with trees sprouting from them rising to a very great height. On every side are great boulders heaped together in the strangest forms, often balanced in a wonderful fashion, just as. though a race of giants had been amusing themselves with a box of bricks!

Rising above all this is the eminence where Rhodes is interred, the inscription on the slab heing merely—"Here lie the remains of Cecil John Rhodes." A more impressive spot can hardly be imagined away among the wild hills, where a few years ago alone and unarmed he went to parley with the savage and bloodthirsty Matabele chiefs.

It was a beautiful day, and this Rhodesian climate is superb, and the heat quite invigorating. By the time of my next visit the line should be opened to the famous Victoria Falls, when I shall certainly make a point of seeing that stupendous scene—one of the "wonders of the world." It is marvellous to reflect on the way in which the rail links up spots that a few years back were almost mythical, so great was their distance and isolation. W.

WEST INDIAN PRODUCTS.

Sir Daniel Morris, as Imperial Commissioner of Agriculture, continues to display his energies in the promotion of the agricultural industries of the West Indies. Barbados papers show that it is not only the interests of Sugar-planters that he endeavours to advance, but the development of Cotton-culture, which is at least very promising, the exportation of Bananas, and the cultivation of Onions. The Cotton-growing experiments were interfered with by the presence of the Cottonworm, to destroy which the cultivators are recommended to dust the plants with Paris-green and lime, in the proportion of one of Paris-green to three to six of lime.

CEYLON

The retirement of Mr. Nock from the charge of the Hakgala and other gardens in Ceylon has given opportunity to the Ceylon Observer to publish an interesting account of what has been accomplished since Mr. Nock took charge in 1882. In that year 600 species were represented in the garden as against 4000 now, including many plants of economic interest. The number of visitors has decidedly increased, with the exception of the elephants and other wild creatures now excluded!

LOBELIA NICOTIANÆFOLIA.

THE species illustrated (see fig. 79, p. 195) was shown by Messrs. Paul & Sons, Old Nurseries, Cheshunt, at a meeting of the Royal Horticultural Society on March 8, and again on Tuesday last. The habit of the plant, form of leaves, and character of inflorescence are shown well in the illustration. The plants were more than 6 feet high, and the flowers are white, being produced on an inflorescence more than 2 feet in length. Messrs. Paul obtained seeds from Southern India, and have found that the plants succeed well out-of-doors during the summer, but require to be removed to a cool house in September. 'If afforded such treatment as this the plants flower at the beginning of March. The species was figured in the Botanical Magazine, t. 5507, where the flowers are shown as of a pale lilac colour.

^{*} Copyright in the United States of America, by D. T. Pierce.



Fig. 79.—Lobelia nicotian.efolia. A species from Southern india: Height 6 feet; flowers white or pale lilac. (see p. 194.)

ODONTOGLOSSUM CRISPUM "DE BARRI."

This handsome variety was shown at a meeting of the Royal Horticultural Society on March 8 by Mr. de Barri Crawshay, Rosefield, Sevenoaks. The flowers were of perfect shape, large size, and were heavily tinged with purple on the reverse side, the colour showing through to the surface, each segment of which bears clusters of irregular reddish-purple blotches. (See fig. 80.)

PLANT NOTES.

MOSCHOSMA RIPARIUM.

Has not the usefulness of this plant as a winter decorative subject heen exaggerated? I quite grant its beauty when in full flower, the

five to seven heads of flower can be had by the middle of March, just twelve months from inserting the cuttings, as may be seen by the specimens sent to Editor. To procure cuttings so early in the year it is necessary to put an old plant or two into a moist temperature of 60° early in February, giving it a light position to encourage short-jointed growths, or they quickly damp off when placed in a close propagating-hox having a bottom-heat of 70°. The temperature of the house may range from 60° to 65°. From four to six cuttings may be placed around the edge of a 4-inch pot, filled with equal parts loam and leaf-soil, with a dash of silver-sand on the surface to work down with the cutting. Then apply water through a fine-rosed can; place them in the propagating frame, and shade from sun until the cuttings have made roots, which will take from two to

frosts occur, giving them a light position, an keeping the roots comparatively dry until the plants are introduced to a temperature of 5 early in January. As soon as growth commence the roots will need much water, and when the flower-heads show, applications of weak guant water about twice each week will produce the excellent results. Feeding may also be done whe the plants are once established in their flowering pots during summer. Perhaps someone will te us how the growers for market treat these plant and whether the splendid plants they market are one year old, or more. J. Mayne, Bicton Garden Devonshire, March 18.

[Our correspondent, Mr. Mayne, has sent us very well cultivated plant of this pure whit Hydrangea. It is in a 5-inch pot, is 12 inche high, and possesses six heads of flowers. Op. 203 Mr. Hemsley has described the cultivation practised by growers for market. Ed.]

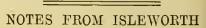
JASMINUM NUDIFLORUM.

Now that this old favourite has gone out of flower it should receive the pruning and thinning it requires. One of the best examples I have seen was planted against a fence in a cottaggarden. It could not in its position receive: great amount of sunshine, but the soil was evidently suitable, and it no doubt receive plenty of water during the growing season. When I saw it during a mild winter it was mass of flowering shoots, which are very useful at such a season for cutting purposes.

Although one can admire the grand example of topiary work at such places as Elvastor Castle (the creation of the garden-making Ear and his able lieutenant, Barron, and well main tained by their successors), yet in some smal gardens the beauty of many flowering subjects i entirely spoiled by the individual whose mission appears to be to "make things neat and tidy, and whose clipping of shrubs and trees with the shears is to be deprecated and discouraged George Potts, Streatham, S.W.

DENDROBIUMS AT WOODHATCE LODGE.

In our issue for March 12 our correspondent, Mr W. H. White, described the unusually fine hybric Dendrobiums now in flower at Mrs. Haywood's garden at Woodhatch Lodge, near Reigate. The illustration at fig. 81, p. 197, will convey an idee of the plants, and the extraordinary pseudo-bulbs which, although so large in size, have flowered so well under Mr. C. J. Salter's care. A further photograph showing a single plant we must hold over until next week.



FOR 1903. (Concluded from p. 165.)

Diseases.—"Big Bud" in Black Currants, caused by the Currant-bud mite (Phytoptus ribis), seems to he spreading. I know of no cure beyond hand-picking during winter. The damage done by this mite is not generally serious. It is a parasite constantly present to some extent, especially where Black Currants have been grown for many years in one place.

To completely eradicate the mite is only possible by planting sterilised cuttings in soil which has not for some years carried Currant cross

Last season seems to have favoured the mite, and in this garden it became necessary to make use of the latter cure.

DISEASE OF CACTACEÆ.

Symptoms.—(1) Dark, hard, scabby marks; and (2) dark marginal confluent marks, followed by withering.

Possibly these are distinct diseases; the latter

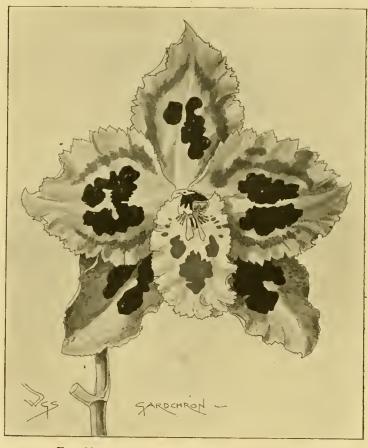


Fig. 80.—odontoglossum crispum "de barri."

pleasing fragrance of its leaves and shoots, its general healthiness and ease of culture; but what makes it a disappointing winter flowering plant is the fugacious character of its flowers, which are scarcely fully open before they commence to drop; and the succession of flowers is not for long. Fugaciousness is a great fault in a winter-flowering plant, which has taken months to grow, and which during that period has occupied valuable space. One can understand the fine effect of a good group of this in the Drill Hall or elsewhere on a dull winter's day, but there are not many private gardens where room can be found for the growth of short-lived flowers during winter. J. C. Tallack.

HYDRANGEA HORTENSIA VAR. THOMAS HOGG.

There are two seasons in which cuttings may be inserted, viz., the month of March and early August, but when the latter month is chosen only one head of flower can be got, whereas by the former method good decorative plants with from

three weeks. Keep the cuttings moistened daily, and as soon as rooted and duly hardened to the temperature of the house, pot them off into $2\frac{1}{2}$ or 3-inch pots, using a similar soil. Shade them from sunshine for a few days, and afterwards place them near to the roof-glass. When growing freely, pinch out the point above the third pair of leaves, which will cause the stem to produce six or eight shoots, and as soon as these appear shift the plants into 5 and 51-inch pots respectively, according to strength, using loam principally with a little well-rotted manure and coarse sand for this final potting. At the end of May the plants may be stood out in cold frames, syringing them about 3.30 P.M., and closing the lights. Here they should remain until the middle of July, when they may be removed outdoors where the full sun can shine upon them. The secret of success is to get the growths thoroughly ripened before winter. Remove the plants into a cool greenhouse from which frost is merely excluded before severe



Fig. 81.—HYBRID DENDROBIUMS IN THE GARDEN OF MRS. HAYWOOD, WOODHATCH LODGE. (SEE P. 196.)

seems to be induced by excessive desiccation of the soil, especially in the case of young plants. On two occasions diseased growths were kindly examined by Dr. Cooke, who was unable to discern any fungi thereon. Certainly none were visible under a pocket microscope on several occasions when I examined plants, yet I think disease undoubtedly exists, and that the original lesion is probably caused by thrips gnawing through the epidermis.

RED-SPOT ON HIPPEASTRUM-BULBS.

In a dry state red-spots often appear on the outer tunic and remain in a dormaut state until introduced to a moist, warm atmosphere, when rotting of the tunic occurs and may spread inwards. I have found this to occur invariably. Dr. Cooke queried some Gleosporium as the cause, but, if so, it is probably a "new" species, as none seem to have been recorded on bulbs.

Two well-known Abnormal States in Senecio.

In garden Cinerarias two diseases have long been known. In one case lower leaves and stems are affected, the plant suddenly flags, and as surely dies. In the other case the leaves suddenly curl upwards at their edges. Whatever is the cause of this latter abnormal condition, sunlight is the remedy for it. As to the former, Dr. Cooke noted the presence of a white mould, which seemed to be identical with that which has for so many years been noted as attacking various Compositæ, Solanaceæ, and Cucurbitaceæ. Selerotia are ultimately discernible in advanced stages of this disease, and, earlier, the black nodules of sclerotia in the stems, &c. Yet it is doubtful to me whether such organisms are not always present on even the healthiest plants in considerable numbers, and, if so, we must set down "the disease" as one more instance of an upset in that equipoise of forces which constitutes ife. A. Worsley, February, 1904.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE. Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking.

Deciduous Calanthes. — As soon as the new growths are about 1½ inches long, turn the plants out of the pots, remove the old soil and cut away the dead roots to about 1 inch; the portions left will help to keep the plants firmly fixed in the new compost. For potting use good clean pots, selecting the sizes according to the requirements of each plant. Where space is limited and large quantities of flowers are necessary for cutting, small 24's or 7-inch pots are suitable, and five or six moderate-sized bulbs can be conveniently placed in each. The same number of bulbs of a smaller size may be put into 6-inch pots. If house-room is of little consequence it is an advantage to grow them singly, using pots in proportion to the size of the pseudo-bulbs.

Potting.—The pots should be rather more than half filled with clean broken crocks, over which place some rough sphagnum-moss or turfy loam. Successful culture depends largely on the provision of good drainage, the importance of which will be readily understood by those who know the large amount of water these Calanthes require during their season of growth. The soil should consist of one-half of good fibrous loam, one-fourth of ordinary garden leaf-mould, one-fourth of finely-chopped sphagnum-moss, and a good sprinkling of coarse silver sand; these ingredients must be well mixed together. If it is difficult to obtain good fibrous loam, extra moss and a little fibrous peat may be used with advantage. Last season I potted singly several strong pseudo-bulbs in Belgian leaf-soil; and although the plants made satisfactory growth, the flower spikes were weak, and the flowers deficient in size and colour, and I find that leaf-soil is not to be recommended for deciduous Calanthes. In filling the pots shake the soil down moderately firm to within 2 inches of the rim, and place the

plants on the surface, adding enough soil to cover the base of the plant about ½ an inch deep. When the plants have been potted place them in a warm position in the East Indian house; they will also grow well in the ordinary plant stove, Cucumber, or Melon-house.

Watering.—For the first month after potting no water is needed at the roots, but an occasional damping between the pots in warm sunny weather is beneficial. By slightly sprinkling the soil after this period the roots soon obtain a firm hold on the sides of the pot, and the quantity of water may then be gradually increased. When thoroughly well rooted abundance of water is necessary. At Burford the houses being in a very sheltered, low, and warm position, it is necessary to protect the plants from strong sunshine, from the time they are repotted until the plants commence to form their new pseudo-bulbs. After these are formed they are gradually exposed to the sun's rays, and when the pseudo-bulbs are made up and the foliage begins to change colour, the shading is removed and the plants allowed all the sunlight possible.

Propagation.—The stock of any of the deciduous Calanthes may be increased by taking off the old back bulbe when repotting, and inserting them thickly in small pots filled with sphagnum-moss and a little sand. When they commence to root they may be divided and repotted as recommended for the older examples. All the following hybrids are worth growing, their large flower-spikes being useful for general decorative purposes, and when they are blooming together the combination of their colours is very pleasing—C. Veitchii, C. V. alba, C. Sedenii, C. Victoria Regina, C. burfordiensis, C. Harrisii, C. bella, C. Cooksoni, C. Phœbe, C. Bryan, C. Wm. Murray, &c. The several varieties of C. Vestita are also useful. The varieties of C. Regnieri, C. Stevensi, C. Sanderiana, C. Turneri, C. nivalis, &c., flower late in the season, extending from January till March.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Scarlet Runners.—Make a sowing of these in 4-inch pots, putting three Beans in each pot. Place them in a temperature of 60°. When the seedlings are through the soil, place them in full light, pretty close to the glass, and afford all the air that the conditions of the weather out-of-doors will allow. Prevent draughts and cutting winds from reaching the plants. When they have filled the pots with roots, and the tops have started to run, place a neat stake to each, and remove the plants to a cold frame, gradually hardening them off for planting-out, when danger from severe frost is considered to be past. This plan has been practised by us for several years, and we have found that when there is convenience at hand for getting the plants forward without their receiving a check, the labour necessary is, in the end, less than that of sowing early crops out-of-doors on wet clay soil, at the risk of the seed rotting in the ground or being devoured by slugs as they come through the soil. French Beans should also be sown as advised, for every week that early crops are forwarded is a great gain.

Turnips.—Make a small sowing of the variety Early Milan on a warm border to follow those brought forward in frames. Sow little and often for early crops out-of-doors, as the plants are liable to rnn to seed.

Cauliflowers.—Where convenience is at hand for protecting them afterwards those plants which have been thoroughly hardened off may be put out where they are to remain. Commence by taking out trenches 2 feet apart, just deep enough to allow the tops of the leaves to be under the level of the ridge on either side. If the ground has not already been trenched and manured let manure be applied in the trenches before the planting is done. Lift the plants with a good ball of soil attached to the roots and plant them in the trenches 18 to 20 inches apart. Afford protection from frost by placing a few stout stakes across the trenches, over which place mats or boards; the latter we find convenient, as they

can be laid along the top of the trench when not required for protection, where they are very convenient for walking on. For pricking out smaller plants take out trenches 4 to 6 inches deep in ground that has been dug well and manured, along the bottom of which prick out the plants 5 to 6 inches apart, and protect them in a similar way. Afterwards thin out the plants and plant the thinnings elsewhere, leaving the plants in the trenches standing 18 inches, 20 inches, or 2 feet apart, as may be required. The distance necessary will depend upon the varieties and the purpose for which they are intended. Small heads are preferred to large in many establishments, and these we recommend as more serviceable and pleasing.

General work.—The recent good weather will have helped gardeners to bring up all arrears of work, and every effort should be made to keep up with the season. Let all vacant ground be prepared for crops. Sowing, planting, thinning, pricking-out, staking, and hoeing will require daily attention, and nothing must be neglected.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Unretarded Liliums.—Examine frequently bulbs that are plunged in ashes, and when an inch or two of growth has been made remove the pots from the plunging material and stand them in a cold frame. When the bulbs are well rooted, a portion of the stock may be placed in a temperature of about 50°. The plants should be forced very gently until they have formed flower-buds, when the temperature may be raised to 55° or 60°. In potting Liliums, the common practice is to only half fill the pots with compost, adding the remainder of the soil later, when the stem-roots begin to appear. It is very necessary that this operation be carried out directly the stem-roots are visible, otherwise it is difficult to avoid injuring them. Lilium Harrisii and L. longiflorum giganteum force most readily, and after these are the varieties of Lilium speciosum and L. auratum. By placing a portion of the stock under glass at intervals, and plunging the latest batch in ashes in the open air until the flowers are about to expand, the flowering season may be prolonged until towards the end of the summer.

Epacris.—As these go out of flower let them be cut back to within an inch or so of the base of last season's growth, and at the same time keep the atmosphere of the house somewhat closer to encourage the plants to make new growth. Any plants in need of repotting should be attended to when the young growths are about ½ an inch long. For the compost use good hard fibrous peat broken into small lumps, adding a little broken charcoal and some coarse silver sand. If the peat be dry let it be well sprinkled with water until sufficiently moist. A shift into pots a size larger is usually sufficient. In potting let the compost be rammed evenly round the old ball with a thin rammer until the new soil is as firm as the old ball. Afford water to the roots with the utmost care, and use rain-water only. The plants may be stood upon ashes in the open air from June to September.

Phyllocactus.—These will have been kept comparatively dry at the root during the winter, but now that they are beginning to make new growth water may be afforded more frequently. Care must, however, still be exercised, and the plants allowed to become sufficiently dry at the root before being watered. Let the plants be lightly sprinkled with water from the syringe on bright days. An occasional watering with weak liquid-manure may be given when growth is active. Maintain perfect drainage in the pots. Afford a night temperature of 55°.

Tree-Carnations.—As soon as plants in 3-inch pots are well rooted, let them be transferred to others $4\frac{1}{2}$ inches in diameter. Afford them a compost of three parts loam, one part flaky leafsoil, with some coarse silver-sand and a little hone-meal. If the loam be heavy, add a little old mortar-rubble or burnt ballast. The plants should receive their first stopping while in small pots. Do not stop the plants and repot them at the same time.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Planting Vines.—One year old plants having been selected, and these having had a long season of rest, roots and buds will be on the move. In order to secure as long a season of growth as pos-sible, if borders as advised in a previous Calendar are in a condition to receive them, plant the canes When the plants have been turned from their pots, place them in tepid water, sufficient to cover the ball, and gently shake them; the soil and roots will then separate, and the roots may be disentangled without injury. Having a border of the desired dimensions, the surface partly covered with the ingredients previously named, and a quantity of warmed soil to cover the roots in readiness, place the plants in their positions, which is generally found under the rafters, 3 feet 6 inches, or better, 4 feet separating each Vine. They should be 9 inches from the front wall, and if possible 15 or 18 inches from the hot-water pipes. Spread out the roots carefully and regularly, and work the soil amongst them, making it moderately firm. The appearance of fresh roots upon the surface of the border each year is of the greatest value, therefore do not plant deeply. When the borders are narrow and shallow, and the canes are planted near to the sur-face, such roots will be likely to appear, and by may be encouraged. Two inches deep will be found sufficient to cover the roots. Afford the border a watering to settle the soil, and let the temperature of the water be 85° or 90°. Cover the border with a layer of droppings from the stables, prepared as for a Mushroom-bed. The manner of cutting-back or, if preferred, disbudding the plants after the buds are burst, must depend in a great measure upon the construction of the house. Supposing the glass roof to descend near to the surface of the border, to that extent cut back the Vine; but if 2 feet of brick-work separate the glass from the border, leave the Vines 2 feet long.

Young Vines from eyes now growing freely may be planted instead of one-year-old canes if they are preferred, but this only applies if Vines in this stage are growing in or near to the bouse to be planted. If the young Vines from eyes are intended for planting next season, 7-inch pots will be found sufficient in which to grow them, whereas those intended for fruiting next season should be planted in pots 10 or 11 inches in diameter. For potting use a compost of good fibrous loam, adding bone-meal and coarse sand. Use clean pots, provide them with ample drainage, and make the soil firm. The same house and temperature will be suitable for newly-planted or potted plants. At night 65° or 70°, with a rise of 10° by day, and a further 10° after closing the house on a sunny afternoon. When there is evidence of increased root action afford the roots water as often as necessary, maintain a moist atmosphere, and keep the plants not more than 2 feet from the glass.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Grafting.—Trees which have been headed hack for grafting should be examined occasionally, and as soon as it is found that the bark will part freely from the wood, grafting may be commenced. There are many varieties which in some parts fail to crop well, and others are not good keepers. Such varieties might be replaced with more suitable ones. Good sound keepers should not be overlooked; they are necessary for dessert purposes and for cooking.

Of Apples, the following will be found very useful for dessert: Beauty of Bath, Gladstone, Red Juneating, Irish Peach, Kerry Pippin, Lady Sudeley, Ribston Pippin, King of the Pippins, Cox's Orange, Mannington Pearmain, Mother, Fearn's Pippin, Cockle's Pippin, May Queen, and Sturmer's.

Kitchen varieties: Keswick, Lord Suffield, Cellini, Stone's. Lord Derby, Golden Noble, Tower of Glamis, Warner's King, Lane's Prince Albert, Dumelow's Seedling (Wellington), Round Winter Nonsuch, Northern Greening, Gooseberry, and Alfriston. For standards which were headed back at an earlier date, crown grafting is the best method; and if the trees are in a healthy condi-

tion, the grafts will soon make fine fruiting heads. Do not head back the hranches too severely, but select those of medium thickness and cut them off at about 2 feet from the main stem. For dwarfs and pyramids, &c., when the shoots are not too thick, tongue or whip-grafting is the one usually practised, and especially by large fruit-growers.

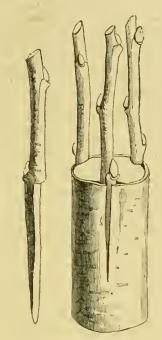
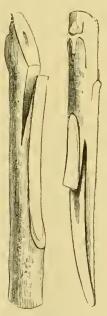


Fig. 82.—CROWN OR RIND GRAFTING.

Crown or Rind Grafting. — Assuming the branches to have been cut back, and the sap is sufficiently in motion to allow the bark to be parted with case from the wood, pare the edges of the wound, and then make a longitudinal cut through the bark downwards about 2 inches; take the graft about 5 inches long, and cut it in an





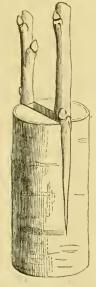


FIG. 84.—CLEF

oblique direction the same length as the cut in the stock. Pare off the bark on the one side of the tongue-shaped cut, then raise one side of the bark on the stock and insert the graft, taking care that the pared edge of the scion joins the bark on the stock. Rub a little soft clay over the wound, and then hind with broad wet bast or raffia-grass. Two grafts as a rule will be found ample for each branch, and when these have been properly placed and tied, encase them with clay

and cow-manure beaten into a soft paste, which should be examined at intervals, and the cracks filled and made good in dry weather. Standard Pears may be headed and grafted as above, but every care should be taken to select only those varieties that will thrive as standards, for many of the hest Pears are only suitable for culture on walls.

Walls.

Whip or Tongue Grafting.—For smaller trees, such as dwarfs and pyramids, the method known as whip-grafting is best. In carrying out this method see that the cuts are made even and cleanly by using a very sharp-edged knife for the work. Cut the stock to be grafted in a sloping direction, terminating the cut if possible just above a bud. The acion should be placed on the lower side of the slope; take the scion or graft and cut off a slice obliquely from 1 to 2 in long; a thin tongue should be cut in an upward direction, about half an inch from the top of the first cut. Make an incision on the stock to correspond with this, then insert the graft and bind it and the stock together. If wax is not at hand, use a little clay prepared for the purpose, and encase them thoroughly. When the stock is in proper state for grafting, little difficulty is experienced in getting them to grow. Pears on espaliers should not be overlooked, and if the varieties are not good ones they should be regrafted.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Peaeson, Bart., Paddockburst, Sussex.

Bedding Begonias.—Tuberous-rooted Begonias that were laid-out in boxes a few weeks ago will be ready for putting into pota. Do not use any but clean pots, and for a rooting medium employ loam, leaf-mould and sand. When they have been potted-up place them in a warm frame. Do not give them much water, as for a few weeks syringing will be sufficient. Seedlings should be pricked out into boxes or pans as soon as they are of sufficient size to be handled. Fibrous-rooted Begonias should be kept as hardy as possible, and if the plants show flowers, pinch the buds off before they expand. The seedlings should be treated similarly to seedlings of the tuberons-rooted section.

Chimney Campanulas and Canterbury Bells may now be planted-out in their summer quarters, in beds that have been given a liberal supply of manure and soot.

Carnations.—Plant these in beds or borders, and make the soil firm around them, afterwards mulching the ground with some manure from a spent Mushroom-bed. Keep a sharp look-out for rabbits and mice, or they may do serious damage in one night.

Calceolarias.—Remove the lights from the frames entirely. The Calceolarias should be planted-ont in the course of a week or two, soon enough to enable them to become established before the weather is hot and dry, watering them if the soil is at all dry on a warm day.

Sweet Peas.—Plants that have been raised in pots or boxes should be planted-out as soon as they have been hardened off. They need deeply dug, richly manured soil. Sweet Peas are very effective when planted in rings, and a little below the level of the soil, to protect them against the wind. For the same reason it will be well to place a few Yew-houghs round them for a few weeks. Seeds may be sown out-of-doors.

Bedding Plants.—Pelargoninms that were potted a month ago will require a cooler temperature, and must not be left longer in the early vineries, where they would become drawn and weakly. Remove them to a warm frame or a late vinery, but it is too soon to place them in a cold frame however well they may be matted up. Lobelia cardinalis will require to be potted-on to make good plants; Lantanas, Heliotropes, and Ageratums, that were struck some weeks ago, may have their tops pinched off, and the tops may be rooted if necessary. Remove the old plants to a cooler temperature, as they will break more strongly, and if out back will make hushy plants for the beds. Recently-struck plants that have yielded cuttings may be put into pots or boxes. If hoxes are used, tie some green moss round the roots of the plants before putting them into the box, and they will flag the less when planted in the beds.

The Arnold

Country Life in America for

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Newspapers.-Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS.

MAR. 28 Birmingham Gardeners' Mutual Improvement Society, meeting. MONDAY. SATURDAY, APR. 2 Société Française d'Hort, de Londres meet. German Gardeners' Club meet. TUESDAY, APR. 5-Roy. Hort. Soc. Com. meet. THURSDAY, APR. 7-Linnean Society meet. SATURDAY, APR. 9-Scottish Hort. Assoc. meet.

Birmingham Gardeners' Mut. APR. 11 Imp. Soc. meet. United Hort. Ben. and Prov. Soc. Committee meeting. MONDAY,

Devon Daffodil and Spring
Show at Plymouth (2 days).
Brighton Hort, Sec. Spring
Show (2 days). TUESDAY, APR. 12-

Liverpool Hort. Sos. Spring Show.
Roy. Bot. Soc. Exhibition.
Ipswich and East of England
Hort. Soc. Daffodil Show. WEDNESDAY, APR, 13

SATURDAY, APR. 16-German Gardeners' Club meet.

Royal Hort. Soc. Com. meet.
Nat. Auricula and Primula Society's Show at Drill Hall,
Westminster. APR. 19 TUESDAY.

Norwich Hort. Soc. Spring Show. Linnean Society meet. Daffodil Show in Birmingham Botanic Gardens (probably). THURSDAY, APR. 21

FRIDAY. APR. 22-Roy. Bot. Soc. meet.

APR. 25 | Birmingham Gard. Mut. Imp. MONDAY,

APR. 26 Midland Auricula Soc. Show in Birmingham Bot. Gardens (probably). TUESDAY.

SALES FOR THE WEEK.

MONDAY NEXT—
700 Roses, 100 Azaleas, &c., 1500 Begonias, Fruit
Trees, Perennials, Border Plants, &c., at 67 & 68,
Cheapelde, E.C., by Protheroe & Morris, at 12.

TUESDAY NEXT—
Special Sale of Orchids in Flower, Established
Orchids, &c., at 67 & 68 Cheapelde, E.C., by
Protheroe & Morris, at 12 30.

WEDDESDAY NEXT—

Protheroe & Morris, at 12 30.

WEDNESDAY NEXT—

800 Azaleas, Patms, &c., 2 500 Standard, Dwarf, and other Roses, Fruit Trees, Herhaceous Plants, Gladiolus, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12. 950 Cases of Japanese Lillums, Palm Seeds, Gladiolus, &c., at 3.—Roses, Fruit Trees, Japanese Lilies, Fern Balls, Carnations, Magnolias, &c., at Stevens' at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick -41'7'.

ACTUAL TEMPERATURES :-

LONDON.—March 23 (6 P.M.): Max. 48°; Min. 40°.
 March 24, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp., 48°; Bar., 30°3. Weather fine, with cold winds.
 PROVINCES.—March 23 (6 P.M.): Max. 40°. South coast of England; Min. 41°, North of Ireland.

March contains an account, Arboretum. with illustrations, of this famous park, which comprises an area of some two hundred and twenty acres, about five miles from Boston. The Arboretum is the finest example in the world of a botanical garden that is arranged primarily for landscape effect. The aim is to grow every species of tree and shrub that is hardy in the vicinity. In the course of their travels, Prof. SARGENT and his coadjutors endeavour to find the extreme northern limit of every important tree or shrub, and to secure seeds from that spot. In that way fruit-trees of certain varieties even of Peaches are introduced into cultivation, to the great advantage of dwellers in the Northern States. Valuable results in this way have been obtained from Prof. SARGENT'S last visit to Siberia and Japan. Each species, so far as possible, is represented by a single specimen grown isolated, and by a group

grown under forest conditions. Rhododen-

drons, Kalmias, Azaleas, and other flowering

shrubs furnish a sea of colour in their re-

spective seasons; and great use has been

made of the hardy Japanese Azalea known

as Kæmpferi, which was introduced from

The results of the survey of the forest

the mountains of Japan by Prof. SARGENT.

resources of the country, published in the Tenth Census Report of the United States, were elaborated at the Arnold Arboretum, and went to show that the timber crop to-day in the States is worth at least two billion of dollars. One result of this Report was the setting aside for the benefit of the people of the States of nineteen millions of acres, as well as the formation in New York of the JESUP collection of samples of wood, with the requisite information concerning the strength of the timber and other matters. In the Arboretum were also compiled those fourteen quarto volumes of the Silva of North America, with 750 plates, devoted to the description and illustration of the trees of the North American continent from Canada to Florida and the Mexican border. Without a rich herbarium and library at command such a task would have been impossible. The Arboretum is now the property of the city of Boston, but leased by it for 999 years to Harvard University. The city maintains the roads and police, and gets in return the use of a noble park. It is stated that additional funds are required for laboratories, museums, and appliances for the study of the diseases of trees and of the economic uses of the timbers, as well as for the despatch of collectors and travellers for the purpose of obtaining additional specimens, seeds, &c., and further information concerning the conditions under which trees and shrubs grow in their native countries. As it is "not considered quite respectable for a good Bostonian to die without leaving something to the Art Museum or to the Arboretum," we may hope that these aspirations may be fulfilled, to

THE EASTER HOLIDAYS .- Contributors will kindly remember that owing to Friday next being Good Friday, we shall have to print a day earlier than usual, and reports of societies and other items of news should reach the Editor not later than Tuesday, March 20.

the honour of America and the welfare of

humanity.

THE ALMOND .- The first flowers on the Almond-trees in a favourable locality in the south-western suburbs of London expanded on Monday last, March 21, being rather later than usual.

PEACHES IN AMERICA.-A correspondent of American Gardening says that the extreme cold of the present winter has killed thousands of Peach-trees in New England, Massachusetts, and other north-eastern States.

AMERICAN BLIGHT.—Accident has revealed to M. CHANTRIER an easy but effectual way of ridding Apple-trees of this pest. He simply rubs fresh Walnut-leaves vigorously on the affected stems, with the result that the insect vanishes, never to reappear. Perhaps syringing with a strong decoction of Walnut - juice would be equally effectual and more convenient. At any rate we agree with the recommendation of our friend M. Andre that the experiment should be tried in due season.

CLEMATIS INDIVISA LOBATA. - A photograph showing this beautiful flowering greenhouse climber in its best character, screening the rafters of a house with a mass of its pretty white flowers, is sent us by Mr. G. Nelson, Caer-y-nwch Gardens, Dolgelly, N. Wales, who states that the temperature of the house is 40° at night and 50° during the day. We should reproduce the photograph but for the fact that this floriferous species has already figured in the pages of the Gardeners' Chronicle on more that one occasion. See issue for September 14, 1895, &c.

MR. WILLIAM WATSON.—The Curator of the Royal Botanic Gardens, Kew, has been elected an Associate of the Linnean Society, a compliment alike to Mr. Warson and to Horticulture, of which he is so eminent a representative.

VINE MILDEW.-M. GY. DE ISTYANFFI announced lately to the Academy of Sciences (Paris) the discovery of the mycelium or spawn in a resting or hibernating condition in the rind of the rods left on the Vine during the winter. From the cortical cells the hyphæ or threads of the spawn penetrate to the underlying green tissues of the shoots.

- M. André calls attention, in the Revue Horticole, p. 33 (1904), to the practice of M. CHANTEIER, who, to get rid of mildew (Oidium), syringes the leaves with water nearly at the boiling temperature. No harm is done to the foliage of the Vine, but the fungus is killed.

PRESERVED VEGETABLES .- The British Preserving Company, of Rayne, Braintree, have forwarded to us a small sample of their dried vegetables of various kinds. Colour and flavour are well preserved, so that the advantages of the process are manifest.

SENECIO JACOBÆA. - Mr. GIBENTH shows that in Nova Scotia, as well as in New Zealand, inflammation of the liver results when cattle and horses eat this weed, but that it is not injurious to sheep. We are not aware that any ill-effects have been observed in this country.

LORD LECONFIELD'S TIMBER.—The Court of Appeal recently heard two appeals, one by the present Lord LECONFIELD, and the other by his younger brothers, against an order of Mr. Justice Joyce in regard to two points arising under the will of the late Lord Leconfield in connection with the manner in which succession duty and estate duty should be paid. The late Lord LECONFIELD died in 1901. Under his will the estate duty and the succession duty on the settled estates were to be paid out of the testator's residuary estate, and the question at issue was whether that included the timber on the settled estates. In the Court of Chancery it was held

that the duty on the heirlooms was payable out of residue, but that on the timber was not; and it was said that though the Petworth estate in Sussex was not properly a timber estate, the esceipts from the timber cut in regular course amounted to between £3,000 and £4,000 a year. The Court held that both appeals ought to he allowed. The duty on the timber came within the provision of the will providing payment of such duty out of residue.

CANADA AND THE SAN JOSÉ SCALE .- The agricultural government authorities of Ontario have published a bulletin, by Mr. W. LOCKHEAD. reporting on the San José scale. Much has been done to localise the disease, which otherwise would have spread to most parts of the Dominion. To-day the solution of the scale problem lies within the reach of all fruit-growers. Experiments have shown that there are five more or less effective remedies, of which, apparently, spraying with a mixture of lime, sulphur and salt seems most popular. The others are—crude petroleum, crude petroleum and whale oil-soap emulsion, and the emulsion alone. The lime, sulphur and salt treatment is the least costly. Another new application has also been tried and proved successful. The Government has been asked to establish township sprayers, and to encourage the spraying or destruction of infected orchards.

HALF-HOLIDAY FOR GARDENERS.—The firm of Mesers. J. CYPHER & SONS, of Cheltenham, has arranged to give their indoor employés a half-holiday once a fortnight. One-half the staff will be upon duty one Saturday afternoon, and the other half on the alternate Saturday. This arrangement will increase the good feeling already existing between Messrs. CYPHER and their employés.

CARNATIONS FOR SUPPLYING FLOWERS FOR MARKET IN BIRMINGHAM.—In whatever direction we turn, there is evidence of the increasing popu-Carity that Carnations are winning in the market, and this is undoubtedly due in a large measure to the introduction of recent varieties from America, and to others that are being distributed by Messrs. W. Curnush & Sons, of Highgate, London. Only a few days ago, when calling at the market nursery of Mesers. HEWITT & Co., of Solihull, Birmingham, we found that a large number of plants is cultivated there for supplying flowers for cutting, of such varieties as Mrs. T. W. Lawson, America, Winter Cheer, Mdlle. Thérèse Franco [Mrs. Leopold de Rothschild], Herbert J. Cuthush, and others. The well-known manager of these nurseries, Mr. SPINKS, said there is a great future for the Carnartion, and varieties that possessed similar characteristics to those imported from America would be most cultivated. They not only produce long flower-stems often 15 inches in length, but these stems are sufficiently strong to hold the flowers quite erect without the use of wires or stakes. When this characteristic has been obtained in varieties having smooth petals (in place of the fringed petals common in America) and brightlycoloured fragrant flowers, they will be of exactly the kind most appreciated in English markets. In the meantime, Mr. SPINKS had much to say in favour of the variety Mdlle. Thérèse Franco, and those who have not cultivated this would do well to give it a trial. In Mr. James Douglas's catalogue, it is described as a charming Italian variety with delicate pink-coloured flowers. The Floral Committee of the Royal Horticultural Society recognized its merit as long ago as October 10, 1893, and gave the variety an Award of Merit when exhibited by Messrs. Jas. Veitch & Sons, Chelsea. Other varieties of excellence for market nurseries are named on p. 207. Messrs. HEWITT & Co. cultivate a large number of Roses in borders and in pots, and of Pelargoniums, including the decorative section that formerly

enjoyed greater appreciation than is accorded them now. The old double Primula too is cultivated there still from off-sets, which in most gardens have been ousted by the semi-double varieties raised from seeds each year. These and the well-known Birmingham type of Primula sinensis are interesting features in this nursery, which is one of the largest in the neighbourhood of Birmingham.

CARNATIONS. — The American Florist, The Weekly Florists' Review, published at Chicago on March 3, and The Florists' Exchange of New York, have a full account, with illustrations, of the exhibition of Carnations held at Detroit. In some of the classes as many as 800 blooms were staged, and several of the exhibitors showed from 1,000 to 4,000 blooms. The quality is reported good throughout. Numerous figures of leading varieties are given; but process blocks are not well suited to display the beauties, still less the distinguishing characteristics of the flowers.

HENRY DE VILMORIN.-A Committee is in course of formation with the object of raising a monument to the memory of HENRY DE VILMORIN and of his ancestors, who for more than 150 years have continuously rendered substantial services to agriculture and horticulture. At the head of the Committee are M. VIGER, formerly Minister of Agriculture and now President of the National Horticultural Society of France; M. TISSEBAND, President of the National Agricultural Society; the Marquis DE Vooüé, member of the French Academy and President of the Society of French Agriculturists. HENRY DE VILMORIN was so much respected—we may say, beloved—by those who knew him in this country, that we have no doubt that several of his friends and associates here will be eager to testify to their sense of the great work done by the Vilmorin family, and to the regard they had for one familiarly known as HENRY VILMORIN.

THE ATLANTIC MAIL SERVICE.—In view of the fact that Plymouth has now become the first port of call on the homeward journey for all the Atlantic mail steamers of the American Line proceeding to Southampton, the London and South-Western Railway Company have, at Stonehouse Pool, erected a new ocean quay station, which is connected with their main line at Devonport. The journey to London without a stop, covering the distance of 230 miles, will be completed in about 4½ hours. For this service the London and South-Western Company have just built a handsome corridor-train, containing restaurant-cars, and this will carry the passengers who, on April 9, disembark at Plymouth from the steamship St. Louis.

APPLEY TOWERS.—We hear with regret that Appley Towers, near Ryde, in the Isle of Wight, has been destroyed by fire. The garden is interesting to us, for we discovered there some years ago the original type of Primula sinensis, the Chinese Primula, which had just been raised from seeds imported frem China. Our readers will also remember that one of the newer varieties of Grape-vine has been named after the house.

SCHEDULES RECEIVED:—CROYDON CHRYSAN-THEMUM SOCIETY'S list of prizes to be offered on Tuesday and Wednesday, October 25 and 26, 1904, at the Public Halls, George Street, Croydon.

THE RICHMOND HORTICULTURAL SOCIETY'S annual flower-show takes place on Wednesday, June 29, in the Old Deer Park, Richmond. The prize-list is comprehensive, and includes many valuable awards in the different classes, over thirty special prizes, the gifts of various patrons, being included. Last year a total amount of £166 4s. was awarded in prize-money, hesides medals. To meet a deficit of £70 on the year's working, Mr. George Dance generously placed the Richmond Theatre at the disposal of the

Committee for holding a musical and dramatic matinee. This was entirely successful, and resulted in a profit of £54 to the Society's funds. The Committee appeals for a large increase in the list of supporters and subscribers. The Hon. Secretary is Mr. C. R. Kino, 61 and 62, George Street, Richmond.

Preliminary Schedule of the Great International Horticultural Exhibition to be held by the Royal Caledonian Horticultural Society on September 13, 14, and 15, 1905.

SHROPSHIRE HORTICULTURAL SOCIETY'S Schedule of prizes to be offered at an exhibition on August 17 and 18.

NARCISSI IN CORNWALL.—We hear that the growers are getting very low prices for their flowers. Instead of 4s. 6d. per dozen bunches, as last year, the sum offered now is as low as 2s. 6d., and the impression prevails that the industry has been overdone and will now decline.

THE ENGLISH ARBORICULTURAL SOCIETY.—
The last part of the Transactions lately received contains an account of the visit of the members of the Society to Reading and its neighbourhood, including excursions to the estates of Lord Carnaron at Highclere, Lord Bath at Longleat, and Lord Ailesbury at Savernake. The concluding item in the Reading programme was the visit to Messrs. Sutton & Sons' establishment, of which a detailed description is given. Accounts of visits to Messrs. Kent & Beydon's nursery at Darlington, and to Raby Castle, are given, together with various papers on "Practical Forestry."

PUBLICATIONS RECEIVED.—Annual Report on the Gardens of His Highness Makarana Fatch Singhji Bahadur, G.C.S.I., of Udaipur, Mewar. The Gardens flourished, and the number of visitors exceeded that of previous years.—The Canadian Horticulturist. Fuil of interesting notes and illustrations.—The Agricultural Gazetle of New South Wales contains: Letters on the Diseases of Plants, by N.A. Cobb, valuable, and well illustrated; Lessons from the Drought (from many districts); Cultivation of Native Flowering Plants, &c.—From the Department of Agriculture, Victoria, Bulictin No. 9, Take-all and White-heads in Wheal, by D. McAlpine. A valuable pamphiet, with photographic representations of the pests.—Journal of the Department of Agriculture of Western Australia, January. Contents: Vintage Notes, Report of Experimental Farm, Trial Shipment of Grapes to England.—The (Tokyo) Botanteal Magazine, December 20, 1903, contains, as usual, articles in English and in Japanese.—From the Smithsonian Institution, U.S. National Museum: Studies in Old World Forficulids or Earwigs, and Blattids or Cockroaches, by J. A. Rehn.—Bulletin of the Department of Agriculture, Jamaica; February. Contents: The Cotton Industry, by Sir Daniel Morris; Jamaica Cassava, by H. H. Cousins, &c.—From the Imperial Department of Agriculture for the West Indies: Lectures on the Diseases of the Sugar-cane, by L. Lewton Brain.

HURSLEY.

See Supplementary Illustration.

In the endeavour to explain the popularity of Gilbert White's Natural History of Selborne, it has been debated whether that Hampshire village is or is not an ordinary or average English village. It has been suggested that varied soil, with its accompaniments of diversity of vegetation and of animal life, tended to produce a great naturalist. If such influences were potent on the chalk and lower cretaceous beds of Selborne, still more should they be so at Hursley, not many miles to the north-west. Here the chalk is some-times almost bare, or it is more or less covered with more modern clays and gravels. In the neighbourhood of this "lea," or meadow, is a "hurst" or wood, we have the upland down with the pyramidal and sweet-scented Orchids, Ladiestresses, Campanula glomerata, Gentiana Amarella, Spiræa filipendula, and Linaria repens. The White Beam grows with the Beech in the woods, and under them may be found Herb Paris, White Helleborine (Cephalanthera pallens), the Fly and

the Bird's-nest Orchids, the Toothwort, and the Solomon's-seal, or "Jacob's-ladder," as it is named locally. At North Baddesley, a little to the south, is an outlier of the New Forest, with Heather and Gorse and Holly, and swamps in which the Marsh Cinquefoil, the Bog Asphodel, the Sundews, the Bog Pimpernel, and the Skullcap still flourish, though drainage has exterminated Gentiana Pneumonanthe and the Butter-Not far distant to the east flows the Itchen, in whose waters abounds the Mimulus, which so attracted Mr. Hudson in his recently described perambulation, while Bog Bean, Epipactis palustris, the Water Avens, or "Granny's Nightcap," Orchis latifolia, and Orchis incarnata, known in this district as the Romsey Orchis, flourish in its swamps. Certainly the student of ecology could hardly find a better object-lesson than this district, though it cannot claim to have produced a great naturalist.

It is, however, remarkable that the quietest and most remote of English villages seems always to have had its points of contact with the great world of the life of the nation. We know little of the early history of Hursley, midway as it is between Romsey and Caer Gwent or Venta Belgarum, which we now call Winchester, on the Roman road to Sorbiodunum, or Old Sarum. The Norman portions of the church remind us that Romsey and St. Cross, a few miles distant in either direction, owe their architectural interest to the work of Henry of Blois, brother of King Stephen; but it is with Richard Cromwell, "the phantom king of half a year," that Hursley truly enters into the history of England. Here, on Mayday, 1649, he married Dorothy Mayor. On her estate of Hursley Park he lived after the Restoration, and in 1718, six years after his death, his daughters sold that estate to Sir William Heathcote, the first baronet, the direct ancestor of the squire in Keble's time.

It was in 1835 that Keble first came to Hursley. Like other leaders of the Tractarian movement, he evinces but little interest in the beauties of Nature in any of his writings. The botanical studies of Charlotte Yonge, a life-long resident in his parish, were merely those of the woman of culture of her day. Only in the essentially poetical mind of Christina Rossetti did a loving knowledge of plants blend with religious emotions into a neo-mediæval symbolism. Keble was, however, too truly a poet and too susceptible to emotional suggestion not to be sometimes impressed by his grandly-beautiful surroundings. Ampfield Wood, in Hursley Park, consists of Oak, Fir, and Beech; beneath grow Lilies of the Valley, the beautiful perfoliate Yellow-wort, and the rare Melittis Melissophyllum; and to one fine arcade of Beeches in this wood [see Supplementary Illustration], in which he loved to walk, the author of The Christian Year gave the name of Hursley Cathedral, G. S. Boulger.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

8PRING-SOWN ONIONS.—A great deal depends upon the locality, the grower's requirements as regards size, and other details. It is well known that the Onion requires a long season of growth to develop perfectly, and in heavy and solid soils growth is slower. In cold situations in northern counties the plants do not get the same chance as in southern gardens. Having had to grow large quantities of Onions in two very different localities, I found it was impossible to give the same method of culture in the far north as we could in the south, and I thoroughly agree with Mr. Tallack's advice on p. 155. It is an excellent practice, and if we had not adopted it our Onion-crop would have been small indeed. Another plan answered well, and that was to sow the kinds usually sown in the spring, such as Ailsa Craig and others, late in August and transplant them in March. Grown thus the crop never failed, and there was very

little labour involved, the only difficulty being that the autumn-sown ones were badly injured in severe winters unless there was snow. We had to make up losses by sowing under glass. I am not writing about exhibition Onions, but those for general use, and for cooking whole Onions are most valuable when well grown. G. W. S.

LUCULIA GRATISSIMA.—I am forwarding by same post a photograph of Luculia gratissima showing a plant now growing in the gardens of the Hon. Mrs. Meynell Ingram, Temple Newsam, near Leeds. The specimen was planted about eight years ago at the east end of a large Camellia-house, and now covers an area of about 300 square feet. The plant has been in flower more than two months, bearing some 500 large trusses of its beautiful pink-coloured and delightfully perfumed flowers, which are much admired by all visitors. The plant is growing in a compost of strong loam, peat, and coarse sand, with a liberal addition of charcoal and half-inch bones. It enjoys an intermediate temperature with a humid atmosphere during the winter months. Robert Dawes, Head Gardener. [An excellent specimen. This fragrant species was illustrated in the Gardeners' Chronicle for Jan. 30, 1897, p. 81. Ed.]

GRAPE LADY HASTINGS. — Mr. Fyfe wrote very favourably upon this new Grape on p. 156, and I can endorse all he said. We planted it in a house with the variety Hamburgh, and it made splendid growth. The fruit was not kept any time, so that I am unable to write of its keeping qualities, but as regards its quality, and size and colour of berry, it is a decided acquisition. The growth of this new variety is very strong, and if the canes had been allowed they would have carried very heavy crops; it in this respect resembles the Madresfield Court, but the bunches have large shoulders, being much thicker, and the berries have a thicker skin than the Hamburgh. The variety did so well that I am planting it in a later house, and the bunches set so freely I think it will prove a useful variety for this purpose. Last season I sent a bunch to the Fruit Committee at one of the Chiswick meetings, merely as a flavour test, and it was considered very good. It will prove a more useful Grape than the Muscat Ilamburgh, as the canes grow so freely, and I should think if well thinned the fruit would keep well. I have grown White Gros Colmar, but I do not advise its culture. G. Wythes.

BEDS .- Mr. Markham asks : STRAWBERRY How do I conclude that a covering of short stable-litter over a mulching of rotten dung is injurious or stiffing to the plants, when applied in January, as he advises? I draw my conclusions from the fact that sun and air are much more beneficial to root-action than this, as I consider, unnecessary covering up of the soil hetween the plants at such an early period. I like the surface-soil of my Strawberry-beds to be loose and sweet, and exposed to every ray of sunshine and the purifying elements of frost and air, and the minimum of dampness. I cannot agree that the proper treatment of Strawberry-beds is to have a hard-trodden surface, covered with dung and straw litter. What a happy hunting-ground Mr. Markham provides for blackbirds and Mr. Markham provides for blackbirds and thrushes! These birds scratch and pull the manure off the Rose-heds, and I think would soon cover up the Strawberry-plants. This is impossible if the litter is applied when the plants are in full growth, and throwing up their flower-spikes. There is ample room to fork over the ground between the cover without destroying and ground between the rows without destroying any roots whatever. It would be interesting to know how many roots perish through being kept in the cold, sodden condition of the soil, as in the unnatural way advised. Few Strawberry beds require watering before the bedding down is done, therefore Mr. Markham's last remark does not apply to my treatment. In reply to Mr. Stocks, who states that the ground between his rows of plants was in no way puddled after a season like 1903, I can only conclude that he had few Strawberries on the plants to gather. the fruits have to be gathered several times daily—viz., for breakfast, lunch, tea, and dinner, &c.—besides the treading necessary for cultural work, the ground gets caked almost as selid as a road. After a wet season like last year the surface-soil became quite puddled on this heavy ground, and the water after storms stood about much longer than it should have done; hence the beneficial effects of the forking-up of the surface-soil. There is absolutely no comparison between Strawberry plants grown for forcing, with restricted root-room, often requiring watering three times daily, and those grown in the open ground with a free root-run. Most of the three-year-old plants here possess crowns nearly a foot in diameter, yet Mr. Stocks plants his one-year-old plants but one foot apart in the rows. In August, 1902, a friend gave me sufficient young pot-layered plants of Laxton's Fillbasket to plant three rows, and last season each of these plants produced upwards of forty large fruits, and the plants are now at the present time robust and of large size. If the fruit of this variety was a little firmer and better flavoured, it would be excellent in every way for market, and private gardens also. A. Jefferies, Moor Hall Gardens, Essex.

— My method of cultivation is to plant after a crop of early Potatos. From the time I start digging Potatos I have all garden refuse taken to this ground, which is trenched 2 feet deep, digging the bottom of each trench another good spit. A layer of refuse is placed at the bottom, and another of green farm-yard manure in the middle, the whole being afterwards dressed with old Potato-bed (?), soot and wood ashes, forked in deeply. I plant the rows 2 to 2 feet 6 inches apart, according to the habit of the varieties, and 1 foot between the plants. In February a layer of decayed manure is applied and forked-in. I use the best wheat-straw for protecting the fruit, the litter being chopped about 9 inches long for economy. After the crop is over I take every other plant out, at the same time removing the weeds, runners and straw, which is cleared away and the bed is forked about 2 to 3 inches deep, when the drag-hoe is afterwards used. Treated in this way the roots will go down, and not require so much watering during the fruiting season. I also find the fruits do not suffer so much from the black slug. F. G. B., Waltham Cross, N.

CURIOUS PEST IN GARDEN.—I have not seen the insect referred to by previous correspondents, in this conntry, butam inclined to believe it, from the accounts given, to be the same as what is known as "betruse" in some of the West Indian Islands, where it is a well-recognized pest. It is found in grass, and is the source of much annoyance to people, children in particular. Horses which are allowed to graze where it is prevalent, suffer from its attacks, and generally disfigure themselves by rubbing the hair off their heads and necks. It was not so troublesome where the grass was kept closely cut. The night temperature rarely fell below 75° F. in the locality where I saw most of it. The question of temperature may therefore render it doubtful if the two insects are identical. M. McN.

FUMIGATION BY MEANS OF CYANIDE OF POTASSIUM.—I hope Mr. W. G. Bushell will give further information in the Gardeners Chronicle on his method of using cyanide of potassium, and would like to ask him if he has used it in vineries when the Vines were in growth, and at what stage of growth the Grapes were in Also if he has tried it in Peach-houses? These structures are often used for forcing Strawberries, and in high-pitched, light and airy houses, redspider gives much trouble. The pest generally appears first on the Strawberry plants. If redspider and mealy-bug can be safely and successfully exterminated from Vines and Peach-trees when in fruit with such cheap material, it will prove a great boon. Most of us know how deadly the fumes emanating from cyanide of potassium when dissolved in water are when introduced into the entrance or passage to a wasps' nest; it is therefore to be hoped Mr. Bushell will give information upon the proportions he has used. J. Easter, Nostell Priory Gardens.

— Under what conditions did Mr. W. G. Bushell use cyanide of potassium as a fumigator? Also what quantity is needed to fumigate an atmosphere of 1,000 cubic feet? May it be used without injury upon tender plants in the early stages of growth? It appears no expensive utensils are necessary to contain the cyanide

potassium and sulphuric acid whilst the chemical action is taking place. Is the gas which is emitted of an explosive nature? C. E. B. Welsh, Dartford.

— Is the gas generated likely to be injurious to plant life? What quantities may be safely used per 1000 cubic feet? Will the fumes destroy everything in the way of insect life, including the ova? The fumes being so deadly poisonous, how soon may the house be entered after fumigation? A cheap and effective fumigator would be an inestimable boon to myself and all gardeners. Thos. H. World.

ECKLINVILLE SEEDLING APPLE.—I was much interested in Mr. Crump's note in the Gardeners' Chronicle for March 5, p. 149, on the non-fruiting of this variety of Apple. My own experience of Ecklinville is not at all satisfactory, for while in many places the trees fruit freely, the reverse is the case in this garden. There are only six hush treea, planted in different parts of the garden, but they are all alike unsatisfactory. They are about ten or twelve years old, and have not yet produced a full crop of fruit. I have not gathered at the most more than a stone of Apples from the six trees in one season; some years only about six or eight fruits. Bad as last season was, my crop of Ecklinville then was the beat it has ever been. About fifty varieties of Apples are grown, most of them being quite satisfactory; the non-fruiting of Ecklinville has been a mystery to me for some time. The soil here is a light loam overlaying sandatone. I have mentioned the fact to several friends, but none could give me a satisfactory reason. My trees always flower well, but I have not examined them closely, so cannot say if they are somewhat deformed, as those noticed by Mr. Crump. The bushes are thickly studded with fruit-buds at the present time, and many other varieties, I am glad to say, are in a similar condition. Let us hope that 1904 will be a good fruit year. In common with other gardeners, I am often asked by farmers and cottagers living in the neighbourhood to recommend what I consider the best varieties of Apples to plant. Although Ecklinville is sometimes included, I qualify my recommendation by giving my own experience of it as grown in thie garden. J. S. Upex, Wigganthorpe,

potatos. — I strongly advise gardeners to plant the variety Sir John Llewelyn very sparingly until they have tested it. The soil in these gardens is heavy, with a clay subsoil. I have grown it here for three years, and, although it is a handsome Potato and a good cropper, it is quite unfit for table use, whether cooked when lifted or left until later. Syon House Prolific (though not so much boomed) is a grand variety and a splendid keeper, and of extra good quality when cooked. In the past year we had fifteen rowa, each 51 yards long, and although the tops were diseased there was not a speck of disease in the tubers, and the whole of them at the precent time are perfectly sound. The variety Snowdrop, on a similar-sized brake, was three-parts had, but the tubers possess splendid table quality when good. Flourball cropped well, and few were diseased. Centenary gave a small crop of badly-shaped tubers, the bulk of which were diseased. Ninety-fold fully justified its name as regards quantity. We planted 2½ bushels of seed and got barely one bushel of sound tubers in return; the previous year this variety was bad also. Up-to-date has produced first-class crops each year I have grown it; out of the 60 bushels, when lifted, there was only half a bushel of bad tubers. Its flavour leaves little to be desired if not used until January. It is a good keeper, and the most reliable variety in this neighbourhood. A. Jefferies, Moor Hall Gardens, Essex.

BEGONIA GLOIRE DE LORRAINE.—In the notes that have appeared respecting the increase of this plant no mention is made of propagation by leaves. I look on this as one of the best methods, for hy it one gets an absolutely new plant from the very base, and this means something to the grower of these Begonias. When I first tried this method I made the mistake of waiting till March before inserting the leaves, and got rather

undersized plants in consequence. Now I take them in November, and have then a good choice of hold leaves to pick from, which soon root in a very sandy mixture of soil, or in Coccanutibre, and if grown in a warm propagating-pit they are ready for potting off by February. I do not advise waiting for the appearance of the new growths before potting, as the root-growth is enormous, and many would be sacrificed by waiting, but we find that the callus from each leaf shows from two to four embryo shoots which grow away quickly and strongly. Stem cuttings, though not impossible to grow, present already the hard condition which one wants to avoid in the growing plant, and as a rule good basal shoots which appear a week or two after the flowering period are much better. J. C. Tallack.

THE GARDENERS' ASSOCIATION .- Men such as those whose names have appeared in the Gardeners' Chronicle have shown an exceedingly good spirit in taking up the cause of those who are not so highly favoured as themselves. The best thanks of gardeners everywhere are due to everyone taking an interest in the formation of the Association. I have read the reports in the Gardeners' Chronicle each week with great interest. In the issue for February 27 the Chairman of the meeting held at the Hotel Windsor was in favour of admitting only gardeners with five men under them as members. If this five men under them as members. If this became a rule, I for one should have to remain outside, as I have only four. But would not this be admitting men as members rather for their position than for their experience and ability? Mr. Watson regards gardening as a dumping-ground for duffers; and rightly so. I think that only gardeners of undoubted experience and ability, regardless of position, should be admitted as members of such a society; and that employers requiring gardeners should be able to depend that members of the Gardeners' Associadepend that members of the Gardeners Associa-tion are men fully qualified for the branch of gardening to which they may belong, either public, trade, or private. If this was the case, employers who valued their gardens would soon appreciate the value of such an association. may be asked-How can this be accomplished? The answer is by first accepting as members a few thoroughly good gardeners, whose only qualification should be that they are good gardeners; and these, forming small committees wherever possible throughout the kingdom, should then recommend to the Association for membership only auch persons as have a right to call themselves gardeners, and thus prevent "duffers" of whatever position from ever entering the Association. H. Ruse, Brookfield, Crown-

CULTURAL MEMORANDA.

CINERARIAS.

THE Cineraria is one of the most useful spring. flowering plants for the decoration of the couservatory or greenhouse. Sow seeds in pots filled with a compost consisting of three parts sifted loam and one part leaf-mould, adding some coarse silver-sand. Afterwards place the pots containing the seeds in a cold frame, water them through a fine-rosed can, and cover with a sheet of glass. When the seedlings appear, place them near to the light. As soon as they are large enough to handle, pot them off singly into small pots, using a similar compost, with the addition of a little decayed manure. When the roots have reached the sides of the pots, shift into 5-inch pots, and subsequently into 7 and 8-inch pots, as they require further rooting-space. After the final shift, and the pots are well filled with roots, afford them a weak stimulant at intervals of about ten days. The plants are very impatient of bright sunshine, and a cool, shady position should be afforded them. The enclosed flowers are from plants raised from Messrs. Webb & Sons' seeds. R. Milnes, Margam Park Gardens, S. Wales.

MARKET GARDENING NOTES.

HYDRANGEAS.

These begin to come into the market in Aprill and continue until the end of the London season, or well through the summer. The ordinary form of H. Hortensia is largely grown; and Otakaa, which is a deeper shade of pink, is a favourite variety, but it does not make quite such large heads of flower. The white variety, Thomas Hogg [see also p. 196], should be grown with at least from four to six heads of flower to be of any service, and the one-year-old plants must be propagated from the earliest cuttings obtainable, and stopped once. It is better to depend upon planta of the previous year; and larger plants are of still greater value; they may be two or three years old. Very large quantities of H. Hortensia are sold with single heads of bloom, but within recent years larger plants sell well.

Most growers will now be commencing to pro-The cuttings are obtained from the plants that are started for early flowering; there are always many shoots which do not flower, and these make good cuttings. They may be put in singly in small pots, using good loamy compost, and a little aand at the base of the cuttings. They strike best in a close frame where there is a moderate bottom-heat, or an ordinary hot-bed may be used. It is important to remove them to where they get light and air as soon as they are rooted, for if this be neglected only a few days they start to make weak growth. The most important point is to get short sturdy growths. As acon as safe from frost they may be put into a cold frame, and remain there until it is safe to put them in the open, or if pit] room can be apared they may be potted-on into 48-size pots, and replaced in the pit for a time. A good rich loam should be used for potting, and firm potting is essential. In the early stages of growth over-watering must be strictly avoided; later on it will be hardly possible to give them too much water; but the variety Thomas Hogg especially becomes very sickly if it gets too much before the pots are well filled with roots.

After they have been potted and put in the open they give little trouble until it is time to take them under cover in the autumn. If they have not naturally ripened off they should be kept rather dry after the middle of September. In a bright sunny season they will set their flower-heads early in September and cease to grow. older plants may be cut back and potted in June, and about that time any of the young plants that are likely to get too tall may be stopped: this applies mostly to the plants of the variety Thomas Hogg. Full exposure to the sun, with plenty of room and liberal supplies of manure while growing, will ensure good growth; but manure must be withheld early in the autumn. During the early part of the winter, or up to the time of starting them, they may be kept anywhere where frost will not reach them, but they need a dry atmosphere and plenty of fresh air. I have seen plants shut up closely in a cold pit lose

their buds owing to damping.

For early forcing plenty of light is more essential than a high temperature. All surplus or blind shoots are taken off as early as possible, and as soon as the flower-heads show manure is given, starting with rather weak or small doses and gradually increasing them in strength. Care must be taken not to apply too much manure or the leaves will burn, especially when the sun bacomes more powerful.

A fair average price for good plants in 48-size pots is 9s, to 12s, per doz, or the early ones may fetch as much as 18s.; the larger plants may vary according to quality from 2s, to 5s, each, or extra fine plants may make even more than this.

I may add that some growers propagate the plants in the autumn. The strong shoots that have

already set their buds will root freely in a partially-spent hot-bed; but they must not he kept warm enough to induce them to start into growth. They will be ready for 48-size pots very soon after they have started to make roots, and may be stood out in the open for a time after they have been potted. These late-struck tops may be used for early forcing, and will make dwarf plants with large heads of bloom. A. Hemsley.

Obituary.

DAVID DRUMMOND .- The death of Mr. David Drummond, J.P., which we announced last week, hasawakened feelings of deep regret amongsta wide circle. At the ripe age of 91 years he passed to his rest at Dunfillan, Rathgar, where he had resided for many years. As head of the well-known firm of William Drummond & Sons, seed merchants and nurserymen, Mr. Drummond held a prominent place and was highly esteemed for his unswerving sense of honour, unquestioned probity, and uncompromising dislike of anything having a tendency to turn him aside from the high ideal which influenced all his actions in commercial and social life. It is more than 60 years since Mr. Drummond left Scotland, his native country, and settled in Dublin, where his business prospered with the passing years until he found himself prominent among the most successful city merchants. On Friday, March 18, the remains were removed from his late residence, Dunfillan, Rathgar, and laid to rest in the family buryingplace, Mount Jerome Cemetery. The attendance at the funeral was large and representative, and gave abundant evidence of the esteem in which the late Mr. Drummond was held by every class in the community.

HERMANN HERBST. - It is with great regret that we have to chronicle the decease of Hermann Herbst, V.M.H., at his residence at Stanmore, Richmond, on Friday, 18th instant, at the age of seventy-four years, after a brief attack of pneumonia supervening upon influenza. Although for a number of years Mr. Herbst had been debarred from attending the meetings of the Royal Horticultural Society, owing to two paralytic strokes, the last of which entirely disabled him, his memory will be long cherished by all who knew him personally, both on account of his amiable, cultured, and kindly disposition, and of the recollection that in some of the chief developments of market horticulture he was the pioneer, especially in the direction of forced Lily of the Valley culture, and the introduction of certain Palms, Adiantums, and similar exotics on a wide commercial scale. Cocos Weddeliana, Iresine Herbstii, Dipteracanthus Herbstii, and many other plants were introduced by him either to this country or to the public; and the popularity of Epiphyllum truncatum was first stimulated by his recognition of its peculiar decorative value.

During his long career he had travelled much, having spent many years in Brazil, where he was Director of the Botanic Gardens in Rio de Janeiro, and went thence to Mauritius and the Cape, by command of the Emperor of Brazil, to collect the best varieties of Coffee and Sugarcane, prior to settling in this country upon the very ground where he died. From the mass of certificates of character placed at the disposal of the writer, it is abundantly evident that his career from beginning to end was an exemplary one for the young and ambitious gardener to follow. Thoroughness in both study and labour, coupled with intelligent appreciation, not merely f the plants themselves but of their suitability for the public taste, characterised it throughout, conjoined with a keen business instinct.

On reaching England from Brazil, he looked about for an eligible nursery site, and having

fixed upon the selected one at Richmond, he visited Covent Garden, to see, not what was already in vogue, but "what they had not got," and as a result commenced to remedy the shortcomings noted by the cultivation on a large scale of the several classes of plants above cited. These being afterwards well grown and well exhibited, at once created a demand, which, to judge by a marked catalogue of an auction sale by Messrs. Protheroe & Morris, in 1877, of some 25,000 rare and new Palms, &c., must have well repaid him for his acumen and outlay. It was in recognition of these tangible public services and the horticultural talent which underlay them that the Royal Horticultural Society selected Mr. Herbst as one of the first recipients of their Victoria Medal of Honour; and he was undoubtedly one of the most worthy of that distinction. Prior to his disablement by paralysis he constantly attended the Floral Committee, where, on account of his extensive knowledge, he was recognised as a high authority.

His death will be mourned by a large circle of appreciative friends. By his own desire his body



THE LATE HERMANN HERBST.

was cremated at Woking Cemetery, where on Tuesday the 22nd instant, this function was attended by many of those who knew him. C. T. D.

SOCIETIES.

ROYAL HORTICULTURAL.

MARCH 22.—A very interesting exhibition was held in the Drill Hall, Buckingham Gate, Westminster, on Tuesday last, on the occasion of the usual fortnightly meeting of the Committees. Orchids were numerous, and of these the Dendrobiums were a prominent feature. Groups of Clematis in pots, Camellias in pots, profusely flowered groups of forced trees and shrubs, Hydrangea Hortensia in pots, Cyclamens, cut Roses, and hardy and aipine plants together afforded a varied and pleasing effect.

The Orichid Committee recommended awards, including two First-class Certificates, and five Awards of Merit.

The Floral Committee recommended an Award of Merit to a white variety of Hepatica augulosa.

The FRUIT AND VEGETABLE COMMITTEE had several exhibits before them, including a collection of Potato tubers from Messrs, Donbie & Co.

The NARCISSUS COMMITTEE sat for the second time this season, but flowers come slowly, and most of those shown were not of the best size and quality.

At the general meeting in the afternoon, a number of new Fellows was elected, and it was decided to send an address to His Majesty the King, thanking His Majesty for his consent to become a patron of the Society in connection with the Centenary, and expressing the Society's sympathy with His Majesty in the loss the Royal House has sustained in the death of H.R.H. The Duke of Cambridge.

The Rev. GEO. HENSLOW gave a lecture upon "The Heredity of Acquired Characters."

Floral Committee.

Present: W. Marshall, Esq. (Chairman); and Messrs. II. B. May, C. T. Druery, R. Dean, Jno. Green, Jno. Jennings, W. Howe, Chas. Dixon, C. J. Salter, Chas-Jeffries, Geo. Gordon, H. J. Cutbush, R. W. Wallace, W. Cuthbertson, C. E. Shea, W. P. Thompson, E. H. Jenkins, Geo. Paul, Chas. Blick, E. T. Cook, and H. J. Jones.

Camellias from Mesers. W. PAUL & SON, Waltham Cross, Herts, made a grand display, both in pots and as cut flowers. The varleties included were numerous, and ranged from the old alba plena to seedling varieties raised by Messrs. W. PAUL & SONS. Some of the plants were 8 leet high, and the foltage on all of them glistened with healthy green colour. Messrs. PAUL are almost the only firm that has continued to cultivate Camellias upon this scale during a period in which the flower has lost much of its popularity (Silver-gilt Flora Medal).

Mr. John May, Gordon Nurseries, St. Margarets, Twickenham, made another display of Cyclamen. This grower has staged several good exhibits this season of these popular flowers, and has indicated by his planta the possibilities attainable in this well-known florist's flower. A large table near the entrance was filled with well-grown specimens, with flowers having pleasing colours, good form and substance (Silver Flora Medal).

An interesting batch of well-grown Primula Forbesi was shown by Mr. W. C. Modral, The Gardens, Biggleswade, some of the colours being very distinct, and the whole very freely flowering (Bronze Banksian Medal).

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, made a feature of Clemat's in his group; but other pretty members were arranged beneath the Clematis, and included Gardenias, Boronias, Spiræas, and Ferns. Among the Clematis, Nellie Moser (fine large flower with faint pluk striping on a paler petal), Miss Crawshay (delicate biush pink), Lord Wolseley, Fair Rosamond, and Albert Victor were noticed.

Mr. Chas. Turner, The Royal Nursertes, Slough, brought a new dwarf Polyanthus Ruse Madame N. Levavasseur, flowers somewhat similar to thuse of Crimson Rambler, of a rather lighter shade—a useful variety for cultivation in pots. Also baskets of Violets, single and double varieties of various shades of colour—Mrs. J. Astor (fine double mauve), Princess of Wales (fine colour, large size), La France, and Marie Louise among others. A yellow Viola, Constancy, was also displayed by this firm (Silver Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, staged a number of Cinerarta plants of the stellata type. The group was arranged in a pretty manner, so as to slope towards the floor from a higher centre. The flowers, although not large, were very numerous, the colours being good, and some blues especially fine.

Mesers. Thos. Cripps & Son, The Tunbridge Wells Nurseries, Kent, set up a group of fancy Japanese Maples, for which this firm has a reputation. It was a very nice cullection of these ornamental plants, the individuals being well coloured, and many with delicately-dissected leaves. They are hardy for the most part, and should be appreciated for the cunservatory and borders. Some nice types of the palmatum section were noticeable, A. p. rosso-marginatum, A. p. versicolor, A. p. dissectum purpureum, A. p. linearibum purpureum Crippsii, and the rarer A. p. involutum. The bolder japonicum type was also represented by many fine forms (Silver Flora Medal).

The Misses HOPKINS, Mere, Knuteford, again displayed Alpine plants, largely comprised of double and coloured Primroses, which included a good bine variety; Primula Cashmeriana and Scilla bifolia rubra were also nicely flowering.

From Mrs. Brassey, Heythrop, Chipping Norton, Oxon (gr., Mr. W. B. Jeffreys) came a few planta of Violet Countess of Caledon, with large pale-coloured double flowers.

From the Royal Horticultural Suciety's new garden, at Wisley, came many interesting flowers, including

Pieris japonica, Violets, among which were excellent specimens of the double white Comte de Brazza, &c.

Roses from Mr. GEORGE MOUNT, of Canterbury, were delightful. Shown on long stems, such varieties as Mrs. W. J. Grant, Captain Hayward, Ulrich Brunner, La France, Mrs. John Laing, and Mrs. Sharman Crawforl were brightly coloured, very fragrant, and attractive (Silver Flora Medal).

Mrs. Denison, Berkhamsted (gr., Mr. A. G. Gentle), exhibited flowering sprays of Acada cultriformis. The sprays were arranged in silvered rustic stands, as if for dinner-table decoration, and they had a very pretty effect.

Mr. ROBERT SYDENHAM, Tenby Street, Birmingham, exhibited Narcissus (the Tenby Daffodil), and a Tulip growing in moss-fibre, a material recommended for growing bulbs in dwelling-rooms. They are grown in vases in this material, and it is found they succeed well, requiring even no outlet for the water, if care be taken not to apply more at one time than is needed.

Messrs. W. Paul & Son, The Old Nurseries, Cheshunt, had Rosa rugosa repens alba, Lobelia nicotianæfolia (shown at the last meeting, see fig. 79, p. 195), and the single variety of Prunus triloba.

Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, exhibited some nice plants of Hydrangea Hortensia in pots, the flowers being of a bright blue colour—much more blue than is usually seen. The leaves were of dark colour and metallic appearance. The plants were several years old, and carried fine heads of flower. This firm also showed Corylopsis pauciflora, dwarf little plants with numerous pale yellow flowers, in 6 and 7 inch pots; Rhododendron Veitchii, and the variety Ne Plus Ultra, made even a more gorgeous display than on the last occasion (Silver Banksian Medal).

Messrs. Wm. Cutbush & Son, Highgate, London, N., and Barnet, Herts, made an exhibit of Alpine plants, set up very naturally with artificial stone facing, and flowering shrubs at the back. Shortia galactiolia was represented by a fine batch of plants in flower; Primula denticulata, Primula Sieboldii, and other species were very showy; Iris Haynei, a deep violet-purple flower something like atro-purpurea, but larger and bolder; a nice plant of Arnebia echoides was in flower, also a number of early varieties of Narcissus, Fritillarias, and Irises. Among the shrubs were Spiræa arguta, Andromeda japonica, Wistaria sinensis, &c. The same firm also showed cut flowers of new varieties of Tree-Carnations (Silver gilt Banksian Medal).

Messrs. JNO. PEED & SON, West Norwood, London, S.E., exhibited Alpine plants, in which varieties of Primula were conspicuous. A number of plants of Primula obconica exhibited considerable variation in colour.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, had a very pretty exhibit. A large potful of Iris sindjarensis looked very nice, also a large batch of Shortia galacifolia, Anemone Pulsatilla, Scilla sibirica alba, Primula megascafolia, P. rossa, &c. A number of species of Crocus was shown, and varieties of Narcissus, &c.

Messrs. Barr & Sons, King Street, Covent Garden, exhibited alpines, including a pan of Hepatica angulosa alba. This plant has a pleasing white flower of largesize and purlty, the individual blooms measuring $1\frac{1}{4}$ to $1\frac{1}{4}$ inches across. Iris stylosa, I. reticulata, Fritillaria meleagris alba, Primula rosea, Shortia galacifolia, and Saxifragas in variety, amoug other plants, were included. We also noticed a good pan of Erythronium dens canis purpurea majus (!).

Mr. RICHARD ANKER, Addison Nursery, Napier Road, Kensington, agent for Franz de Litet, Belgium, staged some small pots of Trifolium repens var. atro purpurea, a four or five-leaved Shamrock with deeply-spotted leaflets.

A nice group of hardy plants was set up by Mesers. T. S. Warr, Ltd., Feltham, Middlesex, the plants being displayed in pots and pans. Some pans along the front of the table contained Saxifragas, Anemones, a variegated-leaved Arabis, Primula acaulis purpurea fi.-pl., and other plants of this class. Among the Irises were Iris Susiana, I. alrofusca, I. Haynei, I. iberica. Primula Wulfeniana, and P. viscosanivalis, werenoticed, together with some good forms of P. Sieboldi; Tropæclum pentaphyllum was interesting.

THE GUILDFORD HARDY PLANT NURSERY, Millmead, Guildford, brought some of their alpine and hardy plants. Some fide pans of Saxifragas, including S. oppositifolia splendens alba, and S. apiculata; also Anemone blanda some Veronicas, Irises, dark

scarlet Primrose Miss Massey, P. denticulata, and Pulmonaria rosea.

Arranged on either side of the entrance were two handsome groups of forced flowering shrubs and plants, which at once impressed the visitor, that to the left being brought by Messrs. R. & G. CUTHEERT, Southgate, Middlesex, the other by Messrs. B. S. WILLIAMS & SON, Upper Holloway, London, N.

The group arranged by Messrs. CUTHRERT was artistically displayed, and was a profusion of flowers, with sufficient green to lend suitable relief. Some good standard Ribes, Lilacs, Wistarias, Laburnums, Staphyleas, and Azaleas, with dwarfer forms of the same plants, and a frontage of Azıleas were the principal features of this pretty group. A pretty rose coloured leguminous plant, Cytisus purpureus incarnatus, was also displayed by the same firm (Silver-gilt Banksian Medal).

The group set up by Messrs. B. S. WILLIAMS & SON was also bright with colour, and included some good standard plants of Azaleas, Prunussp., Lilacs, Staphyleas, Viburnums, and dwarfer members of the same, the whole interspersed with sultable foliage plants. The same firm also staged Tulips and Narcissus in pots (Silver Banksian Medal).

Adjoining this collection was another of a similar nature, consisting of forced shrubs displayed by Messrs. W. CUTHUSH & SON, Highgate, London, N. Some pleasing plants of Wistarla sinensis, a striking Magnolia, M. Lenne, with claret-coloured petals. Cytisus Andreanus, and a double lilac, Madame Lemoine, were noticed. Ribes, Viburnums, Laburnums, and plants for effective staging completed a pretty group.

Mr. J. RUSSELL, Richmond Nurseries, Surrey, exhibited a group of forced Shrubs, including Wistaria sinensis, varieties of Clematis, Forsythia suspensa, &c. (Silver Banksian Medal),

AWARD OF MERIT.

Hepatica angulosa alba.—This is a pure white flowering variety of the type, and the flowers upon the plant shown were very large, being 1½ inch across. From Messrs. Barr & Sons,

Orchid Committee.

Present: J. Gurney Fowler, Esq., in the Chair; and Messrs. Jas. O'Brlen (Hon. Sec.), Norman C. Cookson, J. W. Potter, F. Sander, H. A. Tracy, H. G. Morris, W. H. Young, J. W. Odell, W. Boxall, M. Gleeson, F. W. Ashton, A. McBean, J. Charlesworth, H. T. Pitt, W. A. Bilney, F. A. Rehder, J. Colman, W. Cobb, H. Ballantine, de B. Crawshay, and H. Little.

There was a very fine show of Orchids, the group of rare Odontoglossums for which NORMAN C. COOKSON, Esq. (gr., Mr H. A. Chapman), was awarded the Gold Medal; and the group of Dendrobiums, with which W. A. BILNEY, E.q., of Wevbridge, secured a similar award, being equal to the best of the kind ever staged.

In Mr. Cookson's group the handsome blotched Odontoglossums and hybrids were the feature O. \times ardentissimum Cooksonæ, which secured a Firstclass Certificate; and O. crispum Sibyl being superb novelties (see Awards). Also very beautiful were O. x loochristyense Cooksonæ, a perfectly-formed bright yellow evenly spotted flower; the magnificent O. crispum Lucianl, a noble flower richly marked with claretpurple, and of which the plant shown was a fine example of culture, it carrying one strong spike of large, fully expanded flowers, and another in the course of formation. Other very handsome varieties were the purple-blotched O. crispum tessellatum, O. c. Mariæ, which had previously secured an award; and other spotted forms; a very darkly-coloured O. × Vuylstekel, O. x Rolfeæ, some hybrids of O. sceptrum x crispum and O. sceptrum x Pescatorei, varieties of O. × Wilckeanum, &c.

In the group arranged by Mr. Whitlock, gr. to W. A. BILLEY, Esq., composed of Dendrobiums, the varieties of Dendrobium nobile were very fine, the pure white and the other rare varieties being well represented, several grand specimens of D. n. nobilius were striking objects. Most of the best Dendrobiums of the season were also in the group, the quality of the D. Wardianum and others being excellent. Two novelties were D. × Nancy (aureum × Curtisii), and D. × Gwendoline, of the Ainsworthii class; and specially noteworthy were D. × Sibyl, D. × Ainsworthii "Haz'e-bourne var.," D. Brymerisnum, D. × Cybele nobilius, D. Findlayanum, D. × Luna, and other fine forms seldom seen in such good condition.

Messrs. Sander & Sons, St. Albans, secured a Silvergilt Flora Medal for a very select group, for the best

of which see awards. The group contained many fine Odontoglossums and Læ'io-Cattleyas, among those noted being O. × Wilckeanum Emperor, a very richly marked and fine flower; good forms of O. × Adrianæ, O. × elegans Corniog's variety, O. × erispo-Harryanum, Lælio-Cattleya × lumirosa triunghans, a grandly coloured flower; Miltonia × Blenana nobilior, and other fine forms of it; Cattleya × calummata, &c. In the botanical section were the floriferous Epidendrum paniculatum and Bulbophyllum miniatum, a very remarkable species from the Congo, with the general appearance of B. tarbigerum, but with broader labellum of white feather-like processes.

Sir Trevor Lawrence, Bart., Burlord (gr., Mr. W. H. White), had an interesting selection of Masdevallias, including the purple M. × Bocking hybrid; three varying forms of M. × ignee-Estradæ; M. leontoglos:a, and the large and finely coloured M. ignea Burford variety. Also included were the yellow Dendrobium × Myra (Linawianum × signatum), and the very large and showy D. × Clio giganteum.

Messrs, Jas. Veitch & Sons were awarded a Silver Banksian Medal for a group principally of hybrids, and including forms of Epidendrum × elegantulum, Lælio-Cattleya × Highburyensis, L.-C. Warnhamensis, Lælia × Digbyano-purpurata, L. × Mrs. Gratrix, &c.

Messrs. Hugh Low & Co., Bush Hill Park, received a Silver Baoksian Medal for a bright group, in which their fine type of Dendrobium Wardianum was well displayed, also D × Sibyl, D. Brymerianum, D. noblle varietics, Miltonia Rocalti, Cymbldium eburneum and its hybrid C. × eburneo-Lowianum, the finely coloured Cattleya Triang Mafeking, which has feathered petals; good C. Schroderæ, &c.

Messrs. Charlesworth & Co., Heaton, Bradford, were awarded a Suver Barksian Medal for a number of their fine hybrids. In their group the handsome Odontoglossum crispum Victoria Regina was conspicuous for its bright spotting; the yellow O. Interpurpureum Vuylstekei, a bright hybrid between O. triumphans and O. Harryanum, and other good Odortoglossums also appeared. Of other hybrids, Cattleya X Enid, a very haudsome C. X Wellsiana, Lælia X Bryza varietles, and others were remarked.

H. I. BISCHOFFSHEIM. The Warren House, Stanmore (3r., Mr. C. J. Ellis), showed several Odontoglossums.

R. G. Thwaites, Esq., Streatham (gr., Mr. Black), sent the beautiful Dendroblum \times Thwaitesiæ which had previously been given an Award.

Mr. Chas. VUYLSTERE, Loochristy, Ghent, showed several interesting and pretty hybrid Odontoglossums.

C. J. Lucas, Esq., Warnham Court (gr., Mr. Duncan), sent several well-grown hybrid Dendrobiums of the D. × Wiganiæ class.

The Hon, Walter Rothschild, M.P., sent the inflorescence of a next rose-coloured hybrid between Lælia rupestris and Cattleya Trianæ

H. DRUCE, Esq., St. John's Wood (gr., Mr. Walker), showed Cattleya Luddemanniana, Lycas'e Skinneri rubella, and Miltonia flavescens.

R. Briggs-Bury, Esq, Accrington, had the finely-spotted Odontoglossum crispum Empress of India, and Odontoglossum × Empress Frederick.

Mr. H. WHATELEY, Kenilworth, showed Odontoglossum × locchristyense Eric Whateley and O. triumphans.

Sir F. WIGAN, Bart. (gr., Mr. W. H. Young), showed Odontoglossum crispum marmoratum, a showywhite variety in which the middles of the segments are marbled purple.

DE B. CRAWSHAY, Esq. (gr., Mr. Stables), showed the fine Odontoglossum triumphans Theodora.

Awards.

FIRST-CLASS CERTIFICATE.

Olontoglossum × ardentissimum Cooksonæ, from Norman C. Cookson, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman).—A triumph of the hybridists', art, and one of the brightest and most richly marked of hybrid Odontoglossums. Flowers of fine form, white heavily tinted with purple, the greater part of the surface of each segment being heavily marked with bright clear purple, the shades varying most beautifully in different degrees of light. The lighter margin of the flower well shows up the colour.

Lælio-Cattleyr × luminosa var. The Mikado (L. tenebrosa × C. aurea), from Messrs. Sander & Sons.—One of the largest and richest in colour of its section. The broad sepals and petals have a ground colour of reddish-orange, beautifully shaded and marbled with purple, the very large labellum being of a glowirg claret-purple colour

AWARDS OF MERIT.

Lælio-Cattleya x Mme. M. Fournier var. W. H. Young, from Messre. SANDER & SONS -A fine hybrid resembling L -C. x Digbyano Mossiæ in its richly-fringed labellum, but the segments are all more or less tioged with bluish-rose, the diac of the lip pale yellow with a few purple markings.

Odontoglossum crispum Sibyl, from Norman C. Cookson, Esq (gr., Mr. H. J. Chapman). Another of the' finely-blotched varieties of O. crispum, for which the Oakwood collection is noted. Flowers broadly proportioned, white, heavily tinged with purple at the back, each segment being decorated with clusters of purplish-red blotches.

Odontoglossum Pescatorei Kathleen, from Messra. A. A. McBean, Cooksbridge. A very large flower of fine substance, with one or two distinct dark purple blotches on each segment, and a tinge of purple on the reverse side.

Odontoglossum crispum Prebendary Bevan, from H. T. PITT, Esq (gr., Mr. Thurgood), a very showy white flower heavily blotched with claret-purple.

Odontoglossum × Waltoniense Rosefieldiense (crispum × polyxanthum), from DE B. CRAWSHAY, Esq. (gr., Mr. Stables). This is the plant shown at the last meeting, and described in the Gardeners' Chronicle as bearing better evidence of O. polyxanthum than any shown before. Flowers large canary-yellow with white bases to the pelals, which have each a cluster of brown markings as in O. polyxanthum.

Fruit and Vegetable Committee.

Present: Geo Bunyard, Esq. Chairman; and Messrs. S. Mortimer, A. Dean, H. J. Wright, Ed. Beckett, Geo. Kelf, P. C. M. Veitch, H. Parr, Geo. Reynolds, J. Jaques, F. Q. Lane, Geo. Wylhes, A. H. Pearson, and Owen Thomas.

Messrs. Donsie & Co, Rothesay, N.B., staged twentythree baskets of Potatos, comprising some of the older as well as of the newer sorts. The Ninety-fold was dis-played side by side with such newer varieties as King Edward and Northern Star. Good types of tubers were seen in such varieties as The Factor, Beauty of Hebron, Sir John Llawelyn, and others. Purple and Reds were represented, Edgecotte Purple being almost black in colour. Mr. Bresse was another coloured variety, the tubers of which were large and of avery pronounced kidney shape (Silver Knightian Medal).

Narcissus Committee.

Present: H. B. May, Chairman; and Messrs, C. H. Curtia, W. M. Copeland, P. Rudolph Barr, R. Sydenham, Jno. Pope, E. A. Bowles, Rev. Geo. H. Engleheart, A. Kingsmill, Jas. Walker, and N. Poupart. Lady TATE (gr., Mr. W. Howe), Park Hill, Streatham

Common, brought a collection of Tulips and Daffodils in pots, interspersed with pots of Lily of the Valley, Solomon's Seal, and edged with Isolepis gracilis. Some very creditable blooms of these flowers were displayed, including N. Glory of Leiden, N. Victoria, Tulip Duchesse de Parma, and T. Unique (Silver Flora Medal).

Messrs. BARR & Sons contributed Narcissus flowers staged in vases. Among such an extensive collection it is difficult to discriminate, but Golden Spur and Gloria mundi were especially good. Some good vases of the Poeticus type and the double varieties represented by Codlins and Cream were noticeable. Included in the group were some good bowls of Ancmone fulgens, Freezias, aud Christmas Roses (Silver Banksian

The Lecture.

A lecture was given in the afternoon by the Rev. Professor Henslow on the "Beredity of Acquired Characters." Mr. G. Bunyard occupied the Chair, and, before calling on the speaker, he asked the Assistant Scaretary to read the correspondence between the Council and His Majesty's Secretary, whereby the King had signified his consent to be Patrou of the

The lecturer adverted to the hypotheses of Darwin and Weissman, and gave several illustrations of the effect of external conditions or environment on plants, in virtue of which plants of very different family affinity, nevertheless put on the same general appearance. The plants of dry localities (xerophytes) have the same general appearance whether at the Cape, in Australia, Mexico, or Egypt. The lecturer concluded by assuming that the characters induced by circumstances can be impressed upon the embryo itself, and reproduced as an hereditary characteristic.

H.M. THE KING AND THE ROYAL HORTI-CULTURAL SOCIETY.

At the General Meeting of the Fellows, held during the afternoon of the 22nd inst., the following letter from his Majesty the King was read :-

Buckingham Palace, March 10, 1904. GENTLEMEN, - I am commanded by the King to

acknowledge the receipt of your letter of the 8th inst., sent to His Majesty through the Home Secretary, and to inform you that His Majesty is pleased to accede to the request of the President and Council of the Royal Horticultural Society to become Patron of the Society.

I have the honour to be, Gentlemen,

Your obedient servant, D. M. PROBYN, General,

Keeper of His Majesty's Privy Purse. Sir Trevor Lawrence, Bart., K.C.V.O. J. Gurney Fowler, Esq. Rev. W. Wilks, M.A.

This letter was unanimously ordered to be entered on the Minutes, and the following reply was ordered to be sent to His Majesty :-

Royal Horticultural Society, March 22, 1904. TO THE KING'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY.

We, the President, Council, and Fellows of the Royal Horticultural Society, being this day in General Meeting assembled, would most humbly and dutifully convey to Your Majesty our most grateful thanks for bestowing on us the favour and support of your most gracious patronage, conjointly with that o Her Majesty the Queen, in commemoration of the completion of the first century of our Society's efforts for the benefit and improvement of British horticulture.

At the same time we would also venture to approach Your Majesty with the expression of our deep sense of grief at the heavy loss which Your Majesty's Royal House has sustained by the death of his Royal Highness the Duke of Cambridge, K.G., beside whose grave the whole nation mourns at heart to-day.

No class of Your Majesty's subjects is more devotedly attached to your Throne and person than the horticulturists of this country, who will ever pray that Your Majesty may long be spared to reign over this happy realm. Signed on behalf of the Fellows,

> TREVOR LAWRENCE, President. J. GURNEY FOWLER, Treasurer. W. WILKS, Secretary.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S NEW EXHIBITION.

The National Chrysanthemum Society is, as we have previously announced, making a new departure and adding one more to the number of exhibitions in its programme for the present year by arranging for a show of Chrysanthemums grown for market, an aspect of Chrysanthemum culture which has developed into a huge industry. The market growers and salesmen have been approached in the matter, and several repre-sentative men in the market trade having given their adhesion to the scheme, a special committee has been appointed, of which Mr. Robert Ballantine is the Chairman, to arrange the details brain carry site sexhibition. On consultation with the market growers and salesmen, the date for this exhibition has been fixed for Wednesday, December 14, next, and as it appeared desirable the display should take place as near Covent Gardon as possible, the large Essex Hall, Essex Street, Strand, has been engaged for the purpose. A preliminary schedule of prizes has been prepared and issued among those immediately interested in the matter; an explanatory circular accompanies the schedule, in which it is set man, to arrange the details of and carry out such an exhibition. On consuitation with the market growers circular accompanies the schedule, in which it is set forth that should the response to the appeal for assistance be adequate, additions will be made to the schedule of prizes. The prizes offered are the Medals of the National Chrysanthemum Society.

Though held with the sanction and under the auspices of the National Chrysanthemum Society, the expenses of the market show will be defrayed by voluntary contributions, a sufficient sum being already subscribed to justify the Committee in issuing the preacribed to justify the Committee in issuing the pre-liminary schedule of seven classes, of which three are set apart for market growers, viz., 1, a collection of market Chrysanthemums in bunches, disbudded, to fill a table space of 12 feet by 3 feet, the bunches to be shown in vases; 2, twelve vases of market Chrys-anthemums in not fewer than six varieties, twelve blooms in a vase, disbudded; and 3, twelve vases of market Chrysanthemums in not fewer than six varie-ties, not disbudded. The blooms exhibited in the three foregoing classes must have been grown by the exhiforegoing classes must have been grown by the exhibitors. Class 4 is similarly worded to Class 1, and is open to nurserymen and Chryaanthemum specialists. Class 5 is worded in the same manner, and is for market

salesmen The remaining two classes are open to all: 6 is for the best novelty in market Chrysauthemums not introduced prior to 1904, and it can be shown as a plant or in a cut state, but if in the latter form it is desired or in a cut state, but it in the latter form it is desired that as much evidence as possible be forthcoming of the habit of growth; 7 is for the two best packed boxes of cut market Chrysanthemums, one a box of blooms the other a box of bnnches. In the four last classes it is not required that the blooms be grown by the exhibitors. The market contributions will be on view during the afternoon and evening, so as to be judged both by daylight and under artificial light. both by daylight and under artificial light. will afford an opportunity for determining the colours most effective under the electric light.

GARDENERS' DEBATING SOCIETIES.

BIRMINGHAM GARDENERS' MUTUAL IMPROVE-BIRMINGHAM GARDENERS' MUTUAL IMPROVE-MENT.—On March 14, a lecture was given in the Athletic Institute, Birmingham, by Mr. R. Hooper Pearson, upon the subject of "Gardeners and Garden-ing," in which he urged gardeners to study the subjects of fungous diseases and insect peats, by the help of such books as A Text-Book of Plant Diseases (Geo. Massee), and A Manual of Injurious Insects (E. A. Ormerod), and to make simple experiments as means may permit in order to find out for themselves the may permit in order to find out for themselves the "why and wherefore" of garden matters, the full significance of which was in danger of being overlooked when the details of cultivation are carried out by a system of routine. He suggested there was much effort wasted by the habit of creating new societies to do work that could be performed well by societies already existing. A better system would be to have all societies in any large town amalgamated, and if these representative bodies were in turn affiliated with the Royal Hostellural Society there would be and if these representative bodies were in turn affiliated with the Royal Hortfcultural Society, there would be a proper and systematic connection between every centre of hortfcultural activity in the kingdom and the premier Society. All would benefit by this attachment, and a stronger feeling of sympathy would be gradually encouraged between gardeners in distant localities. Professor Hillhouse, of the Birmingham University, who presided over a large meeting, contributed a speech full of excellent advice upon experimental gardening. mental gardening.

CROYDON AND DISTRICT GARDENERS'. lecture arranged for March 15 was one on "Fungi," but owing to an attack of influenza the lecturer, Mr. G. Massee, was unable to attend. Dr. Brook Ridley, Croydon, entertained the members with a talk on "Insectivorous Plants." Mr. J. H. Baldock again placed his aervices with the lantern at the disposal of placed his services with the latter at the disposal of the Society, showing some splendid views of these plants. The lecturer remarked on the researches made by Darwin in this class of plant. The number of species known is about 500. When we search into the habits of these plants, whereby they catch their food, afterwards digesting it with the aid of acids similar to those pertaining to the human frame, it is indeed a wonderful study, and clearly shows how Nature endows her subjects with the necessary functions to live and thrive. Most of this class of plant are natives of the tropics, but some are to be found growing wild in this country. Some of the species illustrated were the Bladderwort, which is rootless and lives suspended in water: Nepcuthes or Pitcher-plant, Sarracenias and Venus's Flytrap. An exhibition of apring flowers and plants will be held at the Art Galleries, Park Lane, Croydon, on Wednesday, April 20, from 3 to 10 P.M.

SALE OF ORCHIDS AT HAREFIELD HALL, WILMSLOW.—The first day's sale of duplicates in the collection of Elijah Ashworth, Esq., was successfully carried out by Mr. Harold G. Morris, of the firm of Messrs. Protheroe & Morris, on Wednesday, March 23, and the occasion was remarkable on account of the lot 163—Odontoglossum crispum Ashworthianum—realising 340 guineas, Messrs. McBean, of Cooksbridge, being the purchasers. The plant consisted of one healthy bulb and one new growth just visible, and the auctioneer stated that the price was the highest which a single plant had ever fetched under the hammer. The fine pure white Cattleya amethystoglossa Sanderæ was purchased by Mr. Duck-WORTH for 200 guineas, and beyond that but few high prices were realised. Promising seedlings of Cypripediums realised 2 or 3 guineas each, though fine plants of standard old kinds went for a few shillings. The plants of Cypripedium insigne, Harefield Hall variety, maintained an average of 11 or 12 guiness, and the prices obtained for most good things were in proportion to their merits.

TRADE NOTICE.

Messrs. Ransomes, Sims & Jefferies, Ltd., ORWELL WORKS, IPSWICH .- This firm bas shown at the Automobile Show at the Agricultural Hall, some patent Motor Lawn-mowers. One has a 42-inch cutting cylinder, driven by a 6-BHP petrol motor, with "Simms-Bosch" magneto ignition. The driver rides on the machine, which can be steered with the greatest ease. This machine is intended for use on large grounds, such as cricket grounds, and many places where the lay of the land is not too hilly. It can be used as a roller when desired. Another motor lawn-mower has a 30-inch cutting cylinder, driven by a $3\frac{1}{3}$ -BHP meter; this machine is specially recommended for golf-links. It is fitted with handles for steering, and the man walks behind. They also have a small motor lawnmower with 24-inch cutting cylinder, driven by a 23-BHP motor. This machine is specially arranged for use on smaller grounds, say of 1 to 3 acres-a very simple and compact machine. An intelligent man can soon learn to manage any of these machines. It may be well to point out Messrs. Ransomes were the first in the field with motor lawn-mowers.

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending

throughout the British Islands, for the week ending Mar. 19, is furnished from the Meteorological Office:—
"The weather during this period was of a rather cloudy and unsettled character, but little rain was experienced, except in the most western and northwestern parts of the kingdom, and a few very fair intervals occurred in the south and east.

"The temperature was slightly below or just equal to the normal as a whole, but in Scotland, N., and Ireland, N., it was a degree above. The highest of the manima occurred on Saturday, and ranged from 61° in England, S., and 60° in Scotland, E., and England, E., to 51° in Scotland, W., and the Channel Islands. The lowest of the minima were recorded on rather irregular dates, but mostly between the 15th and 18th. In Scotland, E., to 19°, while elsewhere the minima ranged from 22° in Scotland, W., and 23° in England, N.W., and the Midland Counties, to 28° in England, N.W., and the Midland Counties, to 28° in England, S.W., and to 32° in the Channel Islands. the Channel Islands.

rainfall exceeded the mean in Scotland, W. England, N.W, and in Ireland, but was less than the normal over the remainder of the kingdom.

ormal over the remainder of the kingdom.

"The bright sunshine just equalled the mean in the Midland Counties, and slightly exceeded it in England E.; in all other districts it was deficient. The percentage of the possible duration ranged from 42 in England, E., 36 in the Channel Is'ands, and 31 in England, S., to 20 in Scotland, N., and Ireland, S., 14 in England, N.W., and to 11 in Scotland, W. The highest percentage at any individual station was 51, at Cromer, and the lowest 8, at Newcastle-on-Type."

THE WEATHER IN WEST HERTS.

Another Dry Week .- The first three days of the past week proved cold, but since then the night readings have been mostly very high for the time of year. The sudden change in the night temperatures was very remarkable, the thermometer on the grass on those preceding the 17th and 18th showing respectively 12° and 11° of frost, whereas two nights later the same thermometer never fell lower than 46°. On only three previous occasions has such a high minimum reading as the latter been recorded here in March. Both at 1 and 2 feet deep the ground is at the present time about 2° warmer than is seasonable. During the past fortpight rain has fallen on only three days, and to the total depth of not much more than a tenth of an inch. No measurable quantity of rain water has come through either the bare or turfed soil percolation-gauge for a week. The record of bright sunshine for the first four days of the week averaged δ_2^4 hours a day; hut since then less than an hour's sunshine has been recorded. Calms and light airs again prevailed, the direction being easterly at the beginning of the week, and westerly at the end. The mean amount of humidity in the air at 3 o'clock in the afternoon exceeded the average for March by about 3 per cent. E. M., Berkhamsted, March 22, 1904.

ANSWERS TO CORRESPONDENTS.

** EDITOR AND PUBLISHER.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the EDITOR. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

AGAPANTHUS UMBELLATUS: A. K. You should have divided these plants a little earlier than this date; but no harm will result from doing the work now. The soil should be of good rich, fibrous leam, leaf-mould, river-sand, and well rotted, rather dry horse-dung. If the plants are to be put in tubs where they will be likely to remain for some years, it will be well to mix with the soil a quantity of half-inch bones, also parings from horses' feet, or other such manures that will decay very slowly, and thus part with their nutriment in slow degrees. This Agapanthus responds well to liberal cultivation, our own experience having shown that the stronger the plants are grown, with a limited rooting-space, the better they will flower.

APPLE AND PEAR-OROWING DISTRICT IN HEALTHY LOCALITY: W. Y. L. You cannot do better than remove to the middle portion of the county of Kent, and select a site in a district having a considerable elevation above the sea level.

APPLES FROM NEW ZEALAND: J. M. I., Dunedin. The disease known as Apple-ret is caused by a

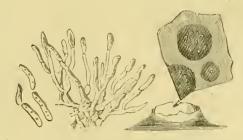


Fig. 86 - Spot on apples, GLEDSPORIUM FRUCTIGENUM, Showing the depressed shiny spot on the fruit real size, and the fungus much magnified.

fungus called Glæosporium fructigenum. Spraying with dilute Bordeaux-mixture checks the disease if spraying is commenced just after the fruit is set, and repeated at intervals depending on local conditions. All diseased fruits, whether hanging on the trees or lying on the ground, should be collected and burned, otherwise the disease will continue. This disease also attacks other kinds of fruit.

CARNATIONS FOR MARKET: F. P., Sutton. American varieties are now preferred by cultivators of flowers for market, the long, stiff flower-stems being a great advantage. Among the best varieties new in cultivation in this country are Mr. T. W. Lawson (deep rosepink), G. H. Crane (scarlet), Melba (soft pink), Governor Roosevelt (crimson), Queen Louise (white), Sybil (a lovely shade of pink), Floraina (pale flesh-pink), Ethel Crocker (a deeper shade of rose-pink than Mrs. Lawson), General Maceo (crimson), Royalty (salmon-pink), and America (scarlet). Several other American varieties are grown for market, and we are promised still greater improvements from America. A variety known as The Bride is to excel all other whites, and Cardinal is described as better than all other scarlet varieties; and from the distinctions they have won in their own country they should certainly be worth a trial. Of English varieties, Madame Thérèse Franco (or Mrs. L. de Rothschild) has quite taken the place of the old favourite, Miss Jolliffe; and in Pride of Exmouth we have a further improve-

ment. Mrs. S. J. Brookes is a very fine white variety; Countess of Warwick and Prince of Wales crimson, Winter Cheer and Resplendent scarlets. Cecilia is the best yellow variety, but does not properly belong to the Tree-Carnations. The variety Miss Audrey Campbell may also be flowered well in pots early in the spring. also p. 201.

CHEYSANTHEMUM LEAVES: W. T., Yorks. Afford the plants a little clear soot-water occasionally, and water them with a solution of sulphate of mon, at the strength of \$\frac{1}{4}\$ oz. of sulphate of iron to a gallon of water. This will increase the amount of green chlorophyll in the leaves.

CLEMATIS: C. D. Clematis have lately been the subject of a fungous disease, which has proved very destructive. Probably your scions were diseased. The stocks also are dead.

CUCUMBER AND TOMATO FUNGUS: G. Massee recommends as a preventive the adoption of the following plan:—Commence watering Cucumber and Tomato seedlings when a fortnight old every third day with a solution of 1 oz. of copper-sulphate in 50 gallons of rain-water. After six weeks commence watering every fourth day with a solution of loz. copper-sulphate to 35 gallons of rain-water.

DAHLIA-CUTTINGS: D. E. H. Having the means you describe, it will be an easy matter to increase the stock. Put the tubers in a little leaf-mould over the bottom-heat in the frame, and keep them moist. They will soon produce growths, and these should be removed when about 4 inches long, and inserted in thumbpots filled with very sandy soil. Plunge the little pots in the hot-bed, and the cuttings will make roots in a short time. They may then be shifted into 3-inch pots, and afterwards it will be necessary to remove them to a cooler atmosphere, and finally harden them off for planting out-of-doors. More growths will appear in the meantime, and these may be rooted in the same manner. At the commencement of May a few shoots should be left on the old tubers, and these tubers potted-up and gradually hardened for planting out-of-doors.

EARTHWORMS IN SOIL: E. G. C. The small worms you sent are often abundant in loamy soil, but hitherto they have not been known to cause any serious injury to plant life. You could, however, easily destroy them by heating the loam to a temperature of 120° F.; and as we have proved by experiment that lime-water will readily destroy them, you might make an application of this to any of the infected plants that you think would withstand it.

ETHER - FORCING: B. You should obtain M. Maumené's pamphlet. There is also an article on the subject in the last number of the Revue Horticole. Chloroform has the advantage over ether in that its vapour is not inflammable, and does not explode when mixed with air. It is obvious that you should not entrust the work to a garden-labourer, but only to some compctent and responsible operator, who knows the dangers he has to avoid and may be trusted to do so. A gain of a fortnight is a matter of great importance to a market man, to say nothing of the economy in fuel and labour.

FICUS ELASTICA: J. T. The plant has received a check from some cause or other, possibly cold. It will probably commence to make fresh growth soon; but you cannot destroy the effects of a check already received.

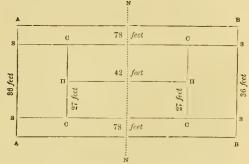
FOREMAN GARDENER: Much Annoyed. We are afraid you could not compel your employer to pay you for the remaining part of the month. You gave a month's netice, and were unable through illness to work during three weeks out of the four.

GRUBS IN BARK OF PEAR TREE: H. M. The specimens sent are the larvæ of the so-called Plum-tree boring tortrix moth (Sesamia Weberana), an unfortunate name, as the insect attacks the bark of numerous trees—Apple, Cherry, Peach, &c. The larvæ feed chiefly upon the inner bark, and often cause exudation of the sap, and on certain trees "gumming" follows. The insect is double-brooded, the first follows. brood of moths appearing in May, the second

in September. Carefully scrape away the dead bark harbouring the grubs, and paint the infected area with caustic soda wash of the following proportions:—Ground caustic soda, 1 lb.; pearl ash, \(\frac{3}{4}\) lb.; soft soap, 10 oz.; water, 10 gallons. You might also try the effect of lime-washing the trunk and main branches early in May, and again in September.

Insects on Fern Roots: Geo. H. H. The insects are a small species of Coccid, closely allied to the mealy-bugs, known to scientists as Ripersia terrestris. The species was first discovered in this country, near London, in the year 1901, on Palm-roots, and subsequently on the roots of a species of Adiantum. In the latter instance they proved most injurious to the plants. In repotting the plants wash the roots thoroughly in clean water, and destroy the bugs that may float on it. Bisulphide of carbon will destroy them, and to apply it make four holes close to the side of the pot with a 4-inch wire-nail, and charge each hole with a small quantity of the fluid by means of a glass syringe, at the rate of about two teaspoonfuls to a 6-inch pot. Close the holes after the application has been made, and keep the plants in the shade for a week afterwards. Caution—Bisulphide of carbon is highly inflammable and poisonous, and its application should be made in the open-air.

LAWN TENNIS COURT: W. H. The dimensions for a single and double tennis court are as follows:—



A B, B A, double court for three or four players; S S, S S, single court for two players. A A and B B are the base lines; A B, A B, and S S, S S, side lines; C c and C C, service lines; H H, half court line; N N, net. A court for the single game is 27 fect wide and 78 feet long; and for the double game, 78 feet long and 36 feet wide. The posts for supporting the net should be placed 3 feet beyond the sides. The service lines run parallel to the net, and arc 21 feet distant from the same.

Mandevilla suaveolens: Enquirer. It is not usual for the pods to be produced in the openair, and not common under glass. We have occasionally figured the pods. The Anemone is one of the many forms of A. coronaria.

Melon Plants: T.S. The plants are attacked by Botrytis cinerea, due mostly to the presence of an excess of moisture. Admit more air, and spray every fourth day with a dilute solution of permanganate of potash (pale rose colour) until the trouble disappears.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—E. J. W. Cornus mas.—T. H. Maxillaria perphyrostele. W. H. Saxifraga species; send when in flower. W. P. L. & S., Ltd. Leucothoe Catesbæi, sometimes called Andromeda Catesbæi.—A. S. 1, Sequeia gigantea, or Wellingtonia; 2, Santolina incana; 3, Asphodelus luteus (Asphodeline lutea).—E. G. Hypericum calycinum.—Mop. 1, Scilla bifolia; 2, Chionedoxa Luciliæ; 3, Andromeda floribunda; 4, apparently Agrostemma coronaria, but there are no flowers; 5, Doronicum caucasicum; 6, Erythronium denscanis.—J. J. D. 1, Cupressus Lawsoniana; 2, Retinospora obtusa; 3, Juniperus sinensis; 4, Cupressus (?); 5, 6, 7, next week.—C. E. 1, Cupressus Lawsoniana; 2, C. Lawsoniana var. aurea; 3, Cupressus Goveniana probably; 4, Abies grandis; 5, Retinospora leptoclada; 6, Juniperus communis; 7, Eurya latifolia; 8, Sequoia gigantea (Wellingtonia); 9, Juniperus sinensis; 10, Arbutus Unedo; 11, Thuiopsis

dolabrata; 12, Abies Pinsapo.—T. B. It is not fair to send such specimens and expect us to name them. Send better specimens.—J. M. 1, Cornus mas; 2, leafless twig, probably Forsythia viridissima; 3, Leycesteria formosa; 4, Andromeda; 5, a leafless twig; 6, Retinospora plumosa of gardens, a stage of growth of Cupressus pisifera.—E. M. Bouganvillea spectabilis.

Nectarines: M. You cannot do better than apply the sulphide of potassium as recommended in the note to which you refer. You are quite right in supposing the potassium sulphide to be identical with liver-of-sulphur. The disease is not likely to be propagated in the manure used as a mulch over the border.

Nectarine Shoots and Buds Dring: T. G. A minute fungus called Botrytis cineres is the cause of the mischief, killing the shoots and also causing gumming. Cut away diseased

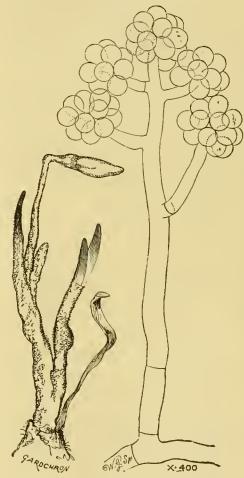


Fig. 87.—disease of snowdrops : botrytis (polyactis) Galanthina. \times 400 diam.

shoots and spray the entire tree with a solution of potassium permanganate in water, 1 oz. to a gallon, at intervals of six days, for a month or six weeks.

Pelargonium: J. B. P. A little fungus called Septoria geranii is causing the trouble. Remove diseased leaves and admit as much air as possible, also apply a fertiliser so as to enable the plants to grow away from the disease.

POTATO, NORTHERN STAR: M. V. Plant the tubers about the end of April, and they will be ready to lift in October.

Potatos for a Clay Soil: W. P. To procure good crops of Potatos from a clay soil with the minimum of labour, it is necessary to dig or trench the ground as early in the winter as possible and the rougher it is turned up the better. In the month of March there will then be no trouble in preparing the soil for the crop, as it will readily fall to pieces when worked. Out of a recent trial of seventeen varieties of Potatos upon such a soil, Up-to-

Date has proved to be the heaviest cropper, and the tubers are best in quality, either for supplying the table or market. You would require about 3 cwt. of seed tubers; but much will depend on the size of the tubers and the distance allowed between each set. The variety Up-to-Date, planted at 23 inches between the rows, and 12 inches from set to set in the rows, produced a crop of 12 tons per acre on a stiff clay soil. Your ground may be very much improved in course of time if you take advantage of any opportunity that presents itself to add scrapings from the road-side, woodashes, old mortar rubble, &c., to the staple soil.

RICHARDIA ROOTS, AND WORMS: M. F. The slight injury to the growing points of the roots of the Richardia, is, we think, attributable to some cause other than the presence of the small worms you have sent to us; and that the insect which you describe as possessing "a black head with a transparent body" is probably the delinquent. But as you did not enclose examples of this we are unable to offer an opinion. The roots have the appearance of having been eaten by an insect, as the tips were quite hollowed out, and the rusty-brown stains are evidently the result of the injury as there was no trace of fungi present. With regard to the small worms they are the same as those sent to us by our correspondent, E. G. Creek. Please refer to the reply given to him on p. 207.

RIVIERA FLORA: Correspondent. See the Flore de la Région Mediterranéenne par A. Acloque (Baillière, 19, Rue Hautefeuille, Paris).

Snowdrops: J. C. The disease is caused by a fungus—Botrytis galanthina. Remove diseased portions and add quick-lime to the soil. When the leaves die down remove the surface soil 2 inches deep and replace by fresh soil mixed with quick-lime; see fig. 87.

Vanda teres: Hélènevelde, Contich. This Orchid is widely distributed in Assam, Burmah, and other parts of India. It is very easily grown if placed in a warm and moist plant-house, and is an excellent plant for supplying flowers for cutting. In winter a temperature of 60° F. by night, and 65° by day is sufficient, but in summer, under the influence of bright sunshine, scarcely too much heat can be afforded, as the plants grow and flower better if the temperature often reaches 90° in sunny weather. The plants should be grown in sphagnum-moss, and when there are quantities for supplying flowers for cutting, the best way is to plant the Vanda teres in a bed of sphagnum-moss placed on a warm staging in the front of a stove-house, Cucumber, Melon, or other forcing house. They will require a liberal supply of rain-water, especially when growing and until the flowers appear. There are two or three white or nearly white varieties, but the ordinary coloured form is the best for all purposes. Vanda teres is a very easy plant to import. It merely needs to be collected in the resting season (or at almost any time), and packed in boxes, pressing the plants firmly in and using no packing material of any kind. Quick transit is, of course, of the highest importance. The species may be easily propagated by cutting up the long pieces and repotting or planting them. The plants flower in summer, but blooms may be obtained earlier or later by the usual means of retarding or forcing.

VIOLETS: C. G. S. We have sent your Violets to an expert. The purple variety does not differ much, if at all, from the old Russian. The white is, we believe, Comte de Brazza.

COMMUNICATIONS RECEIVED,—W. G. P., next week.—Sir M. F.—Sir C. W. D.—J M. T.—W. B.—W. J. B.—R. A. R.—E. J. A.—H. N. E.—H. W. W., many thanks.—T. H. West (the photograph is unsuitable)—C. Harding (photograph).—A. H., Herrnhut—Sec. Royal Hort. Society—A. W. W.—C. T. D.—W. Honess—J. G.—C. M. P.—R. T. G.—J. P.—A Young Gardener—T. B.—D. C.—W. T. H.—T. J. G.—J. McKerchar—J. W. O.—J. O'B.—W. J. B.—R. D.—E. H. J.—W. Mitler—J. J. W. M. E.*M.—W. H.—Attwood & Binsted—N. E. B.—J. G.—F. D.—W. G. P.—T. E. J.—H. Jones



Keble's favourite walk in Hursley Park, Hampshire.

From a photograph by F. Mason Good.





Gardeners' Chronicle

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HEWELL GRANGE.

T would be impossible to visit the two residences of Lord and Lady Windsor without being impressed by the evidences there are at each place of the personal interest the owners have in gardening. At St. Fagans, in Glamorganshire, and at Hewell Grange, in Worcestershire, the practice of gardening is encouraged with generous enthusiasm. Hewelt Grange is situated on rather high land, about midway between Bromsgrove and Redditch, 4 miles from either town. The estate of Hewell comprises 12,000 acres, and includes a beautiful park. The pleasure grounds are 45 acres in extent, including the flower-garden of 3 acres, but excluding the lake, which has an area of 24 acres. Hewell was mentioned in the Gardeners' Chronicle as long ago as Nov. 4, 1843, when an illustration was given of a Pine-pit, constructed by Mr. J. Jones, of Birmingham, in which the bottom-heat was to be supplied by hot-water and the atmospheric heat by a common flue. Such a structure was very uncommon in those days, when heating by means of hot-water was in

its infancy. Hewell was then the residence of the Lady Harriet Clive (afterwards Baroness Windsor in her own right), and the gardener was Mr. Markham.

The mansion is a fine Jacobean building of red Runeorn stone, and was completed as recently as 1891. Its rooms, furniture and pictures are famous and interesting.

THE FLOWER-GARDEN.

On the south side the view is over one of the most remarkable flower - gardens (see fig. 88) in this country, and we do not know a similar one. This French garden may be said to embrace the most diverse characteristics. Beneath the windows is a terrace with stone balustrade, with bushes of Lavender in a little border at the foot of the balustrade. Beyond, the flower-garden is enclosed by hedges of Lime about 5 feet high. Three paths, one in the centre and one at either side, pass from the house through the flower-garden. Each of the four divisions of which the flower garden consists, is crossed both ways with grass-covered walks, spanned by arches at distances of about 20 feet, and on these arches are Roses and other climbing and trailing flowering plants. The grass walks are lined by chains that in summer become festoons of Roses, Clematis, &c. Trim Laurets and Box-edgings 11 feet high are associated with large beds, in which the most informal annuals and herbaceous perennial plants, Lavatera, Erigeron mucronatum, Sedum spectabile, &c., are cultivated. From the ground-level it is not possible to obtain a view of the plan of this garden for the arches and festoons, but we had the opportunity to see it from the upper windows of the mansion, whence it may be clearly viewed in its completeness. The one great advantage that might be claimed for such a garden is its possession of variety, and its oppositeness to the flat monotony of many formal flower-parterres that lie open to the gaze like a page in a book.

If the visitor walks from the mansion through the centre of this garden his objective will be a large terra-cotta fountain, and from this point he may look towards one of the most imposing features of Hewell.

A SERIES OF TERRACES.

We will suppose he turns himself first to the east of the house and looks down the wide path leading to the lake, then turning again right about, he will see that the same path is continued up rather a steep slope to the west of the house, where in the distance and at the highest point there is an ornamental water-tower. The distance from the lake to the tower is 1,990 feet, and the difference in altitude from the take to the base of tower 140 feet. From the flowergarden to the tower the path lies between two hedges of Yew, 40 feet distant from each other. Until recently this avenue, 40 feet wide, was just a grass slope, but under the direction of the present gardener it has been converted into fifteen terraces divided by as many flights of grass - covered steps (see

fig. 88). There are eight steps to each terrace, and whether viewed downwards from the tower or upwards from the flower-garden or lake, these terraces are very striking and constitute a feature that could be seen on the same scale in very few gardens. The work the alteration necessitated must have been very considerable, but it has been done well and accurately, and its effect, though formal, is not inappropriate.

On the north side of the mansion is the carriage-drive and courtyard, enclosed by a wall of Forest of Dean stone. On the east side of the mansion one enters a pretty dell, in which some of the very oldest and most welcome herbaceous plants grow and flower well; and then, by moving a balanced stone of great weight, a rockery appears in view. In the centre is a fountain and dolphins, and around it are beds of Heaths and similar plants, including

CONIFERS AND OTHER FINE TREES.

Having thus far traversed the immediate environs of the mansion, very great pleasure may be had by taking a walk through the grounds to the south and east. The lover of trees will have much to interest him for a tong time, there being many magnificent specimens. Some of them may be mentioned here, but they are only those of which a note was taken during a short visit at the end of last summer, and the heights given are what we estimated them to be. Cedrus atlantica, 90 feet; Cupressus nootkatensis, Sciadopitys verticillata, 18 feet; Picea morinda (Smithiana), 70 feet; Abies Webbiana, 60 feet; A. W. var. Pindrow, the leaves of which are not glaucous underneath, 60 feet; Pinus excelsa, 87 feet high, probably the highest in this country; Fitzroya patagonica, a very pretty specimen of this species, introduced by Messrs. Veitch in 1849, 25 feet high; Thuya gigantea (Lobbii), Pinus Pinaster, 77 feet; P. ponderosa, Libocedrus decurrens (very good specimen), Picea orientalis, 50 to 60 feet; Abies cephatonica, 70 to 80 feet; Sequoia sempervirens (magnificent), and S. gigantea. Hollies are abundant, and many of them are good specimens, 30 feet high. Of deciduous trees, Beeches and Limes are extremely good, and in the park there is an unusually large tree of the Spanish Chestnut, besides some fine Oaks. Many of the handsome trees mentioned above are near to the side of the lake, a sheet of water covering 24 acres, and containing an island half an acre in extent.

A little Dutch garden, with its white granite paths, and beds filled with white Marguerites, and deep Box edgings, had a very quaint effect; and an old wall thereby, covered with Roses and Clematis, looked homely and pretty.

KITCHEN GARDEN AND PLANT-HOUSES.

The glasshouses at Hewell are neither modern nor pretentious, but they afford means for growing indoor fruits and plants. We saw excellent Grapes of the varieties

Muscat of Alexandria, Lady Hutt, Black Hamburgh, and Syrian; also Peaches and Nectarines, Figs, Pineapples, and Melons, and is very much more interesting than kitchen-gardens are usually, because here and there, over the whole area, bright and a great variety of flowering plants were grouped in the borders. Near to the gardener's house were some Rose beds cr

of which the variety Royalty is made a favourite, &c. The collection of plants is a general one, and, excepting the Orchids, most of them are such as can be used in the dwelling-rooms for decoration, or that will afford flowers for cutting. As in most other gardens, the collection includes Begonia Gloire de Lorraine and B. Gloire de Sceaux for blooming in winter. pans out-ofgreat we admired doors Lilium speciosum and L. tigrinum, with from eighteen to two-dozen flower-spikes in each pan, being excellent



FIG. 88.—HEWELL GRANGE, THE WORCESTERSHIRE RESIDENCE OF LORD WINDSOR, SHOWING THE FLOWER GARDEN IN FRONT OF THE MANSION AND A SERIES OF TERRACES IN TURF, DESCRIBED ON P. 209.

instances of good cultivation; also Hydrangea paniculata, cultivated similarly, and with the best results.

The kitchen-garden is 81 acres in extent,

patches of flowers may be seen in summer. On a wall we noticed the delicately-coloured and charming flowers of Ceanothus "Gloire de Versailles"; whilst Alonsoa, Pentstemons,

out in the turf. 'These had been filled, with loam and planted with young bushes, the result being just what one would have expected - unqualified success. Some of the varieties were Mrs. S. Treseder, Liberty, Corallina, Marie Van Houtte, Antoine Rivoire, Anna Olivier, Caroline Testout, L'Idéale, Ma Capucine, Clara Watson, Notwithstanding the flowers, however, there is sufficient room available in 82 acres for ample crops of vegetables, and for fruit - trees - against walls and as bushes.

Mr. A. A. Pettigrew, who has been gardener at Hewell three years, is the youngest son

of the late Mr. Pettigrew, of Cardiff Castle Gardens, and went direct from Kew to take charge of the important gardens at Hewell.

EW OR NOTEWORTHY PLANTS.

ECTINARIA SAXATILIS, N. E. Brown (n. sp.). THE remarkable genus Pectinaria has hitherto en monotypic, the only known species being the rious plant figured in Masson's Stapeliew Novæ t. 30 as Stapelia articulata, apparently a very re or very local plant, which has not been llected since Masson brought it from the oggeveld over one hundred years ago, and thing appears to be known of it as a garden ant since Haworth published his description of in his Supplementum Plantarum Succulentarum, 14, in 1819. This year, however, an entirely ew and very distinct species has been added to ne genus by Mr. N. S. Pillans (No. 115), who scovered it growing among rocks near Laingsurg, in South Africa, and who has sent a living lant and some flowers in fluid to Kew, from hich the description below is made. N. E. Brown. hich the description below is made. N. E. Brown.

**Pectinaria sazatills, N. E. Brown (n, sp.)—Branches ecumbent or at first growing dewnwards into the sil and then curving upwards, 4-angled, 1\frac{1}{2} to 2 inches ong, \frac{1}{2} to \frac{7}{4} inch square, glabrous; angles compressed, cute, acutely toothed; teeth horizontally spreading, to \frac{4}{4} lines apart, \frac{1}{4} to \frac{1}{4} line long, broadly deltoid, cute, with a small prominent bud in the axil of each. lowers in fascicles of four to seven in the grooves etween the angles; near the base of the branches, eveloping successively. Pedicels very short, about line long, glabrous. Sepals about 1 line long, ovate-ubulate, with very acute recurved tips, glabrous. orolla \frac{1}{4} to \frac{1}{5} lines long, \frac{1}{4} to \frac{5}{1} lines long, acute, with le lobes cohering at the tips, slightly separating and orming a narrow fissure between them in the lower art, they are 3 lines long, \frac{2}{1} lines broad, deltoid, cute, blackish-purpic, covered with fine hairs and aving a frested appearance inside, not ciliate. Outer oronal-lobes minute. \frac{1}{2} line long, much exceeding the staminal-column and connivent-arect over it, ather thick and fleshy, linear, obtuse, with a small hickened crest on the back at the base, dark purplerows. Staminal-column \frac{7}{1} line long; anthers sub-undrate, obtuse, unappendaged, incumbent on the unter part of the truncate style-apex.

Kalanchoe prasina, N. E. Brown (n. sp.).+ * Pectinaria saxatilis, N. E. Brown (n. sp.)—Branches

KALANCHOE PRASINA, N. E. Brown (n. sp.).+

This is a very distinct species, quite unlike any ther known to me, but as the flowers are unattractive it is not likely to prove of much porticultural value. It is a native of Nyasaland, whence it was sent by Mr. J. McClunie to Kew, where it was lately in flower. N. E. Brown.

where it was lately in flower. N. E. Brown.

† Kalanchoe prasina, N. E. Brown (a. sp.)—Leafy stems a the plant seen about 1½ inch long, ½ inch thick, purple, very slightly glaucous, with internodes 1 to 1 lines long. Leaves opposite, 2 to 3 inches long, 1 to 1½ inch broad, spreading, obevate or spatulate-abovate, flat, very obtusely rounded at the apex, cueately tapering at the base into a short petiole or subsessile, obscurely crenate or entire, green with a slight glaucous bloom on both sides or the lower leaves not glaucous, more or less distinctly marked with whitish veins. Pedunele terminal, about 1 foot long, crect, slender, terete, green, faintly glaucous below, with 1 pair of barren, lancedate, acute bracts near the middle or towards the base, cymosely paniculate at the top, with 2 to 3 pairs of dichotomous brauches 2 to 3, inches long, with a flower in the fork and 4 to 8 pedicellate flowers racemosely scattered along each branchlet in a secund manner. Bracts minute, subulate, much shorter than the 1 to 2 line long pedicels, which thicken upwards. Calyx scarcely 1 line long, deeply 4 lobed, faintly glaucous, lobes deltoid, acute. Corolla small, erect, 4-lobed; tube 2½ lines long, tubular, obscurely 4 angled, green; lobes nearly 1 line long, alightly spreading, oblong, obtuse, white, with the median part greenish; stamens 8, included; carpels 4, included.

FLOWERS FOR EASTER DECORATIONS.

THE gathering, drying, and packing for export of the Helichrysum vestitum (Everlasting Flower) constitutes a very important industry in Hermanus, Stanford, and one or two other villages and hamlets in the division of Caledon, on the south-west coast of the Cape Colony. The area over which these flowers grow is limited to this corner of the colony, and the whole industry is monopolised by two or three men, who partly own and further lease the right of gathering, and

who have erected extensive buildings for drying and packing the flowers. These are locally known as "flower-houses," and their strange gaol-like appearance, with large sheets of perforated iron

obtain the necessary drying space every available loft in the place is hired, the price paid varying from 5s. to £1 per month per loft.

Having only within the last six months taken



FIG. 89 .- A WAGGON-LOAD OF "EVERLASTINGS" (HELICHRYSUM VESTITUM) ON THE WAY TO THE FLOWER-HOUSE AT HERMANUS, CAPE COLONY.

substituted for ordinary windows (to insure a constant draught) greatly puzzles the uninitiated as to their origin and use.

During the season such enormous quantities of these Everlastings daily come in from the np my abode at the lovely and popular seaside resort of Hermanus, and knowing nothing previously of this curious industry, I was not a little surprised when abruptly asked a few days ago by an agent of the monopoliser of the industry in



FIG. 90.—PACKING WHITE "EVERLASTINGS" FOR EXPORT IN THE FLOWER-HOUSE, HERMANUS, CAPE COLONY.

veld-borne not only on the heads of women and children, but in bullock-waggon-loads at a timethat, especially in such an exceptionally good season as we are having this year, these flowerhouses prove quite too small for the purpose for which they were erected, so that in order to these parts, whether I would mind letting my loft for fifteen or twenty days. Not caring to have my privacy invaded, I at first strongly objected, and only consented after having ascertained that almost every loft in the towncontaining about 120 houses - was hired, and most of them already full of these flowers. So, not to be more churlish than my neighbours, I, upon being assured that access to my loft could be had from a door in the gable, and that I should not be disturbed, I agreed, in consideration of the payment of a moderate sum, to have immortelles dumped down over my body whilst yet numbered with the living, for a period of one calendar month.

On the following morning at break of day I had already cause to regret my bargain, as, roused from my slumbers by men noisily emptying sackfuls of the flowers over my drowsy head, I tried to imagine the feelings of one buried alive, with wreaths of these same immortelles rattling on his or her coffin! It was a gruesome thought, but which I found a difficulty in dismissing. So that literally as well as metaphorically I had had a sad awakening-an awakening that is, alas! repeated daily, when at dawn of day I and my wife are aroused from our slumbers by two or three niggers, armed with long wooden hoes, scraping the flowers about directly over our sleepy heads; and this despite the assurance that the flowers would only require "two turnings over," and that we should not be disturbed.

I had frequently passed the "Flower House"—situated in one of the main streets of Hermanus—and had been told, in answer to my enquiries, why it was thus called, and for what special purpose it had been built; but as it was always locked and empty (save when the local musical society occasionally held a concert in it for some charitable purpose) I had concluded that the one-time flourishing Helichrysum industry had met the fate of many similar ventures and come to a bad end, unaware that the whole business, upon which a few men had grown wealthy, was carried on only during the months of November and December.

Although I have had experience enough and to spare of the drying process, I find it difficult to get information respecting the business side of this industry. In reply to my enquiries I have been politely told that the prices given and obtained were "business matters"—affairs of Egypt, in fact, and not communicable. I know, however, that the price paid to the gathererswho pluck the flower with about an inch of stem attached-is only 1s. 6d. per three-bushel bag, whose contents, when dried, would weigh probably 30 lb. I have also been assured by a man whose father was one of the pioneers of this industry that some twelve or fifteen years ago these flowers sold in Cape Town for £1 sterling per pound! It is well known that this same pioneer was a comparatively poor man upon his entering upon a lease of a farm on which these flowers grow in great profusion, and that after a few years' tenancy he purchased the farm for £6,000, being mostly money made out of everlastings! From all I can glean they now fetch on the European continent from 5s. to 10s. per lb. They are exported through a German house in Cape Town, and go to Hamburgh in the first instance. Messrs. Hasge & Schmidt, of Erfurt, a wholesale seed house, used to do a large trade in these flowers, selling the best quality in white as imported, and dyeing the inferior or off-coloured flowers in the endless series of aniline colours.

For carefully collected seed of the Helichrysum vestitum as high as 10s. per ounce has been paid to the collectors. This was sold—"at a good profit," says my informant—to Messrs. Vilmorin & Andrieux, of Paris, under agreement to let them have a monopoly of the gathering. Hence, presumably, these flowers are now produced under cultivation in the South of France, and this may account for the decline in price here,

The huge snow-white heaps of these flowers in the packing-house are a most entrancing sight. They are packed for export in large paper-lined boxes, made specially for the purpose, measuring 5½ feet long by about 4½ feet wide and deep. Every layer of flowers of a foot or so deep is pressed down by boards and weights, by which means about 100 to 130 lb. weight of flowers is got into one of these large boxes. They are conveyed by bullock waggon to the nearest railway station (some 20 miles off) en route to Hamburg viá Cape Town.

It is doubtful whether there is a spot on earth where such a profusion and variety of wild flowers are to be seen all the year through as in the Caledon district of Cape Colony. The annually held wild-flower shows of the towns of Caledon and Hermanus attract visitors from great distances. According to the Cape Government Official Handbook, there are to be found in this region alone probably 350 species of true Heaths. For the greater part of the year the veld is aglow with the flowers of the numerous plants of the Orchideæ, Irideæ, Amaryllideæ, Liliaceæ, and Proteaceæ orders. For flowering grasses a lady was awarded a handsome prize at the recently held Hermanus wild-flower show, her exhibit consisting of no less than eighty different varieties of flowering grasses.

A gentleman who has for some years past been engaged in the Everlasting flower industry, and who, besides possessing in his own right extensive properties, has acquired concessionary rights for gathering these flowers over many other farms, has recently sold such rights to a syndicate for the sum of £15,000 sterling! This fact serves to convey some idea of the extent and value of this curious industry. S. A. Deacon.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT WESTONBIRT.

CAPTAIN HOLFORD is justly known as one of the leading amateur Orchid cultivators; he is a keen collector of the best and rarest of Orchids, and at the same time takes a real interest in the welfare of his plants. In the large lean-to house the number of splendid specimens of Cypripediums is unusual, their health and vigour are excellent. In many instances the luxuriant foliage is sufficiently dense to almost hide the sides of the pots from view. Here might be seen during the depth of winter in profuse flower many grand plants of the best varieties of Cypripedium Leeanum, one of them, C. L. burfordiense, carrying over thirty fine blooms; the fine C. L. giganteum with eighteen blooms, and many others varying from ten to twenty-five flowers on a plant. Very recently there were several handsome specimens of C. Lathamianum in bloom, one plant measuring over 4 feet across, carrying thirty flowers; another with seventeen flowers, and a pretty distinct variety with rose-coloured dorsal sepals bearing ten flowers. A fine plant of the yellow C. Sallierii Hyeanum with thirteen large blooms, each one of them fertilised with the very best varieties obtainable; C. nitens superbum with twelve blooms; a pretty distinct hybrid, not named, the supposed parentage being C. hirsutissimum × C. Godseffianum, carrying thirteen fine blooms; C. Hera euryades, eleven blooms; also several beautiful and distinct varieties of the same hybrid raised by Mr. Alexander at Westonbirt; C. Calypso eight blooms, and a large specimen of C. cardinale, which seems to flower continually. The beautiful C. aureum Œdippe, which secured an Award of Merit from the Royal Horticultural Society on February 9, has certainly improved in colour since it was exhibited, and when as finely cultivated as the other Cypripediums mentioned, it will undoubtedly prove a first-class addition in the class to which it belongs.

In this house, in the best of health, are a number of Vandas of the tricolor and suavis section, which were exhibited between thirty

and forty years ago by the late Mr. Cypher at various horticultural shows. The rare Zygopetalum Perrenoudi is also thriving here; it has three fine growths, and is showing flowerspikes. Standing in a conspicuous position is the new Z. Sanderianum, a lovely Orchid, with three flowers nearly open. Suspended to the roof was noted the old but still rare Lælia præstanpurpurea in flower.

In the next house, a lean-to and comparatively cool, were several fine specimens of Cymbidium Lowianum with numerous flower-spikes, one spike carrying thirty-two flower-buds; a grand healthy plant of C. eburneo-Lowianum has fourteen strong spikes with about seventy flower-buds, which when in full bloom will produce a fine effect.
The reverse cross C. Lowio-eburneum has four spikes and seventeen flower-bnds. Especially noticeable were several healthy specimens in bloom of C. ehurneum, also the rare C. Ballianum, and a strong plant of C. Lowianum concolor carrying a fine spike of bloom. All of these Cymbidiums are in vigorous health, and have clean firm foliage, which may be accounted for by their not being grown in too much heat. Among other Orchids in flower are some well-flowered examples of the brilliant scarlet Sophronitis grandiflora, several plants carrying twenty-four flowers, also a pretty plant in bloom of the rare S. rosea. Also in bloom were two well-grown plants of Odontoglossum Edwardi, each carrying exceptionally strong spikes of bloom. aurantiaca, a very fine variety with several flowerspikes, and a yellow variety of Cypripedium insigne with five flowers. Several good plants of Lycaste Skinneri were in bloom, prominent among them being the rare variety of L. Ballæ Mary Gratrix, which was deservedly awarded a Cultural Commendation at the Drill Hall last year.

The large Cattleya-house, which is built on the most modern principles, contains a splendid assortment of Cattleyas, Lælias, and many rare and beautiful hybrids obtained from them and other species. Among the numerous varieties of C. Trianæ in flower, one named Imperator was prominent, being perfect in form and substance. and having brilliant purple-crimson colouring on the labellum; it is one of the finest varieties known in this country. There are several fine specimens of C. Skinneri, some of them nearly 3 feet over; C. Bowringiana, one of the largest in the country, quite 3 feet through; last season it produced 196 blooms, the largest spike having twenty-six blooms; Lælia elegans with twenty leading growths; L. Charlesworthii, L. Snnray, fine plants of L. purpurata, &c .- on many of the plants a quantity of seed-pods were noted; Lælia anceps, white var., very near the rare L. a. Waddonensis, of which several plants were in bloom.

In the Dendrobium house the plants in flower made a charming display-D. Juno, D. melanodiscus, D. Ophir, very rare, D. Wiganæ, and the yellow variety D. W. xanthocheilum, D. Dominianum, D. xanthocentrum, D. Hebe, D. primulinum and several large D. Wardianum carrying 150 flowers. Dendrobium Phalænopsis is exceptionally well grown here, several of the strongest bulbs having produced three and four beautiful spikes of bloom each. In the next house were several fine plants of Cypripedium callosum Sanderæ, C. Lawrenceanum Hyeanum, C. Maudiæ, C. Morganise burfordiense, C. Lawrebel x, and several splendid specimens of C. Rothschildianum, one plant producing eleven strong spikes, which when the flowers open will undoubtedly make a fine specimen for exhibition purposes.

The Odontoglossums in another house were in fine condition, the plants are grown in a mixture of polypodium fibre and sphagnum moss—in fact the majority of the plants at Westonbirt are being reported into this mixture in preference to the Belgian leaf-soil. W. H. W.

KEW NOTES.

PLEUROTHALLIS ROEZLII, Rchb .- Few species of this genus are worth cultivating otherwise than as curiosities. The species Roezlii is one of the exceptions, although it is somewhat shy. plants now in flower are in 6-inch pots, each plant having four fine spikes of flowers. The leaves are oblong-lanceolate, 5 to 8 inches long and 11 inch in width; the stems on which the leaves are borne are from 3 to 6 inches high, giving the plant a total height of from 8 to 14 inches; the inflorescence is a one-sided raceme, carrying from six to nine deep blood-purple flowers, each flower measuring about an inch long, the sepals being about twice the size of the petals; the lip is tongue-shaped and densely covered with stiff whitieh hairs. It is a native of Colombia, and should be grown with the Masdevallias.

DENDROBIUM LINGUIFORME, Swarz.

This rare species from N.E. Australia is now flowering in the warm Orchid-house. The habit and growth of the plant is quite unlike those of the typical Dendrobium. Instead of having erect pseudo-bulbs, it has quite a prostrate habit, clinging around the teak basket after the manner of a Bulbophyllum. The alternate elliptic leaves are about $1\frac{1}{4}$ inch long and $\frac{3}{4}$ inch broad; they are very thick, fleshy, and furrowed. The graceful racemes of flower are from 4 to 6 inches long, and carry from eighteen to thirty pure white The sepals and petals are rather long and linear-lanceolate, recurved at the tips, making a delightful inflorescence. It is figured in the Botanical Magazine, tab. 5,249, and according to that authority it was first discovered by Sir Joseph Banks in the Pacific Islands during Captain Cook's celebrated voyage, and was found growing upon rocks near to the sea-shore.

CYMBIDIUM VIREECENS, Lindley.

This is a distinct Cymbidium. If one judged it from general appearance it might easily be mistaken for a Maxillaria, many of the species of which genus are very similar in habit, both in leaf and flower. The leaves are in tufts, about 10 to 15 inches long, dark green and grass-like. The inflorescence is erect, about 5 inches high, and, unlike other Cymbidiums, produces but a solitary flower which droops slightly. It measures nearly 2 inches across; the sepals and petals are light green, the latter being curved towards the column. The lip is white and blotched with red. It is a pretty and interesting species, fairly free-flowered, and is a native of Japan; growing well in the Odontoglossum-house at Kew. W. H.

GARDEN NOTES.

HIPPEASTRUMS AT TRING PARK.

THE Amaryllis, as they are popularly called, are great favourites with the Right Hon. Lord Rothschild, who has had a fine house specially constructed for their culture, and has personally superintended the efforts of Mr. E. Hill, his gardener, in perfecting the fine strain cultivated at Tring Park. Already there are many very handsome varieties in flower that have been raised there, and stout spikes in all stages promise a good supply of flowers for a long time. The object in the Tring Park strain is to produce the best possible varieties in certain well-defined sections, and among those now in bloom the excellent results in some of the classes can be plainly seen. One aim is to secure a race of pure scarlet flowers of different shades, and in which the brick-red tints which mar many otherwise good varieties do not appear. Most of these scarlet flowers have a star-like centre of dark velvety crimson which gives a glow to the colour of the bloom. One such with four fine flowers all expanded together is one of the brightest yet

raised, and othere approaching maturity are very promising.

Another object is the production of a pure white variety, equal in size to the other large-flowered kinds. The best-known pure white is in the Tring Park collection, but it is not a free grower, and has a rather small flower. This Lord Rothschild is crossing with a very finely-formed large white raised at Tring, but which shows an occasional rose line on the lower segments. By crossing both ways it is hoped to secure the desired result.

Another very handsome class results from the improvement of the old Amaryllis marginata venusta, whose showily marked clear white and bright scarlet flowers are among the most attractive in the genus. This type has been sadly neglected by raisers, and it is pleasant to see its revival and marked improvement at Tring. There are large quantities as yet unproved, and more will be raised this year. J. O'B.

centre is the specimen plant of Cypripedium insigne Sanderæ, carrying ten flowers; in front of it, with two flowers, is the Oakwood Seedling, raised from fertilising C. i. Sanderæ with its own pollen; many varieties of C. x Leeanum, C. x Actæus (insigne Sanderæ x Leeanum), a cross from which many varied seedlings have been raised at Oakwood; C. insigne Harefield Hall variety, C. × Measuresiæ (bellatulum × superbiens); a series of seven hybrids derived from the influence of C. Fairieanum, as one of the parents in C. × Baron Schroder (@nanthum snperbum × Fairieanum), C. × Arthurianum (insigne × Fairieanum), C. × A. pulchellum, C. × Juno (callosum × Fairieanum), C. × Niobe (Spicer-ianum × Fairieanum), C. × vexillarium (barbatum × Fairieanum), and C. × Norma (Niobe × Spicerianum). Other yellow varieties of C. insigne are also represented in the group.

There are no Orchids more amenable to cultivation than the winter-flowering section of



Fig. 91.—WINTER-FLOWERING CYPRIPEDIUMS IN MR. N. C. COOKSON'S COLLECTION.

WINTER-FLOWERING CYPRIPE-DIUMS.

An illustration of the popularity of the winterflowering Cypripediums was afford d at the Royal Horticultural Society's meeting on December 15 last. It was one of the most interesting meetings, in so far as Orchids were concerned, that has been held, and seemed to suggest that the Royal Horticultural Society would do well to set apart a meeting in mid-winter for the display of Orchids, if suitable accommodation can be provided in the new hall. Orchids have been of late years one of the greatest attractions to the summer shows, and an annual show in December would be equally successful. Winter-flowering Cypripediums are especially suitable for cultivation by amateurs and gardeners, therefore this class of exhibitor would be better represented than is the case at the summer shows of the Society, which have developed into little else than showy advertisements for the horticultural trade.

The illustration at fig. 91 is from a photograph of some of Mr. N. C. Cookson's plants in December, and includes many of the plants that were exhibited in his group at the Drill Hall. In the

Cypripediums, and they require only a temperature of 55° in winter, and 60° to 65° in summer. They are extremely serviceable as cut flowers, for they will last in perfect condition for weeks after they are cut. On the plants they will last an indefinite period; several of the flowers which were taken to London on December 15 were still fresh and in good condition on March 1.

It is advisable to overhaul this section of Cypripediums annually at the end of February or the beginning of March. If the compost is in good condition the plants need not be repotted each year, but any decayed material about the baseshould be removed and some fresh compost added. For use when repotting let the compost be one containing equal portions of fibrous peat, yellow turfy loam, and chopped sphagnum-moss, with sufficient broken crocks added, and rough sand to render the compost free and porous. Prepare perfect drainage for the plants, and supply them liberally with water during the summer and autumn months. Insect pests are often troublesome, but they may be held in check by spraying the plants at regular intervals. H. J. C.

ALPINE GARDEN.

SAXIFRAGA GRISEBACHII.

I know of no more beautiful or interesting alpine plant than this, which is perfectly hardy, and flowers week after week early in the season. The species belongs to the incrusted section, and appears to be somewhat variable, yet one of the most easy to cultivate. It seems to be able to grow anywhere, and a rootless rosette or two merely laid on ashes in the open last year rooted there, and two at least are now in bloom. The silvery-margined leaves forming the rosette, which is about 11 inch across at the time of flowering, were quite attractive through the winter, and January had scarcely passed when the reddish-crimson inflorescence, now 4 inches high, began to develop. The colouring of the leafy glandular stems is perhaps a greater attraction than the small crimson blossoms, and to secure the fullest development of this colouring the plant should be exposed at all times. Frame culture, or any protection whatever, greatly minimises the richness and beauty of the colour; and as the plant is obviously one of the most perfectly. hardy, the occasion for protection does not arise. An established group of these plants on the rockery would make a feature in February and March.

ARABIS ALBIDA FL. PL. (CORBEILLE D'ARGENT).

There is just the possibility that this excellent plant will prove too rampant for the rock garden unless the latter is of large size. On the level ground the plants have reached a yard in width in about eighteen months. It will be well to plant in a good-sized ledge or pocket, using soil consisting of nearly one-half stones, or old mortar and gravel stones, making the whole quite firm. This may modify its growth. The spikes of white flowers have been compared with a small double Stock, but I think the general appearance is more that of a branchlet of the double Rocket. The flowers are valuable when cut, and large quantities of them were sent to market last season. The spikes are wiry and useful to the florist in wreathmaking, &c. I know of nothing better than this Arabis as a carpet plant for the taller red Tulips.

PRIMULA FORBESI.

A little group of these plants exhibited at the Drill Hall recently fully demonstrated the value of the species as a pot plant for the cool or even quite cold greenhouse. Flowering so abundantly and profusely in pots 3 inches or 4 inches in diameter, the plants with their numerous flowering stems were remarkable. Happily, there is no difficulty in obtaining such a result, but the hint may be taken that the roots should be confined in small pots. With more liberal treatment the plants dower less abundantly.

NARCISSUS CYCLAMINEUS.

Visitors to the Drill Hall often see the above plants, but very rarely of such vigour and almost giant stature as those that came from the Society's new garden at Wisley on the 22nd ult. Obviously the plant requires to become well established, and succeeds best in a moist rooting medium. There were many flowers of this plant at the same meeting, only about 4 in. in height and feeble withal, so that the examples from Wisley were the more remarkable. In all probability there will be many such instances of good cultivation from Wisley, and the Council should bring into prominence any further examples, together with the conditions under which they are growing.

SAXIFRAGA APICULATA.

The charming mass of pale-primrose blossoms, on a specimen from the Guildford Hardy Plant Nursery, was one of the best exhibits of this plant ever seen at the Drill Hall. The example

was about 12 inches across, and bore 200 or 300 spikes of blossoms on stems barely 3 in. high. It is to be regretted that nurserymen do not make a point of growing and showing such examples in place of the tiny chance flowering bits so often exhibited. This Saxifrage is one of the earliest and most abundant to flower, and one of the easiest to cultivate. E. Jenkins.

GARDENERS'

THE

The Week's Work.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Seakale may now be planted. If the ground was dug up roughly previous to the frost, and a rich dressing of manure applied, it will be in good working condition, and may easily be levelled down and made smooth with the rake. Select the crowns into grades, and plant the strongest first, continuing in this way until finished. If the plants are afterwards to be forced under pots, select the largest crowns, and make them into clumps consisting of not less than six plants in each clump. Make the clump so that all the plants may be covered with the rim of the pot when forcing is commenced next season. The clumps should be formed in lines from 2 feet 6 inches to 3 feet either way, so as to allow of stable manure being placed between the pots to generate heat. If the plants are to be taken indoors to be forced, put them in lines 18 inches apart, and 1 ft. apart in the rows. Where the soil is of a heavy nature let the crown be planted level with the surface of the ground. If there are slugs about place a handful of ashes or sawdust on each crown to protect it, as slugs are liable to eat into the heart of the crown itself. By planting them at the distances described, it will be found convenient to bring late crowns forward as recommended in a previous Calendar, and this is preferable to planting at a greater distance and earthing up, afterwards cutting with a spade for the table, which would spoil the appearance of the Seakale if grown on a sticky clay soil.

Seed Sowing should be pushed ahead without delay whenever the ground is in good condition. Look over all seedlings from early sowings, and if any failures are found, make another sowing as soon as possible. Much of the season's supply will depend on an early start being made, and those who are experienced know that to be short of any crop causes perpetual worry, as it is sure to be demanded day after day until it is provided in quantity. Make a sowing of second early Peas, and keep a look-out for slugs on those already through the ground. Sparrows, unless checked, may pick the points out of the leading stems, and eat the leaves in a short time. Sow Salsafy, Scorzonera, Carrots, Lettuce, Parsley, Radishes, Borage, and on a warm, well-sheltered border a few French Beans may be put in with the chance of getting a crop. Lose no time before sowing Broccoli, Savoys, and Brussels-Sprouts, if this work has not been done. Another sowing of Broad Beans may be made. Under glass, or on a slight hotbed, sow seeds of Capsicum and Tomatos in pans or pots. Pay attention to early plants of Tomatos in pits; keep them to a single stem by stopping the side shoots as they appear.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking.

Dendrobiums.—Somany species and hybrid forms of Dendrobium have recently flowered that I cannot enumerate them all here, but a few may be mentioned, as D. Wardianum, D. crassinode, D. nobile and its allies, D. Cassiope, D. melanodiscus, D. chrysodiscus, D. Wiganiæ, D. Clio, D. Ainsworthii and its co-generic crosses, D. Melpomene, D. primulinum, D. Dominii, D. Burfordiense, D, signatum, D. Cybele, and many of the fine hybrids recently introduced. These and others will require early attention in the matter of repotting. In some cases the new growths have made considerable progress, and will soon form young roots. All strong, upright-growing varieties succeed well in pots, but for those of pendulous habit, as D.

primulinum, D. Pierardi, D. cretaceum, D. cucullatum, D. crepidatum, D. superbum, &c., pots with wire handles attached are preferable, so that they may be suspended to the roof. For years past shallow pans with perforated holes in their sides and teak wood baskets have been advocated for these varieties, but I am gradually discarding them in favour of the ordinary flowerpot, in which the plants root better and produce stronger growths. When repotting Dendrobiums do not retain all the old pseudo-bulbs that have already bloomed, but leave about three stems at the back of each new growth; large, unwieldy plants may then be easily made up into moderate-sized compact specimens. The stems that are removed may be laid upon a bed of living sphagnum-moss in a hot, moist propagating-case, sphagnum-moss in a hot, moist propagating-case, where in a few weeks new growths will appear upon the stems, and immediately they commence to emit new roots, the growths should be taken off and put into small pots. Another method is to cut the stems below the joints into small pieces and insert them thickly into pots filled with sphagnum-moss, and place them on a shelf in the warmest house. By adopting the former method the young plants are more quickly raised; by the latter process propagation is much slower, but stronger plants are generally obtained. Propagate a few plants of each variety every year, because older plants deteriorate and become worn out. A few days ago, when repotting some worn out. A few days ago, when repotting some of the Dendrobiums that bloomed early, I found that the best rooted plants were those that were potted last year in a mixture of sphagnum-moss three parts, and leaf soil one part, with a moderate quantity of coarse silver sand added. For drainage purposes use Fern-rhizomes from 1 inch to about 4 inches in thickness, according to the size of the pots, and fill the pots nearly up to the rim with the compost, pressing it down among the roots moderately firm, but avoiding that hardness which prevents the water from passing rapidly away. Tall and slender pseudo-bulbs should be tied to neat stakes. For a few weeks after reporting keep the roots of the plants rather dry, but when new roots become numerous, and are seen alinging to the ridge of the net the rather dry, but when new roots become numerous, and are seen clinging to the sides of the pot, the surface of the compost should be kept moistened, increasing the supply as the growths lengthen. Plants that do not neel repotting should have a good share of the old compost carefully removed and be neatly top dressed with fresh material. D. Parishii, D. rhodopterygium, D. Bensons, D. D. Parishii, D. rhodopterygium, D. Bendern Virginium, and D. crystallinum, will not require much water until their flowers appear. Dendro-biums, with few exceptions, require a hot, moist atmosphere when making their growth. When atmosphere when making their growth. When the growths are nearly made up they should be shaded from strong direct sunshine.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Fruit Prospects. — Most kinds of fruit-trees promise exceptionally well for good crops of fruits. Standard, pyramid, and bush Apple-trees are studded with flower-buds; also Pears, Plums, and Cherries. The small crop last year is undoubtedly the cause of this wealth of blossom, and the crops will now depend on the weather during the period the flowers are expanded. In many gardens sparrows and other birds will destroy many of the buds just when they are bursting, unless means are taken to prevent them. Nets may be employed for a limited number of bush-trees, but for those of larger size I find syringing the branches at intervals with a mixture of lime, soot, and a little paraffin to be a deterrent, and it also serves as an insecticide for American blight. Although this dressing gives the trees an objectionable appearance, the branches are soon cleansed with the rain.

Espalier Pear-trees, &c.—Late-planted trees should now be given attention. Make the soil around the roots firm, so as to prevent further sinking, and if the plants have not been pruned, cut the leading shoot just above a bud. This will break and form the leader, and if more horizontal branches are required, the nearest buds on the same shoot will form them. For espaliers, about five pairs of branches to a tree is the rule, trained at distances of 12 in the sapart. Young trees should be trained to wires, but in the absence of

these they may be trained to stakes driven into the ground at suitable distances, with light cross-pieces upon which to train the horizontal shoots. These temporary supports will answer admirably for a few seasons. In older espalier trees, where branches are required to fill in vacancies, they may be induced to grow by cutting into the weed just above a dormant bud. The first season this operation is done a small bud is usually formed, and the following year a shoot 1 to 3 feet long is pushed forth. This notching should be more extensively practised where trees are not evenly balanced.

Blackberries .- There are several varieties of the Bramble, some of which are well worth growing, and they may be trained to arches, or planted for the covering of old fences, &c. When Blackberries are trained to wires or arches, the old wood and dead pieces should be cut out annually. Some of the American varieties produce large fruits; Wilson Junior is probably one of the best.

Berberis vulgaris .- In some establishments the fruit of the Barberry is appreciated for dessert and preserving purposes. The plants should be cultivated in a position where they may be protected conveniently. Old bushes some-times fruit heavily, and in addition to the fruit being useful for making tarts and jams, the smaller branches are suitable for garnishing and decoration.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Dahlias .- Old tubers will new be making growth, and where there is a large demand for growth, and where there is a large demand for cut flowers they will be found very useful. By affording flowers for cutting they will serve to relieve younger plants till they get strong enough for that purpose. They may now be planted outside, placing a Seakale-pot or some other suitable covering over them at night, in case of frost. If the old stools that have supplied cuttings during the spring are required for planting in the open, they must be gradually hardened off. When they have been planted out-of-doors, place some wood-ashes round the plants, and keep a sharp look-out for slugs. Y eung plants should potted-on in some good leaf-mould and loam, and plunged in a slight bettem-heat, keeping them syringed well till the roots are active. Good-sized labels should he made ready to place against them.

Annuals.-Seeds of Asters and Stocks may now be sown on a slight hot bed prepared some weeks previously. Make the soil firm and sow in ahallow drills. Of Asters the dwarfer varieties are best for bedding or massing purposes, such varieties as Dwarf Victoria, Chrysanthemum-flowered, Pæony, Perfection and Comet. Taller varieties may be grown for borders, and if placed among other plants and shrubs they will have some protection from the wind; suitable varieties for this purpose are Giant French and Giant Comet. The large Ten-weeks Stocks are best for flowering early, followed by the Intermediate and Emperor varieties. Antirrhinums also may be sown. The Tem Thumb varieties are very beautiful for edging purposes, and the taller enes, of which there is a useful collection to choose from, are suitable for borders. Marigolds, Marigolds, Tagetes, Zinnias, and Petunias may be sown.

Sowing Seeds in Pots and Out-of-doors.—Some annuals produce better results if sown in pots; for example, Sunflowers, Convolvulus, Nasturtiums, Tropwolum peregrinum, and Japanese Maize (striped). Other annuals can be sewn out-of-deers, such as Mignonette, Candytuft, and Sweet Sultan. Make the ground somewhat firm before sowing. After sowing, place a few boughs byer the beds to keep the surface from drying, and prevent birds from dusting in them.

Lobelia Seedlings that have been raised in heat may now be ready to be pricked off into boxes. They should not be allowed to get crowded in the seed-psns, or damping off will occur. After pricking them out into the boxes, place them in a warm but not too moist an atmosphere and shade them for a few days.

Lavender and Rosemary. - Plants that were rooted last autumn may now be planted out. Lavender should be planted in bold beds, or to

cover the ground beneath standard shrubs, such as Lilacs, Viburnum Opulus, or Laburnums, if these are far enough apart to allow the light to reach the plants beneath them. The Rosemary is an effective climbing plant, especially the goldenleaved variety.

Ivy on buildings and elsewhere may now be trimmed.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Peaches and Nectarines .- The fruits in the early house will now be stoning, and to force unduly the trees during that period, which may be considered to be about six weeks, would be to tax them severely without yielding a corresponding advantage. The probable result would be that many of the fruits would drop, and the quality of the general crop would be reduced considerably. There is not much danger of well-managed trees casting their fruits, but much caution is necessary in early forcing. The general condition of the trees must be understood before determining the amount of crop they shall be permitted to ripen. A very vigorous young tree may with advantage carry a fruit to every 6 square inches of surface, but a tree covering its alletted space, having wood of fine bearing quality, may be considered sufficiently cropped with one fruit to the 12 square inches, to repeated year after year. It is not good practise to over-burden the trees in the early stages; but should it be considered necessary, the final thinning may be deferred until the fruits have stoned. Upon the first indication that they have passed the stening period, harder forcing may be applied advantageously. The night temperature should then be 60°, and during the day with bright sunshine it may be 15° or 20° higher. It is not easy to say when water should be applied to the roots of the trees, but if the border has been mulched well and the syringe is freely used, watering cannot be a very urgent matter at this season. This applies to the inside matter at this season. This applies to the inside borders, and the outside borders require warmer and drier weather before water is needed.

Succession Houses .- The trees will claim attention daily in matters of syringing and in dis-budding and thinning of the fruit. Fat buds with flowers of good colour have been the rule here this season, and these are necessary to the production of good fruits as well as being favourable to a good "set"; but there should be a free circulation of warm air properly to mature the pollen. Bud dropping has been scarcely seen here this season. I incline to the belief that overripe wood is in a great measure accountable for the habit of bud-dropping seen in many of the useful early varieties. We make a rule to top-dress all borders whether the trees are young or old, when the cleaning and tying have been completed. · We do not afford heavy coverings, which would exclude light and air, but the top dressing includes variety and quality, such as chemical manure, wood ashes, well-prepared stable droppings, with addition of soot at intervals during the season, and of air-slaked lime at least once a year. This applies principally to inside borders.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Busns, North Mymms Park, Hatfield, Hertfordshire.

Begonia, Gloxinia, and Streptocarpus seedlings. -If seeds of these were sown as advised at the end of January, the seedlings will now require to be pricked-out an inch apart in well-drained pans or boxes, which have been previously filled with a compost consisting of two parts leam and one-part leaf-soil, together with plenty of silver sand. After the strongest of the seedlings have been carefolly transplanted, there usually remains a number of small ones which are not quite strong enough to be handled. Let the soil be levelled among these, affording a watering if necessary to settle the soil about them, and in ten days or so afterwards these may also be pricked out.

Flowering Shrubs.—Steps should be taken to afford some kind of protection to shrubs which have been forced, and have done duty in the conservatory, if it is intended to use them for the

same purpose another year. Ghent Azaleas, double-flowered Cherries, Staphylea colchica, Rho-Ghent Azaleas. dodendrons, Lilacs, Gueldres Roses, the shrubby Spiræas, &c., should, after being hardened off, be plunged in the reserve ground or planted out. It is not advisable to attempt to force these plants two years in succession; but if they are properly attended to in regard to watering, thinning the growth, &c., they will form a useful

Deutzia gracilis .- Let these be cut hard back directly after going out of flower, preserving any strong young growths which may have started from the base of the plants. Place the plants in a cool-house or pit, and encourage them to make strong growth. More growths are produced usually than are necessary, and if the number be reduced by removing the weakest, the remaining shoots will greatly benefit. Plants that were potted in the autumn will not need repotting now, but where this was not done, itwill be necessary to afford them a shift into larger pots. A suitable compost is one of three parts leam, one part well-rotted manure, and some silver-sand. Tewards the end of spring the plants may be plunged in ashes in the open-air.

Cinerarias, Primula sincnsis, and P. stellata.-Where these are required to be in flower during the autumn and early winter months a sowing should be made at the present time; while for succession it will be necessary to sow at intervals as may be required until July, when the late sowing for spring - flowering should be made. Sow the seeds thinly in well-drained pans or pots which have been previously filled with a finely sifted compost, consisting of three parts leam, one part leaf soil, and some silver sand. Let the soil be well watered before sowing the seeds. The Primula-seed should only be partly covered with fine silver-sand, while the Cineraria-seed may have a sufficient quantity of the compost sifted over it through a fine sieve to cover it. The pans should then be covered with a sheet of glass, and placed in a temperature of from 50° to 55°, and shaded carefully. The main sowing of Primula encounces should also be made now, under the same conshould also be made now, under the same constitution. The main sowing of Primula obconica. ditions as those recommended for P. sinensis. Great care should be exercised in affording water to Primulas while the seedlings are small, the root-hold during the early stages of germination being so extremely precarious that a pan of seed-lings might easily be ruined by one careless watering through too coarse a rose.

THE APIARY.

Seasonable Notes .- The mild weather will be causing the bee-keeper to become restless as he sees the Crocuses out in full bloom. can be done at present; but a continuation of candy-cake may be supplied in necessary cases. Pea-flour may be placed in small quantities about the garden in warm sunny spots in little boxes or troughs, with shavings placed ever the flour to enable the bees to collect it without getting their bodies coated too heavily. Sprinkle a little inside the Crocus-blooms. The coverings of skeps should be removed for the bee-keeper tosee if mice have been doing any harm through the winter. If they have done so, place candy-cake over the top of the skep. Should the mice have made only a small hole, lift up the skep to ascertain if there are any mice inside, and cut out a hole in the skep for the bees to feed on the candy-cake. Lay a small flower-saucer on the top of the skep, and cut round it with a sharp pocket-knife, after placing candy on the top. Cover up in such a placing candy en the top. Cover up in such a way as to prevent the mice from getting to it; have a piece of wire about § in. mesh and lay on the top, drawing it down half over the skep, and secure it with tacks. Do not disturb the beesmore than can be helped in doing this.

PLANT PORTRAITS.

KALANCHOE FLAMMEA.—Revue Horticole, March 1.
PTERIS ASPERICAULIS VAB. TRICOLOB.—Moniteur d*
Horticulture, March 10.
RICHARDIA ELLIOTTIANA.—Revue Horticole, March 16,
with historical details and mention of allied forms.
ANTIRIHINUM MAJUS VAB. PELORIA.—Wittmack in
Garten Flora, tab. 1524, March.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be Weitten on one side only of THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents. The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations .- The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News, - Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, Apr. 2 Société Française d'Hort, de Londres meet. German Gardeners' Club meet.

APR. 5-Roy. Hort. Soc. Comms. meet. TUESDAY. TUESDAY, APR. 5-Roy. Hort. Soc. Comms THURSDAY, APR. 7-Linnean Society meet.

SATURDAY. APR. 9-Scottlsh Hort. Assoc. meet.

SALES FOR THE WEEK.

WEDNESDAY NEXT, APRIL 6—
800 Azaleas, Palms, Roses, Lilles, Herbaceous
Plants, &c., at 67 & 68, Cheapside, E.C., by
Protheroe & Morris, at 12. Roses, Azaleas, Magnolia grandifiora, Carnations, Lily of the Valley,
&c., at Stevens' at 12 30.

GC. at Stevens Ar1230.
FRIDAY NEXT, APRIL 8—
200 Roses, Hardy Border Plants and Bulbs, Lillums,
Begonias, &c. at 67 & 68, Cheapside, E.C., by
Prutheroe & Morris, at 12 Imported and Established Orchids, &c., at 67 & 68, Cheapside, E.C., by
Protheroe & Morris, at 12 30.

For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES:—
LONDON — March 29 (6 P.M.): Max. 53°; Min. 39°.

March 30, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp. 42°; Bar., 294. Weather bright, inclined to gnow.

PROVINCES. - March 29 (6 P.M.); Max. 44°, South-east coast of England; Min. 38°, North of Ireland.

Cottongrowing in the Colonies.

Though the fiscal problem has been irrationally made a political party cry, there is no doubt that it has

raised in many minds some reflections as to the nature and prospects of the products of the earth that might be influenced, either for good or bad, by the operation of Free Trade or of Protection. From this point of view it is satisfactory to note the interest that has of late been taken in the economic side of botanical science, the side which is now generally acknowledged as that upon which the commercial prosperity of the world largely depends. A proof of this may be seen in the frequent references now made in the daily Press as to the extent of cultivation, demand, rise or fall of prices, &c., of commercial vegetable products, matters scarcely ever spoken of in former years.

The distress in the Cotton districts of Lancashire has also raised a considerable amount of interest with regard to the extended cultivation. ef Cotton in such British Dependencies as are known to be adapted to the growth of the plant; and for the purpose of promoting its growth in the West Indies, Sir Daniel Morris,

the Imperial Commissioner of Agriculture, has' as we have already mentioned, recently visited the Cotton-growing districts in the United States for the purpose of studying the methods adopted there, both in cultivation and preparation for market. With reference to West Indian Cotton, "there is every prospect of a prosperous industry being established in the various islands. The Governors are doing all in their power to encourage the movement, and substantial help has been rendered by the British Cotton-growing Association, who, in addition to giving a large sum to be distributed in prizes, has provided machinery for preparing the Cotton, and is also sending out agents to see to the proper treatment and marketing of the crops. Sea Island Cotton grows well in the West Indies, and several lots already received in England have fetched high and remunerative prices."

From the Agricultural News of Barbados we extract the following items. "However desirable it may be for the West Indies to cultivate a substitute for the cheaper varieties of Cotton exported from America, the chief strength in the future will be in that specialty of finer long staple Cotton corresponding to Sea Island, which was originally introduced to the United States from the West Indies, and which can be produced in these Colonies better than anywhere else in the world."

The following notes are based on a report on Cotton cultivation in Montserrat: Over a ton of Cotton seed was distributed from the Grove Station to sixty-three persons during the months of July, August and September. About 700 acres were planted, and despite the ravages of the Cotton worm and the leaf blister mite, preparations were already being made to increase the area next season. It is estimated that there are about 10,000 acres of land suited to the growing of Sea Island Cotton in Montserrat, and with a three years' rotation this would enable planters to have over 3,300 acres annually in Cotton. From experiments it is evident that with a good supply of Paris - green at hand, the Cotton worm can be kept under, and, so far as can be ascertained from some small experiments in progress at Grove Station, it appears that the leaf blister mite can be kept in check by the application of sulphur and lime. Five different compounds are being tried upon affected plants, and while in the other cases the disease has steadily gained, there is less disease now than at the commencement of the experiment on the plants treated with sulphur and lime. About 5,000 lb. of lint of the present season's crop were shipped from Trant's estate to the British Cotton-Growing Association.

With regard to Antigua, the following notes were published in the Antigua Standard :- "We have, through the instrumentality of Sir Gerald Strickland, secured the assurance of financial help from the Imperial Exchequer for the promotion of the Cotton industry in this island. have also the sympathy and material aid of the British Cotton - Growing Association, and the immediate oversight and propaganda of the Imperial Department of Agriculture in all its ramifications and with its well-equipped staff of scientists and able officers. If the peasant cultivator be desirous of trying the planting of Cotton he will be able to dispose of his crop for ready cash at the cotton-factory which will soon be erected.' It is further stated that an Imperial loan of £4,000 or £5,000 will be appropriated preferably in aid of the peasantry and of overseers and managers who have the privilege of cultivating plots on the estates where they are employed.

An important point in the packing of Sea Island Cotton for export is referred to in the following terms:--"In consequence of the system by which steamship companies charge freight according to

cubic measurement, endeavours are made to compress Cotton into as small a space as possible. There appears, however, to be a risk of injuring the fibre by too severe pressure. On this question some experts at Liverpool have given their opinion as follows :- 'As to probable injury to this class of Cotton by hard pressure, this has not been tested; Georgia Sea Island Cotton is pressed lightly, but each season it is pressed a little tighter. The latest fashion is to iron-hoop the bales; average weight about 3 cwt. 3 qr., gross dimensions $5\frac{1}{4}$ by $2\frac{1}{3}$ by $2\frac{1}{4}$ feet—about 27 cubic feet. Soon they will be pressed as hard, or nearly so, as American bales, but wrapped with finer canvas. Mr. J. R. Bovell, who accompanied Sir Daniel Morris to the United States, reports on this subject that, so far as he could ascertain, short staple or Upland Cotton was pressed more than the long staple or Sea Island kind. This was particularly so in the Sea Islands, where the very best long staple Cotton is grown. On the other hand, in Georgia, where the staple of the Sea Island is not so long, the bales are pressed more.'

With regard to Sea Island seed for distribution in the colony, the Imperial Commissioner when in the States made arrangements for seeds of the best quality of this variety to be supplied to the Department for the next planting season, the cost of which it was estimated would be about 7 cents per lb. delivered to the planter.

The British Cotton-Growing Association is also interesting itself in behalf of the produce of Lagos, West Africa, and has expressed its intention of placing ginning and pressing machines at the disposal of Cotton growers, and to purchase any Cotton grown in the colony. The Colonial Secretary at Lagos, in a recently-issued Report, says: "The establishment of Cotton-growing has been received everywhere with a good deal of interest, and planters seem to realise the importance of this industry, especially in the Egba country, where the people have availed themselves of the assistance of the Forest and Agricultural Department, several thousand acres having been planted with Cotton at Abeokuta. That the present is an opportune time for embarking in Cotton cultivation does not admit of question, that it is a suitable industry is incontestable. To assist in establishing it, a grant has been made by the Government of £1,000. The quality of the Cotton said to be capable of production at Lagos is described as of the finest grade, which would compete with or even be superior to any produced in America. At a conference on the subject held recently at Manchester, the President of the British Cotton-growing Association expressed himself as confident that in twelve months' time Great Britain would be receiving large quantities of West African Cotton." Parts of Nigeria, Egypt, Queensland, and other tropical or subtropical colonies are also suitable for the growth of Cotton.

THE MARGUERITE OR PARIS DAISY (CHRY8-ANTHEMUM FRUTESCENS) .- Our Supplementary Illustration this week represents the familiar Marguerite, in the shape of a specimen grown by Mr. S. A. CHEFFINS, gr. in the gardens of the Rt. Hon. GERARD NOEL, Catmose, Oakham. There are few better known decorative plants than the Marguerite, and fewer that are capable of affording such a profusion of flowers. In this country it is used in thousands of cases for bedding out in summer, and less frequently it is grown as large specimens in pots and tubs. Such specimens are exceedingly decorative, and suitable positions for them may be found in large conservatories, or on the terrace out-of-doors. The plant shown in the illustration measured 18 ft. in circumference, being similar to those frequently seen in the Paris cafés. The yellow variety, Etoile d'Or, also makes a good pot plant, and a more recent variety, *Coronation, has white flowers, in which the disc florets, being tubular, resemble somewhat the Anemone-flowered Chrysanthemum. The cultivation of the Marguerite is a very simple matter, if the plants be afforded a rooting medium of rich loam, leaf-mould, and sand. The stock enay be increased by cuttings, which will make roots with great freedom. The plants are seldom attacked by pests other than the leaf-miner, the moth of which lays its eggs in the interior of the leaves, and the larvæ mine between the tissues, sucking away the nourishment they contain and disfiguring the folisge. It has been found that by spraying the plants with a solution of Quassia or other distasteful substance the female moth may be prevented from depositing her eggs in the leaves. Any leaves that bear evidence that they contain grubs should be removed and destroyed by burning. The White Marguerite figured was, says Mr. Cheffins, planted out in the herbaceous border from a 6-in. pot the last week in June, four years ago, and was well supplied with water and liquidmanure. It made good growth, and was potted into a 10-inch pot, and then placed in a cold pit, kept close for a short time until established. In the following March the plant was used as a decorative plant for several weeks. It has since theen plunged in its pot, giving it a larger pot as occasion required. In winter we keep the plant in a shed from which frost is excluded. A fortnight previous to being photographed the plant was placed in a tub about 2 feet across and a little more deep, the compost used being one of good dosm and leaf-soil in equal parts, with a good sprinkle each of burnt earth, soot, and bonemeal. In summer we supply the plant copiously with water and liquid - manure, the manure consisting of soot and cow-dung, with an oc-casional top-dressing of Thomson's Vine Manure.

ROYAL HORTICULTURAL SOCIETY.—The next emeeting of the Committees will be held on Tuesday, April 5, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "Villa Gardens" will be given by Mr. H. P. C. MAULE. At a general meeting held on Tuesday, March 22, fifty-six new Fellows were elected, making a total of 407 elected since the beginning of the (present year.

ROYAL HORTICULTURAL SOCIETY'S LEC-TURES.—The lectures to be delivered in the current year, so far as they have been arranged, are as follows:—

LECTURES IN 1904.

April 5.—Villa Gardens, by Hugh P. C. Maule. April 19, Diseases of the Potato, by George Massee, V.M.H.

May 3.—Enemier of the Apple-tree, by Mons. Chas. Baltet. May 17, the Horticultural Phase of Nature-Study, by R. Hedger Wallace.

June 14.—Floral Metamorphosea, by Professor Henslow. June 28, Hybridisation of Roses, by Mons. Viviand Morel.

July 26.—Orchid Varieties and Hybrids, by John Bingoon.

August 9 and August 23.—As yet undecided.

Sept. 6.—On Gourds, by J. W. Odell. Sept. 20, Methods of employing Rosea in the Decoration of Gardens, by Geo. Gordon, V.M.H.

Oct. 18.—Vegetable Sporte, by Prof. Henslow.
Nov. 1.—Planting Woods for Winter Effect, by
the Hon. Vicary Gibbs. Nov. 15, Orchard Management from a Commercial Standpoint, by Prof.
CRAIG. Nov. 29, On Hollies, by E. T. Cook.

Till the end of June the lectures will be given at 3 F.M. in the Drill Hall, Buckingham Gate, S.W.; after June, at the same hour in the Horticultural Hall, Vincent Square, Westminster.

LINNEAN SOCIETY.—The next meeting of the Society will be held on Thursday, April 7, 1904, at 8 p.m. Paper—Mr. C. E. Jones, B.Sc., F.L.S.:

"The Morphology and Anatomy of the Stem of the genus Lycopodium," illustrated by lanternstides. Exhibitions—Mr. E. P. Stebbing, F.L.S.: Lantern demonstration of the metamorphoses of Clania Crameri, a Psychid moth, from Madras Presidency; Mr. F. Enock, F.L.S.: Naturalcolour photography of living insects and flowers.

PARIS HORTICULTURAL CONFERENCE.-The Société Nationale d'Horticulture de France has organised a Conference to be held in Paris on May 27 in connection with the horticultural exhibition which will then be open. The following are the subjects to be discussed :-- 1. Horticultural monograph upon any genus of plants except those already dealt with; 2. Study of the methods of cultivating and of pruning Peaches under glass; 3. Preservation of fruits and vegetables by cold processes. Methods of preserving fruits and vegetables, and indication of the temperature most likely to keep them for the longest period in good condition; 4. Action of manures on the maturation and preservation of fruits; 5. Under what conditions is it possible by freezing to modify the seasons of forced plants by advancing their maturation or retarding their vegetation; 6. What are the most practical and efficacious means of sowing, germinating, and rearing the seed of Orchids? 7. Practical utility of cultivation in leaf-mould for all genera of Orchids; S. Effects of etherisation on plants to be forced; 9. Advantages and disadvantages of the different materials used in forming espaliers; 10. Study of the causes (excess of humus, parasites, &c.) which render the soil of old market gardens unsuitable for the planting of certain vegetables; 11. Study of the morphological modifications (exterior characters) that may be noticed in varieties obtained by dimorphism (fixed accidents, sports); 12. The means to be adopted in order to replace dung when used as a source of heat in kitchen gardens.

SHIRLEY POPPY.—From his investigations on crops of this plant grown in two separate localities, in the Chilterns and at Chelsea, Mr. K. PEARSON has arrived at the following conclusions :- "That in plants there are thirty-three possible forms of fraternal relationship corresponding to whole or half-brotherhood in man, and that thus the range of experiment must be very wide in order to determine the relative influence of the various modes of crossing. A nomenclature for these forms of relationship is suggested. Environment largely influences the variability and the mean, but not the hereditythe heredity being, however, influenced by differentiation in the local environment. Further, that for a variety of characters the results are in fair agreement with the values obtained in the case of man and other animals, if we assume perfect cross-fertilisation to have taken place."

THE ORIGIN OF PARASITISM IN FUNGI .-An abstract of a paper by Mr. Geoege Massee, on the "Origin of Parasitism in Fungi," is published in the Proceedings of the Royal Society, February 24. We extract from it the following remarks: "Up to the present no definite explanation has been offered as to why a given parasitic fungus is often only capable of infecting one particular species of plant. This, however, is well known to be the case, for although the spores of fungus parasites germinate freely on the surface of any plant when moist, infection only takes place when the spores germinate on the particular species of plant on which the fungus is known to be parasitic. This apparently selective power on the part of the fungus, I consider to be due to "chemotaxis." Experimenta proved that saprophytes and facultative parasites are positively chemotactic to saccharose, and this substance alone is sufficient in most instances to enable the germ-tubes of facultative parasites to

penetrate the tissues of a plant, unless prevented by the presence of a more potent negatively chemotactic or repellent substance in the cell-sap. As an illustration, Botrytis cinerea, which attacks a greater number of different plants than any other known parasite, cannot infect Apples, although saccharose is present, on account of the presence of malic scid, which is negatively chemotactic to the germ-tubes of Botrytis. In the case of obligate parasites the cell-sap of the host-plant proved to be the most marked positive chemotactic agent. Malic acid is the specific substance that attacks the germ-tubes of Monilia fructigena in the tissues of young Apples, whereas the enzyme pectase performs the same function for the germ-tubes of Cercospora cucumis, an obligate parasite on the Cucumber. Immune specimens of plants belonging to species that are attacked by some obligate parasite owe their immunity to the absence of the substance chemotactic to the parasite. Purely saprophytic fungi can be educated to become parasitic by sowing the spores on living leaves that have been infected with a substance positively chemotactic to the germ-tubes of the fungus experimented with. By a similar method of procedure, a parasitic fungus can be induced to attack a different species of host-plant. These experiments prove what has previously only been assumed-namely, that parasitism in fungi is an acquired habit. A series of experiments prove that infection of plants by fungi occurs more especially during the night, or in dull, damp weather. This is due to the greater turgidity of the cells, and also to the presence of a larger amount of sugar and other chemotactic substances present in the cell-sap under those conditions.'

GOOD LUCK CLOVER.—A very pretty form of four-leaved Clover or Shamrock has been exhibited lately at the Royal Horticultural Society by Mr. Anker. This form of Trifolium repens produces leaves in sets of four or five, each prettily spotted with purplish-brown. Trifolium repens var. atro-purpureum is indeed attractive, not only as a ministure pot-plant, but as a hardy border plant. For carpet bedding it is to be recommended on account of its rapid growth. A rich, matured and well-manured loam is the most suitable for it. An illustrated article relating to it from the pen of Mr. Henkel, of Darmstadt, appears in Möller's Deutsche Gärtner Zeitung, for March 12, page 128.

ROSE SHOW FIXTURES IN 1904.—June 15 (Wednesday), York +; June 27 (Monday), Isle of Wight (Ryde); June 29 (Wednesday), Chippenham and Farningham; June 30 (Thursday), Canterbury and Colchester. July 2 (Saturday), Sutton (Surrey); July 6 (Wednesday), Temple Gardens (National Rose Society), Croydon, Ealing, Ipswich, and Southampton *; July 7 (Thursday), Chipping Norton, Norwich, and Walton-on-Thames; July 8 (Friday), Brockham; July 9 (Saturday), Warminster, and Windsor; July 12 (Tuesday), Wolverhampton †; July 13 (Wednessen, July 13) day), Formby, Reading, Stevenage, and Thornton Heath; July 14 (Thursday), Bath, Eltham, Helensburgh, and Woodbridge; July 15 (Friday), Gresford, and Ulverston; July 19 (Tuesday), Saltaire, and Tibshelf; July 21 (Thursday), Halifax; July 27 (Wednesday), Cardiff,* and Newcastle-on-Tyns+; August 13 (Saturday), Sheffield; September 20 (Tuesday), Royal Horticultural Hall, Westminster (National Rose Society). The above are only the dates of Rose shows, or of other horticultural exhibitions where Roses form a leading feature, definitely fixed, that have yet reached me. I shall be glad to receive notice of any other Rose show fixtures for publication in the next list, which will be sent to the Editor early in May. Edward Mawley, Rosebank, Berkhamsted, Herts.

^{*} Shows lasting two days. † Shows lasting three days.

"FLORA AND SYLVA."-The March part of this elegant publication contains an article on the species and varieties of Nepenthes, with a beautifully executed illustration of N. picturata. Another excellent wood-cut represents Papa Lambert Rose. The coloured plate of Tridax gaillardioides is very natural and effective, but we should like to have some further details by which we might ascertain that the plant is really what it professes to be; and a similar remark applies to the coloured figure of Magnolia parviflora, though in that case the prolonged centre of the flower bearing the carpels as shown does afford some indication of the relationship of the plant. The articles on the Almond and the Hepaticas are seasonable, and the whole number is both attractive and interesting.

TIMBER. - The Timber Trades Journal has lately issued a bulky special number full of information relating to timber, especially in its commercial aspects. Among special articles is one of much interest on the prospects of South Africa as a market for timber, copiously illustrated, and with a useful map. The article on the woods of Tasmania is specially valuable, inasmuch as the hotanical names of the trees are given, the lack of which information in other articles renders them useless for hotanical or cultural purposes. The object of the publication is evidently so purely commercial that we suppose it is futile to complain of the intrusion of advertisements into the text, although if publishers and advertisers would think of the detercrent effect which a livertisements out of place have on the reading public, they would see that it was more advantageous, even from a purely business point of view, to keep the advertising and the editorial portions quite separate. The paper can be had from Messrs. RIDER, 164. Allersgate Street.

of the Bulletin of Miscelleneous Information from the Royal Botanic Gardens, Kew, contains a catalogue of the additions to the Library received during 1903, excepting such current periodicals and annuals that are continuations of sets already catalogued. The list is printed on one side only of the pages to allow of its being continue and the slips distributed according to the convenience of librarians and collectors.

with the Agricultural Exhibition to be held at Cambrai next July, the Horticultural Section of the Comice Agricole has decided to take an important part. Their exhibits will include Vegetables, Herbs, Out and Indoor Fruits, Flowers, Trees and Shrubs, and Greenhouse and Indoor Plants. Amateurs, as well as professional growers, are invited to participate in these several sections. Numerous awards are offered and the exhibition will be open from July 24 to 26. Intending exhibitors should communicate with M. EMILE BRISSE, Secretary of the Horticultural Section, or with M. Ch. Debergue, Manager, 1, Rue de l'Ange, Cambrai.

THE NICE AGRICULTURAL AND HORTICULTURAL SOCIETY.—The January Bulletin of the Societé Centrale d'Agriculture, d'Horticulture, et d'Acclimatation de Nice et des Alpes Maritimes, includ 32 a paper by M. R. ROLAND GOSSELIN, on the "Genus Cleistocactus" and another important article on "Diseases of the Apple," by M. Ch. Baltet. Reports of the Society and various notes are also included in the Bulletin.

"Spring Gardening."—This is No. 13 of a series of rural handbooks, and deals with various aspects of outdoor spring gardening—of wild and woodland, horders, walks and edgings, bulbs in grass and under trees, flowers in orchards, hoggar lens, rooteries, walls, arches, bedding, house-decoration, &c, with cultural directions, notes on spring flowers for the cool greenhouse, and

tabnlar lists of spring-flowering bulbs, perennials, annuals, shrubs, trees, creepers, &c. There are several illustrations. Mr. H. Francklin has, as will be seen, prepared a very full programme, and has done his hest to carry it out successfully. The proofs, however, have not been sufficiently revised as far as the names of plants are concerned. Gardening, especially in spring, is such a favourite pursuit that the demand for new books on the subject seems to warrant the constant supply of them. No doubt the present pamphlet will prove quite as popular as those in the series which preceded it. The publishers are Messrs. Dawbarn & Ward, 6, Farringdon Avenue.

PRESENTATION TO A GARDENER. — During the recent visit of the Dowager Queen of Holland to H.R.H. the Duchess of Albany, at Claremont, Esher, the Dowager Queen presented Mr. E. Burrell with a handsome scarf-pin, tearing the letter "E" set with diamonds, and surmounted by a crown in gold. Mr. Burrell has had charge of the Claremont Gardens for the past twenty-two years, and is highly appreciated for his ability and personal character.

LITTLEHAMPTON .- A well-written guide to Littlehampton, Arundel, and neighbouring country, by Rev. W. Goodliffe, has reached us. It confirms our impression that it is almost impossible to reach or get away from Littlehampton without going to Ford Junction, which, however unattractive, bulks largely in every matter concerning the little watering-place on the Sussex We find no mention of the strikingly beautiful condition which occurs under favourable circumstances when the incoming tide meets the outflowing river between the piers at Littlehampton. If the town itself contains relatively little of interest, the surrounding country is full of charm; and Arundel, its park and castle, stand in the very foremost rank so far as attractiveness is conceined; but then one must go to Ford Junction! In the neighbourhood are the Figorchards of Tarring, the nursery-gardens of Worthing, and other points of interest to the horticulturist. Numerous illustrations, a map and an index, combine to enhance the utility of this little handbook, which is published by the Homeland Association, 24, Bride Lane, Fleet

SCHEDULES RECEIVED.—SUTTON AMATEUR ROSE SOCIETY'S EXHIBITION, in the Public Hall, Sutton, Surrey, on Saturday, July 2, 1904.

PUBLICATIONS RECEIVED.—The Transvaal Agnicultural Journal (issued by the Agricultural Department); January. This contains much useful information, including a paper by Mr. C. Malnwaring, on trees for shelter, and for shade and ornament respectively. For shelter (in the Transvaal), the following are recommended: Blue Gum, Black Wattle, Poplar, Casuarina, Pinus insigois, Cupressus macrocarpa, Quince, Hakea and Pomegranate, and for other purposes the Catalpa, Paulownia, Willow, Oaks, Walnuts, Castanea, Chestnut, Cedrus Deodara, Ash, Platanus, and Melia Azedarach. Useful nntes are given respecting monthly garden work in the Transvaal, and a list of the Officials of the Department. We note that the Botanical Division is under the care of our old colleague, Mr. J. Burit-Davy.—Report of the New Sow'h Wales Botanic Gordens and Domains for 1902. The rainfall was small and erraite, but comparatively few plants were lost; 1902 will long he remembered as the year during which about 10 acres of the Lower Garden were regraded to connect with the 5 acres annexed from the Inner Domain, graded in 1901. No fewer than 6,000 loads of filling were carted on to the ground. The reports from the Herbanium and National Museum, are also satisfactory, and the Director (Mr. J. H. Malden) is to be congratulated on the work of the year.—The Queensland Agricultural Journal; February. The Botanical section of this periodical deals with the indigenous false Ginger (Alpinia cerulea), by Mr. F. M. Bailey, and there are, as usual, various notes on gardening and horticulture.—Annual Report of the Secretary for Agriculture, Nova Scotia, for 1903. Mr. B. W. Chipman (Secretary) here issues the reports from the several Societies and Districts. A general review of the year's work speaks of a favourable season with an exceptionally good fruit crop.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

FRUIT-GROWING-NOVA SCOTIA v. BRITISH COLUMBIA.—In the Gardeners' Chronicle (see-pp. 105, 186, and 188) there have been some remarks anent fruit-growing in Nova Scotia and British Columbia. The geographical position of Nova Scotia gives it a great advantage over that of British Columbia. A line of 45° of north latitude passes through the centre of Nova Scotia. —say at about Halifax, and a line of 55° passes through the centre of British Columbia—say at about Fort George. We are informed that the best fruit grown in the interior. It will therefore. be seen that there is a difference of 10°, equal to 690 geographical miles, in favour of Nova-Scotia, which is in a corresponding latitude to that of the north of Italy. I note this, as I think we do not sufficiently take into consideration the respective geographical positions of our-hardy fruit-growing districts. Who, for instance, would ever think of looking for our parallel of latitude in the cold, miserable, frozen country of Lahrador? Yet this is exactly our corresponding parallel in which we have to grow our Apples, as against those countries which are favoured with an incomparably more sunny geographical position in a range of say 20° further south. But it should be remembered that the isothermal lines of equal temperature run high up into north-western Canada, including British Columbia, part of Athabasca, Saskatchewan, Manitoba, Ontario, &c., which place those provinces on almost equal level as regards temperature to-those lying more southerly. But even if all that be admitted, it seems obvious that British Columbia, handicapped by 10° of a northern latitude, must be placed, as a fruit-growing country. to great disadvantage as compared with Nova Scotia. It should also be remembered that Nova-Scotia was a fruit-growing country long before very much was known of British Columbia, therefore let us hope that the latter may yet become afruit-growing country of acknowledged reputa-tion. To our unfavourable home climate we have hitherto also added the grave error of planting our orchards with a promiscuous lot of rubbishy varieties, merely with the idea of being able to show a large collection; and I am not sure whether some of our great horticultural societies, to whom we look for light and leading, have not themselves egregiously erred in this matter by offering prizes for the largest and most. varied collections. In the Gardeners' Chronicle of June 9, 1900, p. 368, there is an excellent article, having for its heading "Apple Election," by Mr. A. H. Pearson, of Lowdham, Notts, which those who are about to plant an orchard would dowell to peruse. W. Miller, Berkswell.

THE SHASTA DAISIES.—Having purchased the original Shastas, and planted them in two-places, I regret to say that with me they are complete failures—very "miffy" in growth, and the flowers are no hetter than the common Horse-Daisies of the fields. They cannot in any way compare with the recent varieties of Chrystanthemum maximum, either as border flowers or for cutting. I shall be glad to know if other growers have been more fortunate with them. George Bunyard, Maidstone.

PROLIFIC FIG-TREES.—It would have heen interesting if your correspondent Mr. L. B. Husbands, in his note on p. 121, had given thename of the Fig he described, which is a remarkable instance of prolificacy. A crop of 300 Figson a space of about $4\frac{1}{3}$ feet square is truly a prodigious one. $R.\ W.\ D.$

ONOSMA ALBO-ROSEUM.—I can fully endorseall that Mr. Arnott said concerning this planton p. 150. It is most important that the position afforded the plants should be hot and dry. One of the most auitable positions is a slightly raised hank of earth near some superficial-rooting tree. Mr. Arnott's experience of the plant is practically identical with my own, and this in districts widely apart. If afforded such a position as I have indicated, and a stony soil quite free of manure, the plant will give very little trouble to the cultivator. E. H. Jenkins, Hampton Hill, Middlesex.

clinkers for drainage.—Some time ago the reviewer of Mr. Ward'a Book on the Peach took exception to the use of clinkers as drainage for Peach-borders. In making the four Peach-borders here I had no occasion to use what clinkers we had, for we possess an abundance of brick-bats from old buildings; but I use clinkers for draining 8-inch pots for French Beans, 9-inch for Chrysanthemums, 10½-inch for Pines, and 12-inch for pot Vines, and always find the perforations permeated with roots. I resorted to their use to save time, for a man will prepare half a-dozen pots with clinkers whilst doing one with crocks, for he can often alight on a clinker that will cover the bottom of an 8-inch or 9-inch pot, and the drainage is far more effectual. I cannot see what objection there is to their use in Peach-borders after they have been exposed to the weather. If I had to make a drain I should certainly prefer clinkers to brick-bats. W. P. R., Preston.

ecklinville Seedling apple.—What stock are Mr. Upex's trees worked upon? My experience is that the broad-leaved Paradise is the stock par excellence for this variety. Our dwarf pyramidal trees on this stock rarely fail to carry a full crop of good fruits free from spot. The soil is a heavy loam overlying brick earth. I have grown the variety in Surrey as standards on the crab stock, and the trees cropped well, but the fruits were spotted hadly. Mr. E. Molyneux, of Swammore Park, may be able to say something of this variety, as I remember to have read of its being largely planted there some years ago. Farmers should not plant many trees of this Apple, as the fruits are very soft, and only keep for a short time. Grenadier and Royal Jubilee, in use about the same time as Ecklinville, are much better varieties. Chas. Page, Dropmore Gardens, Maidenkead.

HOW SYNONYMS ARE MANUFACTURED. — At a recent meeting of the Royal Horticultural Sciety the beautiful white-and-yellow sport from the early single Tulip, White Pottebakker, which has been known for several years past under the name of Unique, was shown in good character by Mr. W. Howe, gr. to Lady Tate, Park Hill, Streatham Common, and bearing its proper name. But in another part of the Hall there was to be seen a collection of Tulips from a London nursery firm, and among it was Unique, but incorrectly named Memory. No more appropriate name could be given to this beautiful Tulip than Unique. On each petal is a flame of soft pure yellow starting from the base and running up two-thirds of its length. But that another name should be given to this variety is a matter for regret. R. D.

the Gardeners' Association.—I should think that a Gardeners' Association, established on a sound and practical basis, would be productive of much good, not only in raising the social standing of real, practical, deserving and thoroughly reliable gardeners, but it would also tend to the advancement of horticulture generally throughout the country, if only duly qualified, good all-round gardeners were recommended by the Association when applied to to fill posts of trust in which cultural skill is a sine qua non. Many good suggestions have the pages of the Gardeners' Chronicle during the last few weeks as to the formation and composition of such an Association. The Committee of Management should consist of gardeners whose names are well known to the gardening community in connection with high-class and successful gardening and gardening diterature—men who have given long and convincing proof of their ability and integrity in the front ranks of practical gardening. Previous to the admission of gardeners to membership as being duly qualified to fill the post of head gardener in any garden having any pretension to completeness, care should be taken to enquire into the character of the places in which the would-be Associates have gained their gardening experience, the time served in such places, together with the names of the gardeners under whom their experience had been gained. Such eligible horticulturists could (as pointed out by



FIG. 92.—DENDROBIUM X MELANODISCUS VAR. GLORIOSA, BEING ONE OF THE PLANTS IN MRS. HAYWOOD'S COLLECTION, AN ILLUSTRATION OF WHICH WAS PUBLISHED LAST WEEK.

Mr. H. Ruse in the Gardeners' Chronicle' for March 26, p. 203) be nominated by the several excellent gardeners presiding over the many well-known gardens located in every county in England, Ireland, and Scotland, and to whom msny first-rate gardeners and good men doing themselves credit in small places are well known—men who are equally competent to fill large places with credit to themselves and satisfaction to their employers, their early experience having been gained in large gardens under good sound practitioners. In this way only duly qualified men would be admitted to the Gardeners' Society. In short, it would, one might say, be the "survival of the fittest." In order to secure the attention and confidence of the owners of gardens requiring the services of good practical all-round gardeners of irreproachable character, the Gardeners' Association should, I think, be started under the auspices of the Royal Horticultural Society; the Council of the Royal Horticultural Society, in the interest of horticulture, permitting the Gardeners' Association to have its registered address in the Horticultural Hall at a nominal charge; but all letters of application for head-gardeners should be submitted to the Committee of the Gardeners' Association, the selection of men to fill vacancies being made by the said Committee from the names of members seeking head places according to their special fitness for undertaking certain responsibilities; the appointment being made without fear or favour by sending the man who appears most capable to discharge the duties required of him with satisfaction to all parties concerned. H. W. W.

A previous correspondent asks suggestively, "What have we to do with commercial gardeners, and what have they to do with us?" The interests of all gardeners are surely identical in this matter, whether engaged in private, commercial, or municipal and public establishments. There also appears to be a desire on the part of some to confine the benefits of organisation to individuals having a certain (minimum) number of men working under them; this will not help to interest the mass of the fraternity, on whose goodwill and co-operation success will so largely depend. One of the many benefits resulting from an efficient Association would be the gradual extermination of the underpaid "handyman," often a near relative of the "duffer." J. S.

PROPAGATING BEGONIA GLOIRE DE LOR-RAINE.—Mr. Tallack, on p. 203, advocates the propagation of Begonia Gloire de Lorraine by means of leaves, in November. I once tried that method, but without success, possibly because the leaves were inserted too late. But I find it difficult to believe there can be any necessity for propagating this Begonia in November, when it is so easy to produce excellent plants from basal cuttings inserted four months later. C. R. Fielder.

POTATOS.—Like Mr. Jefferiee, I have not found the variety. Sir J. Llewelyn good enough in quality to induce me to grow it in quantity. It may give better results in light soil. Our soil is heavy, but more on sand than clay. I can endorse Mr. Jefferies' remarks respecting Syon House Prolific, Ninetyfold, and Up-to-Date. All three are good with me, and, as they succeed at Moor Hall, I would recommend Evergood, which was the best eating Potato with me last season. As the quality of Potatos varies in different soils, we shall always want numerous varieties to make selections most suitable for particular districts. T. H. Slade, Poltimore.

THE RAVAGING OF THE PRIMROSE BY BIRDS.—The birds are playing havor with the blossoms of Primrose and Polyanthus. Whatever may be their motive in so rudely tearing the corolla from the calyx, they not only destroy the beauty of the plants, they make seed-production impossible. Last year the ravages by birds, coupled with a burst of inclement weather when the plants were in the height of their bloom, practically ruined the seed-crop; a repetition of this is not desirable. I have tried several kinds of scarscrows, but the birds soon become familiarised with them, and will even perch on the back of a dummy cat. The best check to their depredations

I can supply is a line of black thread stretched about a foot above the plants over every third row in a plantation. In alighting among the plants they appear to strike the black thread, which alarms them, and holds their ravages in check. It is all the more necessary to do this in the present season, as the coloured Primroses have bloomed with unusual freedom through the autumn and winter, and at great waste, the conditions of the atmosphere not being favourable to seed-production. The white varieties are always among the earliest to bloom, and they are generally highly floriferous. R. D.

SEEDS OF THE LOOFAH.—Having fruited the Loofah last summer from seeds imported from Egypt I would send your correspondent, "T. W. W." (see p. 176), some seeds of the same if he will apply to me. A. Laker, Tickencote Hall Gardens, Stamford.

PLANT NOTES.

LOBELIA NICOTIANÆFOLIA.

Mr. J. O'BRIEN, V.M.H., received seed of this species (see fig. 79 on p. 195) from the Wynaad Hills (India) some three years since, and kindly gave me some for trial. The seeds germinated very freely, and the seedlings being treated like ordinary soft - wooded greenhouse plants, they proved easy of culture, having with us more of the character of perennials than biennials, some of the plants growing quite 6 feet high without forming an inflorescence. Last summer I planted a number of these plants out-of-doors in a sunny position, but although they grew very vigorously and formed very large foliage they did not flower, owing no doubt to the sunless season. In a number of seedlings we found a marked variation in the colour of the stems; some were green like the foliage leaves, others dark purple, and between the two extremes there were many intermediate shades. In the dark-stemmed plants the colour ran into the large veins of the leaves. John W. Odell, Stanmore.

TREES AND SHRUBS.

THE LAUREL-CHERRY.

Time and again I have heard much controversy as to which is the most hardy variety of this decorative and useful evergreen plant (Prunus lauro-cerasus). Possibly much depends on the situation, the soil, and drainage. On banks about Sussex and Kent I have seen large, strong-growing specimens of the long-known Laurus levanticus (?), bright green and beautiful, while about a mile away, on low ground, the frost has annually cut it down or killed it out right, consequently some nurserymen no longer grow it for sale, believing it to be far surpassed by the variety ovalifolia both in beauty and hardiness. This may be all true in some localities, but in low and damp and ill-drained ground I have found it surpassed in colour and growth by caucasica, which is very handsome, a quick grower, and fine in colour, and when in this year's wet, with its consequent pools of water, my plants of "ovalifolias" were killed, the caucasica grew in fine condition and is doing well.

On dryer ground the former has the best appearance, therefore I think that when the soil is moist the latter is the hardier of the two; and this is an opinion that I have not unfrequently expressed, but which has been occasionally controverted. Mlne are fairly tested, the bushes composing the rows being planted as to variety alternately. I have another dark-green larger-leaved Laurel-latifolia. This is a strong grower, attractive, and is, so far as tested, quite hardy, the frost so far not having discoloured a branch on the plant. The small long-leaved variety grows well, but with me is

tender. One of the handsomest, if not the most beautiful and rapid in its growth, is the variety shipkaensis, though somewhat irregular in form, its rather small though well-shaped leaves are of a deep and almost fascinating green-This gem of its class is without any doubt one of the very strongest growers and the hardiest of all, growing as it is said to do in situations both high, rocky, and bleak, even where the cold of the atmosphere sinks below zero. There are others of which I know so little that I do not feel free to offer an opinion. In Kent in various places the Bay Laurel, Laurus nobilis, does well, and owing to its beautiful appearanceand delightful aroma has many admirers. Prunuslusitanica, when once recovered from any moving or transplanting, grows quickly and flowers so well that the bushes in such seasons are not only a picture, but a delight to behold; nor does the cold seem to have much effect in marring their beauty. Harrison Weir, Appledore, Kent.

[To the varieties of the Laurel-Cherry recommended by Mr. Weir might be added that of camelliæfolia, which is one of the very best and most hardy. Ep.]

GENISTA MONOSPERMA.

This remarkable Broom inhabits the coast regions of North Africa, Southern Europe, and the Levant. Though it is said to have been introduced to England more than 200 years ago, it is very rarely seen. It inhabits dry, hot regions and frequents barren spots, and is therefore illustited to our damp and often sunless climate. The seeds imported from South Europe germinate-freely enough, but the plants are apt to damp off during winter. Even when they survive and grow into shrubs they rarely, if ever, flower satisfactorily.

It is a dwarf shrub with a few short rounded' leaves in the seedling state, which as the plant: gets older become narrow linear and covered with a silky pubesence. When present they are always unifoliolate, but usually the plant is quite leafless. The branches are thin, flexible, and Juneuslike, bearing the flowers in short spikes or fascicles. They are creamy-white, and from three to ten occur on a spike. The pods are one-seeded, as the name implies, and are sub-globose or ovate... Under the burning sun of Morocco or Palestine or Spain, this plant, during the flowering season, is very beautiful, but in this country it is not likely to survive out-of-doors anywhere, except possibly in the extreme south-west. At Kew it has to be treated as a greenhouse plant; it cannot be recommended for general cultivation. W. J. E.

FLORISTS' FLOWERS.

PLANTING BORDER CARNATIONS IN AUTUMN.

PLANTATIONS of border Carnations appear tohave come so far through the winter with little perceptible harm. They have certainly stood the persistent wet and cold in the heavy moistureladen loam of my grounds at Hounslow better than double Daisies, many Primroses, Pansies, Sweet Williams, &c., and now, in the second week in March, the weather is as cold, wet, gloomy, and miserable as at any time during the long winter, and as yet there is very little spring: growth. In planting out Carnations I took the precaution of arranging the plants on slightly raised ridges of soil, which, I think, has helped them to brave the hardships of the winter-Unless from causes local or otherwise danger might lurk in placing the plants in the open ground in September and October, it is best to do so. Authorities agree that the plants thus treated are stronger and give better results than when planted in spring. But in the interests of

safety any delicate growers that yield fine quality of bloom might be potted up at the end of the summer, wintered in cold frames, and planted out in spring. All cultivators of the choicer bizarred and flaked Carnations, and the edged Picotees with yellow grounds, winter their plants in frames, giving them an abundance of light and air, watering sparingly, and transplanting to the blooming pots in February and March. But the robust, free-blooming border varieties can be placed out in the autumn without misgiving. The soil forming the bed should be deeply dug and manured some time previously; the manure should be thoroughly decomposed, and the bed forked over two or three times previous to planting. If the soil is heavy some wood-ashes and burnt earth may be added with great advantage. In the case of plants occupying a ridge, as soon as the weather becomes dry the soil will be loosened on each side of the plants, and a good top-dressing from a heap of vegetable mould and soil will be added. So far the grub, which pierces the centre shoot of a plant and works its way downwards, is scarcely apparent, though it generally appears to be in greatest force in a cold and wet autumn and winter season.

BLUE PRIMROSES.

There are few blue-flowered plants which show such fine and varied tints of this colour as the blue Primrose, from azure-blue [?] to deep indigoblue. But it is a plant which appears to fare badly in some localities when planted-out for the winter, especially where the soil is heavy and water-logged. In the open my plants look wretched, and are making little if any growth; but planted-out in a cold frame, with the protection of lights, they are superb, throwing very fine clean blossoms. There is evidently a touch of delicacy in the constitution of the blue Primrose, and it is showing it in many places this winter. Then there is the tendency to revert to a deep purple - crimson colour, as if its ancestor was a flower of this colour, and the descendant is reverting to it. I have plants of blue Primroses which are losing the blue tint in the second year of flowering. The only way to ensure the true blue colour is to save some seed annually from the best varieties and raise seedlings yearly. The blue Polyanthus, which has no doubt been derived from the blue Primrose, is also a plant of some delicacy of constitution, and it is risky to plant it out in the open, except under the most favourable conditions. I have lost many plants through plantingont in autumn, though on a specially prepared and raised bed. I am growing my seedling blue Primroses this season in pots, but being in small pots ready for a shift, they have done well, though frozen hard on several occasions. The old pale silvery-greyish-blue Polyanthus was always a delicate subject, liable to injury by cold and wet in winter, and by drought in summer. It has become very scarce indeed, R. D.

- BOOK NOTICE.

THE FORMATION OF VEGETABLE MOULD THROUGH THE ACTION OF WORMS, WITH OBSERVATIONS ON THEIR HABITS. By Charles Darwin, LL.D., F.R.S. (London: John Murray, Albemarle Street).

This is the "thirteenth thousand" of Charles Darwin's famous work, the idea of which was broached in an early volume of the Gardeners' Chronicle by the great naturalist, but first published in detail in 1881. Many will welcome this new and cheap edition, which is clearly printed and illustrated, and provided with an index. Old readers will be glad to renew their acquaintance with the book, and there are new ones to whom it is accessible in its present

form. Unscientific and mappreciative observers will be surprised to learn that earthworms, probably thought by them unworthy of notice, are capable of exhibiting such qualities as timidity, sensitiveness to light, heat, the vibration of certain musical notes, to air, scent, &c. As to the "part which worms have played in the history of the world, their aid in the disintegration of rocks, denudation of soil, preservation of ancient remains, and preparation of the soil for the growth of plants," that has been and is no small one, and those who consider the subject trivial should improve their minds about it by a perusal from the pages before us.

Obituary.

PROFESSOR SCHUMANN.-We regret to have to announce the death, at Berlin on the 22nd ult... of Professor Dr. Schumann, Curator of the Botanic Museum at Berlin, and well known to lovers of Cactaceous plants by his publications relating to that family. He was the author of the monograph of this family in Engler's Die Natürlichen Pflanzenfamilien, as well as of that of the Musaceæ and Marantaceæ in Engler's Das Pflanzenreich; but his principal work was his Monographia Cactacearum, a "key" to which in English was published last year. For the last ten years he was President of the Deutsche Kakteengesellschaft, in which he took the keenest interest, editing the Monatschrift für Kakteenkunde and the Blühende Kakteen, an illustrated periodical published at the expense of the same society. Prof. Schumann was born on June 17, 1850, at Görlitz, Silesia, and was for some years assistant to Prof. Göppert at Breslau. Twenty years ago he was called to Berlin, and since then ranked foremost amongst its botanists. His knowledge of plants was extensive

Mas. SPENCER.—It was with much concern that I heard of the death, on Thursday the 24th ult, of Mrs. Spencer, the estimable wife of Mr. Thos. Spencer, gardener, Goodrich Court, Ross, Herefordshire. The deceased will be remembered by many for her cheerful manner and natural kindness, and her death will be regretted by the many friends which she and Mr. Spencer made during their long stay at Goodrich. Mr. Spencer and his only son, William, who is foreman under him, were both pupils at Eastnor Castle, under Mr. Coleman. Much sympathy will be felt for them in their bereavement. T. Coomber, Hendre Gardens, Monmouth.

WILLIAM LUNT.-It is our sad duty to record the death, on January 3 last, of Mr. William Lunt, Curator of the Botanic Station at St. Kitts, West Indies. Mr. Lunt was an old Kew man, having entered Kew from Welbeck Abbey Gardens in 1892. Whilst at Kew he was selected to accompany Mr. Theodore Bent's expedition to South Arabia, which left England in November 1893. The special work deputed to Mr. Lunt was the collection of plants, seeds, and specimens for the Kew collection. The objective point of the expedition was the Hadramant, one of the four ancient kingdoms of Southern Arabia, situated over 400 miles up the coast from Aden. The expedition was full of adventures, the lives of the party being often in jeopardy, their own guides and camel-men even firing on them. The results of Mr. Lunt's researches included the addition to our knowledge of twentyfive new species and two new genera of plants. Among these are Fagonia Luntii (Baker), Caralluma Luntii (N. E. Br.), Verbascum Luntii (Baker), and Aloe Luntii (Baker). The Kew Bulletin for 1884 contains a detailed account of all the plants collected by the expedition. In September 1894 Mr. Lunt was appointed Assistant Superintendent of the Botanic Gardens at Trinidad, where he remained until October

1898, when he received the appointment of Curator of the Botanic Station at St. Kitts, with supervision of agricultural experiments at St. Kitts' Nevis, and Anguilla. The duties of this latter appointment Mr. Lunt continued to carry out with considerable success until his death. Mr. Lunt was held in high esteem by his colleagues and members of the planting community in those islands.

M. BEDINGHAUS.—We learn from a Belgian source of the death of this famous amateur at Ghent on the 7th inst. M. Hedinghaus will be greatly missed by his many friends. He was one of the few who still continued to grow specimen hard-wooded plants, and his exhibits of these at the Quinquennials formed one of the most striking features of those great displays.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MARCH 22—Present: Dr. M. T. Masters, F.R.S. (in the Chair); Messrs, Shea, Holmes, Gordon, Bowies, Massee, Worsley, and Michael; Professor Boulger; Revs. W. Wilks and G. Henslow, Hon. Sec.

Springtail: -Mr. ALLAN, Ashurat Park, Tunbridge Wells, tent specimens, observing that he always found them on the ground round about the glasshonses in spring and summer during showery weather. Mr. SAUNDERS reports as Iollows: -"In reply to the letter from "I. R. Allen." The little insects are specimens of one of the "apringtails" or Poduridæ, and belong to the genus Podura. These little creatures may often be found in very large numbers together. Out-of-doors they are not, as a rule, the cause of much mischief to plants. They sometimes, however, lujure the roots of Potatos, Carrots, Cabbages, &c. 10 Mushroom-beds they are often the cause of much fojory to the Mushrooms when they are quite yonng; in Cucomber-frames they attack the young Cocombers, gnaw-Ing off the outer tkin, and causing the Iruit to ahrive'. They are difficult to destroy, as it is in many cases impossible to apply an iosecticide without injuring the plant on which they are found. Where it is possible to use such a remedy, the simplest way of destroying them would be to pour very hot water over them. A strong solution of salt or nitrate of soda would probably be just as efficacious. The springtails are very intolerant of drought, and are generally only found in damp situations."

Acari in Bark.—Mr. Barclay, of Stevenage, sent specimens, describing them as being "under every bit of loose bark, and in all crevices of the fruit-trees. Mr. Michael observea: "They belong to the genue Oribats, possibly O orblcularls or O lapidaria. From a gardener's point of view they are practically harmless, and may be disregarded."

LINNEAN.

March 17.—Professor J. Baetland Farmer, F.R.S, Vice President, in the chair.

The Chairman announced that Mr. William Watson had been duly elected an Associate on February 18 last, in accordance with Bye laws, Chapter V., Section 11., by a simple majority of the Fellows voting.

The Treasurer then read the section in queatlon, pointing out that it was therein declared that only the second, third and fourth Sections of Chapter I. applied to the election of Associates, and the fifth Section, requiring a two-thirds majority, was expressly excluded.

The Rev. R. Ashington Bullen exhibited (1) the eggcapsule of a Mantis found on a twig of wild Olive, while others occurred in immense numbers on Blackberry and various shrubs at Brenes, near Carmona, Spain, February 16, 1904. Mr. W. F. Kirby refers it to Mantis religiosa, Linn.

(2) A photograph of a cat playing with a snake before

(2) A photograph of a cat playing with a snake before killing it, and calling to her kit ens in a loud and peculiar way to come and share in the sport; it was snapped by Mr. George Bonsor in 1903, in the patio of his house in the Necropolia Romana, Carmona Mr. A. O. Walker brought a branch of Black Currant.

Mr. A. O. Walker brought a branch of Black Currant from his garden near Maidstone, with the awoilen buds indicative of the destructive mite Eriophyse riots.

An account of the Bryozoa from Franz-Josef-Land, collected by the Jackson-Harmsworth Expedition, 1896, 1897, was contributed by Arthur Wm Waters F.L.S.
The Rev. T. R. R. Stebbing, Sec.L.S., also exhibited a series of specimens, collected by H.M.S. Rattlesnake

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and determined by Mr. John Macgillivray, one of the naturalists on board, in illustration of Mr. Waters's paper, which was further illustrated by lantern-slides. The General Secretary, Mr. B. Daydon Jackson, then gave an exhibition and lantern demonstration of "Botanic Illustration from the Fifteenth to the Twentieth Centuries." After explaining that he practically confided his remarks to monochromatic processes, he gave a chronological account of the various methods employed, from the earliest known period of printing with movable type, from the anonymous Herbarius in with movable type, from the anonymous Herbarius in 1484, and the undated Ortus Sanitalis to recent times. The works of the early herbalists were used as specimens of wood-engraving, from Brunfels in 1520 to Parkinson in 1629; etching from Colonna in 1520 to Dillenius 1732, and Hill (drypoint) in 1758; copper engraving in line, represented by Vaillant, 1727, and Ehret in Linneus's Hortus Clifortianus, 1735; and mezzotint by John Martyn's Historia in 1728.

A later state of wood-engraving was then described.

Thomas Bewick's engravings of plants in Thornton's Herbal 1810 (cd. 2, 1814) were shown, but as the drawings by Henderson in that work did not allow the engraver to do himself justice, a figure of his "Grasshopper Warbler," from his British Birds, 1795-1805, was thrown on the screen, to demonstrate his use of the white line and the flat black. A Japanese representation in the Kwa-wi of Podocarpus macrophylla. D. Pon, was then shown, to exemplify the use of the black masses in their work, and a modern French woodcut, for the

their work, and a modern French woodcut, for the skill shown in depicting various visual planes.

A later period of copper or steel engraving was then mentioned, as shown by P. J. Redou'ë in his stippled engravings, which were finished by hand-colouring, and the exquisite rendering of some of Thuret's algologic plates also by stippling; other illustrations from a plate in Boott's Carex, showing a mixture of line and stipple, brought up the subject of lithography, and a specimen of a plate, drawn by Riccreux and lithographed by J. N. Fitch, was shown.

The process of mechanical reproduction was then

graphed by J. N. Filch, was shown.

The process of mechanical reproduction was then entered upon. After displaying two specimens of ectypa, or impressions in printer's-ink from actual specimens, Bradbury's Nature printing and a Viennese modification of it were displayed on the screen. In succession, the various methods of Line-blocks, Half-tere blocks, and Physicarythes were explained, with tione blocks, and Photogravure were explained, with illustrative examples, closing with collotype and Woodbury-type, specimens of which from the same sliver print were handed round for inspection.

The Chairman initiated a discussion, in which Mr. A. D. Michael pointed out that the cost of several of the best processes was prohibitive as regards their employment in matters of natural history, and Mr. C. A. Ferrier pointed out that Bewick's technique was actually wood-engraving, and not mere wood-cutting. He further mentioned that in his early days in London he, was introduced to William Harvey, a famous draughtsman in the middle of the nineteenth century, and the last surviving pupil of Thomas Bewick.

LONDON DAHLIA UNION.

THE annual exhibition by the London Dahlia Union will take place, as last year, in the Prince's Hall of the London Exhibitions, Ltd., Earl's Court, on Thursday and Friday, September 15 and 16. A feature of more than ordinary interest will be the competition for some special prizes offered by Mr. F. G. Gledstanes. Mr. Gledstanes is a great admirer of the Cactus Dahlia as a garden plant, and he is desirous of bringly to the fore the varieties, old and new, best adapted for the pur-pose, and to that end he is offering special prizes for six vases of distinct varieties of Cactus Dahltas, three blooms of one variety only in a bunch, to be shown on stems without any supports. A stiff, erect stem, with the flower well displayed, is what is required. Such a class will have an educational interest. The Secretary 1: Mr. R. Dean, Ealing, London, W.

GARDENERS' DEBATING SOCIETIES.

WARE AND DISTRICT GARDENERS'.-The fort-WARE AND DISTRICT GARDENERS'.—The fortnightly meeting was held on Tuesday, March 15, when
Mr. W. Durrant read a paper on "The Culture of
Glóxinias." He dealt with the introduction of the
Glóxinia, with seed-sowing, propagation by cuttings
and leaves the ripening of the tubers and restarting,
and general cultivation. The various insects that
attack the plants and the best method of destroying,
them were also dealt with. A good discussion followed,
The Secretary read a letter from the Rev. W. Wilks
thapking the members for their liberal donation of
civit suiness towards the new Hall of the Royal Hortieight guineas towards the new Hall of the Royal Horti-cultural Society. The Secretary wishes to thank all the members and friends who so kindly enabled him to make this donation such a success.

CHESTER PAXTON. - The last meeting of the present session was held in the Grosvenor Museum on Saturdsy, March 19, under the presidency of Mr. A. W. Armstrong. A paper was contributed by Mr. W. White entitled." The Value of Education and Science to those

employed in horticultural pursuits." In the absence of Mr. White the manuscript was read by the Secretary, Mr. Miln. The desirability of horticulturists acquiring a better and more complete knowledge of the sciences bearing upon their profession was strongly emphasised by the writer, especially if we in this country are to hold our own in regard to foreign competition. It is proposed to hold an exhibition of spring flowers in the Grosvenor Museum on or about April 13 and 14.

EGHAM AND DISTRICT GARDENERS'.-On Wednesday evening, March 16, a very successful meeting was held of this new Society. An excellent paper, read by Mr. G. Baskett, on "The Hybridisation of the Rose," was much appreciated by the members. Mr. Baskett itlustrated his remarks by showing specimens of the wood of Roses and Sweet Briars, and of the various crosses that had been obtained by hybridising these plants. The next meeting will be held on Wednesday, April 6, when Mr. Swan will give a lecture on "Phases of Modern Gardenies." of Modern Gardening."

BRISTOL AND DISTRICT ASSOCIATION .and Modern Gardens "was the subject of an interesting lecture by Mr. Meyer, of Exeter, on March 17. Mr. W. E. Budgett occupied the chair. With the aid of about eighty lantern-slides the lecturer was enabled to about eighty lantern-slides the lecturer was enabled to explain the difference between old-time gardening and the present modern style. Views from the hanging gardens of Babylon (!), the old-style Roman gardens, those of Jamaica, Japan, France, and many others were shown. Views of some of our English parks and gardens were very pleasing, notably Sefton Park at Liverpool, Battersea, Chatsworth, and others. Several views of rock-gardens which the lecturer had himself constructed were shown. constructed were shown.

CHISLEHURST HORTICULTURAL ASSOCIATION.—
On Tuesday the 15th ult., Mr. John McKerchar, delivered at the Hall, Chislehurst, a lecture on the "Landscape of the British I-les, from the Glacial Period to the Present Time" The lecturer described the Indigenous flora of these Islands, and dwelt upon the changes effected from time to time through the interference of nuan; 1st, in the provision he had to make to protect himself from the incremency of the weather; 2nd, the arrangements he had to make to provide food for himself and the animals that he had weather; 2nd, the arrangements he had to make to provide food for himselt and the animals that he had domesticated; 3rd, the arrangements he had to make to beautify his environment as he advanced in civilisation by the introduction of trees and plants from foreign countries, some of which the lecturer described.

ALTRINCHAM AND DISTRICT GARDENERS. — On March 22 Mr. C. Paul, of the Botanical Gardens, Macchester, read a paper upon "Lilies." Mr. F. Robinson in the chair. Mr. Paul mectioned the great Lily Conferences held at Manchester in 1895, and Chiswick in 1901. He gave a list of the most suitable varieties for outdoor cultivation in the North, the Midlands, and the South. Such varieties as L. exce'sum, L. candidum, L. umbellatum varieties, L. Thunberglanum varieties were recommended for herbaceous borders in almost all districts; whilst L. auratum, L. spectosum, L. Hansoni, and some of the more delicate varieties thrive and do well in the Southern districts. He described fully the requirements, individually, for each class of Lilium. Where they fall to grow successfully in the borders, growing them in pots in a cool greenhouse or frame was recommended, and if required greenhouse or frame was recommended, and if required in beds or borders, plunging them where required for flowering just before they come into bloom. After flowering, they could be removed to their winter quarters and rested. A number of drawings of Lilies were exhibited at the meeting.

were exhibited at the meeting.

HULL AND DISTRICT.—On March 22 Dr. Wilson, M.A., read a paper on "Cactaceous Plants and their Culture." Cacti, he mentioced, had lost a great deal of their popularity, mainly on account of the rise in favour of such plants as Orchids, Begonias, and Chrysanthemums. The majority of Cacti now in cultivation are natives of the New World. Nature has specially endowed them with a power of conserving moisture, and consequently withstanding drought. In cultivation we should imitate the conditions of their native habitat as far as possible. Cacti should be grown in loamy soil with chalk or lime, and a little bone-meal and coarse sand Established plants should be potted in spring, having most of the soil shaken out and shortening the large roots. April to September is their growing period, during which time they should be kept moist but not saturated, and fully exposed to the sun. Dr. Wilson afterwards treated of propagation by seed, cuttings, and grafting; and the insect pests and diseases to which the Cacti are subject. W. R.

DEVON AND EXETER GARDENERS. - The con-DEVON AND EXCITER GARDENERS.— The concluding meeting of the Spring Session was held on the 24th ult., when Mr. T. H. Slade, Poltimore Park Gardens, gave a paper on "Gardeners and their Duties." After offering much valuable advice, Mr. Slade said that taking pains always brings its own reward, and young men who are the best equipped for their preferators as gardeners, have the best equipped. their profession as gardeners, have the best chances of the good appointments which now and again become

MARKETS.

COVENT GARDEN, March 29.

(We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. Ed.] CUT FLOWERS, &O.: AVERAGE WHOLESALE PRICES.

6.d. 8.d.	e.d. 8.0
	Narcissus, Soleil
Anemones, per doz bunches 0 9-16	d'Or, per dozen 20-4
	Orchids: Odonto-
Azaleamollis, bun. 1 0- 2 0	glossums, per
Azaieas, per doz. 4 06 0	dozen blooms 2 0-6
Bouvardias.bnch. 0 4- 0 6	
Callas, per dozen. 2 0-4 0	
Camellias, box 1 0- 2 0	- Cypripedium
Carnations, buch. 10-30	insigne, per dozen 0 9-1
Croton leaves.bun. 0 6-16	- Celogyne, doz. 1 0-1
Daffodils, per doz.	
bunches 20-60	Pelargoniums,
Eucharis, per doz. 16-26	zonal, dozen dozen
Euphorbia, bun. 10-30	bunches 40-9 — white, dozen
Ferns, Asparagus, per bunch 1 0- 2 6	
- French, per	- double scarlet, p. doz. bunches 60-8
doz. bunches 0 3-0 4	Primroses, per
- Maidenhair,	dozen bunches 0 9-1
doz. bunches 40-60	Roman Hyacinths,
Freesia, per doz. 10-20	doz. bunches 4 0-8
Gardenias, box 2 0-4 0 Iris doz. bunches 6 0 -	- doz. oddodod to
	Roses, Mermet,
Lilac (French), per bunch 16-30	- white, bunch 1 0-3
Lilium auratum	- pink, bunch 16-3 - red. bunch 20-4
	- Safranos, bch. 1 0- 2
- longiflorum, bunch 16-60	- French, bunch 1 0- 2
	Smilax, per doz.
	trails 16-2
Lily of the Valley, p. doz. bunches 9 0-15 0	Spirmas, bunch 0 6- 0
	Stocks, per doz 20-2
Marguerites, yel- low, doz bunch, 10-20	Tulips, Red, per
	bunch 0 6- 0
	- various, per
Mimosa (Acacia), bunch 0 6-1 0	buuch 0 6- 1
	Violets, p. dozen
	bunches 1 0- 1
- Pheasant Eye, per doz 1 6-4 0	- Parma, p. bun. 1 6- 2
per doz 1 6-4 0	- I atma, p. bun. 1 0 2

PLANTS IN POTS, &O.: AVI	ERAGE WHOLESALE PRICES.
s.d. s.d.	
Acadias, per doz. 12 0-50 0	Herbaceous plants
Adiantums, doz. 40-80	and perennials,
Aralias, per doz. 40-80	per box 10-20
Arbor Vitæ, doz. 9 0-18 0	Hyacinths, Roman
Arum Lilles, doz. 8 0-8 0	(48-pots), dez. 8 0-9 0
Aspidistras, doz. 18 0-36 0	- Dutch, p. doz. 8 0-12 0
Aucubas, per doz. 40-80	Lilac-trees, each. 30-40
Azalea mollis, pot 1 6-3 0	Lycopodiums,per
Azaleas, each 1 6-30	dozen 30-40
Begonia, per doz. 40-80	Marguerites, per
Cinerarias, dozen 40-80	doz 60-8.0
Crotons, per doz. 12 0-24 0	Orange-trees, each 3 6-10 6
Cyclamens, doz. 9 0-18 0	Palms, var., each 3 0-20 0
Cyperus, per doz. 30-40	Pelargoniums,
Daffodils, per doz. 60-80	double scarlet,
Dielytra specta-	per doz 8 0-8 0
bilis, per dozen 12 0 18 0	Primulas, perdoz. 4 0- 6 0
Dracænas, variety,	Pteris tremula, 12 4 0- 6 0
dozen 12 0-48 0	- Wimsetti, per
Ericas, per dozen 6 0-12 0	doz 4 0- 8,0
Euonymus, vars.,	- major, dozen 40-80
per dozen 4 0- 6 0	Spiræa, per doz. 60-80
Ferns in variety	Tulips, red, doz.
_doz 4 0-30 0	roots 10 -
Figus elastica, per	- youron, acced
doz 9 0-24 0	
Genistas, per doz. 6 0-10 0	— various 1 0- 1.6
M	- Wasters Prices

Godfatataa, por dom	0 0 20 0 6						
VEGETABLES: AVERAGE WHOLESALE PRICES.							
	s.d. s.d.	s.d. s.d.					
Artichokes, Globe,		Mushrooms(house)					
	3 0- 3 6	per 1b 1 0-13					
- Jerusalem, p.		Onions, per case. 76 -					
sieve	10-13	- per bag 3 9-70					
Acres raging Spring		- picklers, sieve 3 0- 5 0					
bundle	0 9 —	- English, owt. 8 6-90					
	5 0- 5 6	Pareley, doz. bun. 4 0-50					
	76 —	— sieve 20 —					
Beans, dwarf, lb.	16-19	Parsnips, per bag 20 -					
- Madeira, per	1 0- 1 4	Potatos, per ton 100 0-140 0					
	1 0- 1 6	— frame, lb 0 5- 0 7					
	2 6- 3 0	- New Teneriffe.					
	20-30	per cwt 12 0-14 0					
Brussels Sprouts,	1 6- 2 0	Radishes, per					
	1 6- 2 0	dozen bunches 08-13					
Carrots, per doz.							
bunches	20-26	Rhubarb, Yorks,					
	26-40	por denon					
Cauliflowers, per		Salad, small, pun- nets, per doz 0 8-10					
	1 6- 2 6	Zota, por country					
Celery, per dozen							
	8 0-18 0	Seakale, per doz.					
	0 8- 1 0	punnets 10 0-15 0					
Cucumbers, pcr		Shallots, lb 0 2-0 3					
	3 6- 5 0	Spinach, p. bush. 40-50					
Endive, per doz.	16-19	Tomatos, Canary					
Garlic, per lb	0 3 —	Deeps 2 6- 3 6					
		Turnips, doz.bun. 1 6-20					
reign, p. bunch	10-13	- per bag 20 -					
Leeks, doz. bun	10-13	Vegetable Mar-					
Lettuces, Cabbage,		rows, per doz. 8 0-12 0					
per dozen	10-13	Watercress, per					
	4 0- 6 0	dozen bunches 0.4-0					

FRUIT: AVERAGE WHOLESALE PRICES.

THE

8, d, 8. d,	8.d. s.d.
Apples, cookers,	Cranberries, case 13 0 -
per bushel 60 -	Figs, per doz 12 0-18 0
- Australian, in	Grapes, Allcante,
cases 10 0-16 0	per lb 20-30
Callfornian,in	— Almeria, doz. 4 6-8 0
_ cases 8 0-10 0	- Gres Colmar,
- Oregon, cases 10 0-15 0	A., per lb 3 0- 4 0
- Nova Scotia,	B., per lb., 1 9-2 6
per barrel 15 0-20 0	Lemens, per case 8 0-14 6
- Albemarles,	Oranges, per case 8 0-18 0
per barrel 22 0-30 0	Pears, per case 7 0-17 0
Bananas, per	Pines, each 20-40
bunch 6 0-12 0	Strawberries, A.,
- loose, dozen 10-16	per lb 50-80
Cobnuts, per lb. 0 73 -	- B., per lb 2 0- 4 0

REMARKS.—The Australian Apples (Victorian) are very bright, and of fine quality. Cape Grapes, per case, 12s. to 18s.; Peaches, 4s. to 6s. per case; Plume, cases, 8s. to 10s. each. New French Carrots, 8d. to 1s. 3d. per bunch; Turnips, 9d. per bunch; Sweet Potatos, 14s. per cwt.; Egyptian Ocions, 6s. 9d. to 7s. per bag; Algerine Kidney Potatos, per cwt., 13s. to 18s; Cornish Broccoli, of good quality, 8s. to 10s. per crate; Cherbourg, do, 1s. 3d. to 2s. per dozen; Italian do., 3s. per basket. Celery is now nearly over.

POTATOS.

Home-grown, 100s. to 120s. per ton; foreign, 80s. to 110s. do.; Dunbars, 130s. to 140s. do. Sced-tubers in variety. John Bath, 32 & 34, Wellington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

EARLY on Saturday morning, the 26th ult. market presented a very gay appearance, there being a wealth of flowering plants and cut flowers. Among pot plants the Iodian Azaleas are the most showy; Genistas are now at their best, and make a fair price. Cinerarias continue plentiful and good, those offered by Mr. Mott being very fine. Mr Sweat, whose stands are always so well filled with flowering plants, Lad good Cinerarias and Marquerites also Acades Krica by Mr. Mott being very fine. Mr Sweat, whose stands are always so well filled with flowering plants, Lad good Cinerarias and Marguerites, also Acacias, Frica persoluta alba, E. Wilmoreana, Boronia megastigma and B. heterophylla. In Messrs. T. Rochford's collection were some good Hydrangca Thomas Hogg, making from 12s. to 18s. per dozan. On the same stands were also some good standard Laburnums in flower, making from 2s. 6d. to 4s. each; also double-flowered Cherries at about the same prices. Mr. E. Rochford also had good Hydrangeas, both the variety T. Hogg, and the pink H. Hortensia; his Geniatas were very good. Azalea mollis were very fine on Mr. Drost's and several other stands. Tulips, Hyacinths, and Daffodils were very good as offered by Messra. Whiteley, and Clematis and zonal Pelargoniums King of Denmark and Raspail Improved on Mr. H. B. May's stand. Measrs. Williams & Co. had a splendid lot of Hyacinths, Narcissus, and Azaleas. Messis. Gregory & Evans pink Hyacinths, Heatha, and Ferns. Messrs. Low & Co. are bringing in good Kentias from small planta to large specimens, and theirs is the only stand on which I have yet seen Crimson Rambler Roses; but their best plants, which make about 7s. 6d. each, do not come into market. Dendrobiums in pots are very good. In one case I saw some very good well-flowered abow Pelargoniums, making 18s. par do. Messrs. J. Hill & Son fill their stands well with good Ferns; also Mr. W. Cull, and many others. Of sorts noted, the Japanese Balls and other designs well covered with bright fresh fronds; Asplenium Hilli, A. biforme, Nephrolepis exaltata, Cyrtonium falcatum Fensom's variety, with new fronds, Pterls major and P. tremula, Lomaria gibba, and other useful sorts are A. biforme, Nephrolepis exaltata, Cyrtomium falcatum Fensom's variety, with new fronds, Pterls major and P. tremula, Lomaria gibba, and other useful sorts are plentiful. A few Dicksontas and Todea arborea are also seen. Palms are plentiful. In Mr. Bause's and Mr. Ouvrard's collections, beautiful clean, healthy plants were seen. The trade for pot plants was not over brisk, the cold weather being against buyers taking more than was actually wanted.

CUT FLOWERS.

In cut flowers the supplies are equally good. Lilium

In cut flowers the supplies are equally good. Lilium longiflorum are higher in price, and next week may see a further advance. Auratums, tigrinums, and speciosum rubrum are good. Callas are very plentiful and cheap, but growers would not accept orders for next week, except on conditional prices. Lily of the Valley was much in excess of the ordinary demand, and some was cleared out at very low prices.

Daffodila continue in great abundance; those from the Channel Islands, which are now coming in in very large quantities, are not so good as the English flowers, but they keep the prices low. Red Roses are now very abundant, and some growers cut and send in the same morning. Some bnyers wait especially for these, and when they arrive there is quite a rush for them. All Roses are good and prices are moderate. There were not quite so many Carnations to be seen. I have not yet seen any American scarlet variety equal in colour to Winter Cheer at its best. Tulips are still very good. Some grand double yellow Murillos, crimsoue, and single whites were seen on Messra, Low's, Uxbridge, atands. Azalesa are not quite so plentiful and make better prices. Gardenlas are down very low. down very low.

FRUITS AND VEGETABLES.

GLASOW, March 30.—The following are the averages of the prices during the past week:—Apples, Maine (U.S.), 15s. to 26s. per barrel; Californian Newtown Pippin, 9s. 6d. to 10s. 6d. per box; Canadian, 16s. to 28s. per barrel, and 8s. to 12s. per box; Oranges, Jaffa, 11s. to 12s. per box; Valencia, 420's, 9s. 6d. to 11s. do.; large, 13s. to 15s.; 714's, 11s. to 13s. 6d.; Lemons, 4s. to 6s. per box, and 8s. to 12s. per case; Grapes, 1s. 6d. to 3s. per lb.; Beans, 1s. 6d. to 1s. 9d. per 1b.; Mushrooma, 1s. 6d. to 1s. 9d. per lb.; Cheumbers, 8s. per doz; Tomatos, Teneriffe, 3s. 6d. to 5a. per box; Onions, Valencia, 9s. to 10s. per case.

LIVERPOOL, March 30. — Wholesale Vegetable Market (North Hay). — The following are the averages of the current prices during the past week — prices

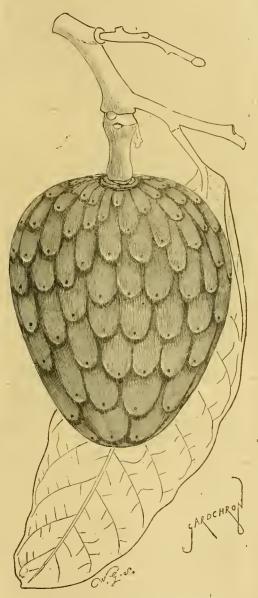


Fig. 93.—Custard-Apple, anona Cherimolia: Fruit real Size; colour greenish.

varying according to supply:—Potatos, per cwt., Main Crop, 4s. 9d. to 5s. 3d.; Britiah Queens, 4s. 2d. to 4s. 8d; Up-to-Date, 4s. 2d. to 4s. 8d.; Bruce, 4s. 4d. to 4s. 10d.; Turnips, 6d. to 10d per dozen bunches; Swedes, 1s. 3d. to 1s. 6d. per cwt.; Carrots, 3s. 6d. to 4s. do.; Onlons, foreign, 5s. 6d. to 6s. per bag; Parsley, 8d. to 1s per dozen bunches; Cabbagea, 6d. to 1s. per dozen bunches; Cabbagea, 6d. to 1s. 6d. to 8s. 6d. per case, and 9s. to 1se; large cases, 10s. 6d. to 8s. 6d. per case, and 9s. to 1se; large cases, 10s. 6d. to 1se, 6f.; Jaffa, 7s. to 8s. 6d. pitters, 2s. 6d. to 3s. 6d. per box: Apples, Capadian, 10s. bitters, 2s. 6d. to 3s. 6d. per box; Apples, Canadian, 10s. to 15s. 6d. per barrel, and 14s. 6d. to 23s. 6d.. do; States, to 158. 8d. per barrel, and 14s. 8d. to 22s. 6d. do; States, 9s. to 16s., and 15s. to 20s.; Newtowns, 6s to 8s. 9d. per box; Lemons, Palermo and Messina, 3s. 3d. to 4s. per case; large, 5s. to 7s. 6d., do —Sl. Johns: Potatos, 1s. to 1s. 2d, per peck; Asparagus, 2s. 6d. to 5s. per 100; Cucumbers, 6d. to 1s. each; Grapes, home, 2s. to 2s. 6d. per lb.; do., foreign, 8d. to 10d. do.; Pines, foreign, 3s. 6d. to 6s. each; Mushrooms, 1s. 6d. per lb. — Birkenhead:

Potatos, 1s. to 1s. 2d. per peck; ne v do., 1d. and 2d. per 1b.; Cucumbers, 5d. to 8d. each; Cobnuts, 8d. to 10d. per 1b.; Grapes, home, 2s. to 3s 6d per 1b.; do., foreign, 6d. to 8d. do.; Tomatos, English, 6d to 8d. do.; Mushrooms, French, 1s. to 1s. 4d. do.; Pines, 3s. to 58 6d, each.

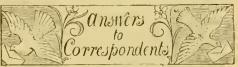
SEEDS.

LONDON: March 29.—The weather still continues favourable for field work, and sowing demand in consequence is steady. Red Clover is fully is. per cwt. dearer, and super quality Alsike have also advanced owing to short supplies; other Clovers remain unchanged. Rye grasses continue dull. Hurst & Son, 152, Houndsditch.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending March 26, 1904, and for the corresponding period of 1903, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

De	Description. 1903		03.	1904.			Difference.			
Wheat Barley Oat's	100	***	***	8. 25 22 17	d. 2 4 1	8. 28 22 16	d. 2 8 7	+	8. 3 0	d. 0 4 5



EDITOR AND PUBLISHER.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to benamed, should be directed to the EDITOR. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

AMERICAN GARDENING PAPER: T. B. The ene most suitable for your purpose is American Gardening, published at 136, Liberty Street, New York. Post-free for ene year in the Postal Union for 8s.

BEETLES IN A STOVE: J. G. T. The insects you forward are weevils. Trap them with pieces of Carrot, or Petato and destroy them. They feed principally during the night, which is the best time to look for them.

CORELESS APPLES: C. S., and Others. Our attentien has been called to a paragraph in a journal which has become famous for its records of similar curiosities. Flowers borne on the midsummer shoots of Apples and Pears are not unfrequently coreless—that is, the flower-stalk swells, but no true carpels or "core" are produced. We have no authentic record of any attempt having heen made to perpetuate the anomaly, which is of purely accidental occurrence.

Custard Apple: R. T. G. The common Custard Apple is the fruit of Anona reticulata, a native of the West Indies, but cultivated in the East Indies also. There are other species and many varieties, some of which are said to possess better flavour than the fruits of A. reticulata. The best are grown in the Indian Archipelago. We reproduce an illustration (fig. 93), of a fruit of A. cherimolia, which will help you to form an idea of what the fruits are like; but if you turn to the Gardeners' Chronicle for December 21, 1895, you will see an illustration of the plant growing and fruiting in the cardener of History grewing and fruiting in the gardens of His Excellency Aristakes Azarian, at Bnyakdere, Constantinople, whose gardener, Mr. Dekkers, described in same issue the good results obtained in fruiting the species. The seeds you

have received should be sown in pots, and the pots plunged in a hotbed. These evergreen have received should be sown in pots, and the pots plunged in a hotbed. These evergreen shrubs are semi-tropical plants and require temperatures of 60° to 65° at night in summer, and 70° to 75° by day. In winter the temperature at night may be 55° to 60°, and by day 65°. They should be potted or planted in a compost of rich, loamy soil, a little peat, and some sand. The fruits are not infrequently seen in Covent Garden seen in Covent Garden.

ETHERISATION OF PLANTS FOR FORCING PUR-POSES: D. C. In a lecture before the Royal Horticultural Society, M. Emile Lemoine re-commended the use of 300 grammes weight of ether for every 100 cubic metres of air. Pure sulphuric ether was used, which will boil at 95° Fahr. M. Lemoine said the plants should be put into a box that can be hermetically sealed in dry sand, and the interior of the box as well as the plants themselves should be dry, so that they will not absorb the ether. The temperature of the air in the box should be 62 to 66° Fabr., but the higher the temperature the less quantity of ether will be required. Under the lid of the box there should be a small bottle, into which the ether may be poured through the lid. It is important that the ether should be applied from the top, because, being heavier than the atmosphere, it falls to the bottom by gravitation. The plants may be subjected to this treatment for forty-eight hours; and it is often advantageous to repeat the process with the same plants after a few days. The fumes of ether are exceedingly inflammable, and when mixed with air become dangerously explosive. The operation should therefore be performed during the daytime, and no artificial light must b brought near under any pretext, not even a lighted cigar. Then remove them to a cool house, and the subsequent work of forcing will be simple. If you refer to the Gardeners' Chronicle for February 28, 1903, p. 142, you will find other details concerning this subject that will be valnable.

Galvanised Iron Labels: A. C. T., Wolver-hampton. The Imperishable Stratford Label, manufactured by John Smith, Royal Label Factory, Stratford-on-Avon.

GERBERA JAMESONI PRODUCING SEEDS: "X." Not only has this plant produced fertile seeds in England, but one or more good cross-bred kinds have been raised. To produce good seed it is essential to have established plants, and to take means to pollinate the flowers. pollen grains mature so early it is almost equally essential that pollen be conveyed from one flower to another. Fertilisation is only likely to occur under sunshine or when there is perfect dryness overhead after pollination has been effected, because owing to the mass of hairy filaments, decay may set in. A perfectly fertile seed of Gerbera is about \(\frac{1}{8} \)-inch long, acutely pointed at the apex, and bluntly so at the point of attachment with the capitulum. It is ribbed, and in colour light-brown. cannot say what causes the apparent scarcity of imported seeds. We know, however, that such seed has been offered, and doubtless an advertisement in our columns would be the means of finding the holder of such.

ILEX; H. L. 1 is Ilex Aquifolium Hendersoni, see Gardeners' Chronicle for 1874, p. 751; 2 is probably a form of the same, it has one leaf present which is carefully similar. The Orchid is Coologyne flaccida.

Ivy: R. P. Plenty of red spider, and perhaps the leaves have been frosted when the sun has been shining. Cut the Ivy well back now, and you will soon get healthy growth. Burn the prunings.

LETTUCES AND ENDIVE: F. J. It might be possible to obtain from the returns of the Board of Trade information as to the total quantities imported, but there are no means of ascertaining the exact quantity grown in English gardens English gardens.

Melons: E. B. As you will not be able to employ any fire-heat, we advise you to cultivate the Cantaloup varieties only. The fruits are appreciated by many, and are likely to be of MELONS: E. B.

better quality than the commoner, highly flavoured varieties would be likely to produce under the conditions you name. If you refer to Gardeners' Chronicle for December 28, 1901, you will find a comprehensive article upon the Cantaloup Melon, affording all details of cultivation, and information upon favourite varieties.

MUTISIA DECURRENS: X. This rare Composite is best increased by the stoloniferous shoots that emerge from the soil around the plant. In rarer instances cuttings may be taken from the stem-growths or side shoots issuing oc-casionally on the non-flowering stems. We have never seen fertile seeds of this rare climber, and flowers are rarely so abundant as to permit of artificial pollination. The arrangement of the flower-head is similar to that of the Gerbera. The plant prefers a peaty soil, and we have been more successful with it when the growths have been laid between two flat stones with a little soil above and below; then after breaking the stem-bark roots were presently emitted. In this way also the suckerlike shoots are more readily secured.

MUSHROOMS: T. C. Probably the bed has been allowed to get too dry. Syringe the bed with warm water.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. J. D. So far as we can tell from the scraps sent, 1, 2, and 4 are forms of Cupressus Lawsoniana; 5, Adiantum trapeziforme var. Santa Catherina; 6, a garden form of Begonia subpeltata; 7, Maranta Makoyana.—W. G. P., Sheffield. 1, Libonia Penrhosiensis; 2, a form bachetti. J. Libonia Penriosiensis; 2, a form of Cypripedium × Leeanum; 3, Dendrobium Wardianum. — T. G., Bicester. Dendrobium Pierardi.—Onchar. Both very good varieties of Dendrobium nobile.—W. M. B. 1, An erect form of Cupresus Lawsoniana; 2, next week; form of Cupressus Lawsoniana; 2, next week; 3, Retinospora plumosa of gardens, a stage of growth of Cupressus pisifera; 4, Thuya gigantea of gardens, often called T. Lobbi—it is really the true T. plicata, but is not known under that name in gardens; 5, Thuyopsis dolabrata of gardens, the true Thuya dolabrata; 6, Cryptomeria elegans of gardens, a form of C. japonica.—T. P. C. 1, 2, and 3, varieties of Dendrobium × Ainsworthii; 4, Dendrobium nobile.—T. G. Erranthemum leuconeurum.—S. S. 1, 2, 3, and 5, varieties of Cattleya Trianæ; 1 and 2 very good in colour, but not in form; 5, Lælia anceps.—Zero. 1, Abies Pinin form; 5, Lælia anceps.—Zero. 1, Abies Pinsapo; 2, Juniperus sinensis; 3, Erica carnea; 4, Veronica Traversi; 5, Yucca aloifolia striata; 6, Veronica Hendersoni.

Peach Leaves: G. A. B. The leaves appear healthy. Have you noticed any grub or insect on them? The specimens were quite shrivelled. Send them more carefully packed in damp moss.

PEACH ROOTS: J. H. The stock is dead. As you do not tell us the circumstances, we cannot indicate the cause of death.

PEACOCKS IN THE GARDEN: J. P. These birds, although very ornamental, do commit a large amount of damage in the garden. They are very noisy subjects, and are more in keeping in a large park with plenty of grass. In a small place their droppings are very unsightly.

PLANTING AN APPLE TREE: W. T. It would be quite possible for one man to plant the young trees properly, but two could do the work more conveniently and in half the time.

ROYAL HORTICULTURAL SOCIETY'S CERTIFICATE: Young Gardener. These certificates are awarded to young gardeners who submit themselves for the examinations laid down by the Council and obtain more than 100 marks. An examination will be held this year in different parts of the country on April 20. If you address an enquiry to the Secretary, at 117, Victoria Street, Westminster, he will doubtless afford you information on the subject and tell you if an examination is likely to be held in your district.

STEPHANOTIS FRUITING: J. E. The fruit will most likely produce fertile seeds. Such fruits have been illustrated in these pages on several occasions.

SUMMER-FLOWERING ORCHIDS: J. P. Cattleya Gaskelliana is one of the best Orchids flowering waskelliana is one of the best Orchids howering naturally in July and August. Cattleya Warneri and C. Warscewiczii are also summerflowering, and C. eldorado often flowers at that season. Disa grandiflora is a good greenhouse species; Dendrobium formosum giganteum, D. Dalhousieanum, and some other Indian Dendrobian formosum giganteum, and some other Indian Dendrobian formosum giganteum, and some other Indian Dendrobian formosum giganteum. drobes for warm house may also be flowered in the middle of the summer, also Zygopetalum Mackaii, Vanda tricolor, and Vanda cœrulea.

TENNIS COURT: Tennis. The dimensions were given in this column in last week's issue, together with a plan.

"THE AMERICAN FLORIST": W. P., Woking. This journal is published weekly, at 324, Dearborn Street, Chicago.

THE CHELSEA CEDAR: A. H. This was the last survivor of four planted in or about 1683, and supposed to be the earliest planted in England. In 1882 the dimensions, as given by the late Mr. Thomas Moore, were: height, 60 feet; girth of trunk at 3 feet from the ground, 13 feet 9 inches; spread of branches, about 60 feet. The tree lately taken down was quite dead, and the trunk infiltrated with fungus.

TRAINING AT KEW: Young Gardener. We believe that candidates should be more than twenty but less than twenty-five years' of age. They must have had at least five years practical training in commercial or private gardens, and preference is given to men who possess a certain amount of elementary education. You ask us what advantages there are in spending a time in the Royal Gardens, Kew. They are many, and their number would depend upon your expects for receiving instrucpend upon your capacity for receiving instruc-tion and upon the amount of earnestness that characterises your studies. But to enumerate only the obvious advantages. It would enlarge your ideas and increase your knowledge of plants and plant culture. The lectures on economic, geographical, and systematic botany, and those upon chemistry and physics are invaluable to a young man who is anxious to learn as much about his profession as possible. In addition you would be working amongst one of the best collections of plants in the world, affording excellent opportunities for botanising, and your associates would be earnest young and your associates would be earnest young fellows engaged like yourself in acquiring horticultural knowledge. If you apply to the Curator, addressing your enquiry to the Gardens, you may obtain a printed form which is sent to candidates for employment at Kew.

VIOLET DISEASE: C. G. S. Yours is the American Spot Disease, Alternaria violæ, which is turning up in several localities this spring. It was described in the Gardeners' Chronicle when first found in this country, and in the Journal of the Royal Horticultural Society, xxvi., December, 1901, pp. 246 and 491-3; also in 1902, xxvi., p. ccxxii. No effective remedy has been discovered. M. C. C.

COMMUNICATIONS RECEIVED. — Dusseldorf—H. J. E.—
T. A. S.—H. R. H.—G. R. S. Boston, U.S.A.—D. H.,
Cape Town—W. G. S.—A. B., La Mortoia—H. W. W.—
W. C. W.—F. Webber. Tetbury. photograph received
with thanks.—W. Watson.—W. J.—J. N.—F. B.—
M. & Co.—S. A. C.—J. W. R.—H. R. M., Ltd.—W. B. &
Soos.—J. F.—P. Weathers.—W. Fyfe.—H. Rogers.—
H. M.—G. B. M.—F. W. D.—F. E. S. & Co.—T. C.—B. J.
—J. D.—C. A.—R. T.—A. K. H.—F. F.—F. C., with
thanks.—G. A.—J. S.—C. S.—T. Hill.—J. G.—C. M. P.,
—C. T. D.—E. C.—A. H.—M. E. M.—A. J. B.—H. J. C.—
W. G.—Expert—N. E. B.—T. H.—J. Whitton.

(For Weather see p. xvi)

Continued Increase in the Circulation of the "GARDENERS' CHRONICLE.

IMPORTANT TO ADVERTISERS. — The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, more than

TREBLED. THE

Advertisers are reminded that the "Chronicle" circulates among Country Gentlemen, and all Classes of Gardeners and Garden-Lovers at home, that it has a specially large Foreign and Colonial Circulation, and that it is preserved for reference in all the principal Libraries.



A SPECIMEN PLANT OF THE WHITE MARGUERITE (CHRYSANTHEMUM FRUTESCENS) MEASURING EIGHTEEN FEET IN CIRCUMFERENCE, GROWN IN CATMOSE GARDENS, OAKHAM, THE RESIDENCE OF THE RT. HON. GERARD NOEL.





Gardeners' Chronicle

No. 902.—SATURDAY, April 9, 1904.

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EVERGREENS WITHOUT LEAVES.

THERE is no trick in this heading. It looks at the first blush like a contradiction; in reality it is a sober fact. We usually think of evergreens as bushes, shrubs, climbers, trees which have leaves all the year round. Our mind reverts at once to the Ivy trailing gracefully over the wall or up the stem of the forest-tree; the Mistletoe, the Holly, Yow and Cypress, the Laurel and Holm Oak; and in each of these cases there certainly are leaves. Indeed, if we were asked in what country one might hope to find an evergreen without leaves we should be puzzled to find an answer, and should probably reply point-blank, "The thing is impossible." Let us see. We will, first of all, look around our own doors, examine our own flora, inspect the plants which our own country produces, and after that we may, perhaps, go further afield.

Who can call up the Butcher's Broom (Ruscus aculeatus)? It bears sundry names in English, but this is the most familiar. It is a true evergreen, and it belongs to the class I am about to illustrate-evergreens without leaves. I grant that in this case there seem to be leaves, very similar to those of the Myrtle, only that each has a sharp point or prickle which makes the plant somewhat difficult to gather. These apparent

leaves, as in the so-called Asparagus Fern, and in the "Smilax" so much used for decorative purposes, are in reality transmuted branches, and are sometimes called "cladodes," or "phyllodes." The former name is incorrect, because it means "branch-like"; the latter name is exceedingly expressive because it means "leaf-like." little branches have become like leaves, and the true leaves have disappeared, or are present only as inconspicuous scales. How do we know this? In different ways. We argue in the first place from analogy. All plants have leaves, therefore this has. But the true leaves sometimes disappear, and these have done so. We know it by studying the life-history. If we examine the young shoots in spring we shall find the true leaves are there. When the phyllodes have developed, however, there is no further need of the leaves, so the plant quietly lets them disappear. They drop off one by one, devolving their duties and functions on the phyllodes. I used to think all this was a bit of botanical refinement, and introduced to baffle beginners. Now I see that the fact has a delightful bearing on the history of plant-life, and supplies one of the many illustrations which are continually turning up to show the fertility of Nature's shifts for a living. Let us state the case before us.

The Butcher's Broom is very closely related to the Asparagus and to the Solomon's Seal. These plants and all their near allies are soft herbs, and die down in the winter, though they may possess perennial roots. The Butcher's Broom was once a soft herb. Its young shoots are still so delicate in spring that they have often been employed as Asparagus. But when times were hard, and the Butcher's Broom had to devise a method of holding its own against aggressors, it gradually hardened its tissues and became woody. It became a shrub, in fact, and ceased to be a herb. Hence it happens that it stands alone in the British flora, for it is the only case of a Monocotyledon with a woody stem. All the rest of this great division of plants, including Lilies, Daffodils, Orchids, Cereals, and Grasses, are herbs. That in itself is a fact to make one reflect. Now when the Butcher's Broom began to assume the form of a hardy shrub it encountered new dangers. Its green leaves were excellent browsing for cattle, rabbits, and other herbfeeders in winter. It must protect itself from these. Its leaves, moreover, will collect the snow, and render it liable to be broken down. So it gradually resolved its little branchlets into the semblance of leaves, and armed them each with a rigid spine. These at once pierce the falling snow and break it up, and keep away browsing animals which might be tempted to feed on the attractive plant in winter when everything else is brown and bare! What an interesting story of development this is!

But we know the phyllodes are not true leaves in another way. Even if we had never seen the true leaves on the young shoots, coming year by year to give us a clue to the story, we could tell it by the strange position of the flowers. These seem to spring from the centres of the leaves, and if you find the plant in fruit, it will be seen that the scarlet berry is attached to the upper surface of the phyllode by a little stalk. position is so peculiar, the method of displaying flower and fruit is so unique and peculiar, that we are forced to examine the matter, as Moses was compelled by curiosity to inspect the burning bush. This inspection reveals to us the fact that the flower is in reality growing, as flowers usually do, from the branches and not from the leaves.

It will be well to confirm our conclusion by inspecting some other plants with a view of ascertaining if Nature has at any other time worked on similar lines. A little research among our common British plants will show that this is not a solitary case. Similar problems had to be solved elsewhere in our flora, and in more than one instance the solution was practically on the

Here on a piece of common land I find three or four other evergreens without leaves. They belong to one order, and are closely related to our Beans and Peas, Vetches and Clovers. One is the common Gorse. Where are its leaves? Here is a spray-show me its leaves if you can. Ah! I see you have studied hotany before, for you point me to the spines. That is correct; for here the leaves have become aborted, and changed into exceedingly strong, sharp prickles. To prove this, sow some Gorse-seeds in a pot, and rear the young plants where you can constantly observe them. You will find that the seedlings have leaves similar in shape to those of the Trefoils; but when the plants begin to develop branches, the leaves cease to appear, and spines take their place. Like the Butcher's Broom, the Gorse is impatient of cold, on which account they are rarely found in the North, and perish before the severity of the clime of Sweden, where Linnæus, the prince of botanists, lived. Hence his ecstasy at the sight of the golden Gorse in our more Southern regions.

Then there is the Needle-Whin (Genista anglica), which I find thus described in one of my botanical works. I give the words of another to show that my own interpretation is supported by other botanists. "The stems are much branched, about a foot high, reclining, and furnished with acute thorns. The old branches are tough, without leaves, and beset with thorns. The thorns are very slender and sharp, a quarter to half an inch long. The leafy branches of the present year become next season woody, awl-shaped thorns." There are several other species of Genista at home and abroad with which this may be compared in order to confirm the statement that the leaves have been converted into thorns. However commendable this abortive and degenerating process may be in an exposed plant, we always grieve when we see the same process in

human life.

In the common Broom we have a most interesting illustration of the way in which this tendency to drop the leaves progresses. It does not take place all at once. The Broom has developed evergreen stems, and these stems are capable of carrying on the functions of leaves. Hence the leaves are small and deciduous, while the bitter qualities of the plant protect it as effectually as spines would do from animals browsing in the winter. Thus we have examined a few of our British evergreens which are without leaves. What of foreign plants? Do such peculiarities exist abroad? Indeed they do; and if we cannot visit foreign lands, it is a most pleasing exercise to try to discover whence our treasures came, and what are the circumstances in which they are placed by Nature, through an investigation of their various organs. Roots, leaves, stems, flowers — all have their story to tell, and throw light on the environment, exigencies, and life-history of the plants.

Look, for example, at that wonderful group of plants known as Cacti. Where are their leaves? We grow scores of different species in our windows, greenhouses, and conservatories, and we know them to be evergreen; yet who has ever observed their leaves? Here, again, as in the case of the Gorse and Needle-Whin, the leaves are undeveloped, but now appear as spines. These are invariably very sharp, and often exceedingly poisonous. Hence the Cacti are favourite plants in many lands for enclosing gardens, orchards, and vineyards. Wild beasts will turn before a Cactus-fence as our adversaries flee from the bayonets of the British soldier.

It may be asked-How can plants live without leaves? The answer is that in all these cases the phyllodes or the stems do duty instead of the leaves. The Prickly Pear, and other of the Cacti, possess fiattened or enlarged stems, which are adapted for taking in the carbon that is

needed from the atmosphere.

Dr. Brown tells us that "some plants, like the Dodder, have no leaves, while in others they are reduced to the form of spines, the whole stem of the plant performing the functions of leaves. In one genus of the Cactus order there are regularly developed leaves, while on others, like the Prickly Pear, there are caducous leaves in the young state of the plant, the old ones being leafless, unless the spines scattered over them be looked upon as leaves." Curiously enough in South Africa, where the Cactus is unknown, there are Spurges which so exactly mimics some of these spiny plants that only a botanist can tell the difference. Even he would be misled if he had only a stem to go by, for it is in the flower alone that the resemblance fails. Leaves in dry arid plains and hot regions are often liable to droop and die, hence these curious modifications.

The Acacias are another group of foreign plants which show us how leaves may be changed into phyllodes. Before I close it may be well to remark that there is a group of plants found abroad which in some respects resemble our own Butcher's Broom. On account of its flattened phyllodes and the position of the flowers, these plants have been named Phyllanthus. The name implies plants whose flowers grow on their leaves. Many of my readers will have seen one or other of the different species which may be found under cultivation in England, and will recall the feeling of surprise which first possessed them as they saw the blossoms on the edges of the leaves. They are nearly all evergreen shrubs, and are found in China, India, the West Indies, and South America.

I have shown, then, that, curious as it may appear, many leafless evergreens exist at home and abroad. It is clear that this is the result of the struggle for life, and shows how variously Nature enables her productions to meet life's difficulties. We learn that the functions of true leaves may be performed by flattened leaf-stalks, modified branches, or even stems, and finally we see how, in shifts for a living, Nature has become infinitely varied, complex and interesting. It is the study of such peculiarities and problems as that that give the highest zest to botanical pursuits, while they serve to throw a wonderful flood of light on the intricate problems of life. Hilderic Friend.

NEW OR NOTEWORTHY PLANTS.

ALOE BAUMH, ENGLER AND GILG.

This new species of Aloe was discovered by H. Baum on his Kunene-Sambesi expedition, an account of which has now been published, and wherein this plant is described for the first time. It was found in flower, in October, 1899, close to the river Kubango, near Chirumba, in sandy and stony soil, at about 1,200 metres above the sea. Mr. Baum says that the natives call the plant "Mantombo," and use the flowers to make a sort of cake.

It belongs to the group which I call "Saponaria." The shape of the flowers is, however, singular; the inflation round the ovary is very conspicuous, and the tube is slightly bent downwards. The original description of Engler and Gilg does not allude to this fact, but the photograph, which Mr. Baum took on the spot and which he lent me, clearly shows it well. Besides, the flowers are said to be yellowish-red, but they are of a dirty dark-red in our specimen.

Our plant was received from the Berlin Botanic Garden. I further have two type specimens from my friend Mr. Baum, and several seedlings from Messrs. Haage & Schmidt, Erfurt, which all agree well with the photograph. No doubt remains, therefore, as to the identification, although there are some differences between the original description and our plant.

Acaulescent, with about fifteen leaves in a dense rosette. Leaves very patent, linear-lanceolate, tapering

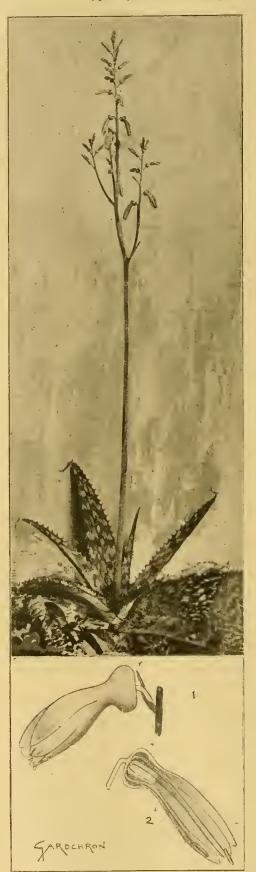


Fig. 94.-Aloe hadmii (reduce i). 1, single flower (real size); 2, single flower cut longitudinally.

from the middle gradually to the point, flat above, and slightly canaliculate at the very tip, convex underneath, in our specimen about 12 inches long and 2½ to 3 inches broad, of a dull green, often turning to a brownish-red, covered by a fine glaucous hue, all over transversely and irregularly variegated, from broad often zigzig-like bands of confluent white and longitudinally-striped spots; the underside of the leaves quite white, darker green towards the top, regularly beset at the margins with horny, yellowish-brown, deltoid teeth about ½ inch apart, with the sinus between them rounded and nearly semiorbicular. Inforescence about 36 inches high, branched above the middle in our plant. Scape glaucous. Racemes elongated, many flowered, flowers laxly disposed. Pedicels about § of an inch long, bracts longer, from a deltoid base sublate. Perianth over 1\sqrt{sinch} inch long, much inflated round the ovary, then constricted with a decidedly decurved and laterally compressed tube, red. Segments free to transversely and irregularly variegated, from broad and laterally compressed tube. red. Segments free to about one-third or the whole flower, outer ones acute, inner ones broader and obtuse, all with a paler margin. Stamens as long as the perianth, the three of the outer whorl flattened and thickened at the base; authors little exserted. Alwin Berger, La Mortola. [A coloured figure of this species is given in the April number of the Botanical Magazine, tab. 7948.]

RICHARDIA CANTABRIGIENSIS X.

This year and last, in the Cambridge Botanic Garden, has flowered a charming pair of hybrids which I have made reciprocally between R. Rehmanni and R. melanoleuca. They appear to be identical, and besides having an elegant shape, conferred by R. melanoleuca, appear to possess an important point of interest in the fact that the slight tendency of the spathe in R. Rehmanni to be pink is greatly intensified. This species has been called the pink Richardia, but an African sun is apparently necessary to bring out the colour; while in these hybrids, under conditions which induce no trace of colour in R. Rehmannii, the pink colour is very clearly in evidence, slightly perhaps on the inside of the spathe, but more deeply on the outside. It may be said that they are ivory-white flushed with pink. R. melanoleuca is yellow; and as R. Rehmannii is ivory-white or white under ordinary circumstances, the ease reminds one of instances like Begonia weltoniensis x, in which parents, orange and white respectively, give rise to pink, the parents here being the orange B. Sutherlandi and the white B. Dregei. As in R. melanoleuca, these hybrids have a splendid dark "eye, and in this particular they are governed by that parent, whichever way the cross is made, R. Rehmanni having no trace of it. The leaves in outline and general character are nearly intermediate; the stalks are coloured much as in R. melanoleuca, but have little or nothing of the hispidity characteristic of that species. Small Richardias, especially those, I think, with a half open spathe like R. melanoleuca and these hybrids, are especially good for cutting. One of these hybrids and the parents made, with slight additions, an exceedingly elegant arrangement in a silver vase in the Queen's Room at the Fitzwilliam Museum on the occasion of the recent Royal visit to Cambridge, when the new schools and other buildings were opened by the King. Other hybrids of Richardia are albo-maculata × Ellioti, flowered last year by Mr. W. B. Latham, then of the Birmingham Botanie Garden; and R. Taylori (Ellioti × aurata), raised by Messrs. Clibran & Sons. An object in crossing Richardias should be to obtain a free-flowering habit in combination with the brilliant qualities in colour of such fine plants as R. Pentlandi. R. Irwin Lynch.

BOOK NOTICE.

THE PRESENT CONDITION OF ELECTROCULTURE (L'ETAT ACTUEL DE L'ELECTROCULTURE). by M. E. Guarini.*

The author states that the Agrarian Society of Lombardy has just opened a session for the further consideration of the application of electricity to vegetation. The electric treatment comprises two stages: the electrisation of the seeds, and electroculture properly so-called. Indirect electroculture consists in growing the plant in the light of the voltaic arc, Cooper-

^{*} Revue Scientifique, August 22, 1903 (extract).

Hewitt lamps, &c. Direct electroculture consists in electrifying the plants, the air, and the soil. In this latter every species of current can be employed, viz., atmospheric, dynamic, that of static machines, even Hertzian waves. The electrification of seeds aima at producing in them physiological effects favourable to germination, and the further development of the plants. The method of operation is then described. The seeds must be moistened, as they are then hetter able to conduct electricity and to withstand the effects of heating. Seeds which have lain dormant for twenty years are by this means induced to germinate.

Spechniew, the Russian botanist, who first paid attention to the matter, found that the development of the plant is more rapid and vigorous under the induction current; but a greater harvest of seed was obtained when a continuous current was employed. Under every mode of treatment germination was powerfully stimulated. A table of comparative results of the experiments he made is given. From certain experiments of his Mr. Asa S. Kermey drew the following conclusions: the electrification of seeda exerts a considerable influence on their germination and the development of the seedling; the application of an electric current at short intervals accelerates germination 30 per cent. at the end of twenty-four hours, 20 per cent. in forty-eight hours, and 6 per cent. in seventy-two hours; the maximum electromotive force which can be used is 1 volt for germination and 3 volts of the induction current for the growth of pluanule and radicle; the effect on the development of stems is 13 per cent. less than that on the growth of roots. And as regards the mode in which the current exerts the influence, he holds that it stimulates the vitality of the germ, the germination of very old seeds appearing to prove this; it hastens the chemical transformation of the albuminoids; starch and oil stored in the cotyledons are more rapidly rendered assimilable by the seedling; it is accompanied by electrolysis, by which the water either of the tissues or of the moist aurroundings is decomposed into oxygen and hydrogen-the former of these thus produced would stimulate the respiration of the embryo and seedling; by the passage of the current through the resisting substance of the seed heat is generated, which is beneficial to the development of the seed.

By indirect electroculture the plants are caused to assimilate food night and day without interruption. Siemens found that it was necessary to interpose a thick plate of glass between the plant and the rays of the arc, otherwise the former became etiolated. Various experiments are cited proving the highly heneficient effect on plants of the electric light. In Spitzbergen, North Norway, and Lapland, cultivated plants attain a development far surpassing that of plants in more southern climes; and in Finland at has been noticed that a periodic variation in the harvest results coincides with variations in the sun-spots and the aurora borealis, atmospheric electricity being the prime agent here concerned.

Several interesting methods by means of ingenious forms of apparatus for fixing atmospheric electricity and conducting it into the immediate neighbourhood of the plants under cultivation are described.

From trials which Lemstroem made with current produced from static machines he drew the following conclusions: the plant exhibited an increase in growth of 45 per cent., this proportion is in direct ratio to the fertility of the soil, certain plants can only endure electric treatment if well watered. Under these conditions their over-production is remarkable. Electric treatment is injurious under atrong sun-heat, and should be discontinued in the middle of the day.

The author's views as to the role played by electricity are as follows: it electrolyses the salts contained in the soil, decomposing them and forming others more easily assimilable by the plants; it accelerates respiration, the fixation of carbon, transpiration, and the nutrition and multiplication of the calls; it influences the ascent of the sap, stimulating osmosis, and causing a rise of the sap through the capillary tubes of the tissues—evidence for this last has been afforded by one of Lemstroem's experiments.

He surmises that the rôle of electricity in its influence upon plant life is probably far more important than we at present have any suspicion of. Its future importance for agriculture is probably great, and the introduction of electric

the beginning of May, during which time they are leafless. In May, the resting bud with its fleshy roots should be carefully removed from the old soil, and potted in a compost consisting of equal parts peat, chopped sphagnum, and Belgian leaf-mould, with additions of sand and charcoal. Pot the plants lightly, and place them in a moist atmosphere having a temperature of 60° to 65° during the day and 55° at night. Although good plants can be grown under cooler conditions, finer specimens are produced under the conditions and temperatures described.

The species was introduced to Kew from Madagascar in 1899, and first flowered in 1900, heing figured in the *Bolanical Magazine*, t. 7,852. The illustration (fig. 95) has been prepared from a photograph by Mr. Wallis. W. H.



Fig. 95.—cynorehis purpurascens, as grown at kew. (From a photograph by E. J. Wallis.)

treatment into this industry would in all likelihood react favourably upon others which, directly or indirectly, are allied or tributary to it. W. C. W.

KEW NOTES.

CYNORCHIS PURPURASCENS.-Several fine pana of this beautiful apecies have flowered in the Orchid-house at Kew. This species is undoubtedly one of the most handsome of all terrestrial Orchids, and it thrives well under simple cultural conditions. C. purpurascens is worthy a place in all Orchid collections, including those belonging to amateurs. Generally the plant is monophyllous; it rarely produces two leaves at once. The leaf is large and fleshy, light green in colour. often measuring 2 feet in length and 7 inches in breadth; the inflorescence is about 9 inches to 1 foot high, carrying from fifteen to thirty flowers, borne on a rather long pedicel, each with a large whitish bract at the base; the colour is a pleasing shade of rosy-mauve; the lip is a shade darker in colour than the segments, having a conspicuous white blotch in the centre.

The following cultural conditions have been found very successful with this Orchid:—The plants should rest from the end of December till

ORCHID NOTES AND GLEANINGS.

MASDEVALLIAS, &c., AT TRING PARK.

Collections of these pretty Orchids are getting very rare in gardens, and yet in proportion to the space they occupy no class of plants can afford a more continuous supply of showy or curious flowers. The collection formed by the Hon. Walter Rothschild, M.P., at Tring Park is one of the most complete, as it includes all procurable species and hybrids, a good show of flowers being on one or other of the plants every day in the year. Mr. Rothschild is crossing and raising new varieties of Masdevallia, Pleurothallis, Restrepia, &c.; and the value of the garden-raised hybrids is well demonstrated by those now in flower, the majority of which are hybrids. Among the most beautiful are M. × Curlei (mucrura x tovarensis); M. x Henrietta, M. x Kimballiana and M. x Pourbaixii, both between Veitchiana and Shuttleworthii; M. × Rushtoni (racemosa \times ignea var.), M. \times Bocking hybrid (cucullata \times Veitchiana), M. \times Shuttryana (Shuttleworthii × Harryana), M. × Courtauldiana (Shuttleworthii x rosea), M. x Gelengiana (Shuttleworthii x xanthina), and M. Stella (Estradæ x coccinea). Many other less showy hybrids are in bloom, and among the

species were noted several varieties of M. angulata, M. torta, M. Swertiæfolia, M. ignea, M. Veitchiana, &c. Of allied plants the Restrepias have representatives of most of the species, including the singular and distinct R. aspasicensium in flower; and the Pleurothallis have the rather showy P. scapha and P. Roezlii, the gnat-like P. macroblepharis, and other curious insect-like species.

PHALÆNOPSIS AT TRING PARK.

The house of noble specimens of Phalænopsis in Lord Rothschild's gardens at Tring Park can claim to have among them the largest and oldest plants in cultivation, one huge plant of P. Schilleriana having been in cultivation since 1862, and it has flowered regularly and increased steadily in size until it has attained gigantic proportions. The P. × intermedia Portei, which has this year produced a fine branched spike, has been thirty years in attaining its present large size, it having been obtained from Messrs. Hugh Low & Co.'s original importation.

known as the thousand-guinea Orchid, is again in flower in the collection of its owner, H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood). Its flowers are quite equal to the illustration, and the labellum, the large size of which is a great feature, has still further developed. Mr. Pitt justly alleges that while his Persimmon is equal to the best in size, form, and richness of its reddish-purple markings, the labellum, which is the defective feature in most others, is proportionally large and showy to correspond with the other segments.

The unique O. × Adrianæ Cobbianum, the finest and darkest of Adrianæs, and many other Odontoglossums are also in flower in the splendidly-grown collection. J. O'B.

DENDROBIUM VICTORIÆ REGINÆ, Loher.

The blue Dendrobium of the Victorian era was described in the *Gardeners' Chronicle*, June 19, 1897, p. 399, and during the year some plants of it were introduced into cultivation, one of which

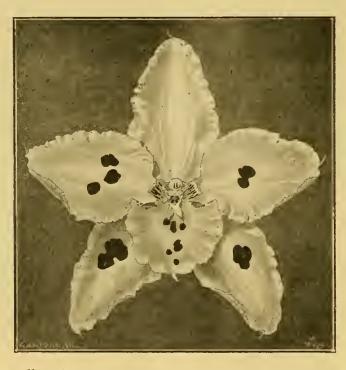


Fig. 96.—odontoglossum pescatorei var. kathleen.

Of P. Aphrodite and its variety Dayana, there are some very large plants flowering well, and also some very old specimens of P. amabilis (grandiflora), of which species the more recently introduced variety Rimestadiana gives indication of being a much more robust grower and better flowerer than the old form. Most of the other species and varieties are well represented in the Tring Park collection, and all are in splendid health.

The house in which they are grown is kept at an even temperature, and never unpleasantly warm. During the years Mr. E. Hill, the gardener at Tring Park, has so successfully grown these plants he says that he has often had an anxious time during protracted dull winters or excessively hot and dry periods in summer, and on several occasions his plants seemed to look not quite so happy as he would like. But invariably they responded to the treatment which had been found to answer before, and quickly recovered.

ODONTOGLOSSUM CRISPUM PERSIMMON.

This remarkably beautiful Odontoglossum, which was illustrated in the Gardeners' Chronicle, May 2, 1903, p. 275, and which is commonly

was illustrated in our issue of August 21, 1897, p. 121, when the accompanying note, stating that it was a native of the Philippines, growing at an altitude of 6,000 feet, ought to have indicated that it was not a hothouse plant. Nevertheless the plant was generally grown with other Dendrobiums, and the result was not often satisfactory. A few cultivators took the hint and secured better results; but the best example of its culture in quantity which we have seen is in the collection of Elijah Ashworth, Esq. (gr., Mr. Holbrook), Harefield Hall, Wilmslow, where a goodly number of sturdy plants are growing suspended from the roof of the cool Odontoglossum-house, where they have been increasing in strength for some years. The pseudo-bulbs branch and produce aërial roots, and the flowers now on them are larger, and the intensity of the dark blue of the outer halves of the segments is more intense than any we have seen before. The plants are dwarf and bushy, and bear stouter pseudo-bulbs than they did when imported. It is a very beautiful and remarkable plant.

Apropos of this species, has anyone succeeded in growing Dendrobium Papilio, Loher, described in the Gardeners' Chronicle, June 26, 1897, p. 116? It should be a very showy species, although the flowers are said not to last long. A few plants were imported, but in bad condition.

THE ORCHID STUD BOOK.

Orchid growers will hail with satisfaction the approaching publication of this work. It will supply what we all want, as complete, accurate and up-to-date a register as possible. That is essential for our everyday work; but beyond that we require a solid basis of ascertained fact in order to study the problems of hybridity and heredity, and so replace empirical practice by methods based on accurate knowledge and well-balanced co-ordination of observed phenomena. It is not Orchid growers alone who will profit by this-it will be cultivators generally. The Orchid Stud Book has been compiled by Messrs. Rolfe and Hurst. Two men more competent could not be found, and no two could have had better opportunities. Their object has been to provide a list of existing Orchid hybrids, arranged on a uniform system, giving (1) the adopted name; (2) the parentage; (3) the original publication, with (4) a reference to published figures or other important additional information; (5) the name of the raiser or exhibitor; (6) the date of appearance; and (7) the synonymy.

It is divided into two parts, Part I. giving an alphabetical list of the parents, with the names of the resulting hybrids; and Part II. an alphabetical list of the hybrids on the plan above-

mentioned.

Hybrids of identical parentage which have received separate names are treated as forms of one, and as synonyms cannot be arranged alphabetically in the body of the work, an index of them is given, by which their position may be immediately found.

The work also aims at providing a standard of nomenclature for Orchid hybrids, as well as a ready means of ascertaining what hybrids have already been raised, and for these reasons it is hoped that it will be widely supported by those interested in this fascinating branch of Orchidology.

In order to prevent the list from becoming out of date, it is intended to record all additions as they appear in monthly supplements in the Orchid Review, and these would naturally be incorporated in the text in the event of a second edition being called for at a future period.

It is hoped that this enumeration will prove an effective means of checking the rapidly growing confusion in the nomenclature of hybrids, which so many deplore, and which we believe has largely arisen from the difficulty of ascertaining what hybrids have already been raised.

Intending subscribers should communicate at once with the Editor of the Orchid Review, Lawn

Crescent, Kew.

ODONTOGLOSSUM PESCATOREI "KATHLEEN."

Our illustration (fig. 96) represents a flower of Odontoglossum Pescatorei "Kathleen," for which Messrs. J. & A. A. McBean, of Cooksbridge, secured an Award of Merit at the Royal Horticultural Society, March 22, and which is one of the most perfect in shape which has yet appeared. The distinct blotches of purple, too, give an additional attraction to the flower. Odontoglossum crispum, whose spotted forms are now so greatly in favour with orchidists, yielded but few of the coveted highly coloured forms until a few years ago, and possibly when some new locality is found for O. Pescatorei, it may be more prolific in blotched forms, which are at present by no means plentiful.

It should be said that by right of priority Odontoglossum nobile is the correct name, but in gardens O. Pescatorei is invariably used.

TREES AND SHRUBS.

NEVIUSIA ALABAMENSIS, ASA GRAY.

A VERY rare North American shrub growing only in Alabama, but hardy in the Arnold Arboretum, Massachusetts. Its long, slender, wand-like branches are like those of Kerria. The the shrub is easily grown, requiring a rich loamy, well-drained soil and a warm position. It is freely propagated by cuttings.

ROBINIA NEO-MEXICANA.

Although discovered fifty-three years ago in the south-western States of North America, this beautiful tree does not appear to have reached cultivation until 1882. In that year it was introThree species of Robinia' were in cultivation previous to this—namely, R. Pseudacacia, R. hispida, and R. viscosa, all from Eastern North America. The New Mexican species is most nearly allied to R. viscosa; it is, in fact, considered to be the West American representative of that species. It is a small tree, not unlike the common "Acacia" (R. Pseudacacia) in habit. The young shoots are covered with bristles, and



FIG. 97.—NEVIUSIA ALABAMENSIS (HARDY SHRUB): FLOWERS WIHTE.

flowers are about 1 inch across, six to eight in a cluster, and the clusters are disposed along the branches, forming ropes of feathery bloom. There are no pstals, but the stamens give a fringe-like appearance. The plant is a member of the Rosacee, and is allied both to Rubus and to Spiræa. The shrub is 3 to 6 feet in height, with leaves 1 to $3\frac{1}{2}$ inches long, pale green, ovate or oblong-ovate, doubly serrulate, Botanical Magazine, tab. 6806,

Our specimen was obligingly furnished from the Royal Gardens, Kew. Mr. Bean tells us that duced to the Botanic Garden at Harvard, in Massachusetts, and five years later (in 1887) it was sent by the Harvard authorities to Kew. The tree they sent is now 20 feet or so high, and for several years was the only one in this country. Now, however, the species is spreading in cultivation, and it is not difficult to obtain. It is certainly worth recommending to all arboriculturists who have a liking for trees of small size but of great flower beauty. It is found wild in Colorado, Arizona, and the State from which it takes its name—New Mexico.

bear the usual pinnate leaves of the Robinias; the numerous leaflets are about 1 inch long, and rich green. In regard to its foliage, the species has all the peculiar feathery, Fern-like aspect which makes the Robinias so charming and distinct among our hardy trees. It blossoms in June, and carries its flowers in pendulous racemose clusters about 6 inches long and 2 or 3 in. in diameter. The pale-rose hue of the flowers is very beautiful, and the tree, when at its best, is one of the loveliest of our later-flowering trees. It ripens seed in plenty, and they are produced

in pods covered with glandular bristles. It is perfectly hardy at Kew, but no doubt it likes abundant sunshine. We should judge that to be the case from the regions whence it comes. It flowered much better during the latter part of the cycle of dry, hot summers (from 1899 to 1901) than it did last year, or, I expect, will do this. W. J. Bean.

A MODEL VILLA GARDEN.

Much has been said in praise of large gardens in which money often plays a mere important part than skill; but in some small suburban gardens, where the owner and his family do the greater part of the work, a much greater amount of interest and effect is sometimes obtained when the relative proportions of the gardens are considered. Mr. George Baldry, Bessborough Villa, Harrow-on-the-Hill, with the assistance of Mrs. Baldry, who takes equal interest in the garden, has in his garden, 60 feet in length and 21 feet in width, accomplished apparently the utmost possible in the way of model gardening on a small scale. The garden has a small greenhouse, a frame, an alpine rockery, a sheltered place beside the house where show and fancy Auriculas are kept, and an effective arrangement of beds and borders. One great point in this pretty little garden is that everything is kept within reasonable limits, the shrubs and fruit-trees being carefully pruned. This is very important, or otherwise, especially with herbaceous perennials, the stronger overgrow the weaker.

There is such an interesting collection that an enumeration of some of the principal things might be useful. On and around the rockery are Saxifragas Burseriana, longifolia, Aizoon, rotata, Hesti, Valdensis, crustata, hypnoides, and other messy Saxifrages, Wallacei, and muscosa ; Sempervivums arachnoideum, triste, californicum, tectorum, montanum, and others; Sedums acre aureum, album, spectabile, Siebeldi, &c.; Arabis albida, albida fl.-pl., variegata; Draba bruniæfolia, varieties of Armeria, several varieties of Aubrietia, Lychnis alpina, Anemone appenina, A. nemoresa fl.-pl., A. St. Bridgid vars., a selection of the smaller British Spleenworts, a very interesting set of alpine Pinks, Gentians, blue and other Primroses, Aconites, Hellebores, Scillas, Crocuses, and Narcissi.

The borders have a good selection of named Carnations, Roses, Campanulas, Delphiniums, Pansies, Iris, Phloxes, Asters, Montbretias, &c.; and, indeed, one or two of the best of moet favourite flowers; and for spring-flowering, Crocuses, Tulips, Narcissi, &c. Nor is the useful part of gardening ferrotten, for compact bushes of six good Apples, a few of each of the fruiting Currants and Geoseberries, &c., are provided. and in the front porch during the summer was a very effective display of Campanula pyramidalis and Lilies, the arch over the entrance having an effective hanging basket of flowers.

In the greenhouse is a good selection of Palms, Begonias, Pelargeniums, &c., the one Orchid being Coelogyne cristata. In the frame, Auriculas Mrs. Petts, Rev. F. D. Horner, John Garrett, Acme, Miss Prim, Richard Headley, George Rudd, and other named sorts, and about 100 seedlings.

THE ROSARY.

In the February number of the Rosen Zeitung is given a coloured illustration of a new Tea Rose called Comte Amédée de Foras. The flowers are of moderate size, well formed, pale yellow flushed with red. Mr. Lambert, of Treves, accords to it his recommendation. A coloured figure of "Papa Lambert," H.T., is given in the Journal des Roses for January, flowers large, rose pink; and Mme. Antoine Mari, T., delicate yellow flushed with rose.

The Week's Work.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Azalea indica.—As these plants go out of flower, place them in a warm and moist atmosphere to induce them to make growth. Those intended for late flowering may be retarded by placing them in a cool house having a northern aspect. If the plants cannot be given this accommodation admit air freely to the house in which they are growing, and shade them during the hottest part of the day. Plants in need of repotting should be attended to when they have started well into growth. Use clean and well-drained pots, a full size larger than those in which they have been growing, and use good hard fibrous peat, a little broken charceal, and coarse silver-sand for the potting compost. Work the soil firmly and evenly round the old ball with a thin rammer, making it as firm as that of the old ball. While the plants are making their growth a temperature of from 55° to 60° will be suitable. Maintain a moist atmosphere, and syringe the plants freely. As growth progresses afford more air, and when it is completed the plants may be stood on an ash bottom in the open air.

Climbers .- Mest of these are now making new growth, and the young shoots should be regulated in order to furnish the allotted space on the trellis, and to prevent crowding and entanglement. This applies particularly to such plants as Tacsonias, Lapagerias, Hibbertia. Thunbergias, and Dipladenias. The latter should be grown at the warmest end of the stove. Allamaudas should be repotted when they have made a few inches of new growth. If the plants are in large pots the balls may be reduced, and the plants reported into pots of the same size. Allamandas, Dipladenias, and Stephanotis, when grown in pots, flower much mere freely where the convenience exists for training the young growths near to the glass until the flower-buds are formed, when the plants may be trained over a balloon or other trellis. Of the climbers that are raised annually frem seeds, the Ipomeas, Thunbergias, and Maurandya Barclayana are among the most useful. Ipomæa rubro-cœrulea, and I. Quamoclit are very beautiful subjects for the conservatory wien well grown. This may be easily done if a warm temperature during the earlier stages of growth be afforded. At the end of the spring they may be transferred to the conservatory and potted on ence or twice. They continue to grow and will flower the summer. The annual varieties will then throughout the summer. The annual varieties of Thunbergia and the blue and white varieties of Maurandya Barclayana are also very useful.

Achimenes, Tydwas, and Gesneras.—If it is desired to increase the stock of these plants, enttings about 3 inches in length may be taken off the tops of the plants and inserted in 5-inch pots to the number of eight or ten in the case of Achimenes, and of five or six in that of the Tydwas. They will take root readily, and will afterwards flower, as will also the plants from which the cuttings were taken. When rooted, place the plants in a moist part of the stove, and keep them near to the glass.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearsen, Bart., Paddockhurst, Sussex.

Roses.—The work of pruning, having been delayed by the weather, should be finished as soon as possible. Some varieties are still dormant, and we may hope for a good Rose season. Remove all prunings, as well as the old dry manure that has served as a mulch for the winter. Give a dressing of turfy leam to beds on light seils, and lightly fork in a dressing of bone meal to ethers en heavy ground. Newly-planted beds will not require digging, nor need the mulching be removed unless some fresh material can be applied, but the ground should be made firm round the plants, in cases where the winds have loosened them.

Wild Garden.—Varieties of wild flowers of tall and dwarf habits should be sown in large areas.

Mix the seed with some finely-sifted soil and eow broadcast. In addition to the wild flowers, sow seeds of Shirley and Iceland Poppies, Malvas, the best varieties of Foxgloves, and the common sweet-scented Mignonette. It is not necessary to clear the ground for sowing, excepting of the underwood, as at this time of the year the seeds will soon germinate.

Rooteries may be made to look very picturesque and afferd relief to well-kept lawns and flowerbeds, especially where the ground is uneven or rugged in appearance. The roots should be cleaned now, and made ready for the reception of plants. Some fresh, rich seil should be applied to those requiring it, and if lime-rubble be mixed in it will counteract the effects from the drip of trees above. A change may be made in forming the roots to suit the plants required, adding to the height of the clump where necessary, and placing other roots at the side of the walk, taking care not to make it appear formal. Crevices and corners should be made into pockets, which may be planted with Nasturtiums, Canary Creepers, Campanulas, Ivy-leafed Pelargoniums, Fuchsias, &c. Old stumps may be covered with slow-grewing Ivies, especially the silver-edged varieties; the common wood Ivy is also suitable for this work, but the Irish Ivy is too robust in growth, and would smother the other epecies and rob the ground of all nutriment. Other creeping plants suitable are Clematis, Honeysuckle, and Tropæolum speciosum. A clump of Gorse and a centre plant of Pampas-Grass, just allewing the roots to be seen through the Gorse, has a very good effect. Thick ground-planting should be avoided. A good clump of Daffodils surrounded by Erica carnea is now very effective. Creeping plants, such as Aubrictias, Arabis, Alyssum saxatile compactum, and Saxifragas, may be used, and will look bright in early spring. Hardy Ferns, which should be planted now, must not be omitted; they have the effect of appearing cool in summer. Such kinds as Polystichums, Scolopendrium (Hart's-tongue), Osmunda regalis (Royal Fern), and the like, are suitable. Afford fresh soil to Ferns already planted. A rootery tends to harbour rats and mice, and unless these can be destroyed there cannot be much success.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREYOR LAWRENCE, Bart., Burford, Dorking.

Racemose section of Dendrobiums.—The following Dendrobiums, as D. thyrsiflorum, D. densiflorum, D. Farmeri, D. Schroderi, D. Griffithianum, D. fimbriatum, D. suavissimum, and D. chrysetoxum, belong to the racemose section of this genus, and many of the pseudo-bulbs will now be pushing out their flower-buds. In order to assist the development of these, place the plants in a warm corner of the Cattleya-house, and afford more water to the roots, and more atmospheric moisture than they have received in the resting-house, shading them from direct sunshine. The tall-growing D. Dalhousieanum, D. moschatum, D. calceolus, D. clavatum, and the rare hybrids D. illustre, D. Dalhou-nebile, and D. porphyrogastrum, are also of this section, but as they generally flower later they may be kept rather dry at the roots until the flower-buds appear. Plants of D. Brymerianum showing for flower should be placed in the warmest house. The best time to repot these Dendrobiums is soon after the flowers fade, and when the young grewths are commencing to make roots. When repotting do not cut away so many of the back pseudo-bulbs that are healthy as was recommended in my last Calendar for others of this genus, as sometimes the eld bulbs continue to produce flower-spikes for some years, even if they have no leaves.

Temperatures.—Under the influence of an increasing amount of sunlight there are signs of greater activity in the plants generally, either inthe development of new roots, or the commencement of young growths. The temperature in each house should therefore be allowed to rise a few degrees higher. The East Indian or warmest house should be maintained by fire-heat at night at 67°; Cattleya-house, at 63°. The Mexican and intermediate-houses should not fall below 60°,

while the temperature of the cool or Odontoglossum-house should range from 50° to according to the weather. The less fire-heat that is used in the Odontoglossum-house the better it will be for the plants. A rise of several degrees more in each department by sun-heat will do good. The East Indian-house at Burford being a rather large structure, we do not use the ventilators by night, as sufficient air is forced through the laps in the glass to preserve an equable temperature, but in all the other divisions the lower ventilators are left partly open. During the daytime admit air in all the houses freely through the bottom ventilators when the external air is rising above 50°. When it has reached 55° to 60°, the top lights may be opened a little, but judgment is necessary, especially when sudden changes of sunshine and showers occur. In April the changes between sunshine, shade, heat, and cold are so numerous, that it is sometimes impossible to keep the atmospheric conditions inside as regular as they should be. To avoid any extreme fall in the temperatures at such times keep the blinds down and close or open the ventilators according to the conditions of the external atmosphere.

* * In the concluding sentence of last week's Calendar, the word "when" should have read "until."

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Roots should not be buried deeply. - Make a careful examination of all kinds of fruit-trees, including those that have been planted recently, those that have been lifted and root-pruned, and permanent trees, to ascertain whether or not the roots have become buried too deeply. I know of nothing more detrimental to fruit-trees than deep planting. In the kitchen-garden the soil is apt to get shifted, and placed over and about the roots from time to time, until the stems of the trees are covered up several inches higher than they should be. If the situation is not a wet one, the roots near the stem may be allowed to be a trifle below the ground level, and the fibrous portions very slightly inclining downwards. Good soil should be worked well amongst them, and if the trees are aged, a little welldecayed manure or bone-meal may be mixed with the soil, afterwards covering the surface of the ground with a thin mulch of suitable manure. In wet, cold soils, it is not only necessary to provide good drainage, but I prefer to plant a little above the ground level, and employ liberal mulches in dry weather. In all cases the roots should be spread out evenly, so as to give them every opportunity to strike out in various directions during the growing season. Young Pear trees which from any cause have received a check, and are showing flowers in abundance on all the shoots, leaders and otherwise, should have the trusses reduced in number. Any that appear on the principal leaders should be removed entirely, taking care not to damage the wood when removing them, as from their centres usually pushes forth a young shoot. Keep a watchful eye on all fruit trees showing blossom, and should sparrows attack them, afford protection by means of fishnetting.

Perpetual-fruiting Strawberries.—The variety St. Joseph may be induced to fruit late in the season. Young plants put out for that purpose should be kept clean and free from weeds, &c., and during the early part of the season all flowers that show should be removed. At this season of the year, if the land is in a moderately dry state, suitable to be trampled upon, see that the plants are made firm, for some may have been loosened by frosts, &c. The alpine Strawberries are usually raised from seeds sown in pans in the month of March. The seedlings are pricked off, and subsequently transplanted on borders where the soil is not very rich or heavy. The smaller-growing varieties should be planted about 12 in. apart. Gunnersbury and the Red-and-white Alpine are excellent varieties.

Fruit-room.—In wet weather, when the men cannot work outside, have the ceilings thoroughly whitewashed, and all the shelves and woodwork washed and made clean and sweet. Let the fruit-room be ventilated freely throughout the

summer, so that it may be free from mould and damp. Many late-keeping Apples are frequently spoiled in flavour by storing them in dump, musty places, especially if the fruits are placed on straw, which, when damp, imparts a disagreeable flavour to the Apples.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq.,
Ashwicke Hall, Marshfield, Chippenham.

Asparagus - beds.—New beds should be prepared and planted without delay. Trench the ground not less than 2 feet deep, adding plenty of manure, and mixing it well with the soil as the work proceeds. Should there be a choice of position, choose that part of the garden where the soil is deepest, and which retains a uniform degree of moisture, in preference to any part of the garden that is likely to become dried up during dry weather. Avoid a low-lying spot where the soil becomes sour and wet from the accumulation of stagnant water. Let the site chosen be one well exposed to the sun, but sheltered from strong winds, and having a level surface. When the ground has been made ready, peg off beds 4 feet 6 inches in breadth, at distances of 18 in. apart.

Planting.—Take out a trench on the bed 3 inches from the edge, wide and deep enough to take the plants, and permit the roots to be well spread out, allowing 15 inches between each plant, burying the crowns about 2 inches deep. When this row is planted, proceed to plant the other rows in the same manner, 1 foot apart, which will thus make four trenches on each bed. Use one-year-old crowns for planting. Work the soil well amongst the roots, and when all is finished rake the surface level, and give a mulching of manure. Although this is an old system of planting, I consider it equal to any if a proper choice of soil and situation be made, and the work of mulching, cutting, cleaning, &c., is attended to at the proper time.

Seed sowing.—Seeds of Celery should not be sown in heat at this season; rather sow in a cool pit or frame and let the plants come on gradually, thus avoiding checks, which are detrimental to their growth. Sow seeds of Celeriac, and treat the seedlings similarly to those of Celery. Early-sown Celery should be pricked off before the plants become overcrowded and drawn. Place a few barrowfuls of short manure in a frame on a hard bottom; cover this with about 3 inches of rich soil and make it firm. No more manure should be used than will be necessary to generate heat sufficient to start the plants. Prick out the seedlings 4 inches apart, and keep the atmosphere of the frame rather close for a day or two until the plants establish themselves in the soil. Gradually inure the plants to sun and air until they are finally hardened off, when they will be ready for planting in the trenches when conditions are favourable.

Early Carrots in frames require thinning-out, and where Radishes have been sown amongst them, the latter should be pulled for table use as soon as fit in order to give the Carrots more room.

Herbs.—Divide and make beds of Sage, Mint, Tarragon, and Thyme. Sow seeds of Parsley, Chervil, and Fennel on a well-tilled border. Round Spinach should be sown between the rows of tall and medium growing Peas.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Pines.—Plants which were started with the object of ripening fruits early in June will now be swelling their fruit. Examine the plants individually at least twice a week, giving them every encouragement to grow strongly. This will be helped by supplies, when dry, of diluted liquid-manure or guano water, taking care to maintain a genial atmosphere by damping and sprinkling with water overhead and about the collars of the plants. Give attention to the progress of suckers and crowns, which afford indications that the plant is receiving proper treatment. With an excess of moisture and deficient ventilation these develop at the expense of the fruit

both in size and appearance. Afford stakes to any of the plants that require supports for the fruit. Remove all suckers not needed for further stock. To prevent extreme rises in the temperature, and perhaps scalling, drop the blinds for an hour or two in the middle of the day, when the sun is very bright. Maintain a night temperature of 70° to 75°, with 10° or 15° rise during the day, according to the state of the weather. Less moisture will be necessary in the atmosphere and less water at the roots when the plants are in flower. Ventilate at every favourable opportunity early in the morning, closing the house early in the afternoon. When the flowering stage is past, sprinkle the plants overhead with clear rainwater of the same temperature as that of the house. Keep those plants which are intended for winter fruiting, sturdy, by regular feeding, maintaining a bottom heat of 80° to 85°.

Vines .- The fcuit in the early house will now be changing colour, and at this stage it is most important there should be no lack of water at the roots. Any approach to dryness will soon show itself by the appearance of red-spider and other bad effects. But it must also be remembered that by over-watering the necessary properties of the soil would get washed down to the drainage. The variety Black Hamburgh is the recognised favourite for early work, as it is so well suited for that purpose. Yet Madresfield Court has a claim for this reason also, and it is only a very few days later in ripening. In this latter variety a deficiency of water at the roots in the early stages is even more injurious; and similarly more ventilation is necessary upon the approach of colouring, together with a less restriction of lateral growth. In the case of all black Grapes abundance of good foliage is indicative of a good finish.

Cropping.—About 2 lb. of Grapes to every footrun of the main rod may be considered a fair crop, but the exact weight of crop should depend upon the condition of the Vine. Damp the borders and paths occasionally when a little air is left on the house, to prevent the atmosphere's becoming over dry.

THE APIARY.

By EXPERT.

Bar Frames .- Bee keepers wishing to increase their stock of bar-frames from skeps should do so as soon as possible. The first thing necessary is to prepare the hive and place it where it is to remain, commencing with 6 or 8 frames, several of which should be filled with honey, &c., taken from other strong stocks, one or two from each. In no case should they be removed from weak stocks which would suffer from the loss. Place two moderately-filled frames in the front of the hive, following on with two or three frames filled perfectly with good founda-tion, making up the remainder with filled ones taken from the stronger stocks. As soon as the bees have been placed into the hive feed them gently either with a bottle feeder, costing 1s. 3d. each, or with a 2-lb. jam-jar, the mouth of which should be covered over twice with new butter cloth and turned upside down. A piece of perforated zinc should be placed on the top bars to prevent the bees from getting all over the top of the hive and also to keep the bees from a bother to you in removing the bottles to be refilled. Care should also be taken to prevent robbing. As soon as this is noticed, the entrance should be closed up, allowing only sufficient room for one or two bees to pass in and out. A little carbolic powder should also be sprinkled on the alighting-board. The hive should be kept as level as possible to prevent the syrup from running out. By far the safest way would be to purchase a bottle-feeder, by which the quautity given may be regulated. The bees from the skep should be be regulated. driven on a fine afternoon by the method described in these articles from time to time. Any comb from the skeps with honey can be placed on the top of the bars or at the back of the hive for the bees to clear out, and then can be removed. General feeding should be slowly proceeded with to encourage the bass to breed. Any syrup spilt in feeding should be covered over with earth, and a little Pea-flour should also be placed about and sprinkled over the Crocuses, &c.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR. 4l, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents .- The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations .- The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, APR. 9.-Scottish Hort. Assoc. meeting APE, 11 Sirmingham Gardeners' Mut. Imp. Soc. meeling. United Hort Ben. and Prov. Soc. Committee meeting. MONDAY. Devon Daffodil and Spring Show at Plymnuth (2 days). Brighton Hort. Soc. Spring Show (2 days). TUESDAY. APR. 12

WEDNESDAY, APR. 13
Regent's Park.
Ipswich and East of England
Hort. Soc. Daffodil Show.

Liverpool Hort. Soc. Spring

SATURDAY, APR. 16-German Gardeners' Club meet.

SALES FOR THE WEEK.

MONDAY NEXT, APRIL 11— Choice Percanials and Burder Plants, Japanese Liliums, Begonias, Ferns, &c., at 67 & 68, Cheapside, E.C., by Protherus & Morris, at 12.

WEDNESDAY NEXT, APRIL 13—
1,000 Roses, 375 Azaleas, Palms, Begonias, Herbaceous and Burder Plants, Ferns, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12; 224 cases Japanese Liliums, Davalltas &c., at 3. Davalltas, Lilies, Roses, Shrubs, Gladioli, &c., at Stevens' Rooms.

FRIDAY NEXT, APRIL 15—
6,000 Imported Odontoglossum crispum and other Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON. -April 6 (6 P.M.): Max. 59°; Min. 43°. April 7. Gardeners' Chronicle Office, 41, Welling-

ton Street, Covent Garden (10 A.M.): Temp., 50°; Bar., 29 8 Dull, windy.

PROVINCES. — April 6 (6 P.M.): Max. 55°, Southeast coast of England; Min. 45°, North of Ireland.

WITH reference to the affairs The Lindley of the Royal Horticultural Library. Society at the present juncture, it is requisite that the well wishers of the centenarian Society should exert themselves to the utmost to make sure that no financial embarrassment shall stand in the way of its progress. It is not necessary to urge its claims upon our readers, because, at least theoretically, they are universally admitted. The new hall, library and offices are approaching completion. To gain an idea of their absolute necessity, one has only to pay a visit to the present offices and library. Everyone who does so will feel surprised that the work of the Society can have been carried on at all under such unfavourable conditions; and if he further visit the fortnightly meetings at the Drill Hall in the afternoon, he will get sufficient experience of the inadequacy of the building and of the inconvenience due to overcrewding, both of exhibits and of spectators.

When the Society made its exodus from South Kensington, the Drill Hall and the offices were taken as affording temporary accommodation, and for a time they answered the purpose sufficiently well. Such, how-ever, has been the growth of the Society under the fostering care of the Secretary, that what was sufficient when he took office is totally inadequate now.

But this is not all. Not only are we in sight of a home for the Society such as it never had before, but a new garden on a very much larger scale than any previous establishment of the kind has virtually become the property of the Society through the munificence of Sir Thomas Hanbury. This is destined to replace the time-honoured garden at Chiswick, or what remains of it. It is obvious that large sums must be expended in order to fit the new garden for its purpose. Money, therefore, is required to complete the Hall and offices. Money is wanted for the removal of the goods and chattels of the Society. Money is needed for the equipment and furnishing of the new building. Money is a necessity for the establishment of an adequate experimental garden at Wisley.

For all these purposes, if debt and encumbrances are to be avoided, comparatively large sums are required to supplement the funds now at the disposal of the Society; but with so large a body of Fellows there surely ought to be no difficulty on this

There is another requirement, in its way quite as urgent though, financially speaking, less serious. We allude to the Lindley Library. That Library, from a horticultural standpoint, is the finest of its kind in the kingdom. The nucleus was formed by the purchase of Dr. Lindley's collection, by means of funds accruing from the ever-memorable International Exhibition and Botanical Congress of 1866.

At that time the Royal Horticultural Society, owing to financial difficulties, had been compelled to part with its possessions, including a valuable collection of books. To replace so essential an asset the Committee of the exhibition in question bought the Lindley Library and placed it in trust for the benefit of the Royal Horticultural Society. Thus the Society came into possession once more of a library now more complete and valuable than its predecessor, and one that cannot be alienated. The books have been added to yearly, partly by funds at the disposal of the trustees, party by grants in aid from the Council of the Royal Horticultural Society. Unfortunately the income of the Trustees, some forty pounds a year, is ridiculously inadequate even to maintain the library as it is, much less to bear the cost of removal, new cases, and rearrangement in its new quarters.

The demands made on the Society at the present crisis forbid the hope of any very substantial assistance being forthcoming from that source. It is evident, therefore, that the Trustees stand in urgent need of a relatively small sum, say £300 or £400, to instal the books and portraits in their new quarters, and to effect such cleansing, repairs, and renovations as a London atmosphere necessitates. The present trustees are Mr. BEN-NETT POE, Mr. WILLIAM CARRUTHERS, Mr. HARRY VEITCH, Dr. MAXWELL MASTERS, and

the Secretary and Treasurer of the Royal Horticultural Society by virtue of their office. Any one of these gentlemen will gladly receive donations in aid of the Library Fund, and in the interests of horticulture we plead most earnestly that such gifts may be forthcoming.

If a deaf ear is turned to this appeal, the books must be stored in bexes, inaccessible to the Fellows, and the humiliating fate that once befell this noble library when at South Kensington will be repeated. those in a measure originally responsible for the books and portraits, only one remains who can remember the bitter humiliation experienced in those evil days, when the portraits were sheltered in the back premises of the Albert Hall, and when the books were heaped pell-mell on the floor of a corridor leading out of one of the arcades at South Kensington. Whether such a disgrace shall be repeated or net depends very much on the result of the appeal now made to the Fellows of the Royal Horticultural Society.

BURNHAM BEECHES. - Our Supplementary Illustration shows one of the veterans of the forest that has been cruelly pollarded at some remote period. Nature has done her best to repair the injury, and the result is certainly picturesque. It is much to the credit of the City of London that the forest area known as the Beeches and the moor or common adjoining have been secured as a recreation ground for the people. Our illustration shows the tree in its present state, when it is sufficiently striking, but in a few short weeks it will be covered with nascent, light green foliage, through which the sun rays will filter and the flecks of light and shade, and the delicate tints of green, relieved it may be by the rich brown of the bud scales, will produce an exquisite effect. Among the plants that grow wild hereabouts, the common Juniper is noteworthy for the size it attains and the great variety in habit that it presents. It is desirable that the "Beeches" should be retained as much as possible in its present state, and that no foreign intruders should be allowed among the native vegetation of Beeches, Birches, Hollies, and the like. Close by is the interesting pinetum at Dropmore, where abundant opportunity is furnished for studying the trees from foreign climes, so that the Little Englander and the visitor who thinks imperially in the matter of trees are both provided with the means of gratifying their instincts. Dropmore, we ought to add, is private property.

THE SURVEYORS' INSTITUTION.—The next ordinary General Meeting will be held in the Lecture Hall of the Institution on Monday, April 18, 1904, when a paper will be read by Mr. THOMAS BLASHILL (Fellow), entitled "London Streets and London Street Traffic." The Chair will be taken at 8 o'clock, instead of at the earlier hour indicated on the Kalendar.

"THE DESTRUCTION OF CHARLOCK."-The fifth annual report on the Destruction of Charlock in Corn Crops (for 1903) is additional proof of the value of the means employed. Mr. G. F. STRAWSON says that "the progress of destroying Charlock by spraying in 1903 has been steady and successful. Larger areas have been dealt with than in former years, and it only remains to bring this very profitable farm operation clearly to the knowledge of all concerned. A destruction of 95 per cent. of Charlock is sufficient to ensure a handsome profit from a field of Barley infested with this weed, and, with five sprayings in alternate years, the Corn-crop can be brought to dominate the weed and spraying be no longer necessary. Charlock can be destroyed at any period of its growth by applying a solution of copper sulphate, but a less quantity is required for young than for old growth. It is now admitted that Mangels, Beans, Peas, Tares, Wheat, Oats, and Barley can be sprayed without injury, and the Charlock among them destroyed without harm being done to young grass-seeds, Clover, Sainfoin, &c., growing in the crop. There is no technical difficulty in spraying successfully; fine weather is necessary, and the spray should be fine enough to cover every leaf. Any slight discoloration to the blades of Corn is temporary and harmless. The following conclusions have stood the test of three years and remain unshaken:- '1. That young Charlock can be destroyed in growing Corn-crops without injury to the latter by spraying with 50 gallons of 3-percent. solution of copper sulphate (15 lb. to 50 gallons) per statute acre, and older Charlock with a stronger solution; 2. That the Corncrops are much improved and give a better yield where the Charlock is destroyed, and that young grass-seeds and Clover in the Corn remain uninjured; 3. That spraying early when the weed is young and in soft fibre is most profitable; 4. That the larger machines are more successful than the smaller; 5. That the profit derived from the increased yield of Corn is diminished in proportion to the delay which occurs after the Charlock is first fit to spray; 6. That the increased yield of Corn by the destruction of the Charlock yields a substantial profit after all the expenses of spraying have been defrayed, and that the value of all Charlockinfested land will increase until the extermination of the weed is complete.""

BOTANICAL MAGAZINE.—The plants figured in the April number are:—

Arundinaria Falconeri, Gamble, tab. 7947.—A native of the temperate Himalayas, originally, but erroneously, grown under the name of A. falcata; it is the A. nobilis of Mitford (Lord Redesdale) in The Bamboo Garden.

Aloe Baumii, Engler and Gilg., tab. 7498.—A handsome species from South-west Africa, with mottled, spiny leaves and tall stalked, many dowered panicles of reddish flowers (see fig. on p. 226).

Crossosoma californicum, Nuttatl, tab. 7949.—A highly interesting Californian shrub first flowered by Mr. Gumbleton at Queenstown, see Gardeners' Chronicle, 1903, ii., p. 130, fig. 50.

Cretalaria capensis, Jacquin, tab. 7950.—A South African shrub originally introduced to Kew in 1774, but little known in gardens. It flowers freely in the Temperate house every autumn. Its foliage and racemes of flowers are like those of Laburnum, but the yellow petals are marked with reddish veins.

Dipodium pictum, Reichenbach fit.—A Malayan Orchid which formed the subject of a communication to these pages by Mr. Watson in 1903, ii., p. 209, Hort. Kew.

ROYAL CALEDONIAN.—We have received a copy of the preliminary prize list for the great International Exhibition that is to be held in Edinburgh from September 13 to 15, 1905 (inclusive). The King has presented a Silver Cup for the best competitive exhibition in the Fruit classes. Various other prizes are offered, including the Challenge Trophy for Grapes, value fifty guineas. We are glad to observe that a series of awards will be made to exhibits illustrative of experiments and research on matters calculated to extend our knowledge and be of immediate benefit to practical horticulture.

ROYAL BOTANIC SOCIETY. — During the show to be held on Wednesday next, April 13, we are informed there will be a trial of motor and other lawn mowers conducted in the pleasure grounds.

STEALING FERNS.—The Devonshire magistrates, we are glad to note, continue to discorrage the stealing of Ferns and wild flowers. At the Axminster Court, on March 29, three persons were charged with removing from a plantation, on the Barnes estate, at Hawkhurst, a quantity of Ferns contained in three bags, and weighing 3 cwt. Two of the prisoners, who had been fined previously, were sent to prison for one month, and the other was fined £1 and costs.

DÜSSELDORF EXHIBITION. - The series of flower-shows in connection with the International Fine Art Exhibition at Düsseldorf, commencing in May, promises to be a very great success. Every detail has been well worked up by the various heads of departments, who have a capital of £175,000 at their disposal. Mr. Otto Beyrodt, of Marienfelde, Berlin, who takes the lead in the Orchid section, informs us that already M. Vuyl-STEKE, of Ghent, enters what is said to be one of the grandest exhibitions of hybrid Odontoglossums yet seen. M. CHAS. MARON, the French hybridist, also secures space for a group of his productions, and M. le Marquis DE WAYRIN, Madame la Comtesse D'HEMPTINE, and a large number of other exhibitors have entered. British growers should bear in mind that the Orchid entries close April 15, as announced.

EXTERMINATING RATS.—A recent number of Le Jardin mentions some experiments that have lately been made with a view to exterminating these pests. The work was undertaken by some members of the Pasteur Institute, under the superintendence of Dr. Roux. An area of nearly 3,000 acres was treated; 1,190 bottles of "Danysz virus" were used, with more than 4 tons of bread and double the quantity of Oats. The results were surprising, and Dr. Roux estimates that 95 per cent. of the rodents were destroyed. The means used were quite simple. Blocks of bread about 2 of an inch square, or of pounded Oats, were steeped in the mixture specially prepared at the Pasteur Institute, and the whole was scattered in small quantities round the rat-holes. A further series of experiments was also made. On a field measuring about 2 acres, and where Vines grew, 12,484 rat-holes were counted. All these were carefully closed up. Two days later 1,304 freshly-made holes were counted. The whole field was then scattered with virus-infected Oats, the mixture being put near the holes. Eight days later, when many of the rats must have died, their holes were again closed. After two more days only thirty-seven new runs had been made. This furnished an approximate estimate of the number of rats in the district. The experiment is therefore conclusive, and no harm was done either to any human being or domestic animal through the distribution of the poison. Dr. Roux has been warmly congratulated by the authorities, who have suitably acknowledged his useful work.

THE LABOUR EMPLOYED IN GARDENING .-In connection with the steps that are being taken to form a National Association of Gardeners, it is interesting to read the following notes upon the labour question as affecting gardening in America. The extract is taken from The American Florist for March 19 last, and refers principally to the commercial branch of gardening in America:-"When a man's establishment has grown too large for his own hands to do all the work in it. and he is compelled to employ others, he is pretty certain to encounter difficulties which will keep him awake late into the night trying to puzzle out. The help problem in its most aggravated form makes a grower often wish that he had been anything in the wide world but a florist. To read the advertising columns of our trade weeklies one would be inclined to take an optimistic view of the situation. As one's eye runs over the page we find it bristles with talent and experience all waiting to serve the man lucky enough to secure it; each applicant thoroughly fitted for any position of trust and responsibility; "capable of taking charge" is the stereotyped phrass. With so much talent, all the best, how is a man to make a choice? We make a venture; the sequel you all know. The man who knew it all, when put to work and given the test, knew almost nothing, or else had stored up all the knowledge there was and immediately took upon himself the benevolent task of instructing his ignorant employer. The itinsrant florist is a wonder. When a man pulls out a pocketful of testimonials you had better have a hurry call to the telephone, slip out of the back door, and never come back that day. It seems to me that in trying to solve the labour problem we shall have to do one of two things: employ only unskilled labour and furnish the brains and intelligence ourselves, so that the men will simply need to execute orders and work machinefashion; or else we must try to secure journeymen florists of a higher stamp of morality and intelligence than those we have at the present time. A number of growers that I have talked with are trying the former method with more or less success; they at least have the satisfaction of running their business in their own way, and having the work done as experience and common sense dictate. One very serious drawback to this method, however, will be found in the fact that if the intelligence of the overseer is, through sickness or any other cause, withdrawn for any length of time, something serious is liable to happen. If we adopt the other suggestion, I believe we will have to make our business more attractive, and offer greater inducements for young men of education and intelligence to seek such employment. Bright boys to-day will not choose a business for life that pays them no better and gives them no higher rank than that of a common labourer. The treatment which some employers give their men in the way of long hours, little recreation, scanty and poor food, and ntter disregard for all the comforts of life, is scandalous in the extreme. I have passed through it."

SCHEDULES RECEIVED.—NATIONAL CARNATION AND PICOTEE SOCIETY'S Show to be held on Tuesday, July 26, in the new Hall of the Royal Horticultural Society, Vincent Square, Westminster, London.

NATIONAL AURICULA AND PRIMULA SOCIETY'S (Southern Section) Show to be held in the Drill Hall, Buckingham Gate, Westminster, on Tuesday, April 19, 1904.

NATIONAL ROSE SOCIETY'S Summer Show on Wednesday, July 6, 1904, in the Inner Temple Gardens, Thames Embankment, London, E.C. Autumn Show in the new Horticultural Hall, Vincent Square, Westminster, on Tuesday, September 20, 1904.

St. John's Horticultural Society, Leamington.—Annual Show on Thursday, July 21, 1904, in a field adjoining Shrubland Hall, Tachbrook Road, Leamington.

"THE GARDENERS' DAILY ASSISTANT."-Mr. T. A. STEPHENS, of Brondesbury, has recently presented to the Trustees of the Lindley Library a copy of this work. It was published in 1786, and is interesting as containing lists of plants in cultivation at that date, as well as of the names of the leading nurserymen and seedsmen of the day. The full title runs thus: The Gardeners' Daity Assistant in the Modern Practice of English Gardening for Every Month in the Year on an Entire New Plan, by John Aberchombie. By coincidence a short biographical notice of JOHN ABERCROMDIE, with a portrait, appears in the last number of the Journal of Horticulture. We borrow the following condensed extracts from the pages of our contemporary, feeling

assured that, in the interests of the Lindley Library, we shall have a free pardon:—

"John Abercrombie, the authur of the book, was worn at Edinburgh in 1726, near which city his father conducted a considerable market garden. Soon after his apprenticeship expired, being about eighteen, he came to London, where he obtained employment in some of the Royal Gardens, at Kew, and at Leicester House. Afterwards he became pardener to Dr. Munro and other gentlemen. About 1751-52 he hecame gardener to Sir James Pouglas, during his continuance in whose service he married. Fearing his family might become troublesome, he left his situation in 1759 and returned to Fcotland with the inlention of becoming kitchen and market gardener, but came again to England after an absence of only ten months. He was engaged in the service of several noblemen and gentlemen until 1770, when he engaged a kitchen garden and small uursery ground between Mile End Road and Hackney attending Spitalfields Market with the products until 1771-72. At this period he became a publican in Dog Row, Mile End. His house was afterwards converted into the Articheke Tea Gardens. By the importunity of his wife he left this and entered into the seed and nursery business at Newington and Tottenham Court, carrying on at the same time an axiensive trade as a kitchen gardener and florist. His Girdiner' Pocket Journal or Daily Assistant obtained a vary extensive sale, and has since passed through many editions. Besides these he compiled many other books. He diel from an accident on May 2, 1806. He at one period after the publication of his Every Man His Own Gardener, 1 and actually embarked to superintend the gardens of the Empress of Russia, but the sight of the ocean inspired him with terrors which he could not overcome,"

PRESENTATION.—The members of the Altrincham and District Gardeners' Society recently presented Mr. Arthur Boardman with a silver tea service at the general meeting on Tuesday, March 2) last. Mr. Boardman, who has been employed by Messrs. Clibran & Son for several years, has been secretary to the Society for six years, and is about to retire and be married.

"FLORA AND SYLVA."—The April number is rendered exceptionally interesting from a freshly-written article on "Spring Crocuses" by Mr. E. A. Bowles. An article on Correas is rendered misleading by the application of the term "Australian Fuchsias." Of course they have nothing to do with Fuchsias. The word "Correa" is surely not difficult for the least receptive gardener to make use of. An article on the Brooms of the Cytisus group may serve to call attention to the wealth of beauty possessed by these plants.

FUNGUS DISEASE IN LARCH.—Professor C. A. T. A. OUDEMANS describes, in the Koninklijke Academie van Wetenschappen, of Amsterdam, February 25, 1904, a newly-discovered microsopic fungus attacking the leaves of the Larch. The leaves have a sickly appearance, and their light green colour is exchanged for a brown hne. In outward appearance the fungus consists of very minute black spots, scattered irregularly over both surfaces of the leaf. Their internal erganisation shows that they belong to a new genus of Deuteromycetæ, described and figured under the name of Exceptional laricis. It seems potential for mischief, but no remedy beyond collecting and burning the affected leaves is suggested. The paper is in English.

A WHITE HIPPEASTRUM. — In the March number of the Illustrierte Garten-Zeitung is given a coloured illustration of an albino form of Hippeastrum vittatum, which flowered in the Imperial garden at Schonbrunn.

"CASSELL'S POPULAR GARDENING."—The first part of a new fortnightly publication is before us. It is intended as an illustrated cultural guide for amateur and professional gardeners. It is edited by W. P. WRIGHT, and published by CASSELL & Co. Gardening, the editor tells us, throbs with "virile" activity, and the statement is true if the term virile is made comprehensive onough to include the lady-gardener. Every article, we are further told, "has its purpose, every paragraph its germ of hopefulness,

every illustration its lesson of cultural value or beauty." Beginning with herbaceous plants, we have lists of those that are most serviceable, together with indications of the best method of arranging them. Pruning Roses is an appropriate subject at this season, and so are seed-sowing and Potato-planting. The hints given on these subjects supply just the kind of information that the amateur wants. The greenhouse is not neglected, nor the lawn overlooked. Even Box-edging, the proper planting of which is almost a lost art, has a paragraph to itself. Ferns, Alpine plants, Orchids, Chrysanthemums, bulbs, flerists' flowers, Melons, gratting, window gardening, hedges-all these and many more subjects are treated of. This shows how comprehensive Popular Gardening is intended to be; but it also shows how necessary it will be to give in due time a table of contents and a comprehensive index. The articles are so instructive and the illustrations so serviceable that we have no doubt the periodical will amply justify the appellation "Popnlar."

MANURE FOR POTATOS.—The Irish Department of Agriculture has issued a leaflet showing the results of experiments made at twenty stations as to the value of manures in this crop. Briefly, it may be said that the use of artificial manures along with 15 tons of farmyard manure per acre is more profitable than the employment of 20 tons of farmyard manure without artificial fertilisers. The fertilisers employed should contain nitrogen, phosphorus, and petassium. If either of these be omitted the results are less favourable. The most efficient mixture and the most profitable was one consisting of 15 tons farmyard manure, 1 cwt. sulphate of ammonia, 4 cwt. superphosphate, 1 cwt. muriate of potash. Of the varieties, Up-to-Date and Beauty of Bute produced the heaviest crops, but much depends on the nature of the soil.

RADIUM AND VEGETATION.—American Gardening pleasantly looks forward to the time when Strawberries will be as big as Water Melons, Peas the size of Apples, and so forth. The realisation of these possibilities is to result from the use of the silt dredged from the Potomac river, which is alleged to contain minute proportions of radium. Does American imagination feed on radium?

ALLEGED DISEASE - PROOF POTATO. — It appears that some of Mr. Burnank's Potatos have been tried in Ireland, and found immune from disease. We have no precise indications as to the experiments made, but shall look forward with interest to their continuance. Mr. Burbank has done great things already, and if he has really been successful in raising a disease-proof Potato his fame will be even greater in the future than it is now.

HYACINTH BULB PRODUCES NINE SPIKES OF FLOWERS.—We have received a photograph from a correspondent at Hampstead (Mr. West, Windsor Terrace), showing a Hyacinth bulb with nine spikes of flowers. This extraordinary bulb was bought at a sale-room!

LEAF-MOULD.—M. HENRY, in the Revue des Eaux et Forêts, calls attention to the fixation of nitrogen by dead leaves, especially on damp subsoils. Whether this is effected by bacterial agency or in what other way is not known. The fact however may account for the beneficial results observed from the use of leaf-mould.

PUBLICATIONS RECEIVED.—Annual Report on the Department of Public Gardena and Plantations, and Board of Agriculture. Jamaica, for the year ending March 31, 1923. The work of instructing the peasantry in improved methods of cultivating and curing their crops, has been most successful. Prof. Urban continues to work out the immense botanical treasures of the West Indies, and the important book undertaken relating to the W. Iodian plants is making progreas. Various new plants from Jamaica are notified as having been discovered.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

STRAWBERRY BEDS.—In reply to Mr. Jefferies' remarks on p. 202, I may say that I had an excellent crop of Strawberries in 1903, and could have provided twice the quantity required for preserving, in addition to keeping the table supplied twice and three times daily, according to circumstances. I also lost considerably ever 50 lb. of Strawberries in one day in July through a thunderstorm and deluge of rain, which reduced the fruits to a pulp. As to the comparison between Strawberries grown for forcing with restricted root-room and those grown in the open ground, if the former requires the soil to be rammed, the soil of the latter should be madefirm. Loose soil generally produces large foliage, whereas firm soil induces the growth of shorter and more leathery leaves. As to planting I foot apart in the rows, this is a necessity here, as space is limited; and I do not think I should alter my method had I more space, as the extraroom given to each individual plant would not produce fruit equivalent to that of the extraplants in the row. J. Stocks, Fen Place Gardens, Turner's Hill, Sussex.

A NOVEL GARDEN PATH. — We have this winter put down a path in the pleasure-garden here composed of the round, flat saddle-stones used for supporting corn stacks, set at regular intervals, bordered by two rows of bricks on either side, and two bricks in width, set at right angles with the outer rows between each stone, the spaces between the stones and the angles of the bricks being filled with seil, which will be encouraged to moss over. This mixture of brick and stone has a very good appearance. R. W. Dean, Wainsford, Hants.

APPLE ECKLINVILLE SEEDLING .- Mr. Crump's note on the non-fruiting of this Apple reminded meof a similar experience with the variety Lord Suffield. About I acre of ground was planted with bush-trained trees of the latter variety. The trees grew well and flowered profusely, but had only one small crop of fruit in twelve years. I examined the blooms in several seasons, and the organs seemed perfect and had plenty of pollen. No manure was applied to the land, as the trees made much growth. The same variety in a private garden net 100 yards away always fruited well, but the land in this case was manured for ordinary kitchen-garden crops. The owner of the unfruitful trees was naturally disappointed, as the rent, &c., was rather heavy. He took the advice of experts, and was recommended to root-prune by some and to graft the trees by others. He gave orders to have the trees grubbed, but after-starting he altered his mind and gave the remainder a heavy top-dressing of farm-yard manure. The following year the trees bore a tremendous crop of fruit, and have always cropped since in degree according to the season. It appears there was some element essential to the growth of the fruit lacking in the soil, and this was supplied by the manure. The variety Ecklinville Seedling is not esteemed much in this district, as many of the fruits drop before coming to perfection. Stirling Castle, Golden Noble, and Lane's Prince Albert are very reliable. A. J. Bridges, Staines Road Nursery, Hounslow.

HURSLEY (see pp. 201, 202). — As having well-known Hursley, Keble, and the then Sir William-Heathcote, in long past years, I am grateful for the excellent photograph and interesting notice in the Gardeners' Chronicle for March 27. Buthas Mr. Boulger considered his statement that Keble "evinces but little interest in the beauties of nature in any of his works"? Let me call his attention to the opening lines of Morning with its correspondent evening sketch of the twenty-third Sunday after Trinity, to the "soft green Willow" of first Epiphany, which caught his eye on the road near Fairford; to the ideal Palestine scenery in third Lent, the twin streamlets of Easter Monday, the Snowdrops of Easter Tuesday, the wild-flower wreaths of Whit Mouday, the "many twinkling smile of ocean" in second Trinity, the Lilies of the field in fifteenth Trinity, the lone hill-top of twentieth Trinity. I would refer him also to

the winter thrush of the Lyra Apostolica, the enidnight outlook in the Penance, to the "Birds' nest," the "Gleaners," of Lyra Innocentium, and to Weble's elequent expansions of classical Natureworship scattered through his Prælections. Many more I might add, but ex ungue leonem. Corycius Senex, March 31, 1904.

BEGONIA GLOIRE DE LORRAINE.-Mr. Tallack advocated, on p. 203, propagation by leaves. methed has given me the greatest satisfaction, but the leaves should not be potted-up before the growthe appear. The first time I tried leaf pro-pagation I put in 150 good stout leaves, and quite 140 rooted; but I did not disturb them until I saw the tiny growths pushing up. I then carefully cut away the eld leaf, and three days afterwards they were potted up into small 60-size pots, and I did not lose one after potting. The next year I put in about the same number, and they rooted; but as I wanted to put a second batch of leaves in the same case I did not wait to see the growths appear, but as soon as they were well rooted, they were potted-up into pots of the same size as the others, and I do not think I got a dozen to start into growth. It was not for lack of roots, as in about ten days after potting-up the small were quite full of roots. The plants raised from leaves seem more vigorous, make bushier plants, and are not so apt to keep flowering during the growing season as plants raised from base cuttings, and there is not the necessity to pinch them. It is quite possible Mr. Fielder's leaves were put in too late. Mine were inserted in October. I have grown plants propagated both ways. I carefully labelled the leaf-struck plants in the first year, but there was no necessity to look for the label, as the vigour of these plants told their own tale. Henry Lydiatt. Warren Tower Gardens, Newmarket.

— I agree with what Mr. Fielder wrote on p. 220. Having a considerable amount of decorating to do in the sheoting season I have grown a large quantity of these plants, and always insert the cuttings in the first week in April, and obtain plants large enough for any purpose. There is much written about these plants, as if they were hard to grow, but their culture is very simple. I enclose a phetograph of my exhibit at St. Neets Chrysanthemum Show, November, 1903. Thank you; but the photograph is uncuitable tor reproduction. Ed.]. J. Barson, Hinchingbrook Gardens, Huntingdon.

— I can fully endorse Mr. Tallack's remarks on p. 203, en the propagation by leaves of the above plant. I have always found such to be a very successful method of propagatien, and one to be recommended where the gardener has a very limited stock of plants. I do not start quite so early as Mr. Tallack. The first batch of leaves is inserted early in January, with occasional batches until March, and I find all reot readily and produce fine young plants, which are grown side by side with those struck from the cuttings. Those raised from leaves produce mere sturdy and robust specimens than those from the cuttings. G. Claridge, Copt Hall Gardens, Mill Hill, N.W.

THE LATE WM. LUNT.—It was with a shock I read the obituary notice in the Gardeners' Chronicle of the late Wm. Lunt, as he could not have been more than thirty-two years of age. He came to Longford Hall, near Manchester, when eighteen, as improver, and was under me for a year or so when I was general foreman there. He left and went to Welbeck. He was an improver in more senses than one, as during the whole time he was at Longford his spare time was occupied in the study of betany, both at meal-times and at evening. His was an example that other young men might copy with profit to themselvee. He attended the advanced class of betany in Manchester regularly ence a week, and I well remember, on the night of the examination, him coming to me with a piece of Weigela rosea in his button-hole, asking me to name it for him, as that had been the subject of the examination. Of course, it had been sent from the South—ours in the garden had not opened their flowers. I also remember his brother sending some spikes of the Horse Chestnut from Ealing, and how he went in raptures over them, having never seen such flowers so far north. Before coming to Long-

ford Hall he passed the elementary stage of botany, under the tutelage of his father, whom he worked under. His father is (or was) Superintendent of Stamford Park, Ashton-under-Lyne, Lancashire, to whom and his mother I tender my sympathy in their loss. E. Young, Grandon Halt Gardens, Aylesbury.

THE "SHASTA" DAISIES."—Unlike Mr. Bunyard, I find the Shasta Daisies streng and vigorous growers, possessing a habit something like that of Chrysanthemum maximum, but having flowers net nearly so good as some of the varieties of C. maximum, such as C. m. G. H. Sage, C. m. Maurice Prichard, C. m. W. H. Gabb, and others. The raiser, a well-known American hybridist, is sending out three new Shasta Daisies selected from the eriginal stock. The first is described as having flowers of glistening white, from $4\frac{1}{2}$ to 5 inches across, and on stems $2\frac{1}{2}$ feet high. The second one, when in bud and in a half-opened state, the flowers are of a clear lemon-yellow, gradually changing when fully expanded to a pure white. The third is distinguished by its branching habit, with flowers of a pleasing cream colour, semi-double, 3 to 4 inches across, and produced on fairly long stems in bewildering profusion. We are looking for something better in these three new ones than we have experienced in the original Shasta Daisies. Arthur W. Wade, Hale, Cheshire.

THE PROPOSED GARDENERS' ASSOCIATION.

Beyond thinking with him that it would be advantageous for the Gardeners' Association—when it is fermed—to have its offices situated in the new Horticultural Hall, I cannot agree with "H. W. W." that it would be a good thing for the Association to have any more intimate relations with the Royal Herticultural Society. If the project is to be carried through, as I hope it will be, the Committee must have time, patience, and perseverance at their disposal, and be inspired with that complete confidence which is requisite to success. It seems to me that, if anything definite is to be obtained, the strong Provisional Committee must be given the support of all branches of Horticulture, whether private, commercial, municipal, or public. This is most important. Let me urge upon all gardeners the necessity of strongly supporting, both by word and deed, the Committee which is now working for the welfare of the gardening profession. T. M.

—— Writing as a young gardener who is keenly interested in the proposed Gardeners' Association, I should like to urge gardeners to send word of their support, preferably accompanied by a donation towards the preliminary expenses to the Hon. Secretary of the movement, which I think to be the duty of all thoughtful and progressive gardeners. I consider the Previsional Committee to be a remarkably strong one, and firmly believe that if only these gentlemen receive adequate support from the rank and file of the profession, great benefits will eventually result from their labours. Spero meliora.

PROPOSED VISIT TO WISLEY GARDEN.- 1 ask your permission to mention in the Gardeners' Chronicle that not only have some members of the Royal Horticultural Society's Fruit Committee mentioned to me a desire to see Wisley Garden in all its spring beauty, but have also gone so far as to wish me to make up a party for such purpose if possible. I have ascertained from Mr. S. T. Wright that the Garden may be found in great beauty about the last week in the menth. That is not a Drill Hall week. I therefore propose, provided a sufficient number of Fellows so wish, to fix Tuesday, April 26, for the visit. I suggest that by far the simplest way and both the most enjoyable and cheapest, is to accept the offer of the Suburban Omnibus Company to carry visitors from Kingston or Surbiten stations in number not less than twelve per brake, or four horse charà-banc, according to number, to and from Wisley, at a charge of 2s. 6d. per head. The distance is 10 miles by road, presenting a very delightful ride of, inclusive of both ways, 20 miles. The vehicle would meet at Kingston Station trains from Waterloo via Wimbledon at 1.13 P.M., and also from Waterloo via Richmond and Twickenham, picking up at Richmend from the North Lendon and Metropolitan lines, and at Twickenham

from the Reading and Windsor lines. The train via Wimbledon leaves Waterloo at 12.37 p.m., the ene via Richmond at 12.20 p.m. Visitors coming to Surbiton Station from Waterloo can get a fast train (main-line) at 115 p.m., and be picked up there at 1.35 p.m. Third-class return fares to Kingston and Surbiton from Waterloo are 1s. 8d. Wisley should be reached about 3 pm. After seeing the gardens tea can be had at the Wisley Hut Hotel near by. Any Fellows purposing to join the party must give me notice not later than April 24. Alex. Dean, 62, Richmond Road, Kingston.

POTATO SIR JOHN LLEWELYN.—I have grewn this Potato for four or five seasons, and en similar soil mentioned by your correspondent on p. 203heavy, on a clay subsoil -and with me the quality has left nothing to be desired, the tubers being very mealy and of fine flavour. It is also a very heavy cropper; and although last season such varieties as Duke of York, Snowdrop, Windsor Castle, and Syon House Prolific were badly diseased, and the crop almost useless, we found scurcely a trace of disease in the variety Sir J. Llewelyn. I have also found that, although an early variety, it will keep sound and cook well into the new year. I saw a very fine crop of it on light loam in Worcester; hice last autumn, the grower telling me he had formed a very high epinien of it fer cooking and cropping and diseaseresisting properties. Evergood did remarkably well with us last season. There is probably no Potato grewn with such a hardy constitution as this; it is a trementous cropper, and of gool quality when cooked; and although growing close to other sorts which were badly diseased, we could find no trace of disease in Evergood. Dalmeny Beauty and Charles Fidler, both said to be disease-resisters, were bidly diseased, and the tubers were quite three-parts rotten when lifted. F. G. G., Pendley Gardens, Tring.

— This Potato proved to be the best variety we growhere. I planted about 3 lb. of tibers an I when they were lifted we had just over 70 lb.; our soil here is very heavy, and rests on clay at a depth of 15 to 18 inches. Having planted Sir John Llewelyn two years ago on light seil, the tubers were not nearly so good. As Mr. Slade says, the quality of Potatos varies in different soils, but I do not think too much can be said in favour of this splendid variety, it being such a good addition to the early varieties. We have a nice batch coming on in pots planted the first week in February, and I hope to have them ready for the table in another week. W. E. Barnett, Rodburgh Court Gardens, Stroud, Glos.

POTATO PRICES .- It is interesting to note that whilst in so many directions last year's crop of Potatos was much restricted by various causes, yet it can hardly be said that they are dearer, either for consumption or for planting, than they usually are in the spring. We purchase very good Potatos indeed, and apparently home-grown ones retail at 6d. per 7 lbs., that is but 4s. per bushel. The retailer doubtless purchases at about 5s. to 6s. per cwt., and possibly rather less. That would be about £5 per ton, certainly far from being an exceptional price. Is it a fact that the produce here was, after all, sufficient to satisfy the nation's needs, or are we dependent largely upon foreign importations so much that what otherwise would be a deficiency is thus made good? The Board of Trade Returns for the past month show an enormous increase of Potato imports, hence it is fair to conclude that it is these imports which keep prices so even. But then we find home-grown seed-tubers to be very reasonable in price also, as may be seen in the numerous lists offered in advertisements. Generally, prices of seed tubers seem to be very moderate, and as these are hardly likely to be of imported stocks, it is fair to assume that there is at home no lack of good planting tubers. When prices for really good standard varieties range from 2s. to 4s. per peck of 14 lb, it is difficult find room for complaint, especially when the tubers have all been carefully hand-picked. Even the famous Northern Star can now be had at 2s. 6d. per lb., a material drop on the autumn and winter prices, leading to the inference that after all efforts at inflation may fail. My experience of seed-tubers this spring is that they have wintered unusually well, and are a capital

sound sample. That fact, allied to the moderate prices at which seed Potatos are offered, should lead to very large plantings. A. D., March.

THE CURRANT BUD MITE.—I have an idea that this trcuble is caused through dryness at the roots. I have for forty years had dealings with thousands of Black Currant trees, but have never been troubled with the mite. The soil is of a clayey nature on the millstone grit, situated in a valley, therefore raturally very wet, especially the subsoil. I have in another locality stood before flats or borders of Black Currants growing in sandy soil of the red sandstone, and the mite prevailed; also I have seen the swelled buds on trees growing on dry banks, and not long ago I visited a garden situated on boulder clay, which has a naturally dry subsoil, and to my enquiry where the Black Currant trees had gone, the gardener said he had destroyed them, as they had become infested with the mite. I said the trees would be dry at the root; "Nay," was his reply, "the ground is wetenough." "Well," I said, "had you flooded the trees with water when hard at work, there would have been no mite, but healthy trees." It is my opinion that any soil or situation, excluding towns, will grow Black Currant bushes free from mite, providing they are afforded sufficient moisture at the roots. I would rather plant them in a ditch than on dry headland. T. B., Blackburn.

FLORISIS' FLOWERS.

THE PROSPECTS OF THE AURICULA.

THE lateness of the season, in combination with the fact that the exhibition of the National Auricula Society on the 19th, a date a little earlier than usual, leads to the presumption that Auriculas, both show and Alpine, can scarcely be as numerously exhibited as last year, when the spring season was decidedly earlier. We get glimpses of warm sunshine sometimes by daytoo few indeed-but at night the temperature is very low, with occasional sharp frosts towards Those growers are fortunate who can morning. apply a little warmth by night-not, of course, to force the plants in any way, for no greater mistake can be made with the Auricula than to attempt to drive it, but simply for the purpose of equalising the night temperature as closely as possible to that of the day.

It is the invariable practice of many Auriculagrowers to give their plants a southern aspect from October until the blooming-time, of course shading from the sun when necessary, and at all times giving abundance of air. The position of the house or frame has its influence on the progress of the plants. If in a warm and sheltered position, shut out from northerly and easterly winds, development is much hastened as compared with the inmates of a house or framefully exposed on all sides; and here the development is always slow. In my cold-house, which faces the north, and is exposed to both east and west. I have no signs of an Auricula showing colour; but a few days of warm sunshine might work wonders. And not only Auriculas, but Polyanthus and Primroses, are much later than they were last year. In 1903 the difficulty was to hold Primroses over for the show, as they were in full bloom in March; this year, in the case of the finest varieties, the difficulty will be to get them into bloom so fully as is desired. But my soil is heavy and late, and I have no doubt that from other places the Primrose and Polyanthus will be well represented. A good display of the Primula tribe is what all interested in so fascinating a subject are desiring.

THE CRUSADE AGAINST THE PIN-EYE (LONG-STYLE).

Following upon the action of the Midland Auricula Society two years ago, the Northern section of the National Auricula Society, which holds an exhibition in Manchester, has declared

against the pin-eye; and at a recent meeting of the members amended Rule XII. of the Society so as to read:-"In consequence of disputes as to what degree of prominence constitutes a pin eye in an Alpine Auricula, it is ruled that the pin shall not be visible among or above the anthers." In commenting on this rule Mr. J. W. Bentley, the Hon. Secretary and Treasurer, remarks, "The alteration of Rule XII, is another attempt to settle the vexed pin-eye question. It was the opinion of the meeting that if the pin could not be seen among or above the anthers, the flower ought to pass without disqualification. This does not mean that pins can be removed, for this is an absolute disqualification; nor does it mean that a pin visible below the anthers will disqualify the flower. It is designed to qualify flowers like Alpine Duke of York, in which, though the pin rises high, yet the anthers so block up the tube and cover the pin that it is invisible, and therefore no eyesore." It will be interesting to note the working of this rule in practice; it is designed, at all events, to make matters easier for exhibitors. The Southern section of the National Auricula Society has not as yet made any pronouncement on the subject. R. D.

ALPINE GARDEN.

CROCUS BANATICUS.

ONE of the more distinct of Crocus species now flowering is C. banaticus from Transylvania. It is a good-sized plant of the vernus type with small corms, the tunics of which are netted as in the true C. reticulatus. The tubes are purplish, the segments broadly ovate, 2 inches long, coloured mauve, with curiously marked apices of heliotrope colouring, the upper third of the petals appearing as though dipped in heliotrope colouring artificially. Its singular markings attract attention at once, and though the general colouring varies somewhat from light to dark mauve, the curious dark tips are always the same, and when the flowers expand under warm sunshine the colouring shows on the inside of the petals in the form of inverted arrowheads. The stigmata are fringed and coloured orange-scarlet. It is a handsome Crocus, quite easy to grow in an ordinary border, and is one of the many species that one could recommend as showy plants, full of interest to gardener and amateur alike, and invaluable for rockery planting at this season.

Colchicum crociflorum, Regel.

The best and the rarest of spring-flowering Colchicums is, doubtless, C. crociflorum, a charming little plant that has been flowering bravely for the past six weeks, and is still pushing fresh blooms. It has a conical corm, covered with a thick, horny, brown tunic, and bears several tufts of flowers, generally six to eight in each tuft, with long tubes, purplish at the top; a spreading limb, which reminds one of Crocus byemalis, the petals of which are white, above an inch long, markedly keeled, purple on the outside, the colouring showing on the inside also in a slighter degree. The rich and powerful fragrance resembles that of Hawthorn. Like most Colchicums, this species prefers a damp and strong soil, and in dry places it is better to insert the bulbs 6 to 8 inches deep, to protect them from drought. It increases very slowly as compared with the autumn-flowering species, and the time of flowering is not helpful to seed production, hence its scarcity; but it is in nowise difficult to grow. The leaves are blunt and tapering, and highly lustrous. The characters of this plant are so distinct and good that there can be no justification for the forms of C. montanum passing as C. crociflorum. Its outer purple stripes and sweet fragrance, though probably variable in degree, are always present. It comes from Kokan, whilst spurious C. croeiflorum hails from the European mountain ranges that border the Mediterranean. G. E. Mallètt.

SOCIETIES.

ROYAL HORTICULTURAL.

APEIL 5.—The usual fortnightly meeting of the Committees was held in the Drili Hall, Buckingham Gate, Westminster, and, considering that the previous day was a Bank Holidsy, a good display was made.

The OECHID COMMITTEE recommended one Firstclass Certificate and three Awards of Merit to noveliles, and the Odontoglossum awarded a First-class Certificate was one of unusual merit.

The recommendations of the FLORAL COMMITTEE included one First-class Certificate and five Awards of Merit.

The FRUIT AND VEGETABLE COMMITTEE met, and had little to do.

The NARCISSUS COMMITTEE was present in considerable force, and recommended an Award of Merit to a seedling variety of Narcissus obvailaris, the Tenby Daffodil.

In the alternoon there were forty new Feilows elected to the privileges of the Society, and a Lecture en "Designs in Villa Gardens" was given by Mr. MAULE.

Floral Committee.

Present: W. Marshali, Esq., Chairman; and Messre. R. Dean, Jno. Green, J. F. McLeod, W., Howe, R. Hooper Pearson, J. Jennings, C. R. Ficider, Chas. Dixon, G. Reuthe, H. J. Cutbush, Chas. E. Pearson, J. W. Barr, Geo. Gordou, W. Cutibertson, H. J. Jones, W. P. Thomson, E. H. Jenkins, M. J. James, C. E. Shea, George Nicholson, James Walker, George Paul, and C. T. Druery.

Mr. GEORGE MOUNT, The Nurseries, Canterbury, set up a most charming group of Roses, having varieties of a lighter shade on either side of the handsome dark variety Captain Hayward. Such varieties as Mrs. John Laing, Uirleh Brunner, Earoness Rothschild, and Mrs. R. G. S. Crawford were all shown in heautiful condition, the high-class culture being evident not only in their flowers but in the foliage and wood (Silver-glit Fjora Medai).

Another fine exhibit of Roses was from Messrs. FRANK CANT & CO., Braiswick Nurseries, Colchester, who had numerous varieties in excellent condition (Silver-gilt Fiora Medal).

Mr. E. POTTEN, Camden Nursery, Cranbrook, Kent, contributed Roses in pots and also cut flowers. The Polyanthus variety Dorothy Perkins, with light pink flowers of very free habit, Boadleea, Corallina, and Comiesse Sophy Forby were some of the best.

Messrs. B. R. Cant & Sons, Colchester, exhibited plants five feet or more high of the Rose Blush Rambier, and Maharajah, a new pillar Rose with single crimson flowers four inches across.

Messrs. H. Cannell & Sons, Swanley, Kent, presented in an artistic manner a collection of zonal Pelargonium bloom set up in fancy vases on a white table ground with sprigs of Berberis between the gia.ses. These old favourites were presented in surprising size, form, and colour. The varieties included Duke of Norfolk, large flowers, dark magenta, almost crimson in colour; The Ghost, flowers pure white of fine form and substance; Lady E. Maiet, a unique coloured flower with delicate biush petals, baving a darker edge; Prince of Orange, a very striking scarlet; The Sirdar, scarlet; Countess of Hopetoun, faint salmon pink almost white; Lilacina Improved very fine, and Fire Dragon, a scarlet (Silver Banksian Medal).

Messrs, W. Bull & Sons, King's Road, Cheisea, showed decorative foliage plants, Dracænas, Palms, Codiæums (Crotons), and some Amaryliis in flower. The Dracænas were very good, D. Victoria and D. Goldleana especially so. Several good varieties of Codiæum were included. Nidularia Innocenti striata

was represented by a nice plant.

H. LITTLE, Esq., The Barons, Twickenbam (gr., Mr. G. Watts), brought a batch of Clivia miniata carrying fine heads of flowers. many with large individual blooms. A variety named "Firefly" was very massive and the colour good; Aurea was a seedling of a paic shade of colour. Some well flowered plants of Azaleas

were also brought by the same gentleman. Some plants of Amaryllis were also shown (Silver Banksian Medal).

Mr. Chas. Torner, The Royal Nurseries, Slough, presented some spediling Azaless for Carlificate.

Mr. Chas. Torner, The Royal Nurseries, Slough, presented some seedling Azaleas for Cerlificate—Spliffre, dark red; Temperance, Elaine, a fine coloured red, with large well shaped flowers; and MdHe Emma Eckhaul, a well-shaped flower with light plnk petals

Mesers. Geo. Jackman & Son, Woking, Surrey, brought three trays of alphne plants, one of which was entirely filled with coloured Primroses and Polyanthus of very pleasing colours. The alpines were miniature specimens, and comprised a large selection in a small compass. Among them were noticed Schizecedon soldanelloides, Moris'a [hypersa, Aremore vernalis,

Interesting from the absence of leaves, Soldane lia montana was flowering nicely, as was also Primula Clusiana; Synthyris reniformis was also in flower; Puschkinia libanolica, Morisla byrogæa, Dodecatheon Hendersoni, and Androsaec carnea were all noticed. A fine pau of Anbrietla Perry's Bine, Primulas, Irises, Saxi-Irages, Anemones, and other hardy plants, all well



Fig. 98.—Clerodendron Myrmecophilum: Awarded a first-class certificate on tuesday last. flowers orange colour. (see p. 238.)

having an outer edge of white. The dwarf Polyanthus Rose, Mme. N. Levavasseur, was again shown by this firm.

Messrs, Hugh Low & Co., Bush Hill Park Nurseries, near Enfield, bad Schlzanthus Wisetoneneis, prettily staged with Boronias and Maidenhalr Ferns, and set off at the back with some plants of Crimson Rambler Rose. The plants of Schlzanthus were well grown and full of bloom, and exemplified their adaptability for use in the greenhouse and conservatory.

Claytoria americana. Megasea ciliata was doing well; Adonis vernalis was bold, and its yellow colour very pure; Primula rosea, P. frondosa, and P. nivalis were represented; Irls Bucharica and I. sindjarensis were two fine Irises displayed in the collection (Silver Banksian Medal).

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London, staged a group of alpines, and brought lorward many interesting plants of this section. Rubus australis, a very tortuous-looking plant, was

shown, constituted a most creditable display of these interesting plants (Silver Banksian Medal).

Trays of alpines were also exhibited by Messrs. J. Cheal&Sons, Crawley, sometaller members of the same class being used as a backing. Dodecatheon Jeffreyanum was flowering nicely, Primula rosea was of a good colour, and some nice forms of Primula Sieboldi were noticed. Lithospermum prostratum was a lovely blue. Tiarella cordifolia was interesting, and several trays contained plants of Primroses of nice colours and form.

Mr. G. REUTHF, Keston, Kent, had also of group of hardy and Alpine plants (Silver Banksian Medal).

Messrs. R. & G. Cuthnert, The Nurseries, Southgate, displayed a group of forced plants. This collection was most tastefully put up, and being adjacent to the entrance, was especially striking to visitors on entering. Not only the arrangement, but the individual plants were of merit, for Azaleas, Wistarias, Viburnums, Spiræa Thunbergi, Cylisus Andreana, Staphyleas, and plants of a similar character were all flowering profusely on standards, bush, and other forms, the whole being tastefully interspersed with farcy Maples, Palms, and other decorative plants to afford a groundwork and a suitable backing for the whole (Silver Flora Medal).

Mr. John Russell, Richmond Nurseries, Surrey, exhibited a group of plants of Wistarla sinensis and of Clemaths. The Wistarlas were abundantly flowered, and the group presented a most pleasing effect (Silver Banksian Medal).

Messrs. WM. CUTBUSH & SON, Highgate, London, N., set up a very handsome and large group of forced flowering shrubs and plants. Some well-flowered plants of Magnolias were conspicuous along the front of the group, and standard Lilacs, Viburnums, Prunus triloba, Staphyleas, with a backing of nice Palms, comprised the main features, to which an edging of Azıleas and Fatsia japonica gave a finish. Some plants of Cytisus Andreana were also noticed. The same firm had an extensive collection of hardy and alpine plants adjoining their forced plants, which was displayed with nice effect, and comprised some well grown and rarer members of this pretty class of flowers, Irises Primula, Anemones, Shortias, Narcissus, &c. Primula denticulata alba was fine. Among the Irises we noticed I. orchioides, I. sindjarensis, 1 iberlea, I. Bucharica, I. Susiana. I. alropurpurea (very fine), and I. Haynei. The Primulas were good - P. Sieboldi in variety, "grandifiora," a large flowered variety, of a pleasing magenta colour; "Zephyr," having white flowers with pink colour on the under surface. The beautiful blue of the Gentians was striking, G. scaulis and G. verna far (c ipsing the blue Primroses (although good), also Hepaticas, Pulmonarias, and Chionodoxas. Some very pretty forced plants were arranged at the back, and a centre of tree Pæonies graced the whole; Rhodera canadensis and Weigela rosea var. Eva Rathke were especially notable (Silver-gllt Flora Medal).

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, S.W., staged three dozen large plants of Nanthocera sorbifolla, which made quite a feature of the table on which they were exhibited. This display was illustrative of the usefulness of this species for forcing purposes, the shrubs being literally crowded with pure white flowers, and having just an indication of foliage at the fips which showed themselves as drooping tutts. This plant is not difficult to manage, and should find a place among such plants as Lilacs, Staphyleas, &c., for forcing purposes (Silver Banksian Medal).

Messrs. Jas. Veitch & Sons also exhibited several varieties of Hippeastrum (Amarylis). The best of these was named Lela, a large flower of reddish-crimson colour, with green base; Acis was a white flower with scarlet markings, especially on the upper segments; Sirius is a better flower of the same type, and Haitus, a self coloured flower of deepest crimson. The same firm had a group of Shortia galacifolia flowering freely in pots, and a basketful of Begonia × Agatha. These plants commenced to flower last October, and having been since cut quite over for supplying "cuttings," are now flowering again as abundantly as ever.

Corydalis Wilsoni.—This is another new species of Corydalis introduced by Messrs. Jas. Veitch & Sons from Central China, and suitable for culture in pots in the Alpine-house, or on the reckery in favourable localities in the south western countles. The flowers are of deeper yellow colour than C. It alich ifolia, figured in the Gardeners' Chronicle, October 18, 1902, and the foliage is exceedingly glaucous.

Freesia Armstrongi was shown growing in a pan by C. G. Tubergen, Holland. The flowers were small and of light purple colour, with deeper coloured stripes on the three lower segments. The plants appeared very free flowering, and the blooms may become larger in size when the corms are stronger.

Mesers Thos. S. Wabe & Co., Ltd., Feltham, placed a collection of Clematis upon the table, interspersed with Asparagus plumosus and trailing sprays of Ampelopsis Veitchii The Clematis were very bright, and included some of the finer varieties, such as Mrs. Cholmondeley Marcel Moser, Nellie Moser, Beauty of Worcester (very fine large flower of splendid blue shade) and Lord Neville

Awards.

Acalea indica, Mdlle. Emma Eeckhaut—An excellent variety of the "edged" type; the flowers of considerable size, good form, and rosy-pink colour edged with white. Shown by Mr. C. Turner (Award of Merit).

Clerodendron myrmecophilum (see illustration on p. 237).—This handsome stove flowering species, introduced to Kew from Singapore by Mr. Ridley, was described in the Gardeners' Chronicle for March 23, 1903, p. 193. Shown by Messrs. SANDER & SONS, St. Albans (First class Certificate).

Clivia (Imantophyllum) Lord Bathurst.—An excellent variety, shown by Lady Bathurst, Cirencester House (gr., Mr. Thomas Arnold). The plant bore one inflorescence with about twenty round-shaped flowers arranged compactly upon it. The centre of the flower is cream-coloured and the segments rich red colour (Award of Merit).

Cyrtanthus × "Marian."—This is a hybrid between C. lutescens and C. angustifolius, raised by Mr. James O'Brien, Harrow-on-the-Hill. The 5-inch pot shown contained about twelve bulbs, and all were flowering. The spikes are about 14 inches long and produce five or teven long, slender, pale-red flowers. Shown by Mr. Jas. O'Brien (Award of Merit).

Iris Hoynei.—This is a new and very fine Oncocyclus species from Palestine. In general appearance the hold handsome flowers have a resemblance to those of I. atrolusea, though the "falls" are suggestive of those of I. solarana. We hope to refer to the plant again next week. From Messrs. W. Cutbush & Sons, Highgate, N. (Award of Merit).

Primula obconica.—Mr. GEO. SCHNEIDER, 17, Ifield Road, Fulham, S.W., showed three very fine varieties of Primula obconica. One had flowers that were very nearly white, and fringed at the edges, another flowers of rich rosy-purple. The Committee recognised them as being superior in colour and habit, and recommended an Award of Merit for the strain.

Orchid Committee.

Precent: Norman C. Cookson, Esq., in the Chair; and Messre. Jas. O'Brien (Hon. Sec.), De B. Crawshay, R. Brooman-White, H. M. Pollett, H. Ballantine, W. Cobb, J. Douglas, F. Wellesley, R. G. Thwaites, H. T. Pitt, A. A. McBean, F. W. Ashton, M. Gleeson, W. Boxall, W. H. Young, H. A. Tracy, H. C. Morris, and H. Little.

There was a less extensive show of Orchids than at some of the recent meetings, but many of the exhibits, especially Odontoglossums, were exceptionally fine.

The Gold Medal was awarded to H. T. PITT, Esq, Rosslyn, Slamford Hill (gr., Mr. Thurgood), for a splendid group, principally of fine Odontoglossums, the blotched forms of O. crispum embracing some of the best. The chief attraction to Odontoglossum-experts was O. crispum F. K. Sander, first shown by Mesers. Sander at the Temple Show last year. The flower has now developed, and proves one of the largest and best in The colouring of the flower is so heavy that it may be best described as of a reddish port-wine tint, the margine and tips of the sepals and petals white; lip white with a number of dark blotches. Another fine blotched form was O. c. Abner Hassel, and among the best were O. c. Prebendary Bevan, O. c. British Queen, O. c. Maude Rochford, and O. c. Pitt's varlety. Of other species and varieties, the gigantic O. cirrosum Pitt's variety (see awards), O. × loochristyense, O. × bellatulum, O. Pescatorel Pitt's variety, a pretty rose and purple marked flower; O. Hallil, O. triumphans, O. × Humeanum, Cymbidium eburneum, and other Cymbidiums, Maxillaria luteo-alba, with many flowers, &c., were noted.

Messrs. Sander & Sons, St. Albans, secured a Silver Flora Medal for a fine group, in which also the Odontoglossums were well represented, some blotched forms of O. crispum being present. Others remarked were good O. × Adrlane, O. luteo-purpureum Vuylstekel, O. × Wilckeanum, O. × loochristyense, and other hybrids; also the rich purplish-rose Miltonia vexillaria Empress Augusta, a finely-flowered lot of Oncidium concolor. Angræcum Sanderlanum, Maxillaria Sanderiana, Zygo-Colax × Amesiana, Icolo-Cattleya × luminosa Fascinator, L.-C. × bletchleyensis varletles, and other Lælio-Cattleyas; Phaius Sanderianus, and hybrids of it; and the curious natural hybrid Cattleya× guatemalensis.

W. THOMPSON, Esq, Walton Grange, Stone (gr., Mr. Stevens), was awarded a Silver Flora Medal for a select group of Odonteglossums, which included O. luteopurpureum var. nobilior, a very handsome and large flower; varieties of O. crispum, O. × Adrianæ, O. Pescatorei, &c., all remarkably well grown and finely bloomed.

Messrs. Hugh Low & Co, Bush Hill Park, received a Silver Banksian Medal for an effective group, in which were good Dendrobium × Boxallii, D. × Venus, D. × Sibyl, D. Jameslanum, Ada aurantiaca, Cypripedium Robelini, with three spikes of its elegant flowers; C. niveum, Lycaste costata, Cattleya intermedia alba, C. Mendeli, and C. Trianæ, Cymbidlum × eburneo-Lowianum, &c.

Sir H. Schroder, Bart. (gr., Mr. Ballan(ine), sent fine spikes of the very rare Odontoglossum × Leeanum, the richly spotted O. crispum Princess Christian, the very large O. × Adrlanæ Orient, and others.

NOEMAN C. COOKSON, Esq. (gr. Mr. Chapman), showed a spike of a fine blotched O. crispum taken from a weak plant, and in which the two lower flowers were well developed, but the remaining buds could not expand. There was a suggestion that to remove the superfluous buds would be right and proper, and that the rule as to curtailed inflorescences was not a wise one.

C. J. LUCAS, Esq. (gr. Mr. Duncan), sent a good Odontoglossum × Andersonianum, and a rose-tinted O. crispum.

Messrs. Linden & Co., Brussels, showed Selenipedium × Madame Linden (grande × caudatum Wallisil) with large cream-white flowers tinged with green and rose colour.

J. Bradshaw, Esq., Southgate (gr. Mr. Whitelegge), sent Odontoglossums × excellens Lowiæ, Cattleya Trianæ perfecta, and Lælio-Cattleya × Digbyano-Schroderæ alba, which last secured an Award of Merit.

F. WELLESLEY, Esq., Westfield (gr., Mr. Hopkins), sent Cattleya guttata Prinzli var. Dom Pedro, a fine form with pink tinted flowers profusely spotted with purple; and Cypripedium × Allertonense Westfield variety (bellatulum × villosum), a large finely-shaped flower.

F. A. Rehner, Esq., Glpsy Hill (gr., Mr. Norris), sent Cypripedium \times Harrisianum var. excelsior, very large and fine in shape.

Mr. Jas. Douglas, Edenside, sent a light form of Cypripedium × Deedmarianum.

W. C. WALKER, Esq., Winchmore Hill (gr. Mr. Bunney), sent Erlopsis lutidebulbon and Odonto-glossum lutec-purpureum.

H. LITILE, Esq., Baronshalt, Twickenham (gr., Mr. Howard), showed four good varieties of Cattleya Schrode ω, C. S. Miss Little being a fine white with yellow disc to the lip, and C. S. Little's variety, a large coloured form.

Awards.

FIRST-CLASS CERTIFICATE.

Odontoglossum cirrosum Pitt's variety, from H. T. PITT, Esq (gr., Mr. Thurgood).—A giant among cirrosums, and fine in every respect, the large petals developing broadly on their lower halves, the whole flower being much more massive than in other varieties. Flowers white, prettily marked with dark chocolate-purple. The same plant secured an Award of Merit when shown before

AWARDS OF MERIT.

Latio Cottleya × Mona (L. flava × C. Schroderæ) from Messrs. Jas Veitch & Sons.—A neat flower, of a clear cowslip-yellow colour.

Lalio Callleya × Digbyano Schroderæ alba, from J. Bradshaw, Esq., Southgate (gr., Mr. Whitelegge).—Flowers white, tinted at the backs of the sepale with pale Illac; lip white with a sulphur-yellow disc and well-developed marginal fringe.

Cymbidium Lowianum Luciani, from Mesers. Linden & Co., Brussels.—A very large flower with green sepals, and petals tinted with purple, the band on the front of the lip of an intense chestnut-red.

CULTURAL COMMENDATION.

To Mr. J. Davis, gr. to J. Guhney Fowler, Esq, Glebelands, South Woodford, for a fine plant of Dendrobium Wardlanum Fowleril, which has been grown and improved during several years, the poculiarity (trilabellia in the lower sepals) proving constant.

Narcissus Committee.

Present: Rev. G. H. Engleheart (Deputy Chairman), and Messrs. Chas. MacMichael, Chas. T. Digby, A. R. Goodwin, R. Dean, E. A. Bowles, G. L. Titheridge, W. M. Copeland, J. D. Pearson, A. Kingsmill, E. Willmott (Miss), R. Sydenham, John Pope, W. T. Ware, Van de Graaff, P. Rudolph Barr, Jas. Walker, and C. H. Curtis.

Miss F. W. Currey, The Warren Gardens, Lismore... Ireland, brought a large and comprehensive collection of Daffodils, and although a very creditable collection of blooms, they were not of the

size, substance, and purity of colour one sees in some seasons. Narcissus bicolor Duka of Bedford was vary fine, the trumpet heing finely shaped and coloured; King Alfred was also shown well; Horsefieldt was very fair; Incomparabilis Flambeau was nicely coloured, the corona being delicately shaded with red. Siriua in this section was also presented in good form; Lefa, William Goldring, Artemis, P. R. Barr, Telemonius plenus, &c. (Silver Banksian Medal).

Mr. CHAS. DAWS IN, Rosemorran, Penzance, staged a group of Daffodil blooms, whose quality was indicative of the climate and early season of the district where they were grown. Among those especially deserving of note were Emperor, very fine; Silver Spray, a new variety having a light yellow coroga with cream petals, Homespun, Northern Light, Sirius, White Slave, new; Blood Orange, Kittywake, pale cream-yellow coloured corona; Fair Lady (Silver Flora Medal).

Mr. E. H. JENKINS, Queen's Road Nursary, Hampton Hill, Middlesex, showed flowers of Narcisaus, a sport from the variety "princeps," the trumpet having creats around the margin.

Messra. Hogg & Robertson, 22, Mary Street, Dublin, exhibited a collection of Narcissus blooms of con-siderable interest for their size and rich colouring. Among the nawer ones were the varieties P. R. Barr, Victoria, Henry Irving, &c. Tulipa Kauffmaniana was also ahown (Silver Banksian Medal).

Massrs. BARR & Sons, King Streat, Covent Garden, London, had one of the largest collections of Narcissus. The variettes shown were very numerous, and among them were Victoria, Weardale Perfection, Peter Barr, Lord Roberts, King Alfrad, Lucifer, a variety prized for its richly-coloured "cup," &c. (Silver Flora Medal).

AWARD OF MERIT.

Narcissus "Alert."—This variety, shown by Messrs. J. R. PEARSON & SONS, Lowdham, Notte, was described as growing vigorously on soil where typical N. obvallaria dies out. It is admittedly a seedling of N. ohvallaris (Tenhy Daffodil), and the trumpet is very like to the trumpat of that variety, but it is described as a much better grower.

The Lecture.

In the afternoon a lecture was given by Mr. H. P. G. fAULE on "Villa Gardening." The lecturer at the MAULE on "Villa Gardening." outset emphasised the necessity of regarding the garden and the house together as a complete entity. Some design is necessary in every garden, and the smaller the garden the greater need is there for formal design. Speaking of old English gardens, he said that the principles underlying their formation were (1) seclusion; (2) use; (3) pleasure. The conditions of modern life are not quite the same, but the same principles should be observed now in garden designs as formerly. There was greater need than ever for providing seclusion, and its attainment is a difficult matter in the villa garden. When seclusion was previded, the remaining objects to be served should be utility and pleasure equally. It was imperative that a formal design should be employed in very small gardens, for certain features, as a serpentine walk, &c., that may be advantageous in large country gardens, are absurd in a villa garden. The lecturer spoke exclusively from the point of viaw of the designer, and it was not surprising, therefore, that he took exception to an expression in "Villa Gardening," that the garden should be merely an emporium for flowers, preferring to look upon the plants as for the garden rather than the garden for the plants. Many good suggestions were made for applying the principles ha advocated, and plans were shown of several very small gardens that have been made very attractive.

ROYAL CALEDONIAN HORTICULTURAL.

APRIL 4.-This Society, in view of the International Exhibition to be held in 1905, is endeavouring further to increase its membership, and at a meeting of the Council held in Edinburgh on Wednesday, March 30, thirtytwo new members were admitted. The Essays sent in in competition for Mr. and Mrs. Martin White's prizes for Essays on "The cutting and preserving of flowers in water," were submitted, together with the Judges' recommendations, and on opening the scaled envelopes it was found that the prizes were to be awarded in the following order:—1st, Mr. R. P. Brotherston, The Gardena, Tyninghame, Prestonkirk; 2nd, Miss Perkins, care of Messra. J. & A. Seth, Florists, Queensferry Street, Edinburgh; 3rd, Mrs. E. J. Castle, Fairview, Fallsbrook Road, Streatham; and Miss Mary Grant, House Hill, Nairn, equal. Twenty three plans have been sent in for adjudication in the Plan Competition open to under gardeners. Too awards will be open to under gardaners. Toa awards will he announced at the Society's show on May 25.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

MARCH 18 .- There was a very good display of plants at this meeting, sevaral choice groups being staged.

Messrs. J. CYPHER & Sons, Chellenham, had a bright and very charming group, consisting principally of well cultivated, freely flowered Dendrohiums. Saveral good forms of D. nohlle were conspicuous, in addition to numerous hybrids (Bronze Medal).

to numerous bybrids (Bronze Stude).

W. Thompson, Esq., Stone (gr., Mr. Stevens), had a good group of Odontoglossums (Silver Medal).

W. Drokworth, Esq., Flixton (gr., Mr. Tindall),

W. DUCKWORTH, Esq., Flixton (gr., Mr. Tindall), gained a Bronze Medal for a group containing mary Dendrohiums. A fine plant of Cymbidium × churneo-Lowil was voted a Cultural Certificate.

Messrs. CHARLESWORTH, KEELING, ALLEN, and

THORPE received Votes of Thanks for groupa.

AWARDS OF MESIT.

Odontoglossum × Annte Louise (O. sceptrum × O. crispum), to G. W. LAW-SCHOFFELD, Esq.
Odontoglossum × Rolfese var. Mary Beatrice, to G. W.

Law Schoffeld, Esq. Lælio-Cattleya × aximia var. Marie Beatrice, to G. W.

Law Schoffeld, Esq.

Lælio-Cattleya × ardentissima var. Gratrixæ, to S.

GRATRIX, Esq.

The next meeting will be held in connection with the Manchester Spring Show on April 14 and 15. P.W.

BEGONIAS AND GLADIOLUS FOR BEDDING.

WHERE Begonias were massed in separate colours, the effect produced last summer was excellent. In potting up the dormant tubers, I have just been reminded of a plan pursued here for several seasons, that adds to the interest of the Begonia garden. Mixing the colours of Begonias together is best suited for single beds. The practice we adopt is to hed them in distinct colours, allowing each plant sufficient distance to permit a suitable groundwork being planted beneath them. Thus we plant blue Lobelia under the white varieties of Begonia, and Antennaria tomentosa under the scarlet varieties. Numerous other plants for this purpose might be named, giving such variety and effect as cannot be secured with Begonias alone. The addition also of Gladiolus as dot plants heightens the effect.

The season of the Gladiolus may be very much prolonged if some are potted now in 60-pots and grown steadily on. At the time of planting the Begonias these will be about 6 inches in length, and will flower during August and September. If at the same time retarded or dormant hulbs are also planted, these will flower during October and November, or until cut down by frost.

We use the hybrid varieties of Gladiolus, the colours being brilliant, varied, and the widelyexpanding flowers are borne upon gigantic spikes. Wm. Fyfe, Lockinge Gardens, Wantage.

LAW NOTES.

MARKET GARDENERS' COMPENSATION ACT

A BILL has been introduced in the House of Commons to remove certain doubts as to the meaning of the Market Gardeners' Compensation Act. 1895. In a memorandum issued with the Bill, which has just been printed, it is stated that the Market Gardeners' Act of 1895 was founded on the same principles as the Agricultural Holdings Act of 1885, viz., that where land has been let for a recognised purpose, and the tenant has invested capital in the ordinary recognised ways of carrying out that purpose, on the outgoing of the tenant any portion of such capital left unexhausted should be repaid to him; and it was intended that, following the lines of Clause 2 of the Agricultural Holdings Act, 1893, there should be a retrospective effect in the case of a holding which had been recognised as a marketgarden before the passing of the Act. The meaning of the Act was accepted in various cases, and for some time, but on a trial in 1901 before the Court of Final Appeal the Act was decided not to cover all that was intended when the Aot was passed. The Bill proposes to make clear what was originally intended.

The Bill enacts-1, Section 4 of the Market Gardeners' Compensation Act, 1895, shall include and shall be deemed always to have included the case where the tenant shall have executed any of the improvements therein referred to under the conditions therein specified at or before the commencement of the Act, as well as the case where a tenant shall have so executed any such improvement after such commencement. 2, In the case of a holding to which Section 4 of the Market Gardeners' Compensation Act, 1895, as interpreted by this Act applies, the improvements in respect of which a right of compensation or removal is given to a tenant by that Act shall include and shall be deemed always to have included improvements executed within ten years before the commencement of the Agricultural Holdings (England) Act, as well as improvements executed at any time after that date.

THE WEATHER.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending

April 2, is furnished from the Meteorological Office:—
"The weather during this week was nf an unsettled character throughout the Kingdom. Rain or hall was frequently experienced in most distric's, and was sometimes heavy in the west and north, but many intervals of fine bright weather occurred, especially over England. Thunderstorms were reported in most England on Tuesday, and thunder, singly, at

parts of England on Tuesday, and flunder, singly, are some stations on the following day.

"The temperature was 3" below the mean in Ireland, N, and 1" or 2" below in all other districts. The highest of the maxima were generally recorded on Saturday, and ranged from 56" in Ireland, S., and 55" in England, S., to 51" in Scotland, N., and 50" in Scotland, W. The lowest of the minima, which were registered during the carlier days of the week, varied from 23" in the earlier days of the week, varied from 23° in Scotland, E, and 25° in Scotland, N. and W., and England, N. E., to 31° in Ireland, N., and to 33° in the Channel Islands.

The rainfall was only equal to the mean in England, N.E., but in all other districts it was more than the normal, the excess in Irelaid, Scotland, the northwest of England, and the Channel Islands being large. In the west and north of Scotland the amount was nearly three times as much as the mean.

The bright sunshine showed a deficiency in all districts excepting the Midland Countles. The percentage of the possible duration ranged from 36 in England, N.E., and 35 in Eogland, E., the Midland Counties, and the Channel Islanda, to 24 in Ireland, S, 21 in Scotland, N., and to 19 in Ireland, N.

THE WEATHER IN WEST HERTS.

April showers.-The past week was of about average temperature. On no day did any reading in the thermometer-screen exceed 53°, and on the coldest night the exposed thermometer only registered 4° of froat. Either rain, hall, sleet, or soft hall fell on all hut one day, but the total measurement was only about half an inch. The amounts deposited were, however, sufficient to restart the percolation gauges, through both of which small amounts of rain-water passed each day during the week. The sun shone on an average for about an hour a day longer than usual, and on the 1st inst the record amounted to nearly 92 hours, making it the sunniest day as yet this year. The winds were, as a rule, high, and came principally from some southerly or westerly point. The mean velocity for no hour, however, exceeded 20 miles. The amount of moisture in the air at 3 o'clock in the afternoon was about scasonable.

MARCH.

Cold dry, and sunless.—This apring month, taken as a whole, was below the average in temperature. The first week proved very cold during the daytime, but after that time the day readings continued about scasonable, while those at night were, as a rule, below the mean. On the coldest night the thermometer on the lawn registered only 13° of frost, which is, with three exceptions the highest extreme minimum temperature recorded here in March. Rain, anow, hail, sleet, or soft hail, fell on seventeen days, but to the aggregate depth of less than 13 inch, which is about half an inch below the average quantity for the month. On the 4th snow loy for a short time to the depth of

about an inch, or to a greater depth than in any of the three previous winter months. With the exception of 1901, this was the dullest March for fifteen years, the average record of bright sunshine falling short of a seasonable duration by nearly an hour a day. The winds were, as a rule, very light—in fact, with the exception of the same month in 1900 this was the calmost March yet recorded here. In no hour did the mean velocity exceed 16 miles, and for 357 hours, or 15 days, the direction was some puint between north and east. With the exception of 1901, the air was more humid than in any March for sixteen years.

OUR UNDERGROUND WATER-SUPPLY.

With March came to an end the winter half of the present drainage year. The total rainfall for those six months exceeded the average quantity by $5\frac{1}{6}$ inches, which is equivalent to an excess of 118 766 gallons on each acre of land in this district. Last year there was a deficit fall for the same six months of $2\frac{1}{2}$ inches, or of 59 000 gallons on each acre. E. M., Berkhamsted, April 5, 1904.

Obituary.

GEORGE READ PEERLESS, of Park Hill House, Clapham, S.W., and 61, Old Street, E.C., died, in his seventy-second year, on April 2, 1904. The deceased gentleman was a keen grower of Chrysanthemums.

ENQUIRY.

ERICAS.—Can any reader suggest a reason, other than that of drought, for Ericas withering, and the young shoots drooping?

ANSWERS TO CORRESPONDENTS.

ABATINA: W. K. We are unable to guess what is meant by this name or by Maloncreesna. The illustration sent affords no clue and is of no value. We will return it to you when you send your name and address.

BEETLES IN PLANT HOUSES: J. H. The beetle is one of the weevils. They appear during the night, which is the best time to inspect the pieces of Carrot, &c., laid as traps.

Books: J. G. Garden Lawns, Tennis Lawns, Bowling Greens, &c., by Sutton & Sons, Reading, price 1s; published by Simpkin, Marshall & Co., Ltd., London.

COUNTRY GENTLEMEN'S ASSOCIATION: J. W. R.
The address is, The Country Gentlemen's
Association, Ltd., 16, Cockspur Street, Pall
Mall, S.W. It is not a registry office in the
way you suggest.

CUCUMBER: B. Jordan. Eelworm is present in small quantity in the roots. Water with as strong a solution of nitrate of soda as can be used without injury to the plants.

Editorial Notices and Advertisements: B. B. Under no circumstances whatever is payment received or expected for anything that appears in the Editorial columns. Indeed, we have a great objection to insert any paragraph if we know that an advertisement relating to the same subject is to appear at or about the same time. The reason is that we do not wish to create the impression that the insertion of an editorial notice is in any way influenced by the prospect of an advertisement. Such an impression would injure our reputation without any advantage to the advertiser. It seems, however, to be thought by a certain class of advertisers, and especially byadvertising agents, that they have an implied right to an editorial notice simply on the ground that they send us advertisements. As obviously we could not accommodate all our advertising friends in this way, it would be very unjust to do it for some only, and not only unjust but disastrous to our fair fame.

GARDENERS' NOTICE: F. B, Loughborough. We think you should be paid for the Saturday, but are not sure you could demand it successfully in a court of law.

GARDENERS' TEAVELLING EXPENSES: Jas. Latimer.
It is usual to stay at a place a reasonable time

after the appointment if travelling expenses are allowed. Six months does not appear

Kecksies: C. A word applied to the hollow stalks of umbelliferous plants from an old English word keek or kike, said to be still in use in the northern counties in the sense of peep or spy, from the circumstance that one may look through them. The Cow-Parsnip and the Cow-Parsley are the plants most commonly called Kecksies. See Prior, Popular Names of British Plants. Shakspeare mentions them in association with Thistles and Burrs.

Mushroom Bed: J. D., Norton. It is the old trouble, called Xylaria vaporaria (fig. 99). The bed will be no use now. The house must be disinfected before used again for Mushrooms. Do not suppose any blame attaches to the nurseryman who supplied the spawn. M.C.C.

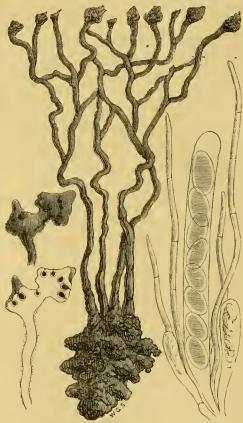


FIG. 99.-XYLARIA VAPORARIA IN MUSHROOM-BED.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A.K. H. 1, Aconitum leaf only; 2, Saxifraga geum: 3, send better specimen; 4, Andromeda floribunda; 5, perhaps Stachys lanata. It is of little use sending such scraps. The Rose is Reine Marie Henriette, sometimes called the red Gloire de Dijon.—F. F., Woodbridge. Myoporum lætum, New Zealand. Thank you for sending such good specimens. Oh! that all who send plants for name would send as good samples.—J. F. Rhododendron grande, alias argenteum.—J. D., Norton. Tibouchina semi-decandra, known also as Pleroma macrantha.—R. T., Surrey. 1, Coelogyne cristata; 2, Odontoglossum Edwardii; It will grow best in the cool-house with the other Odontoglossums.—T. O, Finchley. 1, Cypripedium × Sedeni of gardens, but more correctly Selenipedium × Sedeni; 2, Odontoglossum maculatum; 3, Odontoglossum gleriosum; 4, Odontoglossum Pescatorei; 5, Odontoglossum pulchellum; 6, Lælia anceps.—C. C. 1, Oncidium barbatum; 2, Odontoglossum wallisi.—H. S. S. Dendrobium Draconis, generally called Dendrobium eburneum in gardens. It will be safe to fumigate with the preparation you mention if done late in the after-

noon and carried out carefully .- Young Reader. 1, Buddleia globosa; 2, Stephanotis floribunda; 3, Saxifraga crassifolia; 4, Gazania splendene; 5, Polystichum angulare; 6, Nephrolepis exal-tata; 7, Pteris cretica albo-lineata; 8, Onychium japonicum; 9, Eupatorium Weinmannianum; 10, garden-raised hybrid of Begonia argyrostigma; 11, Agave americana aureo-marginata; 12, Cotoneaster microphylla; 13, Ribes sanguineum.—F. E. S. Ovon. 1, Dendrobium × Cassiope, or other bybrid of D. japonicum near it of which there are several; 2. D. suavissiti, of which there are several; 2, D. suavissimum; 3, Acacia armata; 4, Adiantum Capillus-Veneris; 5, Ballota nigra; 6, Achillea ptarmica.

—A. F. T. 1, Dendrobium Devonianum; 2, 3, varieties of Dendrobium nobile, showing variation common in freshly-imported plants, 4 is an exceptionally fine one; 5, Nephrolepis tuberosa.—Omega. 1, Chamærops humilis; 2, Trachycarpus (Chamærops) excelsa; 3, Conoclinium ianthinum of gardens, more correctly, Eupatorium.—J. W. Holt. Acacia armata.— G. All forms of Narcissus pseudo-Narcissus, but we cannot undertake to name the varieties.

—G. M. Narcissus Sir Watkin.—S. P. The -G. M. Narcissus Sir Watkin.—S. P. The specimens were withered when we received them; they appear to us to be both forms of Scilla bifolia.—J. H. B. 1, Scilla sibirica; 2, Saxifraga crassifolia; 3, Ribes sanguineum.— From the scrap you send we take it D. R. F to be a Pyrethrum of some sort.—C. A., Nantwich. Sparmannia africana.

New Zealand Seeds: W. G. Apply to Nimmo & Blair, Dunedin, N.Z.

Peaches: P. F. Your fruits are covered with Peach-mildew. Dust the plants with sulphur.

PELARGONIUMS: T. Cross. The fungus present and causing the mischief is Botrytis cinerea, which often attacks leaves and growing parts when there is too much stagnant moieture in the air. Better ventilation will effect a remedy.

RAILWAY FARE: G. K. You should have agreed with the advertiser beforehand. As you accepted the half-fare, we do not think you can claim the remainder in the absence of any agreement.

Sweet Peas: Gardener. Sweet Peas raised in pots should be planted out as they are taken from the pots. To attempt to divide each plant would cause an unnecessary check.

Tomato: F. D. There is no trace of insect or fungus-injury, and the curling of the leaves is due probably to too great a difference between day and night temperature.

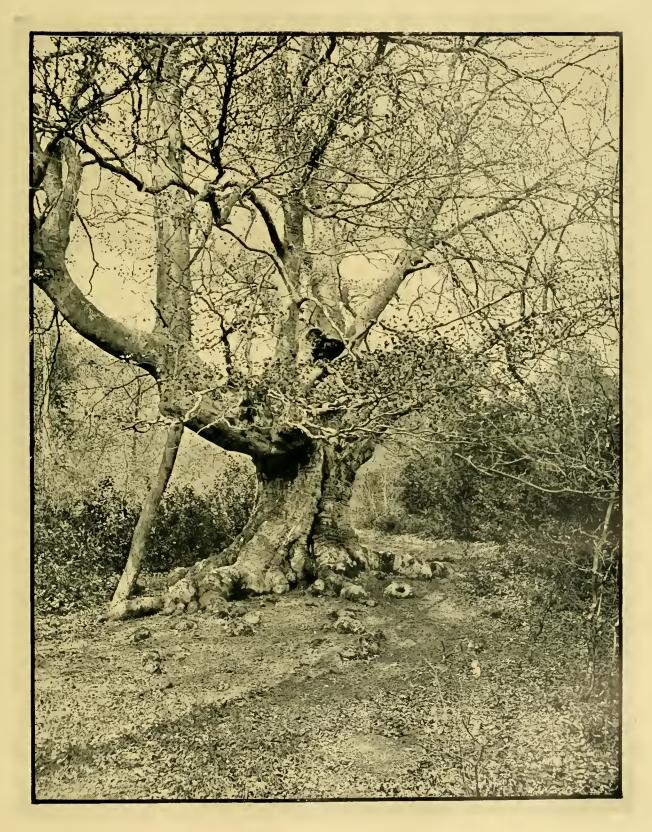
Tulips: F. E. S. & Co. The appearance of punctures is not due to the action of fungi, nor can we discover any insects.

UNITED HORTICULTURAL BENEFIT AND PROVI-DENT ASSOCIATION: Beds. The Secretary is W. Collins, 9, Martindale Road, Balham, London, S.W.

Vines: T. N. D. We find neither insect nor fungus, and suppose the condition must arise from some error in management, of which you should be a better judge than we can be.

—E. B. Vines in a dormant condition may with advantage be syringed at any time from 6 A.M. to 6 P.M. But when the buds have burst the syringing should be done between the hours of 6 and 9 in the morning, when the temperature may range from 55° to 70°. The house may be closed in the afternoon from 1 P.M. to 4 P.M., according to the external conditions. But the maximum temperature of the atmosphere of the house after closing should not exceed 85°. If the Vines are clean there is little reason to syringe them after the bunches show.

COMMUNICATIONS RECEIVED.—Harrison Weir-W. C.—W. J. S.—Young Gardener, France—W. Chilly—D. Storrie (with thanks)—Corycius senex—W. R.—A. C. F.—Rev. H. Friend.—Bradley Brothers—D. R. W.—W. J. B.—G. S., Boston, U.S.A.—Caldecote—J. P.—E. D. R., America—H. W. D., Stirling—J. C.—R. P. B.—W. G. S.—W. K.—W. H. A. Pettiglew—L. S.—H. B.—J. Snell—W. H.—An Interested Reader—W. B.—W. T.—E. H. G., Northampton—J. E. J.—W. J.—J. N.—G. A.—J. S.—C. S.—T. H., New Zealand—C. M. P.—E. C.—A. J. B.—C. S. F.—A. J. M.—R. B. T.—J. O'B.—S. A.—R. W. D.



THE ELEPHANT BEECH, BURNHAM BEECHES.



THE

Gardeners' Chronicle

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DAUBENY REDIVIVUS.*

MEN resident at Oxford in the forties or the fifties, crossing the Cherwell on their way home from a Sunday afternoon walk, might often see a quaint-looking, little, spectacled gentleman, in trencher cap, surplice, and doctor's hood, tripping across the street from the Botanic Garden, then called the Physic Garden, to Magdalen College gate. It was Dr. Daubeny, the Professor of Botany, on his way to the College Chapel, which he usually entered while the Psalms were being sung, dispossessing some embarrassed stranger who had occupied his seat in the stalls, and who was, on his belated entrance, compelled with shame to take a lower place. He was one of the most energetic savans of his time, a friend of Liebig and of De Candolle, a pioneer of science in Oxford. Appointed to the Professorship in 1834, he was already well known by his works on the Atomic Theory and on Volcanos, and by many original memoirs in the Philosophical Transactions. He at once set himself to reconstruct the chaotic garden. He found it, strange to say, arranged on a geographical system; plants indigenous respectively to

* A History of the Daubeny Laboratory, Magdalen College, Oxford, by R. T. Günther, Fellow and Tutor, with a Preface by the President of Magdalen. Oxford University Press, 1904.

Great Britain, or the European, American, Asiatic continents, being placed together in separate and sometimes remote compartments. The trees had to remain, but as regards herbaceous plants the system was at once altered. The Linnean classification was slowly giving way to the recognition of natural affinities; both were now represented in the garden, and so continued till long after Daubeny's death. He also converted a badly devised greenhouse into a lectureroom, and with some aid from friends and large private outlay of his own built new glasshouses and a professor's residence. His physiological research was unceasing; he investigated the processes of absorption, irritability, and metamorphosis in plants, and the action of light upon their growth; experimented largely on manures, and on the dormant or active ingredients of soils; tested the vitality of seeds, and the evidence for mummy Wheat survival; wrote a Life of De Candolle, published monographs on vegetable life in glaciers, on Bromelia, on the fungoid Sphæria, on the newly-discovered Mexican Cheirostemon [?]. The Gardeners' Chronicle for 1861 contains a report of his lecture on the "Physical Forces contained in the Phenomena of Vegetation." His address to the University on its acquisition of the Fielding Herbarium shows his comprehensive grasp of the aims of botanical science, his predictive onlook into its future, his lucid faculty of exposition.

All these achievements represented barely one-half of his activity. He was Professor not only of Botany, but of Chemistry, both Chairs poorly endowed, and the latter in the past filled perfunctorily. His literary and reforming energy gave an immediate rather perhaps than an abiding impulse to chemical studies; his lectures drew the most noted university men; in the numerous pages of his pupil-book we read the names of men known then or afterwards as Professor Baden Powell, Dr. Pusey, Sir Edmund Head, Archbishops Whately, Tait, Thomson, Dr. Symonds (the famous Bristol physician), Professor Walker (the mathematician and physicist), Charles Neate, Mark Pattison, Dean Liddell, Sir Henry Acland, John Ruskin, Frank Buckland. His interleaved Fownes' Chemistry, showing the course of his regular teaching, with his papers on the Principles of Inorganic Chemistry, on Mineral Waters, on the Hot Springs of Bath, on the Salt in Sea-water, on Guano, on the Constituents of Beetle-stones, and many more, are preserved in the laboratory which bears his name. For in 1848 he erceted, at his own cost on land adjoining his house, a chemical lecture-room and laboratory, which still remain, and which, in their inception and their later enlargement by his College, form the subject of this very interesting memoir, compiled by Mr. Günther, himself, if I mistake not, a hereditary scientist, with a preface by the accomplished President of Magdalen. There are to be found the apparatus and instruments used in his earlier researches, quaint and clumsy to modern eyes, some of the vessels still bearing stains of the port wine which was used as a red screen. There, too, is his vast collection of chemical substances and of minerals, with more than 400 drawers of geological specimens gathered by him in all parts of the world, duly arranged,

labelled, and catalogued. All these, with money necessary for their preservation, he bequeathed to his beloved College, which he had already endowed with Science Scholarships, and with a medal to be given annually for scientific proficiency to the school connected with it. He was, I believe, the first to plead for the inclusion of science in the recognised Oxford curriculum; its introduction into the Degree examinations was due in no small measure to his advocacy; and his "Dream of the New Museum," charming little predictive brochure, may still be read with pleasure. In 1854 he resigned his Chemical Chair to a worthy successor, Mr. (afterwards Sir Benjamin) Brodie, but continued his botanical superintendence, compelled, however, to winter at Torquay, where he frequently lectured at the Museum, and supported, with his friend Mr. Vivian, the Devonshire Association for the Advancement of Science. He died in 1867.

"I knew him, Horatio," though he was by no means a Yorick. A friend of my father, he showed me kindness as an undergraduate, and finding out later that I was a humble but enthusiastic botanist, he employed me to fill up gaps in the herbaceous beds with plants brought in from the neighbourhood. would be not so easy to do now: wild nature in the environs of Oxford has been expelled by the builder and by tillage; but in those days I could bring home Oreopteris, Parnassia, Butterwort, Bogbean, and many more from an afternoon walk. One rarity I procured for him through a friend, Lobelia urens, from its one habitat in the Axe Vailey, and I remember how old Baxter gloated over it. It was pleasant to dine with Daubeny in Hall, amid that strange gathering of Fellows, which included some of the most refined and intellectual along with the most raffish and Bohemian Oxford men; pleasant too to walk with him round the garden, and hear his disquisitions on the Scammony and Christ's Thorn, the Weeping Willow from Pope's Twickenham garden-so he daringly assumed—the Pæstum Rose— Corycius was not likely to forget thatthe Birthwort from Godstow ruins, the Mandrake under the conservatory wall, the Sibthorpia and Orontium in the curious copper cistern long since swept away. In after years, when conducting round the garden groups of working men from Birmingham and Wolverhampton, I often found myself repeating his remarks, and could almost see the quaint little figure, in blue coat with red bandana handkerchief hanging out behind, hands in pockets, copious black satin scarf around his neck. An excellent portrait of him hangs in the Botanical Garden Library, and is reproduced in this volume; I possess a later photograph, taken in 1860. He lies beneath the famous stone pulpit in the onter quadrangle of the College: more than once in recent years I have, like Old Mortality, scraped away the moss obscuring the letters on his tombstone. A memorial tablet in the ante-chapel bears a Latin epitaph from the scholarly pen of his old friend, John Rigand. Its closing line well sums the record of his life—

AVE ANIMA, SIMPLEX, PIA, DESIDERATISSIMA! Corycius Senex.

Much more might be said of Daubeny's researches in meteorology, in scientific agriculture (for he was Professor of Rural Economy as well as of Botany and Chemistry!), of his incursions into the literature of Roman husbandry, his never - failing kindness, his imperturbable good temper. Alone, or with the sympathy of Dean Buckland, and subsequently of Henry Acland, he upheld the claims of science amid a singularly inappreciative and unsympathetic body of Oxford Dons, who, whilst they did their best to oppose his schemes, never extended their hostility to their originator. He could hold his own with classical scholars; his purpose was transparently simple and honest; his personality, if whimsical, was eminently engaging. Possessed of means, he was able to supple-

complicated coronal structure, as described below, is unlike that of any other species known to me. Our figure of the plant is from a photograph sent by Mr. N. S. Pillans.

by Mr. N. S. Pillans. Stems erect or decumbent at the base, 3-5 inches long, 5-6 lines square, obtusely 4-angled, pubescent; angles very slightly compressed, with slightly promiment teeth, $\frac{1}{2}-\frac{3}{4}$ inch apart, bearing rudimentary erect leaves, 1-2 lines long. Flowers 2-4 together, near the base of the young stems. Pedicels $1-1\frac{1}{4}$ inch long, $2\frac{1}{2}$ lines tbick, velvety-pubescent. Sepals 3-4 lines long, $1-1\frac{1}{2}$ line broad, lanceolate, acute or acuminate. pubescent. Corolla 4-5 inches in diameter, star-like, pubescent on the back, glabrous and slightly rugose on the inner face, ciliate almost to the tips of the lobes, with long simple purple hairs, surface dark purplebrown, without transverse markings. Ouler corona rather variable; 10-lobed, dark purple-brown, glabrous; five of the lobes alternating with the inner coronal lobes, free to the base or connate with the other five

SARCHRON CONTROL OF THE PROPERTY OF THE PROPER

FIG. 100.—STAPELIA PILLANSII: FLOWERS PURPLISH-BROWN.

ment the exiguous income of the garden and to support his position with complete independence, whilst the full extent of his benevolence will never be known.

NEW OR NOTEWORTHY PLANTS.

STAPELIA PILLANSII, N. E. Brown (N. SP.) (fig. 100).

This is a fine and very distinct species, of which a living plant and herbarium specimens have been sent to the Royal Botanic Gardens, Kew, by Mr. N. S. Pillans, who collected it near Matjes Fontein, in South Africa. The stems are something like those of S. patula, producing clusters of star-like flowers 4-5 inches in diameter, of a dark purple-brown colour. The

Into a cup, 2\frac{3}{2} lines long, 1\frac{1}{2} line broad at the top obovate or oblong, more or less three-toethed at the apex, the middle teeth longest, and shortly delloid-quadrate, obtuse; the other five lobes opposite the inner coronal lobes, 2\frac{1}{2} lines long, \frac{3}{4} line broad, oblong or linear - oblong, obtuse, emarginate, irregularly teethed or bidd, or divided to the middle into two diverging narrow segments, semetimes quite free from the other outer coronal lobes, and more or less adnate to the dersal wing of the inner coronal lobes, sometimes quite free from the inner coronal lobes, and more or less connate with the other outer ceronal lobes, forming a ten or more lobed cup, of which the apical toothing of the component lobes is often very irregular. Inner coronal lobes 3-3\frac{1}{2} lines long, erect, unequally bifid; inner free part hern-like, 1-1\frac{1}{2} line long, triquetrous, acute, stout, recurved; dorsal part wing-like adnate to the middle of the inner part or beyond, 1\frac{1}{2} line broad, oblong, very obtusely rounded at the short free apex, entire or obscurely crenate, dark purple-brown, glabrous. Karoo, near Matjes Fontein, Pillans, No. 38, and near Groot Fontein, Pillans, No. 104. N. E. Brown.

TRICHOCAULON PILLANSII, N. E. Brown (n. sp.).

This novelty is an interesting addition to a very curious genus of the Stapelia tribe, of which living plants and herbarium specimens have been sent to the Royal Botanic Gardens, Kew, from South Africa by Mr. N. S. Pillans, who collected it near Laingsburg. It is very rarely that a species of Trichocaulon is to be found in cultivation in Europe, for they are very difficult to increase by cuttings, and as they inhabit the very driest parts of South Africa, under cultivation they usually get too much moisture and soon die. The stems are very thick and fleshy, cylindric, with numerous small angles, beset with stiff bristles, and by the uninitiated the plant would prohably be mistaken for a Cactus. The flowers are small, yellow, and are produced in the grooves near the top of the stems.

Plant 5-9 inches high, branching at the base, main stem and branches $1\frac{1}{4}-2\frac{1}{4}$ inches in diameter, cylindric, with very numerous tuberculate angles, glaucousgreen, glabrous; tubercles ending in a stiff bristle, $2-2\frac{1}{4}$ lines long. Flowers in small clusters between the angles towards the top of the stems. Pedicels $\frac{1}{2}-\frac{3}{4}$ line long, nearly I line thick, glabrous. Sepals $1-1\frac{1}{4}$ line long, $\frac{1}{2}-\frac{3}{4}$ line broad, ovate, very acuminate, glabrous. Corolla bright creamy-yellow, glabrous and smooth outside and within the tube, densely papillate on the inner face of the lobes; tube distinct, campanulate, $1-1\frac{1}{3}$ line long, $1\frac{1}{2}$ line in diameter at the mouth inside; lobes slightly spreading, $1\frac{1}{3}-1\frac{3}{2}$ line broad, broadly deltoid-ovate, very acute, not ciliate. Outer corona somewhat cup-shaped, equally 10-toothed; teeth $\frac{1}{4}-\frac{3}{4}$ line long, deltoid or linear-deltoid, acute or obtuse, ascending-spreading, quite straight, not curved towards each other in pairs, light yellow. Inner coronal-lobes $\frac{1}{4}$ line long, oblong, dorsally adnate to the outer corona, much shorter than the anthers, light yellow. Near Laingsburg, Pillans, No. 9.

Pillans, No. 9.

1'ar. major, N. E. Br.—Plant and flowers larger. Corolla-tube 1½ line long, 2 lines in diameter; lobes about 2 lines long, and the same in breadth. Teeth of the outer corona about ½ line long, in slightly diverging pairs. Near Laingsburg, Pillans, No. 160. N. E. Brown.

COLONIAL NOTES.

CEYLON.

The Pearl Harvest .- Our correspondent, Mr. Im Thurn (Lieutenant-Governor of Ceylon), contributes to a recent number of the Tropical Agriculturist an account of his experiences as a diver. His descents were made in the "shallow tropical sea which is shut in by Ceylon on the east, the coast of Southern India on the west, and on the north by Adam's Bridge, a reef partly just awash, and partly cropping up in the form of a chain of islands which connects Ceylon with India. In the Gulf of Mannar thus formed it was found, at least 300 years before Christ, that there was an abundant growth of pearl-producing mussels, locally called oysters. . . . The sensation of being put into the diver's dress is," he says, "at first certainly rather trying." The weight is, of course, enormous, and most oppressive, and I found the operation of screwing up the rivets fastening on the very heavy helmet on to the rest of the dress was distinctly painful. But a few months later, when I was at the Maldive Islands with H.M.S. Highflyer, and, moved by a desire to see for myself the wonderful coral forests and jungles and underground cliffs of those atolls, I again donned diver's dress as supplied to H.M. ships. I found both the weight and the painfulness of being screwed up were considerably less, and the more slowly I descended the less intense was the pain in my-ears." On reaching the bottom this pain ceased, and Mr. Im Thurn was able to move about, finding it easiest to proceed on all-fours. "The coast land of Ceylon nearest to the oyster banks is, for the most part, very sparsely inhabited, and, like the opposite coast of Southern India, consists chiefly of rolling sand plains, with here and there a little coarse grass or low sparse vegetation, or even occasional scrubby jungle." Intervals of

years elapse frequently between the pearl harvests, and when one is reported to be ready, natives throng from all parts, and quite a town springs up for the season near the spot.

MYSORE.

The Mosquito-plant, Ocimum viride.—This plant, which has obtained some notoriety as conferring, as alleged, immunity from mosquitobites, is figured in the last Annual Report of the Government Gardens in Mysore. The Curator of the Botanic Station at Sierra Leone is quoted with reference to a statement made that four Basil plants around a bed were better than a mosquito - curtain. "I should like to take the writer up-country a bit and dot him down with four Basil plants around his bed." It is clear that those on the spot have not much faith in the efficacy of Basil. It has, however, diaphoretic qualities. Mr. Cameron adds a valuable report on rubber-yielding plants.

MALAYA

The Mosquito-plant .- The January Agricultural Bulletin of the Straits and Federated Malay States also contains an interesting note by the Editor, Mr. H. N. Ridley, on the Mosquito-plant, Ocimum viride. This species has now fully dcveloped and flowered in the Botanic Gardens in Singapore. "The leaves have a pungent taste; the flowers are small, greenish-white, and inconspicuous. Various experiments were tried with it; three plants in a pot were kept in the verandah, and the behaviour of the mosquitos with respect to them observed. Large sprays of the plants were put in water, also in the verandah. In neither of these circumstances had it any perceptible effect on the insects. They were neither attracted nor repelled, and were just as annoying when the plant was there as when it was not. Mr. Kloss, besides trying these experiments, rubbed a long chair all over with the leaves of the plant, to see if that would keep the pest away; it had no more result than the other experiments. The mosquitos, in fact, quite ignored the Mosquito-plant and took no notice of it at all. It thus appears that here at least the Ocimum viride must be relegated to the increasing class of plants like Castor-oil (Ricinus), which have obtained a reputation for killing off mosquitos which they do not deserve."

TREES AND SHRUBS.

LONICERA PILEATA.*

This is an interesting shrub, originally found by Dr. Henry at Ichang, and introduced into cultivation by Messrs. James Veitch & Sons through their collector, Mr. E. H. Wilson. It is now growing at Kew, whence specimens were obligingly sent us. Mr. Bean tells us that it is of evergreen nature, dwarf and spreading in habit, like Cotoneaster horizontalis. The illustration by Mr. Worthington Smith shows the character of the plant, though, no doubt, as it develops, the number and size of the flowers will be increased. There is a curious outgrowth from the base of the calyx which invests the top of the young fruit like a cap, whence the name pileatum, from pileus—a cap. The flowers are white.

ELLIOTTIA RACEMOSA, ETC.

Elliottia is one of the very rarest and least known of the genera belonging to the Ericaceæ. For a long time only one species was known to exist—E. racemosa—a North American shrub of very restricted distribution. Two other species have, however, been discovered in Yesso and other parts of Japan by the late Mr. Maries and other collectors. The genus was named in honour of Stephen Elliott, a botanist who made

the flora of the South-eastern United States his especial study, and who died in 1830. He discovered Elliottia racemosa, and one of his specimens is in the Kew herbarium. The species is one to which peculiar interest is attached,

The first attempt to introduce this shrub to the British Isles was made about ten years ago. Mr. P. J. Berckmans, of Augusta, Georgia, appears to have had in his nursery the whole of the stock of this plant that was then known to exist, and he



Fig. 101.—Lonicera pileata: an evergreen honeysuckle.

because the only places where it is known to have occurred wild—which are in the valley of the Savannah, Georgia—were, some years ago, brought under cultivation. Unless, therefore, it has recently been found elsewhere, it is now unknown in a wild state, kindly sent a piece to Kew. This, however, never became established and eventually died. Two years ago Mr. Berckmans again sent it, and now, to all appearance, two plants are established. They are about 18 inches high.

Elliottia racemosa is represented by some good

^{*} Lonicera pileata, Oliver, in Icones Plant., June, 1887, t. 1585; Hemsley, in Journ, Linn. Soc., xxiii, p. 365.

specimens in the Kew Herbarium, and it was figured in Garden and Forest for 1894 (fig. 37), where a full description and history of the plant are given by Professor Sargent. From these two sources the following particulars have been obtained:—It is a shrub 4 to 10 feet high, with alternate, oblong leaves tapering towards both ends, 2 to 4 inches long, glabrous above and sparsely hairy beneath. The flowers, borne in terminal racemes 6 to 10 inches long, are white and about 1 inch in diameter with four petals. Each flower is borne on a slender stalk, upon which a pair of tiny bracts are set midway.

E. paniculata is a native of Yesso (where it was collected by Maries), also of Central Japan, where it occurs up to elevations of 7,000 feet. It has triangular stems and obovate-pointed leaves $1\frac{1}{2}$ to 2 inches long. The flowers are borne on terminal panicles, 2 to 4 inches long.

E. bracteata is found in the forests of Yesso, where it also was collected by Maries. leaves are obovate and as long as in E. paniculata, but they are rounded at the apex. The short terminal spikes of flowers are 2 to 3 inches long, and the two median bracts on the pedicel larger than in E. racemosa. Neither of these Japanese species is so ornamental as the North American one. W. J. Bean.

BRUSSELS.

THE LAURENT BOTANICAL EXPEDITIONS.

THE botanical treasures collected in the Belgian Congo by the late Prof. Emile Laurent and his nephew, M. Marcel Laurent, have arrived at the Brussels Botanic Garden. They are contained in some fifty cases. Twelve of these are devoted to a herbarium of about 3,000 specimens. The others contain various fruits preserved in spirit, or bulky objects, such as complete racemes of many species of Raphia measuring about 5 feet long. There are also samples of soils, waters, rubber of divers kinds, Lianas, seeds, and so on. M. De Wildeman has begun to arrange the herbarium specimens, among which he has already found a remarkable set of varieties of Coffee, Kickxias, and especially a great number of myrmecophytes and of acarophytes.

After his second expedition in 1895-1896, M. E. Laurent devoted attention to these curious plants, which in their stems or the folds of their leaves provide shelter for numerous ants. He had gathered some whose "myrmecophytic" characters were already known. His new expedition has furnished some six or seven of these plants, some of which are probably new.

From a scientific point of view, this discovery is the more interesting as for a long time it has been surmised that America was richer in "myrmecophytes" and "acarophytes" than is Africa.

Acarophytic plants, which harbour mites in the folds and even in the tissues of the leaves and at the angles of the veins, are fairly common in Africa. One of the best examples of acarophytism is the Liberian Coffee-plant, as in its "pockets" they can plainly be seen forming on the upper surface of the leaves at the junction of the midrib and aide veins small semiglobular swellings. Among acarophytic plants may be mentioned also the well-known Funtunia elastica, one of the most important rubber-trees of the Free State.

There are numerous species of anta in Africa. and of all sizes, from those as small as a pin's head to those as large as a big beetle. They inhabit certain trees, and we can here only briefly observe that in the clearings a myrmecophytic tree is spared by the natives owing to the dangerous ants it harbours. The sting of these ants is piercing; repeated, it is mortal to some animals and dangerous even to men. The natives are so well aware of this that to punish a criminal they tie him to one of these trees, whereupon the stings of the ants inflict severe injuries upon him. No parasites are observable on such trees.

It is to be hoped that the results of the Laurent expedition will not be lost to science, and that a detailed report of them will be published, making public the services rendered by the African traveller and botanist whose recent death is so deplored in Belgium. L. Gentil.

PITCHFORD HALL, SHREWSBURY.

THE above-named house is the residence of Colonel Cotes, in whose family the estate has been for many generations. It is a splendid specimen of the half-timbered type prevalent in Shropshire. The contents of the mansion are of a choice character, in some cases being more or less connected with what goes to make up our country's history. Fortunately, too, the arboreal vegetation that surrounds it is of the same nature, thus showing that amongst its several owners none has done anything to destroy its old-time look.

Amongst the indigenous trees there are splendid specimens of Beech, Lime, and Oaks. In a grassy



FIG. 102.—PITCHFORD HALL, SHREWSBURY,

Summer-house, 200 years old, in Lime-tree. Circum-ference of tree 3 ft. from ground, 22 ft. 6 in.; circum-ference of large bough at 3 ft. from main stem, 11 ft.; length of large bough, 40½ ft.

dell near to the mansion there is a group of Beech with massive cylindrical shafts rising up fully 50 feet without a limb on them. Being crowned with healthy heads of foliage, I need hardly say they appeal strongly to anyone who has the least appreciation for tree-growth. Personally, I felt disposed to raise my hat to them. Limes, too, are grand in stem, limb, and branch growth. I enclose a photograph of one of them, on which there is situate, some 16 feet from the ground, the most antique summerhouse in the country (fig. 102). As will be seen, it is approached by a set of wooden steps. The owner very kindly gave me the information that it is fully 200 years old. Amongst the many thousands who must have sat therein none was so illustrious as our late good Queen Victoria. Coniferous trees generally grow well at Pitchford, as shown by the fine young specimens of nearly all the species and varieties growing in a pinetum near a lake in the home woodlands. Unlike the general way of planting a pinetum, viz., in single specimens on grass, the whole ground was planted with the commoner coniferous trees, after each of what were to be the permanent ones were planted. There can be no doubt that if due care is taken in thinning out the nurses this is by far the wisest way of establishing a pinetum. I noticed a very fine specimen of Tsuga Hookeriana, some 16 feet in height. For prominent positions in rock gardens, as a point plant in front of shrubberies, or as a lawn specimen in smaller gardens, this Californian alpine conifer is not nearly enough used. It is quite hardy, seeing that it has gone unscathed through zero winters here in Yorkshire. On the red sandstone formation in Salop it acquires a more beautiful glaucous hue than with us on the limestone formation.

Adjacent to the Hall, but quite hidden therefrom, are the kitchen-garden and fruit and planthouses. Alongside the walks of the former there are numerous borders for growing a quantity of flowers for house decoration and general effect. As need scarcely be mentioned, there are none of the usual flower-beds around the Hall. Mr. Robinson, the head-gardener, tells me that while he found Northern Star Potato a most excellent cropping variety, it was not disease-proof by any means. In the fruit-houses are some Vines of what I conceive to be the true Black Hamburgh (not Frankenthal), which have been fruiting fully eighty years. Colonel Cotes being a lover of really ripe Apricots, he had recently put up a lean-to house on a wall facing east for their culture. The trees were very promising. It was evident that Mr. Robinson is a painstaking and successful gardener. H. J. Clayton, Grimston Gardens, Tadcaster.

PRIMULA OBCONICA.

This species of Primula has shown considerable variation in late years, and from selected seedlings varieties have been obtained that produce larger flowers and greater variety of colour. Some of the best we have seen were chown by Mr. George Schneider at the last meeting of the Royal Horticultural Society.

The plant shown in fig. 103, p. 245, had white flowers, or as nearly white as possible, and in size and form they were superior, being a type very suitable for supplying plants to the market, or blooms for the florist. Another plant had flowers of unusually deep rosy-pink colour, and was much admired. The Floral Committee, recognising that varieties of such plants will not always come true from seeds, recommended an Award of Merit for the strain. The culture of this Chinese species is so simple, that in view of the improved strains now obtainable it should be grown in every garden; and if the handling of its leaves is found to cause irritation to the skin, the difficulty can be overcome by the use of gloves. Our illustration is from a photograph by Mr. J. Gregory.

FLORISTS' FLOWERS.

THE SHOW AURICULA.

THE lovers of this and kindred spring flowers are looking forward to the making of their annual pilgrimage to their floral Mecca. The Auricula and Primula Society's yearly exhibition will be held in the Drill Hall, Buckingham Gate, on the 19th inst., under the ægis of the Royal Horticultural Society.

These devoted pilgrims, those who make a specialty of raising and exhibiting seedlings of good character, will, it is hoped, have some acceptable surprises for them. It is not extravagant to predict that the permanent existence of the Auricula Society is in the hands of such praiseworthy specialists simply because it is common knowledge that a perceptible deterioration is gradually taking place in the old named plants which continue to he reproduced by the detaching of their offsets.

As an old grower I affirm, in spite of the charge that I am guilty of reiteration, that to avoid the inevitable degeneracy of this spring flower, it is imperative to raise new varieties of equal or better form than the old. This must be the object of every grower.

We may go on serenely propagating by offsets, but a new life is not established thereby, as the offsets will be offsets merely from the old parent, and new and more vigorous types can be produced from seedlings only, which in the ordinary course of nature will be the young of plants of diminishing strength. In illustration of this fact take the case of the beautiful and up to the present time the unmatched grey-edged Auricula Geo. Lightbody, raised by Richard Headly more than half a century ago, and which has been grown since from its annual offsets. It is exhibited still, but its flower, and especially its foliage, are not what they were. It started with a vigorous constitution, and in good hands has struggled well to maintain perpetual youth; but its failure to overcome the weakness of age is evident. Others as well as myself have failed for some years past to grow it in anything like its original form. Such is the case with all the plants of equal age, and we must therefore strive to replace our very old and declining favourites with robust varieties of the same types.

For this purpose, and also to meet prospective losses, every grower should each year cross-fertilise his best plants. To do so successfully it is necessary to isolate those on which it is intended to operate, in order to avoid the interference of insects, and when the trusses are well developed by the aid of a very small camel's-hair brush, to convey the pollen from the anthers to the stigma, which is the receptive part of the pistil, on each of the pips or single flowers on the trusses of the plants which have been selected for pollination. Choose the middle of a fine day for this operation, and when the seed is ripe preserve it in the seed vessels in a dry place till the early part of the following spring.

It is customary to sow the seeds in rather shallow pans and place them in a cold frame in the shadiest part of the garden, and to afford sufficient ventilation. A portion of the seed will germinate the first year, but the other portion will take two or more years before it makes its appearance. As the seed of the Auricula is so uncertain in its growth, raisers do not discard their seed-pans till three years at least have elapsed after the first sowing. This mode is a tediously slow one, and limits the production of seedlings to such an extent that many growers will be reluctant to start or continue the raising from seed under such disadvantages.

The saving of valuable time, and the securing of uniformity in the germination of seeds, are possible by adopting the following plan, which I have seen tried with very good results: Place the seed-pans in a frame on a prepared hot-hed in the early part of the year, giving very careful attention to the ventilation so as to maintain an even temperature, and in due time every active seed will appear, after which it would be necessary to harden off the seedlings gradually, and when large enough to remove them to suitable pots.

My experience is not in accordance with the advice to re-pot annually, without considering whether the plants are healthy or in weak condition. To turn out good vigorous plants, and thereby to disintegrate their compact and delicate fibres from the soil in which they are well established is assuredly a very drastic proceeding, particularly as the operation usually takes place at that time of the year when the

plants are in a comparatively dormant state. After the flowering season by all means turn out the plants for the purpose of ejecting any worms there may be, and for the overhauling of the drainage and cleansing of the pots. In this examination care should be taken not to disturb the ball of earth attached to the healthy plants, but return them to the same pots, or to larger ones where found necessary, after taking from each plant as much of the old soil as can be safely

an added lustre without causing too much stimulation.

So soon as the flower-trusses are visible in-March, give once a week to each plant when fairly moist a little superphosphate of lime, using half an ounce to each gallon of rain-water, but discontinuing it when the plants have finished their flowering in June.

As the Auricula was an old British favourite with our forefathers, who strove to cultivate and



FIG. 103.—AN EXCELLENT VARIETY OF PRIMULA OBCONICA: FLOWERS WHITE.

Shown at the Meeting of the Royal Horticultural Society on April 5 by Mr. G. Schneider. (See p. 244.)

withdrawn, and in its place give some new and richer soil. If any plants are turning yellow it is a certain indication of disease, and they should be destroyed if on inspection they are found to be in a very bad condition.

The Auricula is a flower which resents any attempt at forcing, but during the summer and winter months a certain amount of exhaustion takes place, and growing them in pots is an artificial state of existence. The following application has been found to restore the plants to a normal condition, and also to clothe the beautiful flowers prior to their exhibition with

hand it down to us for our emulation, let us accept the inheritance with gratitude, and work with renewed ardour to increase our knowledge in the adaptation of newer and more satisfactory methods of cultivation to enable us to transmit it to our descendants in greater excellence. S. J. Cu'peck, Knighton Park Rd, Sydenham, April, 1904.

THE BLUE PRIMROSE.

There is an old Kentish saying which is, "That the land determines the crop," and in some instances this is so; but the gardener laughs the theory to scorn, for in his garden, be it where it

may, he tries to grow which he loves most. In my soil, which is of a cold moisture retentive kind resting on a frequently (in winter) waterlogged clay subsoil, I find it is impossible to keep Carnations, Pinks, and some other families of plants, which silently depart, whilst others do well and some luxuriate. Therefore it is that I cannot but admire the never tiring and persistent endeavour as is shown by such excellent and experienced florists as "R. D." in struggling against the difficult; yet because success is not fully attained it does not prove that it may not be gained elsewhere, for it is more the result of locality than the actual shortcomings of the plant. I think this is the case with the blue Primrose (Primula Wilsoni), but because it does not thrive in "R. D's. garden, he says it is delicate and almost unmanageable. But is it always so? or does it require a different soil, aspect, locality, and treatment? Three springs ago I bought a dozen roots; they grew fairly well and gave me much pleasure, now I have over eighty plants and have given away many. They bloom, and the seed falls and young arise, and these mostly of the beautiful dark aznre-blue colour. Some of the tufts are large-one was measured yesterday 19 inches in diameter, another 16 inches, another 15 inches, and one that was divided for next year's line gave a result of twenty-six strong plants. Altogether they are delightful and muchloved favourites, yet no trouble whatever is taken in raising and keeping them. I have a fair number of large white Polyanthus. The insects have crossed some of these with the blue Primrose with charming results, one or two being of a deep, clear blue with a carmine edging and a white spot at the apex of each petal. I think therefore that my experience of the blue Primrose differs widely from that of "R. D.," whose failure I must attribute to soil and locality, as is proved by its vigour and hardiness in my somewhat sheltered borders. Primroses will not grow anywhere, and need a south or south-west aspect, with leaf-mould as a stimulant. Harrison Weir, Ponter Hall, Appledore, Kent.

GOLD-LACED POLYANTHUS.

More than ordinary interest will centre about the competition with Gold-laced Polyanthus in the Drill Hall on Tuesday next. There has been a distinct revival of interest in the Gold-laced Polyanthus during the past year, and enquiries for new varieties have been frequent. The latest variety is Mrs. Holden, raised, I believe, at Middleton. I have seen only an early pip, but I formed a high opinion of it as a highly refined black-ground. It is to be hoped that Mr. J. W. Bentley and others will come South on Tuosday, bringing this floral treasure with them. Tiny and Miss Turner are comparatively new additions to the black-ground section, and report speaks of other novelties which may be seen at Birmingham and Manchester, if not in London. No new addition that I am aware of has been made to the red-ground section, though there is ample room for new varieties. It is satisfactory to know that George IV. is still in cultivation, though very scarce; but there is reason to fear Lancer, once so plentiful about Woverhampton, has become very scarce indeed, if not altogether lost. At the same time there is room for hope it may yet be preserved, for about the country, including Ireland, there are devotees of the Gold-laced Polyanthus who cultivate a collection of varieties, though their names are rarely made public. Any hope of an augmentation of varieties of high quality must depend upon seedlings from carefully fertilised flowers. Occasionally a good variety may be found in a batch of ordinary seedlings, but very rarely. One may raise a thousand seedlings, and look in vain for one equal in merit to Lancashire Hero or Middleton Favourite. But from carefully fertilised seeds there is always hope of success. If Mr. J. W. Bentley, of Stakehill, would take in hand this work, he would be doing real service in endeavouring to perpetuate in its finest character this interesting and highly refined section of the Polyanthus family. R. D.

KEW NOTES.

CEREUS AMECAMENSIS.—During the past week this grand species has been flowering in the Succulent-house. It has the habit of Cereus speciosissimus, and in growth and spines is similar to that species; but the flowers are very different in colour, being of the purest white, measuring 5 inches in diameter, and having a mass of stamens equally white. Plants of small size produce four to six fine flowers. W. H.

MAGNOLIA STELLATA.

It is seldom this lovely species is seen at its best in the open border at Kew. In ordinary soasons the plants commence to flower in the early part of April, and are injured by frost. For this reason it has become the practice at Kew during the last few years to lift several plants with large balls from the open, and plant them in the Himalayan and temperate-houses for the season. The success of this method is apparent from the several fine plants at present in flower in those houses; and it well repays the trouble entailed in the operation of removal. The protection afforded them in the Himalayan-house (where frost is just kept out) during this season of the year adds greatly to the beauty of the flowers, these being much cleaner, of a purer white in colour, and free from the ugly brown petals which result after a frosty night in the open. Those who may follow this plan should bear in mind that all Magnolias are difficult to move successfully, and care should be taken to ensure a large ball, so as not to disturb the roots more than is necessary. Any rough handling of the roots will almost certainly cause the death of the plants. The plants in the open ground are a fortnight later than usual this year. Charles P.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Mormodes, Catasetums, and Cycnoches. — All these plants should be shaken out of their old compost and be re-potted into a mixture consisting of peat, leaf-soil, and sphagnum-moss, in equal parts, top-dressing them afterwards with living sphagnum-moss to about ½-inch in depth. Mormodes luxatum, M. pardinum, M. buccinator, and its several varieties succeed best in the Cattleya-house. All the other species delight in a strong, moist heat while making their growth. After re-potting the plants suspend them close to the roof glass on the lightest side of the house, and water them rather sparingly for a time, but as the roots and growths advance gradually increase the supply. Eulophia guineensis and E. congoensis should be given the same treatment as the above-mentioned species.

Such Habenarias as H. militaris, H. carnea, and H. Susannæ are also starting to grow, and should at once be turned out of their pots. Remove the old soil, and divide the tubers which will be found clinging to the sides of the pots or among the crocks. Pot them singly into long thumbs, affording them plenty of drainage around the base of each tuber, and fill up with a mixture of one-half good fibrous loam, one-half chopped sphagnum-moss, some finely broken crocks, and a sprinkling of coarse silver-sand. Make this compost moderately firm, and stand the pots in a shady position in the hottest house, placing them near to the roof glass, or the growths will become drawn and the flower-spikes weak. Water should be afforded as advised for the Mormodes,

&c. A light spraying overhead two or three times a day during bright sunshine will assist growth and help to keep insect pests in check. H. rhodochila is now in full growth, and some plants are already showing their flower-spikes. Keep them well supplied with water until the flower-spikes fade, after which they should be gradually dried off and placed upon a dry shelf in the Cattleya-house.

Oncidiums.—Such species as O. crispum, O. prætextum, O. Forbesii, and O. varicosum are now rooting freely from the young growths, and if any of the plants require to be repotted, this work should be done at once. Select pots of suitable size, and place a few crocks over the bottom for drainage. The best compost for the plants to root in is one consisting of leaf soil two parts, and peat and sphagnum-moss one part each. Pot them as one would an ordinary stove or greenhouse plant; keep the soil to within \frac{1}{2} inch of the top, and surface with a layer of chopped sphagnum - moss. Carefully spray the plants over daily with rain-water, which will be sufficient till the growths have advanced, after which the surface moss should be kept in a moderately moist condition until the new pseudo-bulbs are made up. These Oncidiums thrive in the cool - house during the whole year.

Sophronitis grandiflora. — Plants that have flowered will soon commence to push forth new roots from the flowering growths, therefore no time should be lost in affording fresh material to those that require it. Keep the plants well to the light until the growths have matured fully, after which time and during very hot weather they may be stood down amongst the Odontoglossums, &c. Afford them a moderate supply of water at the root at all seasons.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Stone Fruits.—Trees whose flower-buds are bursting, or which have already fully opened, require as much light as possible. If protected with blinds these should be rolled up early each morning, except when there is frost or the wind is cold and cutting. The bloom, when close to the wall, will survive several degrees of frost without being injured; but it is as well to protect them whenever it appears likely there will be a frost. If nets are used, see that they do not injure the blossoms in stormy weather. Where blinds or nets are not available, get a quantity of Laurel or Spruce branches in readiness, and should frost appear likely, fasten a few at intervals among the trees. In many seasons, with no protection whatever, heavy crops of fruit can be obtained, but last year the weather was too severe, the fruits that did set were frozen through. In the case of Pears a few branches of evergreens or some bracken Fern interlaced amongst the most important branches will be helpful should severe frosts set in.

Snails are especially troublesome after a mild season and destroy young Apricot fruits, being also destructive as the fruits approach ripeness. Search for them now along the walls, behind the trees, &c., for if attention is devoted to their destruction now and during the month of May it will save a deal of annoyance at a later period.

Cuttings of Gooseberries, Currants, &c., should be examined, and if they have been displaced by frost push them into position, treading along the sides of each row to make them firm. Plants intended for cordons, &c., should have stakes put to them on which to train the leaders. I was very favourably impressed recently with some rows of cordons at North Mymms-Park, the plants occupying an open position, being planted 2 feet apart and trained to stakes. The leaders were pruned very closely, and they produce exceptionally large berries. The best dessert varieties only were grown in this way. Although Gooseberry-flowers will survive several degrees of frost, a little protection on severe nights will be useful, especially inthe case of those flowering early.

Peach and other Wall-trees may be bought from the nurseries when small, and afterwards trained for filling up gaps or replacing worthless varieties They may be trained either on a spare wall or on temporary aupports. By following this practice a nseless tree may be replaced with a strong healthy one as occasion arises; and the new tree will fill a considerable space in the first season after being planted. I strongly advise that this practice should be followed where the trees are aged and unprofitable.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymma Park, Hatfield, Hertfordshire.

Euphorbia Jacquiniaflora.—Plants which have been resting in a cool-house may now be placed in a house having a temperature of from 60° to 65°, where they will produce a plentiful supply of young shoots suitable for the making of cuttings for propagation. When the shoots have attained a length of 3 inches, cut them off close to the stem, and insert them in small pots filled with loam and ailver-sand in equal parts. Afford a watering, and plunge the pots in the propagating-frame. When the cuttings have made sufficient roots, repot them into pots 5 inches in diameter, affording them a compost of loam, a little leaf-soil, and plenty of silversand. Some of the plants may be grown-on without stopping, and the points of the remainder may be pinched out when they are about 6 or 8 inches in length. This will cause the plants to produce two or three smaller sprays of flowers, which are sometimes more useful than the much stronger sprays of the unstopped plants.

Centropogon Lucyanus is a very useful old plant for conservatory and house decoration. It may be used in the cut atate if the ends of the stems be dipped for a moment in hot water. If this is not done the foliage sometimes flags in hot and dry rooms. Cuttings may be inserted at the present time in sandy soil. The old plants may be cut hard back, and after reducing the size of the balls considerably, repot them, using a compost of loam, leaf-aoil, and sand. Afford water sparingly until the roots are active. Place them in the stove until midsummer, when the plants may be removed to a position near to the glass in a pit until the autumn.

Bouvardias.—Old plants which have been cut back and placed in small pots will shortly need to be transferred to their flowering pots. Where the convenience exists they may be planted out in a pit, or on a warm border in the open air in the middle of June. Whether in pots or planted out, the points of the shoots should be pinched out several times during the growing season, stopping them for the last time at the end of July. Young plants raised from cuttings this spring should be grown on in a moist and warm atmosphere, repotting them when necessary, a final shift into 5-inch pots being sufficient for spring-struck plants.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. Pearson, Bart., Paddockburst, Sussex.

Bulbs.—Hyacinths and other bulbous flowers in beds ahould be afforded stakes, securing the spikes with a running tie, so that they will not get cramped or doubled up. Hoe the ground frequently among all flowering bulbs.

Bedding Plants.—Pelargoniums may be transferred to cold frames, placed upon a hard ash bottom; cover the lights at night, and have a temperature by day of 58° in the shade, and 31° at night; watering should be carried out with care in the middle of the day. Any propagating still to be done should be finished within the next week. Transplant into pots or boxes any cuttings that have made roots. Any old plants of Fuchsiae, Heliotropes, &c., required for hedding should be cut into shape and repotted.

Carpet Bedding.—Fork over the heds to be planted, and if manure was not applied in the autumn, as it should have been, afford them a slight dressing of suitable material. Alternantheras are now making numerous growths, and if a large stock is required, remove these as soon as they are long enough. They will form roots very freely at this season, and subsequently they should be potted-off into thumb-pots or 60-sized pots.

Mesembryanthemums should also be put into pots for transference to the beds. Coleus and Golden Feather (Pyrethrum) may be mossed and boxed if preferred. Autennaria, Cerastium, Herniaria, Saxifrages, and Sedums may be planted now. Calceolarias should be planted out on a quiet dull day, and afforded water afterwards.

Evergreen Shrubs, such as Hollies, Yews, and Laurels, may now be planted auccessfully. Place some good short manure around their roots, and afford them plenty of water immediately after planting. If the weather continues to be dry and windy, damp them overhead once a day. Yews planted to form hedges should not be clipped into shape till they show signs of growing. Stake or wire up all trees freshly planted that may require support.

Wild Garden.—Bulbs that have been grown in the greenhouse, also any surplus plants of Deutzia, Lilac, Azalea mollis, and Staphylea that are not required again for forcing may be planted at once. This will decrease the amount of watering to be done, and provide room for other plants. Old roots of Violets from which runners have been taken may be planted out. Seeds of climbers (annuals) may be sown. Nasturtiums, Convolvulus, Canary-creeper, and other climbing plants may be planted. Aristolochia Sipho, Wistarias, Clematis, Loniceras, and many others; Tropæolum speciosum is one of the most beautiful climbers.

Hardy Ferns.—Clean these and top-dress any that require it with some fresh peat or leaf-mould. Ferns may still be planted in shady positions to fill any unsightly places. The Royal Fern (Osmunda regalis) and Adiantum pedatum should be planted liberally in a shady position.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firrh, Esq., Ashwicke Hall, Marshfield, Chippenham.

Potatos.—No time should now be lost in getting the main crop planted. We usually finish planting by the end of March, but owing to the wet condition of the soil planting will be three weeks later this season, which, under the circumstances, will be advisable. The seed tubers of Up-to-Date, a variety we plant in large quantity, have made less progress in growth this spring than in any previous season, although they have been stored under similar conditions. At the end of March the eyes were well developed and in good condition for planting, but now they are making a start; therefore, although they will be planted later than usual, should the season prove favourable, their growth will be more rapid than if they had been lying for three weeks in cold, wet soil. Look over early varieties, the tubers of which were sprouted when they were plauted on warm borders, and if any are showing through the ground, take a hoe and pull sufficient soil over them to protect them from frost.

Scarlet Runners, if sown as advised in a previous Calendar, will now require to be staked and removed to a cold frame, where they should be protected by covering the lights at night with mats. Careful ventilation will be necessary during the day until the plants have been hardened to a degree that they will not suffer when fully exposed. All similar plants raised in heat are liable to suffer much injury from sudden changes in temperature.

Cucumbers on Hot-beds.—Now that the sun is becoming more powerful these will require careful ventilation, for if the atmosphere is kept close for a short time under hot sunshine the leaves will be scorched. When the sun shines on the lights in the morning, and the temperature has risen about 5° in consequence, admit a little air, increasing the amount if necessary to keep the temperature from rising above 70° to 75°. Close the lights early in the afternoon to husband the sunheat, and if the temperature rises to 80° or 85° no harm will result, but it is better to err on the safe side.

Ridge Cucumbers and Vegetable-Marrows.—Sow seeds of Ridge Cucumbers, Vegetable-Marrows, and Gourds in pots, on a slight hot-bed if this has not already been done. Afford stakes to Vegetable-Marrows raised from seeds sown some

time since, and remove them to a cold frame to prepare them for planting-out later, or if handlights are plentiful they can be planted-out at once. Take out holes 2 feet deep by 3 feet wide, fill these with stable-manure, and make firm, leaving the mounds a little higher than the surrounding ground. Around and over this place the soil that was taken out of the hole, then put on lights on this mound, and plant one or two plants in each light. Protect them from frost at night, and afford ventilation during the day.

General Work.—Clear the ground lately occupied by Brussels-Sprouts, and after applying sufficient manure, prepare it for other crops by digging or trenching. We always have the Celery to follow Brussels-Sprouts, and the trenches should be made as soon as possible, so that the soil between them may be utilised for Turnips, French Beans, Lettuce, and Spinach.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockings Park, Wantage.

Muscat Vines.—Canes that are approaching the flowering stage should have all the growing points stopped, that it will not be necessary to check them during the time they are in flower. Water of a temperature not lower than that of the house should be given occasionally when the Grapes are set, according as is necessary. The flowering period being so short, and pollen often not over abundant, all bunches should be allowed to remain until after flowering, when those not required should be promptly removed. During the month of April, when Muscats are in flower, a night temperature of about 70° should be maintained, with a corresponding rise during the day. Tapping the rods early in the morning and again about mid-day, and allowing a free circulation of warm air, is all that we find necessary to secure a good setting of the fruits.

Vines in Late-houses.—To produce Grapes with good keeping qualities it is necessary to secure a stardy habit in the Vines, short-jointed wood, and thick, leathery foliage, with short and strong leaf-stalks. These Vines are now upon the point of breaking into leaf, and to secure the above conditions free ventilation must be provided. If the weather is favourable, a little air may be admitted constantly at the apex of the house; and, as advised in a previous Calendar, a little fireheat maintained to keep the night temperature from falling below 55°. Admit air freely when the temperature reaches 65°. Syringe the Vines morning and afternoon until the bunches show; afterwards it will be less necessary; and we never syringe any Vines that have passed that stage. The atmosphere is sufficiently moistened by damping at intervals during the day all the available surfaces in the house.

Figs.—Early fruits will now be showing that fertilisation is completed, and when this stage is reached maturity quickly follows. A drier atmosphere with a free circulation of warm air is indispensable to the obtaining of high flavour. A temperature ranging from 65° in the morning to 90° after closing the house in the afternoon will be found suitable at the ripening stage. Those trees intended for fruiting later for succession should have all weakly shoots removed that are not required to furnish the trees, and the stronger or fruiting shoots stopped at the fifth or sixth leaf Syringe the trees twice daily to check red spider, and keep them well supplied with water at the roots. Maintain a temperature of from 55° to 75° until the flowering stage is passed.

Cherries.—The earliest fruits have now stoned. Keep a sharp look-out for aphis, and if required lightly fumigate with XL-All, which should not be done when the fruit is coloured. The most destructive pest to both fruit and foliage is the weevil, which will he found in every curled leaf; these must be hand-picked or squeezed between the finger and thumb. Give constant attention to proper watering, excess of which will cause the fruits to split. Ripe Cherries will hang for a considerable time and keep in good condition, provided the atmosphere is kept cool and dry. Afford abundance of ventilation to plants in flower.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.-The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations .- The Editor will be glad to receive and se'ect photographs or drawings, suitable for reproduction, gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News .- Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers,-Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, App. 16-German Gardeners' Club meet. TUESDAY, APR. 19

Royal Hort. Soc. Coms. meet.

Royal Hort. Soc. Coms. meet.

and National Auricula and
Primula Society's Show combined; Horticultural Club
Meetlng.

Norwich Hort. Scc. Spring
Sliow.
Lintean Society meet. THURSDAY, APR. 21 FRIDAY. APR. 22 -Roy. Bot. Soc. meet.

BALES FOR THE WEEK.

WEDNESDAY NEXT. APBIL 20—
Azaleas, Roses, Perconials, Border Plaots, Ferrs, Palms, &c., at 67 & 68. Cheapside, E.C., by Protheroe & Morris, at 12: 750 cases Japanese Lillums, &c., at 5.—Palms, Azaleas, Rhododendrons, Perconials, Border Plaots, Gladiolus, Lilies, &c., at Stevens' Rooms, 38, King St., Covent Garden, W.C., at 12.30.

stevens Rooms, 38, King St., Covent Garden, W.C., at 12.30.

FRIDAY NEXT, APRIL 22 —
Imported Cypripedium niveum. Disas. Established Orchids. &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON. -April 13 (6 P.M.): Max. 59°; Min. 51°.

April 14, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp.,

54°; Bar. 296. Weather bright, with indi-

54°; Bar. 296. Weather bright, with indi-cations of showers.

Provinces. — April 13 (6 P.M.): Max. 51°. South-east coast of Eogland; Mio. 41°, North-east

THE importance of cross-Crossbreeding is becoming more breeding. and more recognised. True, it is in only a small minority of cases that the operator succeeds in obtaining any improvement on what he has already had for many years. The chances are innumerable, but the actual prizes are few. Nevertheless one genuine success outweighs many failures. And then there is always the chance that the newly raised product, although of no special value in the place where it is raised, may prove of great importance somewhere else, where the conditions are different.

We remember being greatly struck with this fact when inspecting, several years ago, some experiments in cross-breeding Wheat in Messis. Carter's establishment. In some cases the newly-raised varieties seemed so similar one to the other that it required the eye of a specially trained expert to see any difference between them. Nevertheless, we were told that some of these varieties, when transferred to Queensland or some other of

the Australian Colonies, showed a very great amount of difference in their relative immunity to fungous diseases.

It is on grounds such as these that the multiplication of new varieties may be defended. As science progresses much that is now vague and haphazard will be systematised. Conjecture will be replaced by definite knowledge and more or less certain results. There is a great field for the experimenter now in the case of Cotton. Since the death of our old friend Col. CLARKE, little or

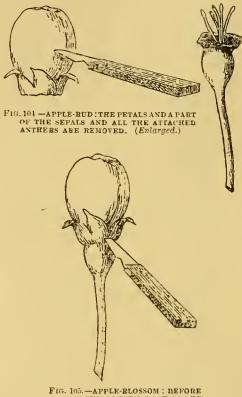


FIG. 105.—APPLE-BLOSSOM: REFORE THE PETALS OPEN, EACH OF THE BUDS 18 CARREFULLY CUT INTO WITH A SMALL SHARP KNIFE BLADE. (Enlarged)

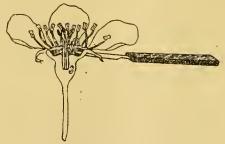


FIG. 103.—APPLE-BLOSSOM: ENLARGED CROSS-SECTION OF AN OPEN FLOWER, SHOWING THE PARTS BEMOVED BY TRE KNIFE.

nothing has been done in this department in this country at any rate, but the results he obtained were important enough to secure for him public recognition on the part of those interested in the cultivation of Cotton. Sea-island Cotton is the variety held in most esteem; it was at one time grown in the West Indies, but of late years principally in some of the Southern United States of America. Sir Daniel Morris is doing his best to induce the planters in some of the West Indian Islands to take up the cultivation of Cotton. Various parts of Egypt, India, Queensland, Fiji, and others of our Colonies are fitted for Cotton culture. But as the same variety will, in all proba-

bility, not do equally welt in all localities there is ample room for the cross-breeder and ample work for the directors of the botanic stations.

Among the great hybridisers of the day is Mr. LUTHER BURBANK, whose successes with Plums have been very remarkable. At the same time it is evident that some of the cross-breds which are successful under Californian skies do not find themselves so much at home here, partly from climatal reasons, partly, as it appears, from the fact that sufficiently long selection and sufficiently careful elimination have not been carried out. From one of the Californian periodicals we copy the following illustrations showing the method adopted by Mr. BURBANK, in cross - breeding the Apple. There is, of course, nothing new in the process, which consists in the removal of the stamens from one flower before they are mature, thus leaving the pistils free for the reception of pollen from another source.

"Mr. Burbank finds it in most cases unnecessary to cover the emasculated bloom to avoid intrusion of undesirable pollen by insect agency. He chooses for pollination the time when the first hum of the bees is heard in the trees. He finds all conditions at that time most favourable, and believes the pistil is then in its most receptive state.

"The instrument of pollination is the fingertip. Applied to the dusted surface of the plate, either by a mere touch or a slight rubbing, enough pollen adheres. The fingertip is then quickly applied to the pistils of the prepared blossoms one after another. They welcome the pollen, and the fructifying agency begins at once its journey to the ovule. No matter what comes now, on the wind or otherwise. The opportunity for outside pollen has passed. The touch of the finger has covered the stigma with the chosen element, and sealed it safe from further intrusion.

"In his choice of the unaided hand as the instrument of pollination, Mr. Burbank has not only simplified and made more expeditious the act of pollination. Recourse to instruments and appliances is often essential, but, in many lines of human effort, the direct contact of the finger-tip works wonders impossible with intermediaries.

"The seed resulting from cross-pollinated bloom is, of course, gathered with great care; seedlings are grown, and the closest watch is kept upon their characters and habits from germination onward. The little seedling may disclose its combined parentage, or give sign that it has drawn up something from the profound depths of the converging streams of its remote ancestry, long before it reaches blooming or fruiting stage. Tokens which would escape the ordinary observer become clear as milestones indicating the life courses of the new plant to the skilful propagator. The art of selection begins, then, early in the development of the cross-bred plants. Incalculable numbers of them may be destroyed for their too evident adherence to the old types, and only one, or perhaps thousands, be retained because they give promise of breaking away from such bondage. Whenever such selected seedlings are capable of budding or grafting they are thus introduced to the forcing influence of old plants of the same class and hurried to flower or fruit in this, well-known way."

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on Tuesday, April 19, in the Drill Hall, Buckingham Gate, Westminster, in conjunction with which the National Auricula and Primula Society will hold its annual show, 1 to 5 P.M. A lecture on "Diseases of the Potato" will be given by Mr. George Massee, V.M.H., at 3 o'clock.

LINNEAN SOCIETY OF LONDON.—The next meeting will be on Thursday, April 21, at 8 P.M., when the following papers will be read:—1. On British Fresh-water Rhizopoda, by Mr. J. Cash. Exhibitions: I. Mr. Clement Reid, F.R.S., &c. Drawings by Mrs. C. Reid of fruits and seeds of British preglacial and interglacial plants. I1. Calycifloræ. 2. Mr. R. Morton Middleton, F.L.S., holograph letter of Linnæus to Haller, dated from Upsala, May 12, 1747.

THE ASSOCIATESHIP OF THE LINNEAN SOCIETY.—Owing to some technical informality, the election of Mr. William Watson was not confirmed at the last meeting. The question will come up for ultimate decision at the meeting to be held on the 21st inst.

THE HORTICULTURAL CLUB.—At the next meeting of the Horticultural Club, on Tuesday, April 19, a lecture on "Back to the Land" will be delivered by Mr. T. W. SANDERS, F.L S.

THE MIDLAND DAFFODIL SOCIETY has decided to postpone their exhibition until Tuesday and Wednesday, April 26 and 27. The original dates—viz., April 21 and 22—clashed with several other provincial shows; besides which the lateness of the season has influenced the Committee in their decision. The show will be held in the Birmingham Botanical Gardens.

A FORESTER'S DIAMOND WEDDING .- Mr. ALEXANDER BEATON, forester to Mr. A. M. GORDON, of Newton, Aberdeenshire (Convener of the county of Aberdeen), and Mrs. BEATON celebrated their diamond wedding on Tuesday, April 5, and were entertained at a complimentary dinner. The guests included all the Gordon family, with the exception of the head of the house, who, in his letter of apology for absence, wrote: "I regret extremely that I am under the necessity of going to Edinburgh tomorrow to attend a special meeting of the Highland Society." Mr. BEATON is eighty-three years of age, having been born on October 4, 1820, at Newton. His father, Mr. PETER BEATON, was forester for nearly half a century at Newton-first in the employment of the present Laird's grandfather, Mr. ALEXANDER GORDON, then of his uncle, Mr. JOHN GORDON, and afterwards of his father, Mr. ALEXANDER GORDON, whom Mr. ALEXANDER BEATON served for a short time before the present proprietor was born. Mr. BEATON has been in the service of the Gordon family for the long period of sixty-five years, and succeeded his father as forester. Mrs. BEATON is eighty years of age. Both are etill hale and hearty. They have had three sons and six daughters; of these, two sons and five daughters are now alive. The old couple have twenty-five grandchildren alive, and four have died, whilst there are thirteen greatgrandchildren. They have thus had one descendants, most of whom are alive. Mr. Gordon (chairman) said he had the pleasant duty of presenting Mr. and Mrs. BEATON with a purse of sovereigns from their many friends in coken of appreciation, esteem, and affection. He had also to present them with a magnificent photograph enlargement of themselves. GORDON concluded by stating that Mr. BEATON wished him to thank his many good friends for their kindness. At night a ball was held, at which over 150 were present.

THE WINTER STAGE OF THE VINE-MILDEW .--M. G. DE ISTVANFFI has been experimenting on the wintering of the mildew (Ordium) on Vines, and the reappearance of the pest in spring. The presence of the spawn or mycelium provided with suckers and hard masses (sclerotes) in the stems of the Vine during the winter has been established. In the Comptes Rendus the observer suggests means of coping with the disease, saying that-1. It is well, immediately after the crop is gathered, to remove the fruits and shoots attacked. and to at once administer to the Vines a strong fungicide; 2, To wash over the Vines just before the buds open, so as to destroy the hybernating spawn. Vines on trellises and when forced require especially careful treatment. His observations on the mode of growth of the Oïdium show him that it attacks Vines early, first of all the green shoots and by preference under the tie, where it is usually to be found even on shoots that are almost free from it. Thence it attacks the fruits. Thus its development while the Vine is in full growth is mainly downwards; in autumn it works upwards, attacking the late shoots and the fruits. During its progress it leaves its spawn everywhere to hibernate, and thus ensures its reappearance in the following spring. This process of growth explains the "self-infection" of Vines so often noticed, and at the same time starts centres of new infection for ita following

SOME RESULTS OF CROSS-FERTILISATION." - M. Leclerc Du Sablon, in the Comptes Rendus for December 28, 1903, has computed the amount of sugar and starchy matters in the pericarp (1) of a Melon fertilised by Melon-pollen; (2) of a Melon fertilised by Cucumber-pollen; (3) of a Cucumber fertilised by Melon-pollen; (4) of a Cucumber fertilised by Cucumber pollen. The fruits when ripe were gathered and analysed. The exterior characteristics of the pericarp were not affected by the cross-fertilisation, but the Melon (Cucumis melo) fertilised by the pollen of the Cucumber (C. sativus) had not the usual sugary taste of Melons. The result of analysis showed that the influence of the Cucumber-pollen had considerably reduced the proportion of sugar (5.8 per cent. instead of 24.3 per cent.). Contrariwise, the pollen of the Melon did not induce the formation of sugar in the Cucumber. Other experiments were made with two varieties of Cucurbita pepo, the Olive Gourd, and the Vegetable-Marrow, grown under identical conditions. As with the Melons and Cucumbers, the exterior morphological characters of the fruit are not modified by the influence of the foreign pollen, but the supply of hydrocarbons, starch, sugar, &c., is diminished. It was observed that although the Olive Gourd contained more reserve material than the Vegetable-Marrow, the influence of the pollen of the Gourd diminished the amount of reserves in the Vegetable-Marrow. It does not seem, therefore, that the pollen of a plant acting on the pistil of another plant always communicates to the fruit of that plant the characteristics of the fruit of the pollen-bearer; it only modifies it, and in the examples studied by M. L. Du Sablon, serves to diminish the hydrocarbons. Future experiments will no doubt show very various results.

SOME USEFUL FRENCH GARDENING BOOKS.—We note the publication (by the well-known Librairie et Imprimerie Horticoles, 84 bis, Rue de Grenelle, Paris) of several useful books on gardening. These include a Manuel du Champignonniste, Professionnel et Amateur, by M. A. CAUCHOIS; Maladies et Parasites du Chrysanthème, by Dr. J. CHIFFLOT; La Mosiculture Pratique (5th edition), by M. ALBERT MAUMENÉ; and Les Fleurs Nationales et Les Fleurs Politiques, by M. GEORGES GIBAULT. All these volumes are fully illustrated and clearly printed.

ITALIAN AGRICULTURE.—We have received a copy of Malessere Agrario ed Alimentare in Italia, an important book by ITALO GIGLIOLI, issued under the auspices of the R. Scuola Superiore di Agricoltura, Portici. It is a general review of the progress and condition of agriculture (and the production of alimentary products in general), not merely in Italy, but in foreign countries and colonies. It should prove of much value to everyone interested in this important subject.

THE BRITISH GARDENERS' ASSOCIATION.— We have received the following communication, which embodies the objections raised by a number of gardeners to the formation of a British Gardeners' Association, and publish it, but do not necessarily share the fears expressed therein:—

"I have read all the correspondence which has appeared in the Gardening papers on this subject, and have discussed it with some of those who are most active in its promotion, but I fail yet to understand what permane it good such an Association is likely to effect. It is clear from what has been stated publicly that the principles of the trade unions, or, at any rate, some of them, are to enter into the methods, possibly form some of the rules of the Gardeners' Association. How otherwise can wages be raised or 'regulated'? In short, how can the objections of employers to give up their right to fix the wages and hours of labour of those they employ be overcome except by the adoption of methods which peaceably-disposed people condemn? I feel convinced that this attitude must inevitably prove fatal to the success of the movement. Head gardeners are against it because they believe it will make mischief between them and their employers, and breed discontent among their men. Is it likely, they ask, that gardeners who have comfortable situations will join an organisation that intends to be a law unto itself, to impose terms and conditions on both gardeners and their employers? The scramble there is when a decent gardener's berth is vacant makes those who have got something, even 25s, a week, chary of any step likely to deprive them of it. However 'honest' the intentions are of those who are trying to form this Association, I feel certain that they will only make enemies of employers instead of making them friends. Nurserymen are always ready to serve the purpose of a Registry of Gardenera, and it would not be to the interest of them. There is often a great deal more in the way of emoluments for gardenera than is revealed by the weekly wages they receive (!), and all generous employers recognise in some form the long hours the more fortunate to assist at a game not unitse that known as the 'confidence trick.'"

KEW GARDENERS AND ORGANISATION.—The gardeners at Kew are taking a lead in supporting the movement for forming a British Gardeners' Association. The following report of a meeting held at Kew on the 11th inst. has reached us as these pages are being prepared for Press:—

"A meeting of gardeners employed in the Royal Botanic Gardens was held on the 11th inst., sixty being present, Mr. J. Besant occupying the chair. After a lengthy and interesting discussion of the tendencies and results of associated effort, the following resolution was put to the meeting and adopted with enthusiasm: -'That this meeting of gardeners employed in the Royal Gardens, Kew, heartily supports the action of the Provisional Committee of the proposed British Gardeners' Association in its efforts to secure (1) the registration of gardeners; (2) regulation of wages; and (3) regulation of working hours; and urges all gardeners and gardeners' societies to support the movement by every means in their power.' Donations towards the initial expenses amounting to several pounds were subsequently collected."

CINERARIAS.—We have received a quantity of Cineraria flowers from Messrs. Jno. Laing & Sons, Forest Hill Nurseries, S.E., which, from the point of view of the florist, are excellent in size and colouring.

MR. CHARLES MASON, C.E., a Director of Messrs. Foster & Pearson, Limited, horticultural and heating engineers, of Beeston, Notts, has been elected a member of the sub-committee of the Engineering Standards Committee now meeting at Westminster, to discuss the question with relation to cast-iron pipes for heating, ventilation, and drainage.

STOCK-TAKING: MARCH. - Owing to the Easter holidays, the Trade and Navigation Returns for March were not published until the 9th inst.-rather, we might say, the 11th inst.-Sunday intervening, and the result of the month's trade shows a gain of £1,775,751, as compared with the month of March, 1903, the figures being for last month £48,692,275, against £46,916,524 for the same period in 1903. The increases are in value more than quantity-witness the greatly enhanced price of Cotton and of Wheat, &c. Taking stock of the conditions affecting the Cotton trade, it is proper to note that the wages paid and profits made in this branch of industry have been reduced by several millions during the past quarter - how much may not be exactly summarised, but the reduction is felt all over Lancashire. The following summary figures are here of interest, as analysis of the total mass of figures:-

IMPORTS.	1903.	1904.	Difference.
Articles of food	£	£	£
and drink—duty free Articles of food	8,855,972	9,804 009	+ 948,037
& drink—dutiable All other Imports	9,410,846 28,649,706	10,334,886 28,553,380	+924,040 -96,326

It is worthy of note, in connection with the importation of sugar, that an effort is being made to start sugar-beet growing on a large scale in the South of Ireland. Some 3,000 acres are to be laid out and planted, and a factory built for the manufacture of the sugar. Our readers may remember the gallant attempt made by Mr. Duncan, of Mincing Lane, in the "seventies," some account of which was given in these pages at the time. Whatever mistakes were then made will be avoided now, and the promoters of the scheme, we are informed, are very sanguine as to the prospects of success. We note, concerning "Wood and Timber," that last month the value of the imports was £1,052,716, against £958,356—an increase of £94,360. Fruit, roots, and vegetables now claim attention, as follows:

IMPORTS.	1903.	1904.	Difference
Fruits, raw—	Cwt.	Cwt.	Cwt.
Apples	361 572	384 869	+23 297
Apricots and Peaches	98	233	+138
Bananas bunches	183,312	255 509	+72,197
Grapes	1,924	1 085	-839
Lemons	76,106	81,956	+5,850
Nuts-Almonds	8,557	10 194	+1,637
Others used as fruit	33,706	24 354	+648
Oranges	933,474	833,596	-149,878
Pears	613	9.8	+365
Plums	269	517	+248
Unenumerated	5,065	4,276	-789
Vegetables, raw-			
Onionsbush.	484,938	747,934	+262,996
Potatos cwt.	206,826	1 153 979	+ 947 153
Tomatos ,,	85,133	85,734	+601
Vegetables, raw, un-			
enumeratedvalue	£41,796	£53,789	+£11,993

The Australian and Tasmanian Apples are being largely consumed; up to date, nearly 130,000 cases have been imported. Two cases of Apples have found their way here from the Cape, accompanied by a case of Tomatos. Of other fruits from the same quarter, we have been advised of 10,421 cases of Plums, Peaches, Nectarines, Pears, and Grapes. The value of the imports during the past three months amounts to £138,900,038, against £133,618,995—a difference of £5,281,043. Coming now to

EXPORTS,

we find a deficiency for the month of £856,398—the figures being for last month £24,251,796, against £25,108,194 for the same period last year.

Not far have we to seek for this falling off—it is noted in the imports, as also in a decreased demand for goods by people at war; and this leads us to express a hope that the treaty completed between this country and France may lead to amendments in the tariff conditions under which our commerce is carried on. The deficit in the three months is placed at £557,292—the figures being for the past quarter £72,229,974, against £72,787,266.

SCHEDULES RECEIVED. — WINDSOR, ETON AND DISTRICT ROSE AND HORTICULTURAL SOCIETY'S Annual Exhibition on Saturday, July 9, in the Slopes, Windsor Castle. Entrance from Datchet Road. The Secretary is Mr. W. Titt, 24, Thames Street, Windsor.

NATIONAL CHRYSANTHEMUM SOCIETY.—Schedules have been issued of prizes to be offered at the following shows to be held at the Crystal Palace, Sydenham, on Wednesday and Thursday, October 5 and 6; on Wednesday, Thursday and Friday, November 2, 3 and 4, and on Wednesday and Thursday, December 7 and 8. The Secretary is Mr. Richard Dean, Ranelagh Road, Ealing.

SOCIETY FOR THE PROTECTION OF BIRDS .-The thirteenth annual report of this Society is now before us. We learn from it that the progress of the Society has been well maintained; several new branches have been started, and also a periodical publication, entitled Bird Notes and News. For the better protection of our sea and shore birds, the assistance of officers of H.M. Coastguard has, with the permission of the Lords of the Admiralty, been enlisted, and they may in future watch and give information that will assist the Society in carrying out the provisions of the Wild Birds Protection Act. It is hoped that the Society may shortly be granted a charter of incorporation. It is worth noting that in a recent "Nature Study" essay competition. thirty-eight species of birds and thirty-four trees were represented, the robin being the favourite bird, and the Oak the most frequently chosen tree of the children.

HAUGHTON HALL, CHESHIRE.

[See Supplementary Illustration.]

HAUGHTON HALL is situated half-way between Beeston and Nantwich. The view shown in the Supplementary Illustration is one from the south-west, the house standing on a terrace and facing due south. The grounds are extensive and varied in character, the natural contour of the land lending itself to variety. From the terrace the ground slopes to an ornamental lake, at first gently, further off somewhat abruptly, both to the south and south-east. Round this is carried a gravel-walk, which in this direction forms the boundary of the pleasure-grounds.

A chain of flower-beds running parallel with a broad gravel-walk in front of the terrace comprises the greater part of the more formal bedding. Two Rose gardens adorn the grounds. One consists of long narrow beds having grass between them and a gravel-walk passing through the centre. Yew hedges are planted for shelter on each side of this garden, the beds next these being planted with a selection of Tea Roses, the other beds being filled with Hybrid Perpetuals. The position of the other Rose-garden is in front of the conservatory, and is sunk below the general level of the ground, thus securing some shelter. Most of the beds in this sunk garden are planted with Hybrid Perpetuals, one variety being massed in each bed. The soil is a stiff loam resting on clay, and suits Roses fairly well, especially the more vigorous varieties.

Hardy Azaleas of the Ghent and mollis types, Irises, Funkias, &c., occupy beds in suitable positions on the lawn—the Funkias being especially happy on the margin of the lake. Considerable attention is paid to herbaceous plants, several borders being devoted to them, while many Alpine and other dwarf plants find a congenial home on a slightly sloping retaining wall built of rough sandstone without mortar. The shrubberies contain more than the usual proportion of plants interesting and beautiful either in point of flowers or foliage.

The entrance-lodge is substantially built and very pretty. The ornamental gates are hung from the angles of the square stone pillars, and not from the sides, as is usual. The lawns on each side of the drive leading to the house are planted with specimen Golden Yews at frequent and regular intervals. Fine views of the surrounding country are to be had from the windows of the Hall and from the grounds. These include Peckforton Castle (the seat of Lord Tollemache), and the adjoining hills, the ancient and historic Beeston Castle ruin, Bunbury Church, &c. The grounds and surrounding country are well wooded, for, although the house shown in the illustration was not built till 1801, it stands on the site of a former edifice which bore the same name.

The kitchen-garden is on the north side of the house and is surrounded on three sides, partly in a curve, by a wall for the most part 12 feet high, open to the south. In addition to containing the usual vegetables some space is heregiven to flower-growing, Beds of the better kinds of Daffodils; Pæonies, Hellebores, Carnations, &c.,. are to be seen on an east fruit border. The walls devoted to fruit-trees are furnished with beautiful horizontally-trained Pear trees, fan-trained Plum and Cherry trees, &c. The Pear trees deservespecial mention. An arched iron trellis spans one of the walks running the width of the garden. It. is 8 feet high and 7 feet wide, the horizontal bars. being about a foot apart; each of these is being rapidly furnished with branches of Apple and Pear trees. The borders on each side of a walk running at right angles to this one are planted with handsome pyramidal fruit trees 15 feets apart, and 5 feet from the edge of the walk. Single cordons are trained arch fashion over this walk at intervals, Vines being similarly trained to form a circle at the point where the two walksintersect each other.

The southern inside wall is covered by a range of glass about 230 feet run. About 100 feet of thisis built on a curved wall, not heated. In order toavoid each light having to be opened separately, this portion is built in short sections-three lightsin each section. This range is planted with Peaches, Nectarines, Figs, Apples, Pears, Plums, and Cherries. The range of glass to be seen in the photograph comprises a plant-house, Peach-house, Vinery, stove, and conservatory. A feature of note in this range is that the glass is bent. at the eaves, giving the front a softer outline and more refined appearance from the outside. The conservatory has a curved front, theside stages following this line, as also do the the walks between them and the centre bed. This curved arrangement adds greatly to theartistic appearance of the house, while the sidestages being comparatively low enable the onlooker to get a better view of the plants; anot er advantage being that the pots are lessobservable from the outside. The centre bed is. kerbed with stone, and level with the floor. Groups of various kinds of plants are from time to time arranged here. Just now the bed is filled chiefly with Callas, Clivias [Imantophyllums], Coleus thyrsoideus, &c; while perhaps at no time is there a finer floral display than that made by Chrysanthemums in November and December.

Two span-roofed plant-houses, running north and south—the gables of which may be seen to the extreme right in the picture—together with a few frames, complete the collection of glass structures. These houses are all heated by one boiler, an

American variety called the Ideal. Prominent among the occupants of these span-roofed houses are groups of Hippeastrum mostly selected seedlings of Messrs. Ker's strain; Richardia Elliotiana, Cyclamens, Cinerarias, winter and spring-flowering Begonias, &c.

Mr. Brocklebank, the owner, takes a personal interest in his beautiful place, being familiar with almost every tree and plant, from the gigantic Oak-tree outside to the minutest seedling pushing its way through the soil of a seed-paninside. In this he is seconded by Mr. Winkworth, the gardener, under whose superintendence the whole is carried on. Communicated.

PLANT NOTES.

CAMELLIA RETICULATA AND FORTUNE'S YELLOW ROSE.

I HAVE before me while writing a single flower of Camellia reticulata which measures between 7 and 8 inches across. It is semi-double, and of a bright soft rose colour, with a mass of yellow stamens in the centre, and broad undulated petals of good substance. The leaves are of dull green colour beautifully ribbed and veined, longer and more pointed than those of most varieties of Camellia. We have a plant here covering a wall about 17 by 14 feet. The plant makes good growth every year, and we are enabled to cut sufficient wood with the flowers to show them to the best advantage. The outline of the flower being less symmetrical than that of ordinary Camellias, their effect in decoration is considerably better. My reasons for naming Fortune's Yellow Rose in conjunction with the Camellia is that the two plants grow so freely in the same house, and that such a good effect can be made on the luncheon and dinner-table with either or with both combined. The Camellia flowers a little in advance of the Rose, and the Roses which we are at present using for this purpose are obtained from another house, from which we have been cutting five or six weeks. The Rose in the house with the Camellia will flower early in April. Wm. Fyfe. Lockinge, March 30. [Excellent flowers of this distinct and showy Camellia, and of the equally distinct and attractive Rose, accompanied the above communication. Ed.

CLIANTHUS PUNICEUS.

Everyone possessing a cool conservatory or greenhouse should grow this gorgeously beautiful plant. It makes an excellent climber for training up near the rafters, or in such a manner that the large, vivid scarlet flowers can hang down, and so be seen from below. In a conservatory 160 feet long in these gardens it is planted out and trained in the way described, and although many other climbers are similarly grown, not one gives the brilliant effect this does, and that at a season when there is little else so attractive. Plants can be raised easily from seeds, and they will flower in a pot, but their glory is most apparent when growing in a border, with the shoots 2 and 3 yards long covered with flowers. chief pest of this plant is red-spider, but by the diligent use of the garden-engine and clear water it may be easily kept in check. I see no reason why this species should not be used for bedding purposes, the plants would form excellent dot plants; and I think you will agree with me from the enclosed sprays that it is adapted for that purpose. W. H. Clarke, Aston Rowant Gardens, Oxon.

[Our correspondent has sent us a number of growths, some of which are 4 feet or more in length, with scarlet flowers from almost every leaf-axil. This leguminous plant, sometimes called "Parrot's Bill," may usually be seen growing in the greenhouse at Kew, and we believe the

plant is used also for bedding purposes in some of the London parks, and at Hampton Court. We have never seen better specimens than those sent by our correspondent. Ed.]

IRIS HAUSSKNECHTII

(Sub-gen. Apogon).

Among the spring-flowering Irises this is one of the most interesting. The specimen from which our figure (fig. 107) was taken was supplied by Mr. Reuthe, of Fox Hill Nursery, Keston, Kent. It is nearly related to Iris persica, and so good an observer and cultivator as Sir Michael Foster tells us that, were we to depend solely on variations of colour for points of specific difference, it would be necessary to make twenty or thirty new species. Sir Michael's observations are supported by the flowers shown by other exhibitors than Mr. Reuthe at recent meetings in the Drill Hall.

The species is a native of Asia Minor (Amasia). It has a short, thick root-stock, linear leaves, and



FIG. 107. -1RIS HAUSSKNECHTII.

the perianth segments are destitute of any beard. In Mr. Reuthe's specimen the flower was of a dark purple colour, with the centre of the "falls" pale yellow dotted with small brown spots.

THE DAFFODIL.

That the Daffodil is the finest of vernal flowers no lover of Nature will be disposed to deny. It is also unquestionably the most classical of them all. One of its fairest forms, the sweetly odorous Narcissus Tazetta, was immortalised by Homer; while Sophocles, the grandest of Grecian dramatists, sang of its beauty in imperishable strains. Shakespeare has a memorable passage on the Daffodil, much too familiar to necessitate quotation; Keats sings with loving tenderness of its golden flowers "and the green world they live in"; and we know how they inspired the great soul of Wordsworth, the High Priest of Nature, amid his mountain solitudes.

I have never felt their inspiration so prcfoundly as I did when last I visited the famous nurseries of Messrs. Barr & Sons, at Long Ditton, in Surrey, where certain varieties are grown by the hundred thousand. This affirmation is especially expressive of the extensive cultivation of one of their finest hybrids, of which no fewer than 50,000 are found growing in one place. Some of the Messrs. Barr's most recent and most distinguished creations are not quite so accessible, from a financial point of view, as Barri conspicuus; Peter Barr, for example, which is supposed to be the nearest approximation to a pure white Daffodil of its own dimensions hitherto given to an admiring world. This grand Daffodil has been appropriately associated with the name of the greatest living cultivator of flowers of this special and fascinating class, who has been a great traveller (chiefly for botanical and horticultural purposes) in distant lands, and who has given us, as the enduring results of his labours, many precious introductions, among the most attractive of which are those veritable gems "of purest ray serene"-Narcisaus minimus, invaluable for rockeries; Angel's Tears, and the beautiful Queen of Spain. These should keep Mr. Barr's memory green.

At exhibitions Daffodils are not more in harmony with their artificial surroundings than the Lily or the Rose. Yet it is only there (unless we go to Long Ditton) that ordinary cultivators can see Peter Barr; also such of his contemporaries and predecessors as Lord Roberts, Osiris, Queen Christina, Monarch, and Weardale Perfection; and that, undoubtedly, is a great consolation. For my own part, I am supremely satisfied with such older varieties (which in virtue of their loveliness can never grow old) as Emperor, a Daffodil worthy of its imperial name, and not yet quite supplanted by more modern introductions; Glory of Leiden, Maximus, whose perianth is most artistically serrated; Ard Righ, and the beautiful Alvarez, which may be regarded as leading representativea of the Magni-Coronati; while equally inspiring to the earnest cultivator are the superbly beautiful Empress, grandis, J. B. M. Camm, greatly distinguished for perfect symmetry of form and delicate beauty; the venerable Ilorsfieldii, and the modern Victoria, one of the noblest of the Messrs. Barr's introductions. Other Daffodils of great interest, pertaining to different classes, whose prevailing characteristics need not here be described, are Narcissus albicans, whose pale primrose trumpet gradually changes into white-a native of Spain; Colleen Bawn, of pendulous habit; Madame de Graaf, one of the greatest of white trumpet Daffodils-a peerless beauty; Moschatus of Haworth, snowy-white in colour and extremely refined; C. J. Backhouse, Frank Miles, Mary Anderson, Princess Mary, the great Sir Watkin, and Queen Sophia, conspicuous among the varieties of "Narcissus incompara-Very beautiful also are the various forms bilis. of Narcissus Leedsi, whose uniquely graceful aspect makes them quite invaluable for garden ornamentation. They are so delicately lovely that they invariably remind me of Charlotte Fry's exquisite description of Humility.

Few flowers are more easily cultivated than those glories of the spring, which "come before the swallow dares, and take the winds of March with beauty." All that they require is a sheltered position, a half-sunny situation, and a deep, moist, loamy, fibrous soil. Artificial stimulants which involve aumoniacal properties should be severely withheld. Some of the finest and most effective varieties, such as Emperor and Empress, albicans, Queen of Spain, and the charming Moschatus of Haworth can be naturalised in grass; while the Scottish Garland Lily, the English Lent Lily, and Countess of Annesley luxuriate there. David R. Williamson.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

HYBRID RHODODENDRONS, ETC.—I send some Rhododendron flowers that grow around the house here. The beds of these hybrids and of Ghent Azaleas contain fifty large bushes at least. The Rhododendrons have been planted more than forty years, and are 15 feet in height and of similar diameter; many of them have a dozen limbs each a foot in circumference. The flowering period extends generally from early January to the end of June. The scarlet one has been in flower since the end of January. Unfortunately most of the names are lost through the lapse of time. Double Primroses luxuriate around the margins of the Azalea beds, and we have them in lilac, rose, and sulphur colours. The blue Primrose G. F. Wilson does very well here. Myosotia dissitifiora as a broad edging to a border of apring flowers is very fine. It was raised from cuttings rooted in June last in boxes in a shady border until autumn. F. Street, Ardwell, N.B. [The Rhododendron flowers were beautiful, and the trusses unusually vigorous. En.]

THE GARDENERS' ASSOCIATION. — The question before the gardening community just now—viz., the Head Gardeners' Association—appears to me all very well in its way, and no doubt will be a recreation to those head men who can devote time to attend such societies; but what effect it will develop among the gardeners I fail to see; personally, I cannot agree that it will benefit the gardener. The aspirants to the title of gardener are many, and chaos reigns supreme; and until the real and true gardener is unearthed and thoroughly represented it cannot be a success. Why a handful of bailiffs, misnamed gardeners, represent in this country a ten times greater number of gardeners I cannot imagine; for when we glance at the present rapid rate of progress of small properties springing up we find the larger estates getting sadly in the minority, and therefore the requirements are entirely different in the smaller holdings. It then behoves the present masters of the profession to train young men to meet these existing conditions and to adapt themselves to modern times. I thoroughly appreciate any effort that would tend to raise the position of the gardener to the level of other trades, and this is without doubt greatly needed; but this must be done by the gardenera themselves, and until that occurs very little benefit will accrue from any association. A society formed by gardeners with this sole object in view would become a very powerful machine; but sacrifices in this direction are very hard to make at the present rate of wage, and would require a great deal of pluck and determination upon the part of the gardener. M. E. Mills, The Gardens, Coombe House, Croydon. [Our correspondent, and several others whose letters we cannot publish, seem unaware that the proposal to form a "Head" Gardeners' Association was dropped in favour of a much more comprehensive scheme for the very purpose he advocates. Ed.]

— I have heard it stated that on the Continent (notably in several parts of Germany) gardeners have already successfully combined to obtain better conditions for themselves. Perhaps some of your readers who have lived abroad could supply particulars of what has been accomplished in this direction, and of how it has been done. I feel sure these would interest and encourage those who are working for the promotion of the proposed Association, in which I for one heartily hope they will be entirely successful. Regent Spark.

THE "DUMPING" OF HAMBURG DRUGS.—So many kinds of spurious Ipecacuanha appear in the market from time to time that it is interesting to read of an incident that recently occurred at one of the London drug auctions, which is thus told by our pharmaceutical contemporary, the Chemist and Druggist. It appears that at the drug auction in question a bale of spurious Ipecacuanha from Hamburg was catalogued as "picked Cartagena Ipecacuanha," without

reserve. When the broker who offered it was about to commence his sale, Mr. Charles Umney rose to protest against what he called the offering of "these Hamburg rejections." Some thirty years ago, he said, this spurious stuff, Richardsonia scabra, made its appearance on the market, and as it contained no alkaloids whatever, the sooner the trade was put on its guard against it the better. The broker, in reply, said that his firm was instructed in writing to call attention to it. The root was not unlike genuine Ipecacuanha in appearance, being well annulated, and as there is only one purpose for which this stuff can be used, it is only fit and proper that the protest should be made. After this description of the goods, it is needless to say that nobody had the temerity to bid for it. It may be said that Richardsonia scabra is a very common plant in Brazil, and is closely allied botanically to the true Ipecacuanha. John R. Jackson.

STRAWBERRY CULTURE.—Market growers of Strawberries, not by the thousand of plants but rather by the hundred-thousands, and whose cultural methods are rather rough-and-ready, doubtless smile when they read the discussion recently published between various good gar-deners as to how the beds or breadths should be treated. I fear some of the disputants would be greatly shocked did they see, as soon as time would admit, men and women turned into the huge breadths seen about Swanley, Kent, and elsewhere, trimming off the runner-strings from the plants. Then come the horse-hoes, tearing up soil, runners, weeds, and plant-roots to a depth of some 2 or 3 inches. When all this refuse is collected and carted away, the moulding-plough is used down the centre of each pair of rows, splitting the soil, and casting up a moderate ridge on either side. These ridges of soil serve the useful purpose of breaking the force of bitterly keen east and northerly winds, thus partially sheltering the leafage and crowns. In the spring again the horse-hoe appears, followed by men with hand-hoes, and thus the soil is made level or well pulverised on the surface, and is clean. Then, when manure dressings are given, come the manure-carts, and the dressing is laid on; later, a long litter or straw dressing follows. Of course this is not garden treatment, but these plants produce, as a rule, splendid crops of fine fruit; and it is shown that the injury to the plant assumed to be done by destroying any portion of the surface roots is more imaginary than real. What probably happens is that the destruction of some old roots induces the creation of other more active roots; hence the fine crops seen. Until recently I had never heard of anyone who planted-out forced Strawberry-plants from pots at only 12 inches apart. Young plants so treated on a warm border, to give early fruit, and then at once cleared away, answer admirably. Old forced plants may be so treated, if to give autumn gatherings only; still the results are always uncertain. With such fine natural autumn-fruiters as we have now, it is better to trust to them. D.

UTILIZING STONE IN THE GARDEN.—Having a quantity of small stones on hand after constructing a rockery last winter, I conceived the idea of turning them to account in the formation of peat beds for Azaleas, Heaths, and similar plants which we were about to make, so, instead of digging the soil out and filling up with peat in the usual way, we built dry walls of small stone about a foot high, backing up the stones with a wall of clay so as to support them, and also to guard against drying of the peat, the combined width of stone and clay being about 12 inches. We dug the soil 2 feet deep, taking the bottom spit right away, leaving the upper one to be incorporated with the peat, as the soil here is free from lime, which is so prejudicial to the afore-mentioned plants. The front wall of the Azalea bed is constructed of small pieces of paving and other thin stones about 1 inch to 2 inches thick, into which is introduced some herring-bone work. The surface of the beds is made flat, with the idea of facilitating watering operations in dry seasons. The tops of the walls, and also the fronts, are planted with rock plants, and with the principal plants in the beds, amongst which Liliums of various species and

other bulbs are included, form an effective and pleasing addition to the flower-garden. R. W. Dean, Wainsford Gardens, Lymington.

HERBACEOUS BORDER.

PERENNIAL SUNFLOWERS.

It is not every group of perennials that either require or repay for annual replanting, but in a large degree this group of Sunflowers is generally the better for being replanted annually. It is of more than ordinary assistance to the stoloniferous section, of which we may instance Harpaliums as the representative. The strong points of these will transplant quite well now, hardly feeling the shift. Although the Helianthus multiflorus section do not necessarily require planting each year, yet it frequently happens that the older clumps suffer when snow settles-in the tuft, and in all such instances a greater vigour follows the replanting and free division of the roots. Weakened or decaying plants will be best if washed free of soil and potted for propagating from later. Cuttings root very freely in slight warmth, and make flowering plants the same year. I have also flowered plants the same season that were propagated from single eyes. I do not include H. decapatalus and H. orgyalis in the above remarks on planting. E. J.

LAW NOTES.

"WHITE ELEPHANTS" IN COURT.

In the City of London Court, on Monday last, before his Honour, Judge Rentoul, K.C., and a jury, an action was brought to recover the sum of £67 for Potato "seeds" supplied. It was admitted that the seed had been supplied, but the defendant raised a counterclaim for £75, alleging that the whole of the season's crop had been spoiled in consequence of the Potato seed not being as represented.

Mr. Mallinson, in support of the defendants' counter-claim, said that the defendant, in consequence of using some Potato tubers which the plaintiffs supplied, lost the whole of his season's Potato crop. The defendant bought from the plaintiffs upon a warranty certain "White Elephant" seed Potatos. After they were planted they turned out not to be White Elephants.

Mr. Colam, for plaintiffs, said there was no warranty on the part of the plaintiffs that White Elephant seed Potatos would be supplied. It was well known that no seed merchant ever dreamt of guaranteeing that any ordinary seed would come up true to its name. At the same time the plaintiffs were quite sure that they sold White Elephant seed - Potatos, and therefore they were entitled to recover the amount of their claim. The defendant, however, was entitled to no damages, because it was ridiculous to suggest that the bad crop had been due to the alleged bad seed. Everybody knew that last year was the very worst season that had ever been known in the Potato-trade, and indeed in the seed trade generally. Mr. Exall, in his evidence, said he paid the plaintiffa twice as much for the White Elephants as he did for the other varieties. Mr. Mallinson said that, from the evidence which he would call, there was no doubt that the Potato-seeds were "bastard Puritans.' He had experts present to testify to that. A Puritan Potato might be sold one year, and it would come up a White Elephant the next year. Sometimes Potatos would go from fifteen to twenty years without change, and then they would go back to the parent stock. Mr. Nye, Potato dealer of Plumstead, said in his opinion the Potatos were exhausted Puritans and

not White Elephants at all. Other witnesses were called to prove that the Potatos were not White Elephants.

In answer to the counter-claim the plaintiffs called several witnesses, who said there was very little doubt that the seed in question was that of White Elephant, and that the poorness of the crop was due to the inclement weather prevailing last year, and not to the inferiority of the tubers. Mr. Zachary Gray, farmer of Everton, Bedfordshire, said he had twenty-five years' experience of Potatos, and he had recently bought some of the world-renowned Eldorado tubers. He bought a stone, and paid £20, and was very glad he did so because 20z. were now worth the same money. In his opinion it was difficult to swear that the Potatos in question were White Elephants, seeing there were 500 different varieties to be discriminated. Last year he sold some of his Potatos at £22 an acre, and within 150 yards of the same spot the same Potatos were not worth £1 an acre. That was entirely attributable to the bad season; he had never known such variability before. The jury found a verdict for the plaintiffs on the claim and for the defendant on the counterclaim, assessing his damages at £50.

HEAVY FAILURE OF A NURSERYMAN.

On April 7 a meeting was held at the London Bankruptcy Court of the creditors of Robert Green, lately residing and carrying on business in partnership as Robert Green, Florists, at 28 and 29, Crawford Street, W., and 1 and 5, Thornton Place, Baker Street, W., and at Southfield Paddock, Ealing, W., in partnership as jobmasters; and at the Nurscries, Hounslow, and the Bedford Conservatories, Covent Garden, by himself. The Official Receiver, who presided, said the debtor had not yet filed a statement of affairs, but he estimated his total liabilities at £11,000, and his assets nil. The receiving order was made on March 24 last on the debtor's own petition. He alleged his failure to have been caused through bad trade. loss of horses, bad debts, and want of capital. His household furniture belonged to his wife under an ante-nuptial settlement, she being a ward in Chancery at the time. One of the creditors complained that when he supplied the goods for which he now claimed, the debtor's wife was carrying on the business. Debtor explained that his wife did carry on one of the businesses in a small way, after one of the companies failed, but he thought all her creditors had been paid. The Official Receiver said that there was no prospect of any dividend being paid to the creditors. The estate was formally left in the hands of the Official Receiver, to be dealt with in the usual manner.

VEGETABLES.

TRANSPLANTING SPRING-RAISED CAULIFLOWERS.

The time has arrived when a free admission of air day and night should be admitted among the young Cauliflower plants, to harden them off a few days prior to planting them out. They should have been raised from seed sown in heat in January, and subsequently pricked out a few inches apart in 4 or 5 inches deep of garden soil placed over a bed of fermenting Oak or other tree-leaves in a pit or frame of sufficient depth—say 18 inches, to afford a gentle bottom-heat, so as to stimulate active growth in the plants, the sturdiness of growth being regulated by a judicious admission of fresh air up to the time the plants are ready for transplanting.

Give the soil in which the young Cauliflowers are growing a good watering the day before transplanting them, in order to be able to lift them with nice little balls of earth attached to the roots,

transplanting these with a garden trowel into a favourable situation in drills about 3 inches deep and from 20 to 24 inches apart, according to the variety grown and the richness or otherwise of the soil, affording the same distance from plant to plant in the rows. Press the soil firmly about the balls of earth and roots in planting. Then dust a mixture of lime and soot around the individual plants, so as to prevent slugs from interfering with them, afterwards sticking Spruce-boughs firmly in the ground on the northeast eide of the plants as a protection from cutting winds and frosts. These may be removed after an interval of four or five days, by which time the roots will have pushed into the surrounding soil, and the plants become thoroughly inured to the weather. Later on a little soil should be drawn up to the plants on both sides.

Plants thus raised and transplanted will yield a good succession of Cauliflowers to those previously obtained from autumn - raised plants wintered in cold frames and pits, and transplanted in February or early in March in the manner indicated above. H. W. W.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

APRIL 5.—Present: Dr. M. T. Masters, F.R.S. (in the chair); Messra. Massee, Chittenden, Saunders, Bateson, F.R.S., Shea, Baker, Hurst, Odell, Douglas, Holmes, and Druery, Drs. Cooke and Rendle, Prof. Boulger, Revs. W. Wilks and G. Henslow (hon. sec.).

Richardia with Coloured Leaf.—Mr. Shea exhibited a specimen of R. Elliottiana with the leaf half yellow and half green. The question as to the cause was raised; but at present there is no known explanation.

Daffodil with Fringed Trumpet — Mr. Jenkins sent flowers exhibiting this peculiarity. It is analogous to "cresting," but was confined to the edge of the corons only.

Scientific Experiments at Wisley.—A prolonged discussion took place upon this subject, many valuable suggestions and communications being made by several of the members. Finally a sub-committee was formed to present a report to the Council, consisting of Dr. M. T. Masters, Professor Marshall Ward, Professor G. S. Boulger, Dr. Rendle, Messrs, Chittenden, Bateson, Massee, Farmer, and Hurst, and Rev. G. Henslow, with power to add to the number.

CORNWALL DAFFODIL AND SPRING FLOWER.

APRIL 8.—This Society held its annual exhibition in the Market Itall, Truro, on the above date. Though the season has been a backward one, and complaints of the poor quality of the Daffodils are rife in other portions of the country, the Cornish flowers exhibited little, if any, decadence from the high standard of former years. In some cases the blooms were perhaps slightly smaller than usual, but the entries were numerous; and the excellence of the many new seedlings exhibited, of which the greater number were raised in the county of Cornwall, rendered the show especially interesting. Rhododendron-blooms were present in quantity, and lighted up the hall with their bright colours. Mr. D. H. Shilson's splendid 1st prize collection contained a newly-flowered, dark crimson seedling, with very large leaves, named Duke of Cornwall, which was awarded a First class Certificate. Mr. E. BACKHOUSE also obtained an Award of Merit for a fine seedling Aucklandi (3riffithianum). The wealth of flower shown in the classes for hardy herbaceous plants and hard-wooded shrubs must have been a revelation to dwellers in colder climates than the lavoured south-west, the competition being exceedingly keen. A long table was entirely covered by Violets, which diffused their fragrance around, and by their size and beauty gave evidence of successful cultivation.

Awards of Merit were granted to Rev. A. T. Bos-

Awards of Merit were granted to Rev. A T. Boscawen for blooms of Madge Matthew, as the best Incomparabilis Narcissus in the show; to Mrs. A. T. Boscawen for Fritillaria obliqua and F. lætifolia major; to Messrs. Baber & Sons for Narcissi Ariadne and Janet Image, while their white trumpet Henry Vilmorin would undoubtedly have shared a similar honour had the requisite three blooms been staged; to Mr. G. Reuthe for the new Iris Haynei, and for Cyrtanthus Flambeau and C. Marian. Silver-gilt

Medals were awarded to Messrs. BARH & SONS and Messrs. R. Veitch & SON, Exeter; Silver Medals to Messrs. T. P. Ware & Co. and to Messrs. Reamsnottom & Co., Ireland; and Brorze Medals to the DEVON ROSERY, Torquay, and to Messrs. TRESEDER & Co., Truro.

All the arrangements were excellently carried out by the Hon. JOHN BOSCAWEN, Hon. Secretary, and the hall was filled during the afternoon by a large concourse of visitors, not only from Cornwall and the adjoining county of Devon, but from distant parts of the kingdom.

COMPETITIVE CLASSES.

The best collection of not fewer than thirty varieties of Paffodils.—Ist prize Mr. J. C. Williams, with an excellent atand containing seventeen unnamed seedlings of high merit—Minor Poet (with wide orange-red cup resembling that of Will Scarlet), Dante, Firebrand (very bright), Cardinal, Buttercup, Firework (striking), the distinct Incognita, White Queen, Weardale Perfection, Homespun (a self yellow, good and unique). Hector, Monarch, Jacko and King Alfred. 2nd prize, Rev. A. T. Boscawen, with a good stand including the matchless Lucifer (!), and other bright flowers in fine condition. 3rd prize, Lady Margaret Boscawen.

Nine distinct Magni-Coronati. — 1st prize Mr. P. D. Williams with Tenby Seedling, Mme. de Graaff, Emperor, J. B M. Camm (!), P. R. Barr, Victoria, M J. Berkeley, Empress, Maximus. 2nd prize, Lady Magnabet Boscawen, 3rd price, Mr. A. P. Nix.

Nine distinct Medio-Coronati. — 1st prize, Rev. A. T. Boscawen, with Albatross, Seagull, Lucifer, Mrs. Langtry, Bridesmaid, Madge Matthew, Gloria Mundi, Peach, Ensign. 2nd prize, Mr. P. D. WILLIAMS, whose stand contained Bullfinch, Kittiwake and other novellies.

Six distinct Parvi-Coronati. — 1st prize, Mr. P. D. WILLIAMS, with Horace (a perfect poeticus), Blood Orange, Redbreast, Ptarmigan, Incognita, and Chaucer.

Finest bloom of Magni-Coronati in commerce. — 1st prize, Mr. A. BLENKINSOP, with Weardale Perfection. 2nd prize, Mr. P. D. Williams, with the same.

Finest bloom of Medio-Coronati in commerce.—1st prize, Rev. A. T. Boscawen, with Lady Margaret Boscawen. 2ad prize, Mr. P. D. WILLIAMS, with Diana.

Finest bloom of Parvi-Coronati in commerce.—1st prize, Mr. P. D. Williams, with Horace.—2od prize, Mr. E. H. Williams, with Oriflamme.—3rd prize, Mr. C. Dawson, with Dante.

The next three classes were confined to flowers raised in England and not in commerce, and produced close competition, thirty-five blooms being staged, most of which were of excellent quality.

Finest bloom of Magni-Coronati.—1st prize, Mr. J. C. WILLIAMS, with a beautiful unnamed white trumpet. 2nd prize, Mr. J. C. WILLIAMS, with an unnamed bisolor. 3rd prize, Mr. P. D. WILLIAMS, with Averil, having white petals and pale yellow trumpet.

Finest bloom of Medio-Coronati.—1st prize, Mr. P. D. Williams, with a fine unramed seedling with white petals and orange-edged cup. 2nd prize, Mr. J. C. Williams, with Pilgrim, a seedling of Mr. Engleheart's. A clear yellow flower of good form, with straight, unfanged trumpet, in this class, was thought by good judges to merit the premier award.

Finest Bloom of Parvi-Coronati.—1st prize, Mr. J. C. WILLIAMS, with an unnamed seedling having white petals and spreading orange-buff cup. 2nd prize, Mr. P. D. WILLIAMS, with Chaffinch, a striking flower, with cup bordered by brilliant orange-scarlet.

In the foregoing classes no restriction was placed on the price of bulbs, so that in each class seedlings not yet in commerce were to be seen which were of great interest to the Daffodil expert. Ten classes were also provided under restrictions that made them suitable for small growers.

OTHER FLOWERS.

Of spring flowers, Anemones, Polyanthi, and Printroses were well shown; and four classes were allotted to Violcts, Mr. R. Fox whoming 1st prize in each class with bunches of splendid flowers. Of hardy, unforced herbaceous plants and bulbs there were some excellent exhibits, 1st prize in the class for thirty varieties being won by Mr. P. D. Williams with a good collection; and that for twelve varieties by Mrs. A. T. Boscawen, whose stand contained magnificent Iris tingitana and two Fritillarias that obtained Awards of Merit.

In flowering shrubs, Mr. D. H. SHILSCN as usual carried off the 1st prize for the best collection of Rhododendron blooms, staging about 150 trusses, including the new Duke of Cornwall, which took a First-class Certificate. In the class for six trusses, Mr. E. BACKHOUSE won the 1st pr.ze; and other winners in Rhododendrons were Mr. R. Fox, Mrs. J WILLIAMS, Mr. JONATHAN RASHLEIGH, and Mr. J. C. DANBUZ.

The Camellia classes brought out splendid specimens of C. reticulata, one of which with flowers over 7 inches across, had no difficulty in winning the prize for the best bloom in the show. Competition in the class for twenty varieties of hard-wooded flowering shrubs was very close, the eight exhibits all belng of a high order of nucrit. 1st prize was won by Mr. R. Fox; and in other

stands such tive things as Magnolia Campbelli, Embothrium coccineum, and Grovillea sulphurea were present.

TRADE EXHIBITS.

In nurserymen's exhibits, Messrs. R. Veiren & Son, Exoter, staged a bright collection, including Magnolias, Acaelas, Azaleas, Eriostomons, Spireas, Corydalis thalicuifolia, Primula kewonsie, Jasminum "primulinum, and the orange coloured Arctotis robusta. Mr. G.
REUTHE, Keston, Kent. had a fine pan of the lovely
Tecophitea cyanecrocus in full flower, Lithospermum
rosmarinifolium, tris atro purpurea, and other plants.
Mossrs. Bark & Sons showed a large assortment of
Daffoddis, Peter Barr, King Alfred, Lovd Roberts, Lucifer, and Constellation being notoworthy, besides those variaties that received Awards of Merit. Mossrs. T. S. varieties that received Awards of Merit. Mossis, T. S., WARK & Co. showed a diversocollection of Alpines, Daffodils, and flowering shrubs. The Devon Rosery, Torquisy, exhibited an excellent stand of pot Roses in flower. Messis, Terseeder & Co., Truco, staged Palms, Tree-Ferns, and Encalppti. Messis, Reamsnortom & Co., Alderborough, Ireland, showed double St. Brigid Anemones; and Messis, R. Wallack & Co., Colchester, had Gerbara Jameson! Shortia galacticia, 1rls studiatensis, I. Willingtian and other plants, S. W. E. jarensis, I. Willmottiana and other plants. S. W. F.

BRIGHTON AND SUSSEX HORTI-CULTURAL.

APRIL 12 and 18 .- The show of flowering and foliago plants was held in the Dome and Corn Exchange on the above dates, the weather on the opening day being all that a Secretary of a Horticultural Society could desire, and the exhibits themselves were more abundant than ever before at any spring show of this Society.

Non-competitive subjects, as the Palms and flowering plants of Messrs. Balchin & Sons, of Hassocks; the rock plants of Messrs. J. Cheal & Sons, Lowfield, Crawley; the flowering shrubs and alpines of Messrs. W. Curmush & Sons, of Highgate and Barnet, and the collection of Augmonous contributed by Messrs. Gilhert & Son, of Dyko, Bourne, Lincolnshire, added not a little to the interest of the show.

The more prominent, features may be said to have

The more prominent features may be said to have been the Narcissus of the large trumpst sections, the very beautiful vigorous specimens of Pentzia gracills and hybrids, the hardy Primulas and Primula polyanthus, Cinerarias of the large-flowered types, and Hya einths and Tulips growing in pois. Roses formed a weak contingent; Orchids were not abundant, and the exhibitors of ornamental groups erred in the employment of too many species and the lack of definite ideas of composition. The exhibition, however, taken in its entirety, would not be easily beaten.

OPEN CLASSES.

Group of Foliage and Flowering Plants .- The 1st prize was taken by Mr. W. E. Anderson, gr. to B. Parisii, Esq., "Melodia" Preston Park, who had much variety Esq. "Melodia" Preston Park, who had much variety in his flowering plants and foliage subjects, where more greenery would have added considerably to two effect. Mr. G. Milks, Victoria Nursory, was 2nd, with Clematis as the more attractive plants, and Narcissus employed in combination with Carnations of varied tints, Cinerarias and Spirms forming the subsidiary subjects. subjects; Asparagus of species, Codimums, Adiantum, and Cocos Weddeliana supplying the folls to the colouring of the flowers. The 3rd prize felt to Mr. G. STRATUORD, gr., Totteridge.

Table of Flowering and Foliage Plants,-1st, Mr. G. Table of Flowering and Foliage Praint,—181, Mr. G. Norman, gr. to P. R. BAYER, Esq., Hale Boauchamp, Withdean, a showy table well arranged. 2nd, Mr. G. Miles, Victoria Nursery, whose plants consisted of Azaleas, Palms, Deutzias, Narcissus, and Primula Yellow Gem.

Yollow Gem.

Table of Orchids, arranged or effect.—1st, Mr. H. Garrett, gr. to H. G. Flettener, Esq., Mount Harry, Worthing. We remarked Cymbidium Lowianum, a quantity of Cattleya Harrisoniæ, C. Mossiæ, Dandrobiums, Cypripediums, Ooc'diums, interspersed with Panicum variegatum, Isolepis, &c. Mr. J. Harpor, gr. to E. A. Tucker, Esq., Vernon Lodgo, Proston, was 20d; his table consisted of small plants of Cattleya Harrisonæ, C. Schroderæ, Oneidium concolor, Odontoglossums. Sophronitis grandiflora, Lycaste Skinneri, and Dondrobium thyrsiflorum; 3rd, Mr. G. Stretford, gr. to E. J. Tulk-Hart, Totteridge, Dyke Road. Thore were here Phaiusgrandiflorus, Dendrobiums in varlely, Oneidiums, with a nice plant of Cocos Weddeliana in Oneldiums, with a nice plant of Cocos Weddeliana in the centre.

Mantipiece and Hearth arranged with plants for effect.—1st, Mr. G. Milks, the material employed being Oneidium concolor, trumpet Daffodis, Farfagium grande variegatum, yellow Primulas, and Dendroblum nobile. 2nd, Mr. H. GOLOSMITH, with a prefty arrangement of Lachenalia pendula, Euphorbia Jacquinlæflora, Schizellows reference. zunthus retusus, Hippeastrums, folisge Regonias, Forns, &c.

Twelve Hyacint is -1st, Mr. W. Adams, gr., Halling-bury Copse, with plants having close, compact spikes, mounted on short shafts. 2nd, Mr. A. E. Golding, gr.

to H. St. GEORGE VOULES, Esq., Uplands, Dyke Road, 3rd, Mr. J. HARPER.

Twelve pols of Twips.—1st, Mr. W. E. Anderson. Mr. T. Wells, "The Bugle" inn, Brighton, 2nd.

The best twelve Freesias were shown by Mr. A. E. Golding, and the 2nd best by Mr. W. E. Anderson.

For twelve Lily of the Vailey the last-named exhibitor was 1st, and Mr. GOLDRING, 2nd.

Mignonette was unusually fine, and for six pots Mr, '. E. Andreson was 1st, and the Briouton Florists' SPORES, 2nd.

Violets in pois (six) were shown by Mr. J. ADAMS. nurseryman, Haussey, Lewes.

Twelve Polyanthus came from Mr. G. Chandles, who was 1st; Mr. E. Henson, Upper Beeding, 2nd. Primroses were plentifully shown in pots. Six sing flowered Primulas were well shown by Mr. Collis, gr. Mrs. Hughes, 1st. Mr. G. Stretford was 1st for a Auriculas; and Messrs. W. Miles & Co. were 3rd.

For six Hydrangeas,-1st, Mr. G. EASTWOOD, gr., Downs Hotel, Hassock; plants with from four to six big heads

Twelve pots of Narcissus.-1si, Mr. G. NORMAN; 2nd,

Mr. W. E. Anderson; and 3rd, Mr. J. Marper, Genistas (twelve) were well shown, and Messrs. W. Miles & Co. were 1st, with plants measuring 23 to 3 feet in diameter.

The best table plants came from Messrs. MILES & Co.; Mr. J. HARPER, 2nd, and Mr. STOVEL, 3rd.

For twelve Cyclamens,—1st, Mr. C. Mnrroll, gr. to R. BENNETT, Eq., Franklands, Burgess Hill. These plants were seven years old, having corms 6 to 8 inches in diameter, vigorous foliage, and immense heads of bloom.

Mr. H. SKINNER, showed the finest dozen Cinerarias. the flower-heads were of a good type and the foliage perfect. 2nd, Mr. Srovel.

In the class for six Marguerites, Mr Mules, Southdown Nurseries was 1st. This exhibitor showed some capital Mignonette.

Twelve Spiraus -1st, Mossrs. W. Milks & Co., Hove: very the plants well bloomed. Smaller plants, shown by the Brighton Florists' Stores, 176, Western Road, secured for them the 2nd prize; 3rd, Mr. G. Eastwood.

Six Doulzias in bushy, very well-flowered examples were shown by Mr. G. Miles, Victoria Nurseries, Dyke Road, who secured 1st prize. Mr. H. HEAD, the Drive Nurseries, Hove, was 2nd.

The 1st prize for six double and single flowered Pelargoniums was taken by Mr. G. Eastwood.

Nine Greenhouse Azaleas.-1st, Mr. G. Sims, gr. to E. A. Wallis, Esq., Sunnysido, Lewis Road, with neat, globular shaped plants, 2 feet high, and nicely bloomed. 2nd, Mr. F. Collis, gr. to Mrs. Hughers, Preston Park Avenue, with rather larger if more irrogularly-shaped plants. 3rd, Mr. W. E. Anderson.

Mr. II. HEAD was 1st for Ghent and mollis Azileas; Mossrs. Miles & Co., 2nd; and Mr. W. E. Anderson,

Some very vigorous plants of Richardia africana were shown, and for hix potfuls, Mr. W. E. Anderson was

1st; 2nd, Mr. G. SAMS.

Mr. H. HEAD was 1st for six specimens of Diolytra speciabilis, protty specimens of this now raroly seen plant.

CUT FLOWERS.

Box of cut Roses .- These were of medium quality only, Box of all Roses.—These were of medium quality only, and there was little competition. 1st, Mr. R. E. Farnen, 1, Windmill Street, Brighton; 2nd, Mr. G. Eastwood; 3rd, Mr. G. Milles. Five lots were shown, and these consisted entirely of Teas. There were other cut flowers, but nothing of much moment.

GENTLEMEN'S GARDENERS' CLASSES.

Groups.—The 1st prize was taken by Mr. J. HARPER, Ciocrarlas and Lillum longiflorum being the more telling subjects; others being Freesias, Tulips, Bogontas, Codiœums, Cocos, Adiantum, &c. 2nd, Mr. G. Sims, whose design was very satisfactory.

Table arranged for effect .- One of these was filled with Narcissus and other bulbs, Spireus, and set off with Abutilon Thompsoni and Adiantum, and sconred for Mr. H. Skinner, gr. to J. DUNK, Esq., Rose Villa, Stanford Avenue, the 1st place.

The best four Dentzias were shown by Mr. G. MANN, gr., East Hall House, Portslade, very flue examples, 1st; Mr. G. NORMAN, 2nd, with much smaller plants.

The best single-flowered Primulas were shown by Mr. G. Chandler, gr. to R. J. BILLINGTON, Esq., Lea Hurst, Withdeane. These were of the Fern-lesved

In the six Cyclamen classes Mr. G. Covell was 1st for well-flowered medium-sized plants; and for six Tulips in pots, Mr. H. Seinner, Rose Villa, was Ist; Mr. G. SIMS, 2nd.

For six Genistas, 1st, Mr. W. Adams, gr. to S. E. Whitting, Esq., Hollingbury Copse, with small phace. Mr. F. Collis, was 1st for six Cinerarias of the ordinary type; and Mr. G. CHANDLER took the 2nd prize.

The best six Spireas were those shown by Mr. W. E. Anderson, very vigorous finely-bloomed specimens.

MISCELLANEOUS CLASSES.

Special prizes for Hyacinths grown in glasses, and for Tulips and Hyacinths in pots, were offered by Mossrs. Tilloy Bros.; and for the latter Mr. W. E. Anderson was 1st, and Mr. T. Wells, 2nd.

Table decorations numbered six, the 1st prize falling to Mr. H. Garnett, gr., Mount Harry, the materials employed being small Narcissus, Dendrobium nobile, Lily of the Valley, Adlantum capillus-Veneris, and Asparagus. Miss Manel Howell, was 2nd, the flowers consisting of Violets, Prinula Sieboldi, and Narcissus, begelher with Asparagus.

together with Asparagus.

There was a number of small compatitions for Dutch bulbs, Narcissus, Freesias, and Lily of the Valley, shown in response to offers of special prizes and in ordinary competition which cannot be noticed in fuil.

NON-COMPETITIVE EXHIBITS.

The following exhibits were arranged in the Corn Excharge, adjoining the Dome. The end group, the place of honour, was appropriated by Messes. W. BALCHIN & Sons, Hassocks, Hove, and Brighton. The group, an ascending one with its back to the large window, consisted of large masses of Anthonium Schertzerianum, [61] of states of Minnestrums of the quality the sisted of large masses of Anthurium Schertzerianum, full of spathes, of Hippeastrums of the quality, the colouring heightened by Lilium longiflorum var. Harrisi, underneath which were placed Tetratheca, and dwarf plants of T. Hogg Hydrangea in one instance, and white Indian Azalea in another. A fine group of Dendrobium nob'le (cut-down plants), Acada armata as small plants, and A. diffusa as naturally grown plants (beautifully bloomed), Cyclamens of good strains, and Palms. Messrs, Balcums contributed some fine large Palms flanking like orchestra in the Dome.

Mossrs, J. Cueal, & Sons, Crawley, staged a large

Mosers, J. Cuear. & Sons, Crawley, staged a large number of rock and alpine plants, including Polyanthus, Primula, P. japonica var. rosea, P. cashmeriana, P. japonica rosea, P. trence Findlay, Anomono blanda ceruloa, Iberis Little Gom, Lithospermum prostratum, Phlox canadensis, and Polemonium rubrum.

Messrs, W. Cuthush & Sons, Highgate and Barnel, skibited hardy herbaceous, alpine, and bulbous clants in bloom, an excellent educational display. exhibited -Bosides these there were flowering shrubs in pots as Analeas, Weigela, Rhododendron, Freenies, Magnetia Lenné, and Prinus triloba (Silver-gilt Modal).

Massers. Gillert & Son, Anemone Nurseries, Dyke, Bourne, Lines., exhibited a vory large representative collection of Anemones, including Palsatilla, folgons, St. Bridgid, blanda, stollata, &c. (Silver Modal).

Miss Alice Smith, F.R.H.S., exhibited a table of

Primulas, single and double-flowered. We remarked Printing, single and double-howered. We remarked Marie Crousse, several forms and shades of Wilson's Blue winter-flowering, Cloth of Gold (a double-flowered pale yellow), Madame Pompadour (deep crimson), Amaranthina—a very interesting collection of varieties

Gardon ornamental pottery was shown by Mossrs MEEDS & SON, Burgoss Hill, which received an award of a Silver Medal.

Mr. 11. Goldsmith, Fir Croft, Withdeane, showed Tree Carnations in many varieties, and was awarded a Silver-Gilt Medal.

ROYAL BOTANIC.

APRIL 13 .- The monthly exhibition of plants and flowers took place on Wednesday last, some very creditable displays being presented, including some most charming trays of Rose blooms, forced flowering plants, and some good exhibits of Narcissus-flowers. The long corridor was ablaze with colour, and the great conservatory was requisitioned also to display the various groups.

Mr. R. H. Barn, The Floral Farms, Wisboch, staged a collection of Daffodil-blooms, the collection being very comprehensive, and the individual flowers equal to any we have seen presented this season. Most of colours were good, and the flowers were of good size and shape. White Queen was very noticeable, the flowers being large and colour pure; Glory of Leydes was good, the yellow trumpet being very rich. Empress, Duke of Badford, Minnie Hume, and Flambeau were all finely displayed (Large Silver-gill Medal).

Mossrs. Barra & Sons, King Street, Covent Gardon London, had a most extensive group of Narcisus and other bulbons flowers, for which this firm is justly famous. The Daffeddis are now showing their character better, and this large display contained some very fine flowers. Sir Watkin, Blackwell, Victoria Constellation, Vivid (very sweat) Lord Roberts, Euclie (nicely coloured), Gloria Mundi, Primrose Dame among others were shown well; and frises, Anemones, Soillas and a tray of pretty dwarf Primulas (P. nivalis, P viscosa, and P. rosea), a'l contributed to the completion of a very effective display (Gold Medal).

Messrs. FRANK CANT & Co., Braiswick Roso Gardens Colchester, staged five trays of Roseblooms, with vases of Polyanthus and other variaties in taller vases, including their new Tea Rose named Lady Roberts, will petals reddish-orange at the base, merging to a lighter odgirg. The varieties is the trays included som lovely blooms, one being filled with the old favourity Marcehal Nict. Other varieties noticed were Madame

Jean Dupuy, Princess Beatrice, Madame Cochet, Bridesmaid, Madame de Watteville, Liberty (fine dark

wariety), and Souveoir de Pierre Notting (Gold Medal).
Another charning group of Roses was set up by
Measrs. Benj. R. Cant & Sons, The Old Rose Gardens,
Colchester, and although the style of staging was different to that of the former group, it was none the less effective. A number of Blush Rambler in pots formed a nice setting at the back; Bridesmaid, Fisher Holmes, Caroline Testout, Gen. Jacqueminot, and Mmc. De Watteville were all noticeable varieties (Sliver-gilt Medal).

Mesers. WM. Bull. & Sons, King's Road, Chelsea, set up a number of Hippeastrum plants, with a suitable staging of small Palms. Firebrand Achilles, and Mikadowereamong the best varietles (Silver-gilt Medal). Mr. HENRY PAIR, Trent Park Garden, presented a basket of a new Verbena, F. A. Bovan, tall-growing, with pale-pink flowers. The variety appears to be very free in producing flower-heads, but needs rather more colour in the petals to be a cerviceable acquisition.

Mr. John Russell, Richmond, Surrey, stranged a bank of flowering Clematis on the floor, and worked in some dwarf Palma with advantage. Some good flowers of the Moser varieties were noticed (Large Silver Medal). Very showy were the forced shrubs and trees of Measrs. R & G. Curhnelet, the Nurseries, Southgate, a facebank of Azilea nofils "Consul Gerezole" occupying the centre. Azaleas, Ribes, Pyrus Malos floribunds. Staphylea, and Lilacs were the principal features, Some plants of Japanese Maples, used for interspersing, were not the least effective of the display (Gold Medal).

Another group of this class was shown by Messes.

WM PAUL & SON, Waltham Cross, Herts, who introduced some heautiful pet Roses among their exhibits. duced some heautiful pot Roses among their exhibits. Roses are being shown in fine condition this season, and those contributed by this firm were no exception, although several of the blooms were rather too fully expanded, the recent lavourable weather having hastened their period of flowering. The other members of the group were principally double and single forms of Pesches and Almonds (Large Silver gilt Medal). Forced plants were also shown by Messrs. WM. Cursush & SON, Highgate, London, N., and another feast of colour was thus presented to the visitor. Magoolias, Lilacs, Azsless, Laburnums, Cytisus Andreanus, and other plants of this type were represented, and very orettly grouped. The same firm also brought a Japanese Daphne, D. Gwenka, a hardy species with numerous

Daphne, D. Gwenka, a hardy species with numerous liac flowers (Silver-gilt Medal).

ilac flowers (Silver-gilt Medal).

A Botanical Certificate was awarded the same firm or Calanthe discolor var. speciosa, a hardy species rom Northero Japan — light brown petals with a rosy ip, the spikes carrying about eight flowers.

The exhibit of plants from Miss Adamson (gr., Mr. G. (eli), South Villa, Regent's Park, was interesting from he fact that this large group was not contributed by he trade, and also for the tasteful manner in which it was presented. A choice bank of Azaleas on the one ide, and some very creditable plants of Dendrobiums in the other, with brilliant spathes of Anthurum icherzerianum occupying the centre, and highly ploured stove plants, such as Codicums (Crotons), Jaladiums, Draccenas, &c., with Cinerarias, Regonias, ilyacinths, Tullps, &c., laterspersed among the whole, agether formed one of the nicest displays in the exbibition (Gold Medal). oibillon (Gold Medal).

Lathrea Clandestina, an interesting parasitic plant growing on the roots of Reech and Willow, was shown from the Society's Gardene. The plant, entirely devoid of leaves, was pushing up its lilue-coloured flowers liter-

ally in hundreds.

Orchips were represented by a contribution from Oricilibs were represented by a contribution from Messrs. Stanley, Ashion, & Co., Southgate, N., occupytable in the great conservatory. A fine apray of Cymbidium Lowianum, var. concolor, good flowers of Lycaste Skinnerl, a grand spike of three blooms of Cypripedium Rothschildlanum, Opedium concolor, plants with well-diowered spikes of a rich colour; Cattleya Schroederm and Odontoglossum Peccatorei var. magnifica, carrying a good spike with twenty flowers, were some of the best of this collection, to which a Gold Medal was awarded.

A trial of motor lawn movers took place in the

A trial of motor lawn mowers took place in the grounds of the Society in the allernoon,

EALINGHORTICULTURAL SOCIETY.

The annual exhibition of this Society will now take place in Guonersbury Park, on July 6. The fixture made for June 29 was due to the action of a small minority of the Committee who were quite unaware that Richmond would have its annual show on that date. Ealing makes a speciality of cut Roses, and the competition with these is the only one open to all comers, and therefore it is unfortunate the National Rose Society's with library hands to the test the control of the competition of the competition with these latter only one open to all comers, and therefore it is unfortunate the National Rose Society's exhibition should he held on July s, in addition to a large exhibition of Roses at Hanley.

UNITEDHORTICULTURAL BENEFIT AND PROVIDENT.

At the monthly meeting held on Monday evening last three new members were elected. Nine members were reported on the Sick Fund. The sick pay for the month was £31 14.

DEUTSCHER GAERTNER VEREIN, LONDON.

THE German Gardeners' Society in London, which was founded in the year 1-77, endeavours to give German speaking gardeners an opportunity to enlarge their knowledge by debating horticultural questions. During the past year the meetings were held every first and third Saturday in the month at Wedde's Hotel, 12, Greek Street, Soho, W., and were always well attended. Among the many lectures held we quote the following:—"Garden Cities of To-morrow," by Mr. W. Daenhardt; "Gardener Societies," by Mr. Vogel; "The Natural and Artificial Propagating of Plants," by Mr. F. Morelli, "Foreign of Plants, "by Mr. F. Morelli, "Foreign of Plants, "by Mr. E. Morell; "Forcing of Roses in America," by Mr. W. Roettcher; "Forcing of Cucumbers in England," by Mr. A. Lutz; "The Cultivation of Cacti," by Mr. R. Auker; "The Cultivation of Pancratium," by Mr. A. Lutz. Excursions were made to Mr. Th. Rochford's nurseries at Broxbourne, and to Epping Forest. There are none at Broxbourne, and to Epping Forest. are one English (Gardeners' Chrondele), seven German, and one Dutch garden papers, and a library containing a great deal of German and English garden literature, available to the members. The Secretary is Mr. E. Morell, 25, Devonport Road, Shepherd's Rush, W.

AMALGAMATION OF SOUTHERN COUNTIES CARNATION SOCIETY AND SOUTHAMPTON HORTICUL-TURAL SOCIETY.

THE sixth Appual Report of the Southern Countles Carnation Society, lately published, will be the last issued by that Society. The report winds up as

"After most careful consideration, it has been decided to accept Mr. Garlon's resignation, with the greatest regret; and as your Committee are of opinion that, under the circumstances, it will not be possible to make the Society self-supporting, they have decided in close the same as from December 21, 1802." Since the above report was written the Council of the Southampton Royal Horticultural Society has been accepted. ton Royal Horticultural Society has been approached with a request that they would take up the work of the late Carnation Society. The members of the last-named Society have been canvassed by circular, and a very large majority have consented to transfer their subscriptions to the Horticultural Society, several doubling the amount conditionarly upon that Society continuing the Carnation shows. The representatives of the committees of the two societies met on the 29th ultimo, and arranged satisfactory terms for the amatgamation of the societies; and, provisionally on confirmation by the Council of the S.R.H.S., a committee was appointed to revise the schedule of prizes, to which some very handsome donations have been promised. It was also resolved to hold the show on the Pler at the end of July, the precise date being left open for the present.

Council of the Society met on the following Thereday evening, and unanimously confirmed the arrangement made by the Committee for the amalgamation. The Special Committee will include Mr. W. Garton, jun., and several members of the late Carnation Society. Schedules will be ready shortly, and may be obtained of the Secretary, Mr. C. S. Fuidge, London

Road, Southampton.

NURSERYMEN, MARKET GAR-DENERS' AND GENERAL HAIL-STORM INSURANCE CORPORA-TION, LTD.

APRIL 8.—The ninth annual general meeting of the Nurserymen, Market Gardeners' and General Hail-storm Insurance Corporation, Ltd., was held at the Registered Office, 41 & 42, King Street, Covent Garden) on the above date.

The Chairman, Mr. Harry J. Velich, presided over a good attendance of Sharcholdera. The premium income for the year amounted to £2,801.2%. 66d. on \$31,423,263 equare feet of glass. The interest and ground rents from investments amounted to £512 18%. 14d.

The business done by the Company in all its branches

showed a satisfactory increase, whilst the working expenses were at the ratio of £19 13s. 4rl. per cent., a very low one for an Accident Insurance Company. A dividend of 5 per cent, and a bonus of $2\frac{1}{2}$ per cent, was dividend of 5 per cent, and a nonus of 25 per cent, was declared, free of income tax; £1,140 was carried to the Reserve Fund, making the reserves £7,500; and £508 28, 2d, was carried forward.

The shareholders expressed their satisfaction at the

continued progress and the conomical management of the husiness. Seven claims were paid for damage done by hall during the year in six different counties.

LONGTON DAHLIA SOCIETY.

The cultivation of the Dahlia as an exhibition flower seems to be eatching on in the Midlands, as a Society to promote interest in the Dahlia has just been formed in the Potterles district, and an exhibition is fixed for Monday, September 12. The Hon. Secretary is Mr. H. Monday, September 12. The Hon. Sec Boulton, 76, Caroline Street, Longton.

GARDENERS' DEBATING SOCIETIES.

THORNTON HEATH AND DISTRICT.—Mr. John Gregory, on the 12th ult., discoursed on "Some Gardens I have Visited," Illustrating the same with limelight views of original photographs taken by the lecturer. On April 9 Mr. C. H. Curtis lectured on "Easily-grown Orchids." These meetings are held in the Polytechale monthly exceeding during Annual and The technic monthly, excepting during August and De-cember. A small exhibition of plants, &c., grown by the members is made at these meetings.

READING AND DISTRICT CARDENERS' ASSOCIA-TION.—The subject at the last fortnightly meeting was "Fruit Culture," by Mr. W. Barnes, of Bearwood Gardens, who confined his remarks solely to Peaches and Nectarines out of-doors. His paper was of a very practical character, treating with planting, training, disbudding, selection of varieties, &c. Although the paper was short, a very animated discussion followed. The exhibits were interesting, and consisted mainly of Narclasi, Hyacinths, Tulips, Cinerarias, Violets, and a specimen plant of Cilvia miniata.

WARE AND DISTRICT HORTICULTURAL. - The WARE AND DISTRICT HORTICULTURAL. — The lorlnightly meeting was held on Tuesday evening, April 5, when Mr. J. Marsh, of Hertford, read a paper on "Potato Scab." He also staged some eeed Potatos to prove that his practice was of great service. He advocated giving a good dressing of soot or lime at the planting time, and to well till the ground before planting. An interesting discussion followed, the general opinion being that Potato-scab was caused by some interests in the soil, smally carried there by the some intects in the soil, usually carried there by the manure used. The best remedy suggested was to avoid using animal manure as much as possible, adding lime or soot with a good dressing of burnt refuse instead. The next meeting will be on April 26.

ELTHAM AND DISTRICT HORTICULTURAL.-The ELTHAM AND DISTRICT HORTICULTURAL.—The monthly meeting was held on Wednesday, April 8, the President, L Rosselli, Esq., in the chair There was a fine exhibit of plants by members, and Messrs. Cannell & Sons, Swanley, exhibited a large collection of Cacti. Mr. Wellham read a paper on "Cacil" A good discussion followed. The President intimated his intention of supplying a quantity of books to the library which is now being formed.

CROYDON AND DISTRICT HORTICULTURAL .-CROYDON AND DISTRICT HORTICULTURAL.—
"Rotes" was the subject of a paper read on Tuesday, April 5, by Mr. W. Easlea. A good deep loam he recommended as the ideal soil to grow them in, and where not naturally existing should be made up by deep trenching, with the incorporation of fresh yellow loam and well-turned sarmyard manure. Planting is best done in October and November, but may be accomplished in Fabruary and March, or even to the middle of April. The propagation by means of cuttings, budding, &c., received attention, as also did the pruning operations. pruning operations.

Obituary.

MRS. DIXON .- It is our sad duty to record the death of Mrs. Dixon, the beloved wife of Mr. Charles Dixon, Holland House Gardens, Kensington, after many years of patient suffering. Deceased will be remembered by many kind friends who used to visit her in her affliction. She bore her eight years' sufferings with great patience.

EDWIN HILL.-We deeply regret to have to announce the death of Mr. Edwin Hill, who has been for many years head-gardener to the Right Hon. Lord Rothschild at Tring Park, Tring. Mr. Hill, who was a comparatively young man, had excellent health until some time ago, when an internal malady set in. Needless to say he had the best advice procurable, and recently it was decided that an operation should be performed, and that it should be done at St. Eartholomew's Hospital in London, in order that the best chance of recovery might be had. He kept on with his duties, and even gave instructions before going up on Monday last. On Tuesday afternoon the operation was performed, but early on Wednesday morning, April 13, he died.

Mr. Hill was one of the best-known and cleverest gardeners of our day, and the excellent condition in which he maintained every department of the extensive gardens and pleasure grounds at Tring Park was a source of admiration to the many visitors there. He was for many years a member of the Orchid Committee of the Royal Horticultural Society, and a familiar figure at most of the principal horticultural gatherings.

ENQUIRIES.

TRANSPLANTING ELMS.—Is it a fact that some large Elms were once blown down at Rugby School, and at a great cost were removed and planted successfully elsewhere? When did this happen, and what was the height and diameter of these trees? J. S.

DEATH OF GOLD FISH.—I have a small fishpond, in which there are silver and gold fish, and recently six of them have died. The pond faces full south, and is in the open air. In the middle there is a small rockery made up of different pieces of stone. Around the outside the Ground-Ivy grows, and this falls down and grows to the bottom. It has been suggested that the fish eat the Ivy, and so are poisoned; but I do not think this is the case. The pond is daily supplied with fresh water, which is pumped into it by machinery. Can any reader give advice? W. A.

Scum on Pond.—We are troubled very much with a green scum-like growth on our Water-Lily pond, which grows with amazing rapidity. If it is raked off one day there is nearly as much the next. Can anything be done to prevent its growth. The pond is dependent on rain-water for its supply. The weed is more troublesome in dry weather when there is not much water running in. It gives the pond a very unsightly appearance, and is a cause of much trouble. R. W. D.



** Editor and Publisher.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the Publisher; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the Editor. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

ANTS IN HOUSES: C. S. The Ballikinrain Ant Destroyer, to be obtained from A. Cross & Sons, nurserymen and seedsmen, 19, Hope Street, Glasgow. It is frightfully poisonous, hence the greatest care should be exercised in using it. In many cases it is useful to pour boiling water over the spot where a nest is discovered.

Benefit Society: H. B. The United Horticultural Benefit and Provident Society is exclusively for gardeners. Secretary, W. Collins, 9, Martindale Road, Balham.

Books: A. J. B. Orchids, their Culture and Management, by W. Watson and H. J. Chapman, or a cheaper work, The Book of Orchids by W. H. White. Either may be obtained on application to the publisher of this journal.—H. B. You do not state what price you are prepared to pay. The best general book upon gardening is Thompson's Gardener's Assistant, a new edition of which has just been brought out under the editorship of Mr. W. Watson. The price is about 50s. If to this work you added the Dictionary of Gardening, by Geo. Nicholson, price £4 2s, you might be said to possess a garden library. The first book contains excellent descriptions of garden operations, and the Dictionary affords invaluable information upon almost every plant that comes under the care of a gardener. The publisher of this journal can supply either book.—E. H. G. We do not know of a book dealing exclusively with Palms.

CANKER IN ROSE-TREE: E. H. G. and C. M. P. The cause of the canker on the plant of Maréchal Niel is probably a slime-fungus. Cut away any decayed bark and wood, following the streaks in the wood until they have been removed. Then apply a good fungicide to the wound, such as Bordeaux-mixture or sulphide of potassium, at the rate of 1 oz. of potassium to 12 oz. of water. The case described by C. M. P. being one that has existed for a very long time, there is little chance of complete recovery.

CORRECTION: PINES OF CUBA, p. 179.— In the article on "The Pines of Cuba," March 19, 1904, the printer has inserted at the head of the second paragraph "P. Wrightii" in italics. To be consistent with the rest of the text and with the plate this heading should be "P. cubensis." In the last paragraph of the same article, "P. occidentalis, south-west of Hayti," should read "P. occidentalis, Swarz., Hayti." G. R. S.

DIEFFENBACHIA LEAF INJURED: H. E., Gisburn.
The injury seems to have been caused by excessive moisture in the air in the house in which it is growing. Probably the moisture condensed when the temperature fell at night, and caused drip. Such moisture is very injurious.

FRUIT FARM: W. T. You had better insert an advertisement in our columns and in The Field.

GARDENER'S NOTICE: W. E. J. We think you are entitled to one month's notice, whether or not, but in view of the agreement you mention, this is certainly the case.

Insects on Roots of Marguerites: H. A. The insects are known as Ripersia terrestris, an allied species to the Mealy-bug. They were first discovered in this country, near London, in 1901, on Palm-roots, and later on those of Adiantum. In potting the plants wash the roots thoroughly with water, and destroy the bugs that float on it. Bisulphide of carbon will destroy them. To apply this make holes close to the pots with a 4-mch wire-nail, and with a small syringe apply the fluid at the rate of two table spoonfulls to a 6-inch pot. Close the holes after the application, and keep the plants in the shade for a week afterwards. Caution: Bisulphide of carbon is highly inflammable and poisonous, and it should be applied in the open air, and no light allowed near it.

Insects on Vines: E. T. The grubs are weevils, and are very destructive to vegetation. They feed principally when it is dark; hunt for them then. Lay pieces of Carrot, Potato, &c., for traps.

MUSHROOM HOUSE: J. N. Gather the Mushrooms that are large enough to be of use, and then subject the house to fumigation on two successive days. The remaining portion of the crop may then be clean.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A.R. The Dog's-tooth Violet (Erythronium dens canis).—W. H. S. 1, Rhododendron ciliatum × formosum; 2, Rhododendron formosum; 3, Rhododendron "Princess Alice."—W. Oven. 1, Ilex latifolia; 2, I. Perado.—J. P. Cattleya Schroderæ. The answer respecting summer-flowering Orchids was given in our issue for April 2, p. 224.—W. D. Helleborus feetidus, a native of Britain.—Caldicote. The Orchid tied up with Maidenhair Fern like a buttonhole is Epidendrum elongatum. This is not a Ceylon plant, though it has a wide range in West Indies and S. America. It may be a cultivated or acclimatised plant in Ceylon.—Hants. 1, Dendrobium Brymerianum; 2, Dendrobium Devonianum; 3, Dendrobium pulchellum of gardens; 4, Dendrobium nobile.—Haselmere. 1, Dendrobium fimbriatum oculatum; 2, Odontoglossum Rossii; 3, Selaginella Wildenovii; 4, Ophiopogon Jaburan variegatum.—H. P., Cardiff. Dendrohum chrysotoxum.—H. C. The S. African Orchid is Angræcum arcuatum.—Brown Cross. Odontoglossum triumphane.—E. W. Templetonia glauca.

PEACH-TREES: G. A. Care should be taken to clean Peach-trees of aphis before the flower-buds open, because it is not advisable to fumigate or syringe the trees during that period. In your case you had better vaporise with XL-All as soon as the flowers have set, and use the syringe or garden engine well afterwards. Black-aphis is a destructive pest, and must be cleared out.

Palm: E. H. G. We have had no experience with green paint as a means of adding green colouring to the tips of Palm leaves that have become brown. Many cultivators cut these brown tips off, and although we do not like to see a "clipped" Palm, this would be preferable to one that was painted! But if you think otherwise you have only to mix some paint to a shade resembling that of a Palm, and apply it to the tips. Its application will not hurt the Palm, because the tips, if brown, are dead already.

PHENIX: W. J. All Palms require a little shade from hot sunshine. The Phenix would have a good effect in the sub-tropical garden, but it would be prudent to select a position where it would get comparative shade, or the leaves would be likely to lose their green colouring.

STARLINGS: J. E. J. Though we are not prepared to assert that starlings will not help themselves to ripe Cherries, we do say that they are essentially insectivorous birds, and the good they will do during the year will greatly outbalance the loss they may cause by an occasional indulgence in dessert. They are not fond of ripe fruits in the sense that Blackbirds are.

Tomatos: Beginner. Some of the best varieties for out-of-door cultivation are Holme's Supreme, Laxton's Open Air, Carter's Outdoor, Comet, and Early Empress. You may obtain seeds from any respectable firm of seedsmen.

TRIALS AT CHISWICK: W. B. Owing to the Royal Horticultural Society having given up possession of the Chiswick Gardens as from May 1, there can be no more trials carried out there. It is, however, most likely that similar experiments will be conducted at the new garden at Wisley. If you address an enquiry to the Secretary, 117, Victoria Street, Westminster, he will no doubt supply you with particulars of the regulations that govern the trials.

XYLARIA IN MUSHROOM-BED: E. S. R. This fungus is no doubt introduced with the manure. Many sorts of fungi come up even in the most carefully prepared spawn. It is no fault of the spawn-maker. When the pure culture is perfected these accidents will not happen; at present it is only in the experimental stage.

"Veltha:" R. H., Belgrave. We do not know the constituents of this, and can therefore pronounce no opinion on it. It is recommended by the makers as a fungicide, and would therefore not be specially suitable for employment against red spider.

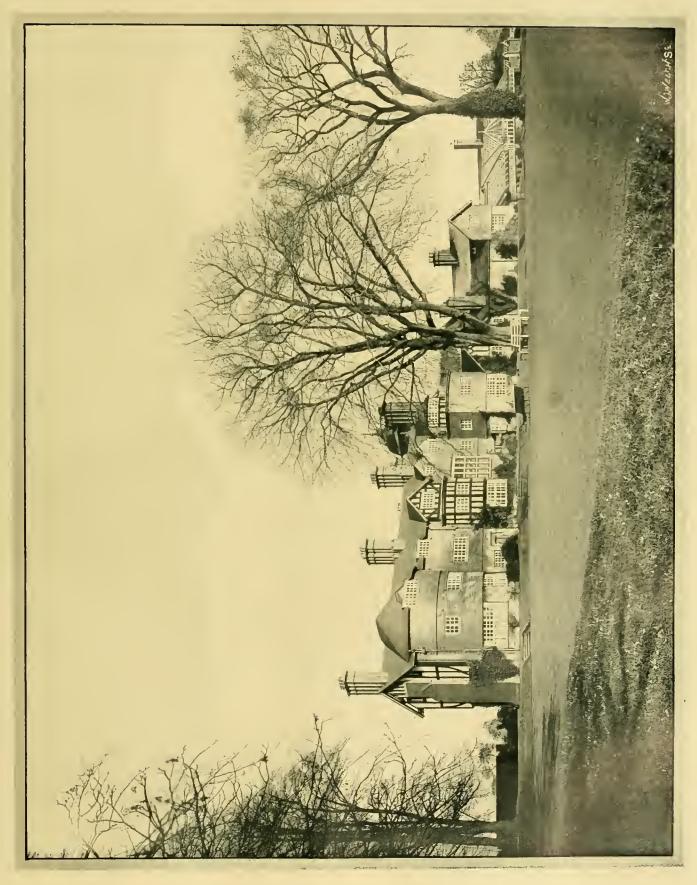
VINE BORDER: R. H., Belgrave. If you have "earthworms, eel-worms, and wireworms" in your early vine border indoors, you had best get rid of the border itself. Lime-water is much too mild a remedy for use against such hardened foes.

COMMUNICATIONS RECEIVED.—J. W.—E. M.—C. P. R.—W. C.—A. D.—G. B. M. R.—C. T.—J. M.—W. & S., Covent Garden—J. B.—E B, Braintree—H. T. B.—J. D.—T. H. T.—H. F. T.—Dn. B. F.—W. C.—R. N.—Lacey—G. A. B.—W. C. & Son—T. Wickworth (with thanks)—J V. & Sons—W. T. H.—J. O'B.—E. H. G.—J. F. Duthle—L. B. & Co., Yokohama—W. W. Pettigrew—F. P.—W. K.—R. P. B.—Expert—R. A. R.—W. J. Dyson—Young Gardener, grance—S. A.—C. T. D.

Continued Increase in the Circulation of the "GARDENERS' CHRONICLE.

important to Advertisers. — The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, more than

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HAUGHTON HALL, NEAR TARPORLEY, CHESHIRE, THE RESIDENCE OF RALPH BROCKLEBANK, ESQ.





Gardeners' Chronicle

No. 904 -SATURDAY, April 23, 1904.

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SOME DISEASES OF THE POTATO.

THE following is an abstract of a lecture delivered by Mr. George Massee, before a meeting of the Royal Horticultural Society, on Tuesday last, April 19:—

PHYTOPHTHORA INFESTANS, De Bary.

This disease is so well known that unfortunately little can at present be added to our knowledge of it. Extended experiments, such as might be carried out under the auspices of the Royal Horticultural Society, are still needed to demonstrate clearly the sources of infection. Opinions differ as to whether young Potatos can be infected directly by spores carried into the soil by rain, &c. Some authorities do not admit the usually accepted statement that the mycelium spawn passes up from diseased seed Potatos into the foliage. Experiments conducted at Kew prove that in some instances this does occur, even when the Potatos are only very slightly diseased.

It is perhaps not stating too much to say that a very large percentage of disease is due to two specific causes, both of which could be prevented. Unfortunately, the means of prevention do not generally commend themselves to the majority of Potato-

growers. I have observed the important fact that when diseased Potatos are planted after the crop has been lifted, the remains of the old seed Potatos, when brought to the surface of the ground, will produce a crop of the fungus bearing myriads of spores. If such old seed Potatos are kept buried in soil until the following year, and then exposed to light under favourable conditions, fungus fruit is still produced, and continues to grow so long as a scrap of the old Potato remains. I have now in the laboratory at Kew Gardens scraps of last year's seed Potatos covered with the fungus, and with the spores thus produced have successfully inoculated the leaves of young Potato plants.

It is not rare to see in horticultural periodicals statements to the effect that 10 acres of badly diseased Potatos were ploughed in, not being considered worth lifting. Now in face of the above statement as to the copious growth of the fungus on diseased Potatos when exposed to the air, it is not difficult to understand where the germs that first infest a crop come from, and with the well-known necessary conditions of moisture and warmth, an epidemic breaks out at once. Lacking such necessary conditions, the fungus, although present, cannot attack the Potato-leaves; hence the absence of disease does not necessarily prove the absence of the fungus, but only the absence of those conditions necessary to enable the fungus to attack its host. In all probability the fungus is always present in land where Potatos are grown at short

I can realise the thoughts of the practical man on being told that it is as important to collect the old "sets," or the whole of a crop of diseased Potatos, as it is to gather the sound ones. Nevertheless such is the fact; and although at first sight such work might appear not to pay, it would eventually do so.

A second very fertile source of disease is due to planting infected Potatos. Perhaps no one would plant obviously diseased "sets," but the danger arises when the Potatos exhibit none of the external signs of disease, but when cut just show indications of the discoloured patches characteristic of the presence of the fungus. The obvious check to this source of danger is to cut all Potatos used for planting, refusing those suspected of being diseased.

WINTER ROT (Nectria solani, Pers.),

one of the commonest of diseases attacking stored Potatos, but not as a rule manifesting itself for some weeks after the Potatos have been piled in a heap, is rarely, if ever, met with on Potatos that are kept dry and exposed to the air, whereas, when stored before being perfectly dry, sweating takes place, and in some instances a very large percentage becomes thoroughly rotten before the spring.

The first outward indication of the disease is the appearance of scattered white warts bursting through the skin of the Potato; these, when examined under the microscope, are seen to be covered with a minute mouldlike form of fruit once considered as an independent fungus called Monosporium. At a later stage the same warts change to a pale rose-pink colour and a second form of fruit appears, the so-called Fusarium Solani.

The spores of the Fusarium on germination yield a third type of spore, produced in a ball-like mass of gelatine, which in turn was at one time supposed to be an independent fungus called Cephalosporium. Each kind of spore in turn is capable of reproducing the fungus, the spores being carried by the numerous mites and other forms of animal life present in heaps of stored Potatos.

The last and most perfect form of fruit produced from the warts are minute bloodred flask-shaped bodies; but these only appear on old dried-up scraps of Potato-skin that are thrown away and lie exposed to the open-air. This is the Nectria condition of the fungus, the spores of which on germination produce the Cephalosporium forms of fruit. These spores in turn start the first infection in other heaps of stored Potatos.

The best preventative against winter rot is to have the Potatos thoroughly dry, and then well sprinkled over with powdered sulphur before storing. The sulphur not only destroys the germinating fungus spores, but also checks the development of mites and other minute animals which convey the spores from one Potato to another.

BLACK SCAB (Edomyces leproides, Trabut).

This serious pest, although only quite recently imported from the Continent, threatens to be quite as destructive to Potatos as the old-established disease. It has also been called Chrysophlyctis endo-

biotica (fig. 113, p. 259).

The young "sprouts" are first attacked, presenting a dark-brown colour; as these continue to grow they become contorted and much thickened, forming thick crusts of a blackish hue with projecting points, and wrinkled on the surface like a Broccoli flower. After a time the fungus spreads along the surface, and meeting other diseased sprouts, the greater portion of the surface of the Potato becomes covered with an irrêgular blackish scab.

When diseased Potatos are allowed to decay on the ground, the liberated spores live in the soil and infect Potatos the

following year.

Experiments conducted at Kew prove that if seed Potatos are thoroughly well covered with powdered sulphur just before planting they are not attacked when planted in soil known to be infected; but the young Potatos are attacked under such circumstances; whereas if the soil is intimately mixed with sulphur, both "set" and young Potatos are protected.

It may not be practicable to mix sulphur with the soil on a large scale, nevertheless the fact is worth recording. Gas-lime also kills the fungus in the soil if worked in about May or June, when the fungus is in a very susceptible condition. At other seasons of the year gas-lime is of no value in this respect. The only practical means of preventing the spread of this disease is to carefully avoid infecting the soil, and this means the removal and burning of all diseased Potatos; at the same time being careful not to plant slightly diseased "sets," known by the blackening at the base of the young sprouts.

BACTERIAL DISEASE (Bacillus solanacearum, Smith).

This disease, which has proved very destructive to Potatos in the United States, has occurred once or twice in this country. The leaves wilt and die, the stem changes colour and shows black streaks. When a diseased tuber is cut across a dark ring, more or less intense depending on the progress of the disease, is present some little distance from the outside.

POTATO SCAB (Sorosporium scabies, Fisch.).

This disease, characterised by the presence of scurvy or scab-like patches on the

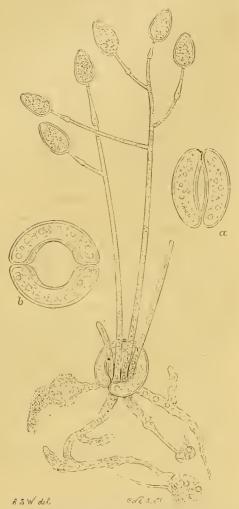


FIG. 108.—PHYTOPHTHORA INFESTANS.
Showing fungal threads bearing conidia passing through a stoma. a, stoma in natural atate; b, stoma distended to allow of passage of the fungal threads.
(Highly magnified.)

skin of the Potato, is very prevalent during certain seasons, and although the edible property of the tuber is not injured, the market value is much depreciated. A second form of scab, superficially resembling the one described above, caused by an organism called Oospora scabies, Thax., also occurs.

The disease is prevented in both cases by steeping seed Potatos for two hours in halfa-pint of formalin mixed with 15 gallons of water.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM BELLATULUM, ROLFE.

This is a beautiful little species which is scarcely known in cultivation at present, though Messrs. James Veitch & Sons obtained some living plants through their collector Wilson, and now Messrs. Sander & Sons have obtained it from a new locality. It was originally discovered by Dr. Augustine Henry in Yunnan, growing on trees in the south-eastern mountain

forests of Mengtze at 5,000 feet elevation, and was described over a year ago* as a beautiful little plant, much like a miniature edition of Dendrobium formosum. Soon afterwards some plants were received by Messrs. James Veitch & Sons, and one of these flowered imperfectly at Kew some time ago.+ It has now been discovered in Annam, growing on Oak-trees at Lang Bian, at 1,400 to 1,500 métres elevation, and flowering in November and December, the discoverer being W. Micholitz, who has sent a batch of living plants to Messrs. Sander & Sons, St. Albans, so that we may soon know something more about it. It grows in dense tufts of only a few inches high, and native specimens show that it flowers

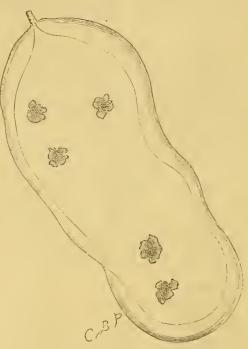


FIG. 109.—DISEASED POTATO: INTERNAL SPOTTING.

very freely. The pseudo-bulbs are fusiform-oblong, about 3 inches long, and they bear three to four oblong or elliptical-oblong leaves, 1 to 13 inch long by 5 to 9 lines broad, and one to three terminal flowers, which are very large for the size of the plant; the sepals measuring 9 to 10 lines, and the petals 10 to 12 lines long. The latter are united with the foot of the column and prolonged behind into a broad mentum or

* Rolfe in Journ. Linn. Soc., xxxvi., p 10. † Oreh Rev., 1903, p. 103. sac some 4 to 5 lines long, which is obtuse, not acute, as in all other members of the Formosæ group, to which it evidently belongs, for it has the characteristic black hairiness on the pseudo-bulbs and leaves from which the other name of the group, Nigro-hirsutæ, was derived. The lip is pandurately trilobed, and 13 to 15 lines long, with the side lobes rounded, and the front lobe obcordately bilobed, while the disc bears five

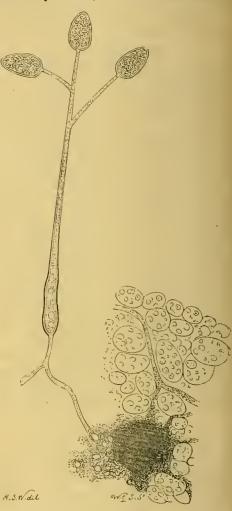


FIG. 110.—PLANT OF PHYTOPHTHORA INFESTANS, SHOWING THE CONIDIAL STAGE.

(Highly magnified.)

verrucose keels. Micholitz describes the plant as growing in dense tufts, the leaves as glaucous, the sepals and petals as white, the front lobe of

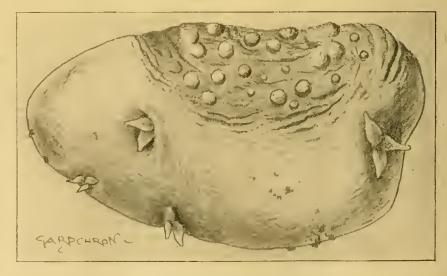


FIG. 111.—WINTER ROT (NECTRIA SOLANI)
Showing outward appearance. (Natural size.)

the lip reddish-orange, the side lobes pale cinnabar to carmine, and the disc and basal parts of the lip and column as generally dark cinnabar or carmine, but in some flowers he says the whole flower is light cinnabar coloured. It is a very striking little plant.

It may be interesting to mention that the Indian Dendrobiums, chrysanthum, clavatum, and Gibsoni, were all found in the Yunnan collections, together with a new yellow-flowered species described as D. Hancockii; also Cymbidium grandiflorum and Paphiopedilum Parishii, from which it is evident that the flora of Yunnan is of a remarkable character. R. A. Rolfe.

CŒLOGYNE VENUSTA, Rolfe (n. sp.).*

The Cologynes of the Dayanum group, having long pendulous racemes, are exceedingly graceful garden plants, and now we have an addition to record. It was introduced by Messrs. Sander & Sons, St. Albans, and one of the plants has now flowered in the Royal Botanic Garden, Glasnevin, and has been sent to Kew for determination. Mr. Sander states that it came from Ynnnan. It is a very graceful plant, having pendulons scapes of about 10 inches long, and very numerous flowers, the sepals and petals being very light buff, and 6 to 7 lines long, while the lip is white, with the side-lobes and centre of the front-lobe light yellow. On the base of the latter occur six undulate keels, which are tipped with brown, and the central pair extend down the disc of the lip to near its base, and are separated by a deep channel. It is a smaller plant than most of its allies, and is distinguished from all of them by the relatively much greater proportion which the front-lobe bears to the side-lobes. The specific name refers to the graceful character of the plant. R. A. Rolfe.

SPRING FLOWERS IN SPAIN.

ONE of the greatest advantages of living in the twentieth century is the facilities afforded for foreign travel! To leave London on March 25, and to find yourself on "The Rock" on the 30th would, fifty years ago, have been a marvel; now it is a weekly occurrence. What a change in the vegetation meets one! Hedges of Aloe (Agave americana), with perhaps the common Bramble intertwined, strike the eye as incongruous; but it is this very mixture of our own plants with "aliens and colonists" that makes the South European flora so interesting. Another common hedgeplant is the Prickly Pear (Opuntia ficus indica), which makes the country look very un-English. That tree covered with purple flowers is not an overgrown Mezereon, but the Judas-tree (Cercis siliquastrum); neither is the tree with pinnate foliage which droops its branches over the road an Acacia, but the elegant racemes of reddish berries tell any Gibraltarian that it is a Peppertree (Schinus Molle). A walk towards Europa Point showed such a succession of spring flowers as would amply recompense a botanist for the journey. The golden flowers of Oxalis cernua-

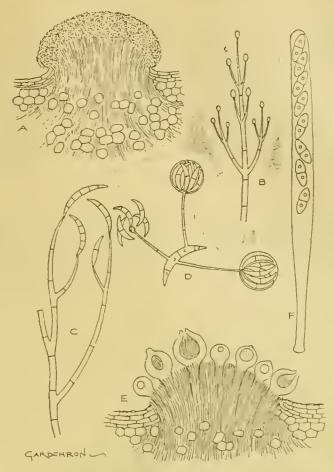


FIG. 112 -WINTER-ROT (NECTRIA SOLANI).

- A. One of the white pustules or warts in section. The fuogus has burst through the "skin" of the Potato and formed fruit on the surface. Slightly magnified.

 B. First form of conidial fruit (Monosporium). Highly magnified.

 C. Second conidial form of fruit (Fusarium). Highly magnified (the conidia are usualy only 3-septate instead of 5-septate as shown).

 D. A Fusarium spore, germinating and producing a third form of fruit (Cephalosporium). Highly magnified.

 E. Ascigerous form of fruit (Nectria), developing on the pustule that previously hore the conidial forms of fruit. Highly magnified.

 F. Ascus, containing eight spores, produced by the Nectria form of fruit. Highly magnified.

a plant which has enough oxalic acid in its stem to take out ink-stains; the interesting Squirting Cucumber (Ecbalium Elaterinm), once so largely used in medicine; the hoary foliage and yellow

flowers of Cineraria maritima, and the brilliant blue of Borago officinalis remind one of an English garden, while the brilliant red and blue of Anagallis arvensis, the common Pimpernel, takes



FIG. 113.-BLACK SCAB OR WARTY DISEASE OF POTATOS.

^{*} Calegyne venusta, Rolfe (u sp.).—Pseudo-bulbs about au inch distant on the rhizome, elliptical-oblong, obscurely tetragonal, sulcate, 2 inches loog by i inch broad, dlphyllous. Leaves lanceolate, acuminate, coriaceous, three-nerved, shining above about 7 inches long by 1 inch broad, narrowed at the base into a short restigle. long by 1 inch broad, narrowed at the base into a short petiole. Scape pendulous, about 10 inches long, many-flowered. Bracts persistent, broadly elliptical, obtuse, convolute, 7 lices long. Pedicels 6-7 lines long. Sepals ovate-oblong, apiculate, concave, slightly ventricose at the base, 6-7 lines long, the lateral pair somewhat carinate Petals licear-oblong, acute, 6-7 lines long. Lip three-lobed, 6-7 lines long; front lobe broadly obovate-oblong, undulate, emarginate at the apex, 4 lines long bearing six undulate keels at its base, the two central ones extending down the disc to near the base with a deep channel between; side lobes semi-oblong, truncate at the arex. Column broadly winged, 5 lines long. Native of Yunnan, R. A. Rolfe.

one back in an instant to our own fields and hedge-banks. The pretty white-tufted heads of Alysaum maritimum, with its smell of honey; the elegant Fumaria capreolata, the stately Asphodelus albus, the quaint Monkey's Pipe (Arisarum vulgare), with its chocolate-coloured spathe, and the vivid purple blossoms of Mesembryanthemum acinaciforme, tell us that we are in the sunny South. How odd it looks to see the rubbish-heaps on the side of the new dock covered with orange-red Nasturtiums, and the dusty roadsides brightened with our common garden Marigold! A burnt patch produces Fumaria hygrometrica, just as it does in England, while a few yards off is a red Geranium bush apparently killed by Schizophyllum commune-for if this odd Agaric is not a parasite here, it looks uncommonly like one. Fungi, too, are represented; the Hollyhoeks and Mallows are covered by Puccinia malvacearum, while the darkgreen leaves of Smyrnium olustratun are spotted with the golden acidicspores of P. Smyrnii. These are a few of the points which strike an

THE OAKWOOD ODONTO-GLOSSUMS.

THE Orchid collection belonging to Mr. Norman Cookson at Oakwood, Wylam-on-Tyne, has for years past been among the most prominent of private collections in this country. A few of the Odontoglossums for which the garden is famous are represented in the illustration (see fig. 115, p. 261), which is reproduced from a photograph taken early in March. Most of the plants were afterwards exhibited at the Royal Horticultural Society's meeting on March 22 last, when the Society's Gold Medal was awarded to the group. As many of the varieties of O. crispum and the several hybrids named above have within the past year or two received awards and certificates, there will be no need to dwell on their description, as any record required can be found by reference to the reports in the Gardeners' Chronicle of the meetings when such awards were made.

A great deal has been written both for and against the use of leaf-soil as an ingredient in the

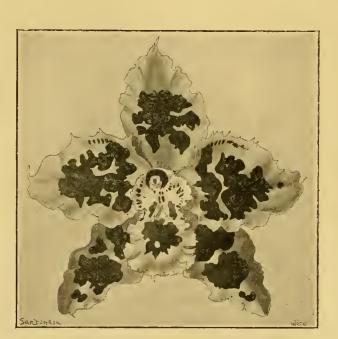


FIG. 114.—ODONTOGLOSSUM × ARDENTISSIMUM "COOKSONÆ."

ordinary observer who had never visited Spain before. The Agave is largely used as a hedge plant along the railways; in many cases it had evidently flowered, as the old plants were dying down and being replaced by acorea of young ones. The Cork woods are a great place of resort for picnics by those who live near them Many interesting plants grow here, for instance, on the old trees the Hare's foot Fern (Davallia) takes the place of our Polypodium vulgare. Two species of blue Iris were in flower, while plants of our own I. feetidissima and pseudo-acorus were frequent. The shiny leaves of Smilax aspera, and a prickly Solanum were distinctly Spanish. In Seville the grand Palms (Phœnix dactylifera) in the public square give a very Oriental look to the city, while the air was simply loaded with the perfume of the Orange-flowers. Around Granada the corn-fields were brightened by the purple heads of the wild Gladiolus, while on the railway banks the pale pink blossom of the Cistus and the blue and yellow Lupines brightened the vegetation. Charles B. Plowright, M.D., of King's Lynn, in the Mediterranean, 36° 09' N., 5° 03' W, April 13, 1904, R.M.S. " Oralava."

potting compost. Many cultivators I know have not found the success they expected from its use, and have concluded that no advantages are to be obtained from it. I do not suppose there is a trade collection in the country where plants have been propagated to the extent they are at Oakwood. As these results are produced by the inclusion of a considerable proportion of leaf-soil in the potting compost, there can be no doubt that its use is advantageous. Success or failure with it depends almost entirely upon the treatment afforded the plants by those having charge of them. No one should adopt leaf-soil cultivation for Orchids who is unable to afford root waterings with discretion and care. It is a difficult matter to get young gardeners to give sufficient attention to this matter; a large collection of plants can only be partly overlooked by the "responsible head." Where the use of leafsoil is properly understood there is little fear of its being discarded. Not only does it save using so much peat, but the labour in potting and general attention is so greatly diminished that a man can attend to nearly twice the number of plants that he could manage under the old system. Complaints are made as to the quality of the

flowers, many contending that with leaf-soil in the potting compost there is an absence of texture which affects the durability of the flowers. This also depends upon the treatment given the plants. With the greater amount of compost the plants obtain more feeding matter, and the larger pseudo-bulbs take so much more ripening than small ones that considerably more light is necessary properly to mature the growths. Unless proper ripening is effected, unsatisfactory results are, as a natural course, bound to occur. The plants in the illustration will show that satisfactory results are obtained even as far north as Newcastle-on-Tyne from the inclusion of leaf-soil to the extent of one-third, and there is no reason why better results should not be obtainable in more favourable situations.

Odontoglossum × ardentissimum var. Cooksonæ (see fig. 114) is one of the beautiful hybrids derived from the intercrossing of O. crispum Franz. Masereel and O. Pescatorei. It is remarkable the influence the O. crispum parent has had on the colouring matter of the offspring, the rich violetpurple markings being only slightly less in degree than in the above-named species. It is a distinct and desirable addition, and was awarded a F.C.C. when exhibited in the group of plants mentioned above.

NURSERY NOTES.

MESSRS. JAMES VEITCH & SONS.

ONE of the attractions at the famous nursery in the King's Road, Chelsea, at the present time is the collection of Hippeastrums or Amaryllis, as these showy bulbous plants are still called by many gardeners. Most readers of the Gardeners' Chronicle know that Messrs. Veitch have given close attention to these plants for many years past, and the persistent cross-breeding in this establishment and in others has been followed by very satisfactory results. If the measure-of progress obtained now is rather less than formerly, it is because the field for improvement has become narrower after each attainment. The visitor to-day sees more than the result of one year's work; he sees in the seedling plants now in flower the cumulative effort of all the skill and care which have been exercised since the commencement. The Hippeastrum is now a decorative plant from every point of view, and a collection of plants affords flowers of great variation in colour. For this reason, Hippeastrums are increasingly popular in gardens, as we have reason to know from observation, but at thesame time it may be doubted whether their beauty and utility are appraised generally so highly as they should be.

A conspicuous feature of the Chelsea plants is their good condition. The cultivation afforded them appears to be perfect. They throw up their spikes of flowers with surprising freedom and strength; in one case we measured a spike that was 2 feet 9 inches in length, and being unusually strong they bear numerous large flowers. In many instances four wide-mouthed, brilliantly-coloured flowers are expanded at the same time. The plants were potted and started into growth in the middle of February, and the pots are plunged to the rim in tan, which generates a little warmth that induces root action in proportion to growth. Young gardeners may be reminded that all suchbulba as Hippeastrums are greatly benefited by such plunging in moderate warmth; not only are. the roots maintained in conditions of greater uniformity, but the plants make stronger growth if the roots become active first.

The varieties are so numerous that we shall content ourselves by naming a few only that appeared to possess greatest merit. Ronda is a spreading flower, having a white ground and scarlet veining, there is a little green colour at the base, and each segment is unusually wile. Finedon is a crimson

self, very rich in colour, but equally bright in appearance. Acis has the three lower segments white, but possesses a little veining of colour on the upper segments; it is a very attractive variety of high quality. Verna is very deep crimson; the flowers are of good form, but the tips of the segments are pointed, and the general shape preserves more of the true character of the Hippeastrum than some of the varieties that more nearly approximate to the regularity and uncharacteristic form preferred by the florista. Dante is such an one, being as round as a Hippeastrum-flower is often seen; it is white marked with scarlet, and has a green centre. Norma is very attractive, its flowers expand widely, and in

not until they are four or even five years old, even though they are produced by seeds from the The average time may be said to be same pod. three years.

In the other houses may be seen plants of one kind or another, most of them having the attractive condition consequent upon making the first spring growth. The house of Caladiums. for instance, is already beautiful, and full of promise. The colour tints are almost innumerable, and there are several unnamed seedlings that will add further variety to the collection. At present the planta are in a warm atmosphere in one of the newer houses with a

balsaminiflorum, in several colours, are specially useful to the florists.

The packing-shed was gay with Orchids, destined. to be taken to the Drill Hall on the day following. April 19, see p. 269. The effect in the warm rockery was most pleasing of all. The pretty Ferns, with a little fresh growth upon them, studded here and there by handsome foliage plants, and Tillandsias and Vriesias placed in suitable positions by some one well used to effective arrangement, were brightened by a considerable number of Anthuriums carrying highly-coloured spathes. Some of the varieties of A. Scherzerianum were remarkable; one of them had a spathe measuring. narrow doorway; but some time before the date 11,51 inches by 6 inches, and possessed high colour.



Fig. 115.—A GROUP OF MR. COOKSON'S ODONTOGLOSSUMS.

1, 1, 1, 1, Typical C. erispum; 2, C. × excellens "Prince of Orange"; 3, C. × Rolfew "Oakwood variety"; 4, O × Andersonianum; 5, O. Wilckeanum "Sibyl"; 6, O. crispum Kinlesideanum; 7, O. c. purpurascens; 8, O. c. Luciani; 9, O. c. Mariæ; 10, C. loochristyense Cooksouæ; 11, O. c. Massangeauum. (See p. 260.)

The figures, in white, are placed on the respective flowers, but are so inconspicuous that a glass is necessary to enable them to be seen distinctly.

colour they are rich shrimp-pink with white. Marsus is a good type of a mottled flower; colour scarlet-and-white. Lyso has also mottled flowers with veins of pale pea-green colour. An unnamed seedling is one of the deepest crimson, having no sign of any other colour; like most of these self-coloured crimson varieties the flowers are of moderate size only. Clonia is one of the varieties nearly approaching to pure white; but the purest is named Cyrus, whose flowers are smaller than those of Her Majesty, which for some years was among the lightest-coloured in the collection. [Since this note was written Mrs. Burns has exhibited a pure white variety at the Royal Horticultural Society's meeting, see p. 269.7 The largest flowers of all were those of a variety named Brahanti, which has segments 41 inches across, and flowers 9 inches across; the colour is red with green centre. We may add that some seedlings flower when they are two years old, others

of the Temple Show they will be taken from thence into the Palm-house, for such specimens as are shown at "the Temple" would never pass through this doorway. There are stocks of most stove-plant; still at Chelsea, and they can be cultivated there perfectly well. Those plants that fail, and are perforce removed to country quarters at Feltham, &c., are species that make some growth, or flower during the winter months.

In the "flower-house" were double Lilacs, Richardia Childsii (suitable for a vase), Astilbes, Heaths, double-flowered Stocks, Boronias, retarded Liliums, Rhododendrons, &c. Among the Himalayan Rhododendrons were those well-known varietiea Veitchii, exoniensis, and Lady Alice Fitzwilliam. The Javanicum type is in a separate structure, where the three yellow varieties, Cloth of Gold, King Edward, and Exquisite, are now very beautiful. Purity is an attractive white variety; and the double-flowered varieties of R.

MR. DEAN'S COLOURED PRIMROSES.

The genus Primula includes some of our most interesting and beautiful spring flowers. Among the many flowers which adorn our native woods and hedge-rows, none is more popular or better loved than the common Primrose-Primula vulgaris. In many gardens, too, the humble Primrose is planted, and occupies a place along with its showy relatives, the Polyanthus and Auricula. Of late years a new class of Primroses has arisen, called Coloured Primroses, for by careful selection and cross-breeding the raisers of these flowers have been enabled to present to us most charming colours, ranging from white to deep crimson, and further still to lilac-blue. Foremost amongst thosepersons who have worked for this attainment is that well-known authority on florists' flowers, Mr. Richard Dean. We |were recently invited by this gentleman to visit his

stock of coloured Primroses in his nursery at Hounslow, on the Bath Road, and were there shown a fine collection of these pretty flowers. One could not but feel impressed with the great break which has been made in colour from the ordinary yellow of our native species; and it would be interesting to know what blood has been introduced to produce such a distinct acquisition. We noticed in many of the plants a tendency to "trus," and assume a habit resembling that of the "Fancy" or "Giant" Polyanthus, and half suspect that it is through this source that many of the colours owe their origin. The Polyanthus itself is supposed to have originated through Primula vulgaris, in which the common Cowslip, P. veris, may have played a part. In selection, all those showing a Polyanthus tendency are eliminated, and only seed is saved from those of the true Primrose type.

A further rule which obtains among authorities upon these flowers is that the bloom should possess a thrum eye, and all with the pin eye or protruded style are ignored, whatever other qualities the flower may possess. This to us seems arbitrary, and involves the seclusion of many otherwise good plants. Nature has endowed the Primrose tribe with an admirable arrangement to avoid self-fertilisation. In some plants the stigma is long and at the top of the eye, with stamens situated some distance down the tube; in other flowers this order is reversed, the stamens occupying the upper portion of the tube with the stigma below. It is only that pollen which is shed from upper stamens which can fertilise the flowers with the long stigmas, and vice versa. The reason for this is found in the comparative size of the pollen grain, which differs in the two forms of flowers, the upper anthers shedding larger pollen grains with enough substance to produce a pollen tube long enough to penetrate the longer style, while the pollen from the other kind of anthers is smaller, and only adapted to fertilise those flowers which possess a shorter style. For our own part we were as much taken with the pin-eyed varieties, provided they possessed suitable qualities, as with the thrum eyed ones. Nevertheless, in showing these flowers one must not lose sight of these facts.

A bed of white varieties included plants with flowers of good form, substance, and purity; and the numbers of flowers on each plant was indicative of their proliferous character. The varieties also included flowers of yellow, lilac, purple, mauve, crimson, and almost every shade of red, and a fine strain of "blue." The blue varieties seem less hardy than the others, and appear to require a more favourable situation, or even a cold frame, in order to cultivate them successfully; still they are probably the most fascinating of the whole class, and are deservedly the most popular. Many of the crimson flowers were over an inch across, and when it is mentioned that several plants were bearing several dozen flowers, some idea of their beauty may be imagined.

We were much struck with the pleasing appearance of some double-flowered varieties, which, although by no means new, will not easily be surpassed for effect. These included Cecil Rhodes, fine rosy-pink; Arthur Dumollin, a deep violet; and Marie Crousse, lilac. Some other beds contained plants of Polyanthus, of which some of the Hose-in-Hose varieties were most interesting; the calyx of this class, being transformed into a petaloid disc, thus give the appearance of one flower superposed on another.

FREEMASONRY AND GARDENING.—A new Lodge has been formed by members of the National Amateur Gardeners' Association, and Mr. T. W. Sanders installed as Master. The name of the Lodge is "Philanthic," combining the words "love" and "flowers."

TREES AND SHRUBS.

RHODODENDRON DELAVAYI.

This is one of the many species of Rhododendron from Western China which we owe to the Abbé Delavay, Dr. Henry, and other collectors. Although it has been in cultivation at least fifteen years (I saw seedlings of it in the Jardin des Plantes, Paris, in 1889), it is only now flowering for the first time in the garden of Thomas Acton, Esq., Kilmacurragh, Co. Wicklow, to whom I am indebted for a flower-head, with the information that the plant was sent to him from Kew in 1894. Mr. Moore also writes to say that he saw the plant at Kilmacurragh, where it has formed a large bush, and is now bearing twelve trusses of very fine dark-red flowers. On comparing Mr. Acton's flowers with the type in the Kew Herbarium, I find it is R. Delavayi without a doubt; at the same time it bears a very close resemblance to R. arboreum, one of the most variable and widely distributed of the Indian species of Rhododendron.

The Kew examples of R. Delavayi have not yet flowered, and it is possible that the conditions in the temperate-house, where they are grown, are not so favourable to the plant as are those of the open air at Kilmacurragh. In the specimen received the leaves are from 5 to 7 inches long, not more than $1\frac{1}{4}$ inch long. narrowing gradually to the base, more abruptly to the apex, shining dark-green above, the impressed nerves giving a wrinkled appearance; the under surface pale ferruginous tomentose. Flower-head comprising about thirty bell-shaped flowers on woolly pedicels about 1/2 inch long, calyx-lobes short and angular, corolla 11 inch long, 2 inches across, resembling in every detail a good dark form of R. arboreum. R. Delavayi is found in the chalk mountains of Houang-lipin, Yunnan, at an elevation of over 8,000 feet. There are said to be over seventy distinct species of Rhododendron in Western China, of which only about one-tenth are in cultivation, unless more have lately been added by Messrs, J. Veitch & Sons' collector, Mr. H. Wilson. W. W.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWBENCE, Bart., Burford, Dorking.

Cattleyas and Lælio-Cattleyas.—Many of these plants are now commencing to make numerous roots from the last-made pseudo-bulbs; others are beginning to push forth new growths, and these will also make roots quickly. If such plants need to be repotted, the work should be done at once, for by delaying the operation until the roots are longer there will be danger of these being injured in the process. Healthy plants having sufficient room for further growth should have the surface moss removed and fresh moss applied. If the plants have been previously potted in the new leaf-soil mixture it will be found in some cases that the compost has become somewhat loose; this, if in bad condition, should be carefully picked out; but if the soil has not deteriorated in any way it may be gently pushed down among the roots, and the pot refilled with new compost. Unhealthy plants should be turned out of their pots, thoroughly cleansed, cutting away all dead parts, repotting them afterwards into pots as small in size as can be used for them. When repotting thriving specimens that are well rooted, carefully break the old pot with a hammer, removing the pieces of crock by degrees, taking care to avoid injuring the roots more than can be helped, many of these inside the pot being in full activity. Cut away any old leafless pseudo-bulbs, as about three bulbs behind each young growth are sufficient to assist its proper development; but where the whole of the plant is in good condition and the leaves are perfect, it is advisable to cut

the rhizome halfway through in several places, and if the back eyes are sound, they will in time commence to grow, and so greatly assist to form a fine compact specimen. Make use of plenty of dry Fern-rhizome from the peat as drainage materials, especially for the large plants, and over this place a layer of rough moss or peat to sup-port the compost, which should consist of fibrous peat, leaf-soil and sphagnum-moss in equal parts, the peat and moss being cut up roughly. Add a moderate quantity of coarse silvers and, and mix the whole together thoroughly. Make the compost around each plant moderately firm, and fill up to within half an inch of the rim of the pot, then surface with chopped living sphagnum-moss. When the operation is completed, afterwards supply each plant with a moderate amount of water, and subsequently afford the surface moss only just sufficient moisture to keep it fresh and green. When affording water, use a fine rose watering-can, there being less danger of over-watering than when the spout only is used. It is very necessary that those who are inexperienced in the use of this potting material, and especially now that the this potting material, and especially now that the plants have a greater depth of compost to root into, should bear these directions in mind as regards watering, for more Cattleyas and Lælias have been ruined by over-watering than by any other cause. During the past week I have repotted many of these plants, including C. exonomic C. Parciallian. C. lehiata (external potted many of these plants, including C. exonensis, C. Percivalliana, C. labiata (autumn-dowering), C. Gaskelliana, C. maxima, C. Dormaniana, C. Warneri, C. Iris, C. Maronii, C. Wm. Murray, &c.; also such Lælio-Cattleyas as elegans, Normanii, Ingrami, Lucasiana, Charlesworthi, Ophir, Senartii, purpurato-Schilleriana, Lælia Helen, &c., and numerous seedlings. In every case I have found that the best-rooted plantswere those which had been kept moderately dry underneath and the moss on the surface just moist. After repotting, and until growth is well advanced and the roots are again in full activity, the plants should be shaded from strong sunshine. Syringe well between the pots several times each day.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Disbudding. - The growth of fruit-trees will now be more rapid, and Peach and Nectarine trees against south walls protected with glass coping will be among the first to require attencoping will be among the first to require atten-tion in the matter of disbudding, which should be commenced when the young shoots are 2 inches long. Disbudding is a very important operation, and should never be left to inexperienced men. When disbudding at this early period do not be too severe, but remove a few of the foreright shoots and those at the back of the shoots. After this, gradually remove in the course of a few days any other superfluous shoots until only sufficient for fruiting next year remain. The operations of disbudding thinning of the shoots of Peach and Nectarine thinning of the shoots of Peach and Nectarine trees should extend over a long period. In many cases the young wood upon wall trees is allowed to become crowded, and consequently the shoots fail to ripen. More especially does this occur in old trees. When disbudding take care to select and preserve one shoot at the base of each bearing branch, and on the upper side when possible; also another at the top to form the leader. Others may be left at intervals, some for training over old branches and others for covering training over old branches and others for covering wall space. The leaders must not be stopped if there be room for them to extend, but those which have reached their limitation should be pinched at three joints from the base, and the shoot trained from the base should replace this as soon as the fruits have been gathered. Let as soon as the fruits have been gathered. Let the aim be to keep the trees from bottom to top well furnished with healthy fruiting wood. Keep a watchful eye on the trees for aphides, and should they put in an appearance lose no time in checking them, otherwise much harm will be done to the new growth. Quassia extract is a safe and effective remedy. See that the leaves are made thoroughly wet with the extract, and repeat the operation at intervals, until the leaves have been thoroughly cleansed. Occasional use of the extract will be better than employing one or two heavy dressings at this early stage of growth. growth.

Apricots.—Look over the trees and reduce the number of new shoots where they are likely to be too numerous. Young trees should be attended to early in this respect—selecting the most auitable shoots for training to make the foundation of a tree. The fruits of the Apricot frequently set in clusters, and these clusters should be thinned early, removing, as a matter of course, some of the smaller fruits, and those that are ill-placed; but the final thinning should be left for some time yet. Trees having a protection of glass-coping should be examined, and if the roots are found to be dry, afford them water before the trees suffer. Although the rainfall last season was heavy, borders that are raised above the ground-level, provided with good drainage, and screened with glass copings, very quickly become drier than is good for the trees.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Buans, North Mymms Park, Hatfield, Hertfordshire.

Violets .-- Young plants should now be planted to form clumps for winter flowering. runners were taken off at the end of the autumn, and dibbled into a few inches of soil in a cold frame from which the lights have been removed for the last week or two, hardy well-rooted little plants will be available. If no provision of this kind has been made, it will be necessary to divide the old plants and make use of the rooted sideshoots or crowns which are to be found around snoots or crowns which are to be found around the centre crown; and provided these young crowns are healthy and free from red-spider, they will make good clumps by the autumn. The plantation should, if possible, be made in a position where partial shade will be afforded during the hottest part of the summer. We get the best results here from plants grown in the best results here from plants grown in the kitchen-garden on the north side of the rows of Runner Beans. The soil should have been deeply dug during the winter, and manured with wellrotted dung. The large-flowered single varieties Princess of Wales, Luxonne, La France, &c., flower wonderfully well if, instead of being transplanted into pits in the autumn, rough shallow frames be placed over the plants where they are grown. If this plan is adopted the plantation should be made of a width to suit the frames, which should be placed over the plants upon the approach of frost in autumn. The single varieties may be planted about 14 inches asunder, while 12 inches will be sufficient for the doubles. Sprinkle the plants with water through a rosecan, or syringe in the evenings during hot weather; it will check the attacks of red-spider. Hoe between the plants frequently, and remove all runners as soon as they appear.

Chrysanthenums .- The earliest struck plants, now in 3-inch and 4-inch pots, should be sufficiently well rooted to require potting into others 6 inches in diameter. Let the strongest plants he taken in hand first, but if when turned out of their pots any of the plants are found to be insufficiently rooted, these should be left for another week or ten days. The compost for this potting may consist of three parts good fibrous loam, half part flaky leaf-soil, halt part wellrotted manure, together with sufficient coarse silver or river sand to keep the soil porous. In potting make the soil moderately firm; but in connection with this, allowance should be made for the character of the loam employed. After potting return the plants to a pit or frame, and keep the atmosphere somewhat close for a few s, after which the lights may again be removed during the daytime. If the potting soil is sufficiently moist at the time it is used, the plants should not require water for several days after being repotted.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq., Ashwicke Hall, Marshfield, Chippenham.

Walksand Alleys.—Now that the work of wheeling mannre to the quarters, also digging and trenching the ground is nearly finished, the garden should be made as tidy as possible. Where horders are formed to large quarters with an alley between them, let these alleys be made now. The usual width varies from 18 inches to 2 feet. Peg off the breadth of the alley, allowing for 1 inch at

least to be cut off when the line is laid on. Make the centre about 2 inches deep, placing the soil on either side. Tread and make level on the surface with the back of the spade, and when finished stretch the line at the distance required, and form a neat edge by striking the back of the spade towards the line and the edge downwards at the same time. This movement with the spade can only be gained by practice, and it is seldom a man is found who can do it well, yet the appearance of the work when finished is very much superior to that made with the down cut only.

Walks .- Examine the edgings, and get all put straight before commencing to hoe and clean the walks, which should be done thoroughly well. We prefer asphalt walks to all others for the kitchen-garden. Such walks, though a little more expensive to make, are cheapest in the end if well made. Little labour is required to keep them clean and free from weeds. The best time to make asphalt walks is in dry, warm weather, and those who intend making these should have everything in preparation, so that the work may be done expeditiously when the weather becomes favourable. As a foundation we have 3 or 4 inches of broken stones placed level, over which we spread the asphalt. The asphalt, if well rolled, will work into the crevices between the stones and bind them together, so that the walk when finished will become like a rock, and not so liable to crack as when the asphalt is laid on a level surface.

French Beans that were sown in gentle warmthy and intended for planting-out, should be removed to a cold frame to harden. If the ground is of a heavy nature and wet, make another sowing in small pots for planting-out. Place these also in a cold frame, and keep the lights close until the seed has germinated. Afford air to crops indoors, and keep the atmosphere in a suitable condition by damping the surfaces in the house when required. A dry atmosphere is favourable to red-spider, thrip, and other pests.

Seed Sowing.—Seeds of Beetroot may now be sown for an early crop on light soil. Dell'a Black we consider to be a good all-round variety. A small sowing of the Spinach variety will be found useful. Sow main crop of Carrots when the ground is in a good condition. Rake the soil into a fine mould, draw shallow drills, and cover the seeds lightly. Sow seeds of Endive, Lettuce, Radish, and Turnip for succession. Maintain a supply of salads.

The Weather and Slugs. — Inspect growing crops, particularly seedlings that are coming through the ground, for owing to the showery weather slugs are everywhere on rough or heavy soil. We find it a continual fight to get plants beyond their reach.

FRUITS UNDER GLASS. BY W. FYFE, Gardener to Lady WANTAGE, Locking

By W. Fyfe, Gardener to Lady Wantage, Lockinge Park, Wantage.

Melons.—In the case of plants growing on a trellis some kind of support will be necessary for the laterals carrying fruit. Ties of raffia round the stalk of the fruit will be found sufficient for them whilst of small size, but as the fruits increase in weight nothing is more effective or neat than a piece of netting 9 inches square supported at each corner to receive the entire weight of the fruit. When the fruits near maturity there is danger of some varieties split-ting, if the house is closed with a high temperature and much moisture. A drier and cooler atmosphere, with a corresponding dryness at the roots, is therefore necessary for some days previous to gathering the fruits. A true indication of maturity is a partial severance of the fruit from the stem; and if the fruit be detached too soon it will detract from its appearance. Canker in many instances is caused by a twist or bruise when the plants are young, and in others by employing too rich a soil and making it insufficiently firm. The collar of our plants is kept high; our soil is only moderately rich, and is made firm, and we apply all water direct upon the stem. Attend to succession plants as previously advised; and keep up the supply further sowings.

Cucumbers. — Almost daily attention will be required to the stopping, thinning, and tying of the shoots. Do not overcrop the plants. Maintain a moist atmosphere, and afford copions applications of tepid liquid-manure. Whenever the roots appear on the surface give the plants light dressings of loam, half-decayed leaves, and stable droppings, and occasionally a little soot. Remove old leaves as they become discoloured. Do not overheat the water-pipes or admit air on cold, windy days, which would favour red-spider. Let the night temperature be 65° to 70°, and by day with sunheat 10° or 15° higher. Admit airwhen the temperature is 75°, and increase the amount gradually as the temperature rises. Close the house early, and syringe with tepid water. Make preparations for planting Cucumbers in frames. Sow seeds every few weeks for succession.

Tomatos.—Plants raised from seeds sown in the autumn and treated as I advised, will be making rapid progress. A free circulation of warm air has induced the fruits to "set," and has kept in check the much-dreaded disease. If too much moisture be afforded at the roots or in the atmosphere, aërial roots will form on the stem, and spots on the leaves. The leaves will sometimes curl from the same cause, or it may be from extreme temperature or draughts. If space was allowed for top-dressing plants in pots, light applications of wood-ashes will be beneficial. Gather the fruits as soon as they commence to colour. Repots plants for fruiting later and for planting out-of-doors.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Lawns.—Recently-laid turf should be rolled as often as is practicable. Low turves will require to be lifted, and if there are signs of moss, sow finely-sifted wood ashes, and lightly brush this into the surface. If the same ground he used for playing tennis every year, apply a good dressing of soot at this season. Should it be necessary, seeds may be sown mixed with fine soil, but this should not be brushed in on new turf.

Herbaceous Phloxes and Pentstemons.—Plantthese in good soil that has been manured, and mulch the ground afterwards.

Iceland Poppies.—Plants from seeds sown in boxes a few weeks ago that have been properly hardened off, will now be ready for transplanting into beds or borders. Choose a dull quiet day for the work. If the weather afterwards becomes dry and windy place a few boughs of Yew or other evergreen tree among them.

* Subtropical Plants. — Harden these as they become established, but do not place them in a cold frame for another fortnight. Do not allow the plants to become root-bound or they will lose their bottom leaves. Fork over the beds in which the subtropical species will be planted, but do not apply manure at this date unless the ground be very poor.

The Rock Garden.—Soil will have been got in readiness for the plants, which may now be overhauled. Strong-growing species must be kept in check. If climbers are planted they should not be allowed to cover up all the stone, as this wasput there partly for effect. The small-leafed green and variegated Ivies may be planted, also Hedera obovata, Schizophragma hydrangeoides, and Cotoneaster horizontalis. Ramondia pyrenaica, Primula marginata, Saxifraga apiculata, and several of the Sedums, are useful for planting in crevices. Where Saxifrages and Sedums can be spared, these may be planted between the stone steps. Meconopsis cambrica (yellow Welsh Poppy) should be planted largely, also the Gentianas, Primulas, and Sedum spectabile. Herniaria glabra is useful for covering unsightly places. Aubrietia Dr. Mules and Primula rosea are among the brightest plants when in flower. Of shrubs, Cistus and Acersare suitable; and the shrubby Phloxes may be planted. Cleanse all the ground of weeds, and move the surface of the soil by means of a small hand-fork.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents. - The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

(Ilustrations .- The Editor will be glad to receive and se'ect photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News. - Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY,

APR. 25 | Birmingham Gard. Mut. Imp. Soc. Meet.

TUE3DAY.

APA, 26 Midland Daffodil Society's Show (4 days) in the Birmingham Botanic Gardens.

BALES FOR THE WEEK.

WEDNESDAY NEXT, APRIL 27—
Azaleas, Palms, Nananised Trees, Cannas, Phenix, Roses, Liliums, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.—Palms, Azalea indica, Cannas, Violets, Carnations, Lily of the Valley, &c., at Stevens' Rooms, 38, King St., Covent Garden, W.C. at 12 30. , at 12.30.

FRIDAY NEXT, APRIL 29 — 6,000 Odoutoglossum crispum, 250 Cattleya Men-oetif, Established Orchids, &c., at 67 & 68, Chear-side, E.C., by Protheroe & Morris, at 12 30.

For further particulars see our Advertisement columns.

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick -498.

ACTUAL TEMPERATURES:

TOAL TEMPERATURES:

LONDON. -April 20 (6 P.M.): Max. 65°; Mip. 43°.

April 21, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp.,

52°; Bar, 50 5 Weather dull, with cold

winds.

PROVINCES. April 20 (6 P.M.): Max. 59°, South-east of England; Min. 44°, Newcastle-on Tyne.

The International Fine Art Exhibition and great Horticultural Show, Düssel-dorf, 1904.

THE Düsseldorf Exhibition, which opens in May, promises to be of exceptional importance. It will remain open for some months, and consist, so far as horticulture is concerned, of a

permanent general exhibition and special periodical meetings. From documents submitted to us we extract the following particulars, which will give some idea of the extent and thoroughness of the exhibition. We omit all mention of the department of fine arts, and confine ourselves exclusively to horticultural matters.

A committee of more than three hundred persons, comprising the leading home and foreign horticulturists and experts, has been appointed. The general Chairman of the united exhibitions is Professor FR. ROEBER; the departmental work has been entrusted to thirteen sub-committees. The horticultural sub-committee consists of the principal nurserymen in Düsseldorf and its neighbourhood. Experts are entrusted with the direction of the separate divisions of the horticultural shows - for example, Professor Zacharias, Director of the Hamburg botanical gardens, has undertaken the superintendence of the exhibition of aquatic

plants and Lilies; OTTO BEYRODT, of Berlin, that of the Orchids; Herr LAMBERT, of Trier, the Roses; Herr Bornemann, of Dahlias, Herr Schumacher, of Chrysanthemums; J. OLBERTZ, of Erfurt, superintends the wreaths and bonquets; Professor Dr. Noll, of Bonn, the scientific department; Professor Dr. Hoffmann, of Düsseldorf, supervises the exhibition from those German cities that send representations of their public gardens, &c.; Messrs. R. Seidel, of Dresden, and R. Jürgens, of Hamburg, act as technical advisers to the general direction of the exhibition; Baron A. von SOLEMACHER-ANTWEILER, president of the garden, fruit and vegetable committee of the Chamber of Agriculture for the Rhenish provinces, will organise the fruit and vegetable shows, and will arrange the nursery plantations.

In addition to the permanent exhibition in the pavilions and in the open-air, the horticultural department will embrace twenty-two special displays at regular intervals.

One hundred and fifty thousand marks (£7,500) have already been subscribed for money prizes for excellence in horticulture; the German Emperor has also presented a large and artistic vase as a prize of honour for the best work exhibited.

More than thirty towns, with a very large aggregate population, have promised their aid to the undertaking. They will enrich the exhibition with plans, models, and documents as to the laying-out of parks, public institutions, and similar matters.

The Scientific Department will furnish information on the many noxious influences which are the plague of every gardener, and will also give advice as to the best means of overcoming them. With the flower, plant, and arboricultural shows proper, there will be associated a comprehensive exhibition of all the technical and industrial products connected with horticulture, the marketing of fruit or the embellishment of parks and gardens. Active participation in this department of the exhibition is already ensured. Director Deneken, of the Kaiser Wilhelm Museum in Crefeld, will institute an international exhibition of vases and other receptacles for displaying flowers; for this section numerous and interesting articles have been already entered from all European countries.

The building, in which the artists of Düsseldorf will arrange the dioramas depicting the historical development of the science of horticulture, comprises an area of nearly 5,000 square yards. The building, erected in the purest style of Grecian temple architecture, encloses a courtvard with fountains and garden, at the back of which stands a colossal statue of Ceres over 15 feet high. The courtyard is in addition embellished with suitable mural pictures. The interior proper consists of a series of compartments extending the whole length on both sides, each of which illustrates a certain episode in the historical development of horticulture, commencing with the Garden of Eden! and continuing up to the English garden of to-day. Every striking phase in that history is depicted in plastic and picturesque representations.

Various congresses will be held during the continuance of the Exhibition, as, for instance, that of the German Dendrological

Society, the Cactus Society, the Chrysanthemum Society, the Pomological Society, the Rose Society, the Dahlia Society, the Association of German Nurserymen, the Society of Landscape Gardeners, the Society of German Florists, the "Allgemeiner Gärtner Tag," the Congress of Women-Workers in Art and Gardening, and others.

Special shows will be held from May 1 to May 3 for Orchids; May 6 to 9, French, Dutch, and Italian cut flowers; May 12 to 15, forced fruit and vegetables, floral decorations, bouquets, &c.; 19 to 24, cut flowers; June 2 to 7, cut flowers from Quedlinburgh. Of other arrangements we may speak later

An official tourist office (Verkehrsbureau), EMIL HESS, No. 10, Wilhelmsplatz, opposite the principal railway station, supplies travellers with every possible information as to lodgings, means of communication, &c.

MR. S. T. WRIGHT .- The address of Mr. S. T. WRIGHT, Garden Superintendent to the Royal Horticultural Society, after April 23 will be Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey.

SPRING FLOWERS AT BELVOIR CASTLE .-Our valued correspondent Mr. W. H. DIVERS writes us that "owing to the lateness of the season the gardens will not be at their best until May 2, but many of the earliest flowers are now very good, especially Aubrietia Hendersoni, white and yellow Polyanthus, Hyacinths in variety, Rhododendrons altaclarense and Nobleanum, and various kinds of Narcissi. Saxifraga ligulata is unusually fine this season. The flower gardens are open to the public, and no order to view is required."

PRESENTATION .- Upon taking up the duties of General Superintendent of the Birmingham Parks, Mr. W. H. Morter, who was one of the original promoters of the Farnborough Horticultural Society, and for eight years Honorary Secretary, has been presented with a handsome marble time-piece and a pair of ornaments to match. A brass plate on the clock bears the following inscription :- "Presented to Mr. W. H. MORTER by the members of the Farnborough Horticultural Society in recognition of his services as Honorary Secretary, on his resignation to take up his duties at Birmingham, 1903."

THE LATE H. HERBST AND THE GARDENING CHARITIES .- We learn from Messrs. G. NICHOLson and W. Bottine Hemsley, the executors under the will of the late Mr. H. HERBST, that the deceased bequeathed £100 each to the Royal Gardeners' Benevolent Institution and to the Royal Gardeners' Orphan Fund.

TRINITY COLLEGE, DUBLIN.-We are glad to he able to announce that Dr. H. H. DIXON has been appointed to succeed Dr. Perceval Wright as Professor of Botany in Trinity College. Dr. DIXON has already won for himself a distinguished position among botanical physiologists.

GARDENERS' ASSOCIATION FOR KINGSTON AND DISTRICT, SURREY.-From a note in the Surrey Comet, sent us by Mr. A. DEAN, we observe that, at a meeting held in Kingston, it has been decided to establish a Society similar to the mutual improvement societies now so popular over the country. The Secretary pro. tem. is Mr. BLENCOWE, of Kingston Hill.

HYACINTHS IN THE ROYAL PARKS .- We are reminded by Messrs. Jas. Carter & Co. that the bulbs are in full flower in the royal parks at the present time, and that they are in fine condition. Displays may be seen in Hyde Park, Regent's Park, and Kensington Gardens.

VEGETATION UNDER THE INFLUENCE OF CARBONIC ACID GAS.—It has long been known that under certain circumstances growth is stimulated by exposure to carbon dioxide, the assimilation of carbon by the green leaves under the influence of light being increased. By cultivating on manure plants under bell-glasses, the quantity of carbon dioxide in the atmosphere is increased and the vegetation proportionately promoted. Previous experiments in this direction have wither failed or not been attended with successful cesulta, but M. Demoussy, by ensuring groater

several reports of these that are here collected. In this way the agricultural and horticultural possibilities of each district may be conveniently learnt, such information being, of course, of the greatest importance to actual and to intending residents.

AN INDIAN GARDEN APPOINTMENT. — Our correspondent, Mr. Curtis, who was for many years Superintendent of the Penang Botanic Gardens, Straits Settlements, has been engaged, we are told by Indian Planting and Gardening,

p. 269. A white Amaryllia has been the dream of many, and they have worked hard to obtain it. Such auccess as Mr. Fielder has won should inspire other gardeners to further efforts to improve the strains of flowers.

EMIGRATION TO NEW ZEALAND.—It is gratifying to us to be able to publish the following letter from a young gardener who, acting upon our advice, emigrated to New Zealand last year:—"I beg to thank you for the encouraging information you gave me when I enquired of you last



Fig. 116.—The düsseldorf exhibition, 1904: view of the show-houses for the horticultural exhibits. (see p. 264.)

purity in the gas, has succeeded in demonstrating the beneficial effects of the gas on plants subjected to its influence.

FIELD OPERATIONS OF THE BUREAU OF SOILS.—We have received, from the U.S. Department of Agriculture, the Fourth Report (1902) on the Field Operations of the Bureau of Soils, by MILTON WRITNEY, with accompanying papers by assistants in charge of field parties. Some idea of the extent of the work undertaken by the U.S. Department of Agriculture may be gathered from these two bulky tomes—devoted, the first to letterpress, the second to forty-four maps. Fifteen soil survey parties have been maintained during most of the year, and it is the

as Superintendent of Gardens by the NAWAB OF DACCA, Bengal, and will shortly join his post.

MOUNTAIN GARDENS.—It is proposed to hold a conference of those interested in alpine plants, and in the formation of alpine gardens at the Rochers de Naye above Montreux on August 16 and 17 next, under the presidency of Prince ROLAND BONAPARTE. Those concerned should communicate with M. CORREVON, Floraire, Chêne Bourg, Geneva.

THE WHITE HIPPEASTRUM. — We heartily congratulate our Calendar writer, Mr. C. R. FIELDER, gr. to Mrs. Burns, upon raising the beautiful and remarkable novelty described on

year if there were better prospects in the colonies for gardeners than in England. I acted on your advice and came to New Zealand, and have been successful in getting a situation, and would be obliged if you would insert my appointment in the Gardeners' Chronicle. T. Hill, for three years Head Gardener to W. H. Aykroyd, Esq., of Cliffe Hill, Lightcliffe, Yorks, has been appointed Gardener to J. O. B. BECKETT, Esq., Almora, Upper Riccarton, Christchurch, New Zealand, and entered on his duties last Angust.

THE DEPARTMENTAL COMMITTEE appointed by Lord Onslow to enquire into and report upon the Fruit Industry of Great Britain held sittings on the 13th, 14th, and 15th inst. The following members were present:—Mr. A. S. T. Griffith-Boscawen, M. P. (Chairman), Colonel Long, M. P., Mr. C. W. Radcliffe Cooke, Mr. Hodge, Mr. Monro, Mr. Vinson, Dr. Somerville, Mr. P. Spencer Pickering, F.R.S., the Rev. W. Wilks, and Mr. Ernest Garnsey (Sccretary). On April 13 Mr. George Hughes, Mr. E. T. Field, and Mr. J. H. Wareman-Best as Worcestershire growers; on April 14 Mr. W. Welchman and Mr. Collins Clayton, both representatives of the Wisbech district, and Mr. Kruse, a grower from Truto, Cornwall; and on April 15 Mr. G. Kerswell and Mr. J. Trefathan, as Devon growers, and Mr. P. Spencer Pickering, M.A., F.R.S., as a technical expert, gave evidence.

IRIS HAYNEI.

[See Supplementary Illustration.]

Scarcely a year passes but at least some new Irises are added to the great number of species now available for our gardens, and this season's quota has opened well with such a fine plant as I. Haynei, from Palestine. In truth one would rather it belonged to other than the Oncocyclus group, for these have proved puzzling indeed to the cultivator. Attention they have had, and plenty of it, but until our summers are warmer and drier there will always be trouble in growing them. This new species is so vigorous that one may hope to keep it longer than has been the case with other good species. It has a large rhizome, which branches freely, sub-falcate, glaucous leaves about a foot long, stems 11 to 2 feet high, bearing magnificent silky-looking flowers measuring 6 inches from the tips of the standards to the tips of the falls. All the petals are broad and wavy at the margins, the standards being coloured blue-purple and grey in various shades, deeper in colouring at the base, the purple or grey dominating according to the degree of light. The falls are 3 inches across at all points, shading from a deep brown colouring at the margins to the intense black patch in the centre as large as a florin. Compared with others it has the falls of I. sofarana, and the standards and habit of I. atrofusca, both from Palestine. I do not know who is the author of the species, but it appears to me too close to I. atrofusca to warrant specific separation from it. As a garden plant it is in many ways superior, and one hopes it will prove more easy to grow than I. Gatesi and I. Lorteti, two species that are becoming very scarce, not only in cultivation but in the places they were known to inhabit, insomuch that unless fresh habitats are discovered both these beautiful Irises will become things of the past. The lime treatment is not altogether a success. I have given it a fair and thorough trial, and the only service it has rendered me is in killing off all the weaklings outright, thus saving further trouble with them, whilst stronger species appear neither better nor worse under the treatment. G. B. M.

[Our Supplementary Illustration was prepared from specimens kindly furnished us by Messrs. W. Cutbush & Sons, Highgate and Barnet. Ep.]

THE ROSARY.

MR. ALEXANDER DICKSON ON ROSES.

At a meeting of the Irish Gardeners' Association held in Dublin on March 31, Mr. A. Dickson gave a lecture, in which he summarised the history of cultivated Roses, their classification, method of culture, especially emphasising the necessity for shelter, and giving details as to the treatment of the soil, planting, manuring, propagation, the planting of stocks, budding, &c. It is needless to say the lecture was an excellent one.

KEW NOTES.

UTRICULARIA MONTANA, Jacq.—Flowering in the Nepenthes-house are several baskets of this beautiful tropical Bladderwort, widely different in appearance to our native species, though having the same bladder-like bodies developed on their green, tuberous roots. U. montana is an epiphyte, and is found growing on wet, mossy trunks of trees in many of the West Indian Islands. The leaves are elliptic-lanceolate, 4 to 6 inches long, gradually narrowing to a slender petiole. The scapes on the plants now in flower are from 6 to 9 inches long, carrying from four to nine flowers, each about 11 inch in diameter; the corolla is white, with a yellow band down the centre of the lip; the white incurved spur is about as long as the lip. The plants succeed well in teak baskets, in a compost of peat, moss, and charcoal. They should be suspended from the roof in a moist, shady position in the stove. The species was figured in the Botanical Magazine, t. 5923; and in the Gardeners' Chronicle, August 12, 1871, p. 1039.

DRACONTIUM OIGAS, Engler.

This giant Aroid, now in flower in the Victoriahouse, like many others of the order, produces its inflorescence previous to the development of the leaf. The tuber which is now flowering is a very fine one, having a diameter of 8 inches; the inflorescence is borne upon a brown-and-white mottled stem 1 foot high; the spathe is 18 inches long, brownish-red in colour, boat-shaped, and hooded at the top, with a diameter of 4 inches in its widest part. Although the spathe and spadix make a very striking object, it is in the leaf and leaf-stalk that the beauty of the plant is centred. The leaf-stalk developed from this tuber last summer measured 6 feet 6 inches, with a diameter of 3 inches at the base; the stem is beautifully mottled with purple and white, the large trichotomously divided peltate blade had a spread of about 31 feet. It is a native of Nicaragua, and requires stove treatment. It is synonymous with Godwinia gigas (see fig. in the Gardeners' Chronicle, February 23, 1901, p. 126).

BARRINGTONIA SAMOENSIS, A. Grey.

A good specimen of this beautiful species is now flowering in the Palm-house. The plant is about 9 feet high, having a clear stem of 7 feet, surmounted by a large head of leaves, 12 to 18 inches long, and 6 inches broad; it is carrying five pendulous racemes of beautiful carmine flowers, the longest raceme is 3 feet in length, carrying ninety flowers and buds; the petals are spreading, about \(\frac{3}{4} \) of an inch long. The stamens are numerous, 2 inches long, the same colour as the petals three parts of their length and yellow at the ends; they form a brush about 3 inches in diameter. There are not usually more than six flowers open at once; they open in early morning and fall at night. Like many other beautiful tropical plants, it persists in making a long stem before branching; it is a native of Fiji, and requires tropical conditions.

CEPHAELIS MANNII, Hook.

A remarkable species of the genus to which the Ipecacuanha plant belongs, a genus of practically no horticultural value. C. Mannii is by no means beautiful; but its curious inflorescence is of botanical interest. It has very large, glossygreen leaves; the flowers are creamy-white, stellate, about \$\frac{1}{2}\$ inch across, developed in large heads at the end of a pendulous peduncle, quite 2 feet 6 inches long. The plant is a very vigorous grower, and soon makes a large specimen, which, when well flowered, has a striking appearance. It was introduced from Fernando Po in 1863 by Mr. Mann, at that time in the employ of the Royal Gardens. A young plant is now flowering in the stove at Kew. Figured in Bot. Mag, t. 5755. W. H., April 12.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

"THE NATURE OF THE SOIL."—The concluding remark in a short paragraph concerning an Irish trial of Potatos ran thus: "but much depends on the nature of the soil." That is an undoubted truism, and it is one that will have to be taken intoaccount in connection with the trials in diverse parts of the kingdom to be conducted this year under the auspices of the National Potato Society. These trials will include some twelve well-known. varieties, in quantities of about 28 lbs. each, sufficient to enable a satisfactory test of each one to be made. The Executive advises that the cultureadopted be generally as equable as possible, and that it be more of the field order than of the intensive order found in high-class gardens. will doubtless suffice for several reasons this year. as, for instance, in our own case in Surrey, where but just now having obtained possession of a plot-of 20 rods in extent, we have but time to get it-manured and dug, then at once planted. The-ground, having been used as allotment land previously, is naturally rather poor than otherwise... A dressing of manure has been applied and dug. in, with some artificials added. It is nevertheless rather late to admit of that complete decomposition of which a much earlier application would admit. The soil is of a black, sandy nature, and has no great staying power. This is just one of the cases in which the exception which headsthis note applies. It is an exception that may apply in various other cases. Of course, in-reporting results as to crop, &c., the cultural difficulties presented in the spring will have to-be detailed; but in every case conditions wouldbe more equalised another year were the plots-thus used for the various trials trenched 2 feet deep, and well manured low down during thewinter, certainly some two months or so before planting-time. It is equality of condition in all respects—which means the same thing as the Socialists' equality of opportunity—which gives to Potato trials so much value and interest. A. crop of Tares, sown as soon as the Potatos were lifted, to be trenched-in in the winter, would dogreat good. A. D.

FORCING STRAWBERRY PLANTS .- May I bepermitted to make a few remarks upon the culture of Strawberries for forcing? The first batch of plants under my charge has not turned out so well as expected. The varieties we grow are Royal Sovereign and Veitch's Perfection; thesewere layered in 3-inch pots, from plants-which had borne fruit for two seasons. which had borne fruit for two seasons. I should have preferred layers from young-plants set out for that purpose. When well rooted they were potted into 6-inch pots, in a compost of loam, charred refuse, bone meal, with a little soot, also lime-rubble, and somespent Mushroom-bed manure, to keep it porous,. the loam being of a close and retentive nature.. When potted they were placed in the most exposed part of the garden, where they would get all the light, air, and sun possible. Here they remained until they finished their growth. The first batch was placed in an early vinery, which had been made ready for forcing, having no otherconvenience to shelter them from the continual-bad weather. The Vines were started in the-third week in December. The Strawberries were arranged beneath the Vines, there being no shelves near the roof. When growth commenced I stirred the surface soil in the pots (where roots would allow) and applied a little guano. This, I am told, is the cause of the plants not doing well. I consider it is owing to the dull, sunless season we experienced last year. The plants, having soexperienced last year. The plants, having so little rest and having been exposed to so much wet, were not sufficiently ripened, and did not get sufficient light while under the Vines. I maintain that to a certain extent the plant is like a bulb, and that, unless the crown (like a bulb) is ripened and matured, and given plenty light, good results cannot be obtained. In othergardens I have given plants the same treatment, with good results; I may add that a later batch-here, treated in the same manner, but exposed to more light and sun, show all that can be desired. This I consider proof that the plants, having had longer rest, are better ripened, and can stand forcing better. Would some readers who are

practical cultivators express their opinion on this matter, that, if right, I may be able to convince those with whom I have to deal? An Interested Reader.

CELSIA CRETICA.—During the wet season of 1903 this plant succeeded remarkably well, presenting a good appearance till late in the autumn. It grew in several positions in the garden, but appeared to best advantage at the back of the rockery, where its spikes of yellow flowers of Foxglove-like growth formed a pleasing contrast to the rock-plants. The plant has also the merit of being a good "bee-flower." R. W. Dean, Wainsford, Lymington.

APPLE ECKLINVILLE SEEDLING.—Nearly everyone in this county (Somerset) who has grown this Apple speaks well of it. As an orchard tree it is being very largely planted, as it is a fine grower, making a straight clean stem and a shapely head, and is, when climatic conditions are favourable, a heavy and constant bearer. Certainly the fruits are not good travellers, but they are as good as those of Lord Suffield, Keswick Codlin, and several others. The trees bear well when very young, and will pay for themselves before some, such as Bramley's Seedling and Blenheim Orange Pippin, bear at all, when worked on the free stock and grown as standard orchard trees. John Ettle, Somerset County Council Agricultural Instruction

THE PROPOSED GARDENERS' ASSOCIATION. -It is generally admitted that gardeners are underpaid, therefore if anything can be done to There are reasonable employers as well as reasonable employers as well as reasonable employers, and we, the rank and file, who cannot take part in the organisation, can trust the leaders in this important matter not to do anything unreasonable. Many of these men havo nothing to gain but the gratitude of those who will be benefited. Among other subjects which the Association might take up is the bothy question; it is well known that some bothies are barely fit for human habitation. A subject perhaps more important than any other is the training of young gardeners. What code of rules or system is there in use for definite training in private is there in use for definite training in private-gardens? Do head gardeners generally take a kindly interest in their young men, and encourage them to study, giving them definite lines to work on? What do we hear about developing our powers of observation? We are sometimes told to "keep our eyes open." What do we hear about the underlying principles of horticulture? What we do know is often what we find out for ourselves by reading, and which we find out for ourselves by reading, and which perhaps is best, or by joining a correspondence class, which is expensive to improvers or journey-men. We are often told to do things and shown how to do it; but why do we do it? Many ex-cellent gardeners have been trained on the old methods-by hard work, endurance, and by finding out for themselves; and their successors are not afraid of any of these methods; but new principles, greater knowledge of plants and their requirements, are the order of to day, and we want to know them. I believe I voice the desire of many a young gardener in England, and we ask the Association to help in this important question. Shorter hours are not so much a consideration with earnest fellows. Geo. H. Head, Kingsdon, Taunton.

— I have read the correspondence in the Gardeners' Chronicte week by week concerning the above Association, feeling grateful to those gentlemen who are giving time and trouble in trying to better the condition of gardeners. When I say "gardeners" I mean properly-trained men. If the Association does something towards keeping men from making gardening a dumping-ground it will be doing a grand work. Mr. Mills states he cannot see that it will benefit the gardener, and that the real and true gardener has not been unearthed. I do not know Mr. Mills, but I do know there are plenty of real and true gardeners who are being ousted from the profession by men who think they are gardeners, the majority of whom scarcely know a Rose from a Carnation, and who will work for a low wage to get a footing. I wish those gentlemen every

success who are trying to better the condition of the trained gardener. I hope to join the Association as soon as formed. W. Newberry, gr. to the Earl of Verulam, Gorhambury, St. Albans.

Obituary.

ALEXANDER YOUNG.—We regret to record the death, on the 15th inst., of Mr. Young, late of Annesley Park Gardens, Nottingham. Deceased was seventy-five years of age last February, and retired from the position of estate steward and gardener in 1899, a position he had held for forty-four years. During the past five years he enjoyed a pension. He leaves two daughters, both married. An account of Mr. Young's career was given in our issue for January 28, 1899, p. 61.



THE LATE ALEXANDER YOUNG.

WILLIAM CARMICHAEL .- On Wednesday the 6th inst., at the advanced age of eighty-eight years, this well-known gardener passed away at Edinburgh, where he had lived for some time. It was in this city that Mr. Carmichael commenced his gardening career, working in the Botanic Gardens there, and eventually rising to the position of foreman in that institution. Carmichael had charge at one time of the gardens and farm at Drummore, Stirling, and it was from this place that he proceeded to Sandringham. When the King was Prince of Wales, Mr. Carmichael occupied the post of head gardener at Sandringham for nearly ten years, carrying out many improvements in the grounds, and showing great capacity. On leaving Sandringham he took charge of the gardens at Crowe Hall, Bath, the residence of H. W. Tugwell, Esq., and while in these gardens devoted much time and attention to Azaleas, raising many new hybrids. He crossed A. amoena with A. indica, and exhibited the hybrids at meetings of the Royal Horticultural Society. Azalea William Carmichael received a First-class Certificate on March 5, 1878.

He was an able gardener, and cultivated successfully plants and fruits of various kinds. At the first of the great provincial shows held by the Royal Horticultural Society at Bury St. Edmunds in 1867 he was a prominent exhibitor of fruit and other subjects, gaining a special service of plate for a very fine collection of fruit at that meeting. Deceased retained his interest in gardening to the last, and fruit culture being one of his favourite occupations he devoted much time and interest to it, and was successful quite re-cently in raising some new varieties of Strawberries which have been put into commerce. He was a native of Comrie, in Perthshire, a county that has produced many other famous horticul-For some time past he had been in very turists. For some time past he had been in very feeble health. His remains were interred in Warriston Cemetery, Edinburgh, on the 9th inst.

ALPINE GARDEN.

SHORTIA GALACIFOLIA.

This plant increases in popularity with each succeeding year, and with a little attention to a few cultural details the plants, once established, are as long-lived as Gaultherias, increase freely, and produce hundreds of flowers each spring. The roots are of the nature of these of a mountain plant inhabiting leaf-soil or peat, very fibrous, and ill-adapted to withstand either drought or excess of moisture. The leaves are rounded in shape, dentate at the edge, leathery in texture, prominently veined, and coloured a deep crimson-scarlet on all exposed surfaces, forming a pretty tuft, welcome in itself for its warm colour-The flowers arise from the crowns in March and April, and have flesh-tinted peduncles 6 to 9 inches high; crimson-tipped bracts surround the corolla, which is bell-shaped, deeply lobed and fringed, and are white, flesh, or rosecoloured, the centre of the flower being occupied by the five incurved lemon-yellow anthers. rosy-tinted forms in a wild state have always been rare. The best way to establish these plants is to grow them in a frame for a few months until they have made and perfected leaves under cultivation, inserting them in sandy peat in clumps 6 to 9 inches square, and afterwards planting them in the open in a cool yet not shady situation when the drought of summer has passed. Thus treated, they feel no disturbance, and if well watered and made firm at the time of planting they will thrive.

PRIMULA MEGASEÆFOLIA VAR. SUPERBA.

This pretty winter-flowering Primrose appears to grow so badly in some gardens that many regard it as quite a worthless plant for outside planting, whilst introduction to heat speedily spoils the best specimens. That there are weedy forms in cultivation one must admit; probably most are derived from a parent stock by division; but seedlings show a marked improvement on the original type, and one of these is so good that a distinctive name has been proposed for it. The leaves do not differ much from typical P. megaseæfolia, but the flowers are greatly improved, being twice the size of those of the older form, the colouring being a rich velvety reddish-mauve. The yellow-and-white eye is very vivid and in the form of a star, the white colouring forming a thin zone around the yellow throat. The habit of this Primula is vigorous.

FRITILLARIA SIEHEANA.

This Fritillary was received from Cilicia two years ago, but the bulbs arrived in such a poor condition that their value as garden plants could not be determined at that time. This season they are flowering vigorously, and though devoid of bright colouring-like most of their fellowsthey are pretty in outline, and when fully expanded under sunshine are very pleasing. The bulbs are rounded, and 2 inches in circumference. The stems are 18 inches high, and are furnished with six to ten glaucous, linear, erect leaves. The flowers are borne in pairs, the petals being an inch or more long, ovate, coloured reddishchecolate, banded on the outside with green, and slightly marbled green on the inside. of the flower when fully expanded is narrowly bell-shaped, bearing some resemblance to F. coccinea or F. recurva, but it is not so showy as these species. Its closest ally appears to be F. Elwesii, and the colour scheme is similar. It grows well here in an ordinary border, and is effective only when massed in colonies of a dozen or more.

ANEMONE PULSATILLA.

The garden variety of this British plant is so beautiful that one can recommend it to all who value spring flowers. In the wild plant the

flowers and leaves are scarcely raised above the ground-level, and the petals are so small that the tuft of anthers almost hides them. In cultivated specimens the stems are very stout, 6 to 12 inches high, arising in dozens from a common root-stock, and bearing flowers of a soft mauve or blue colouring. The felt-like covering of the petals, stems, and foliage gives the whole plant an appearance as though covered with grey silk. The flowers are nearly 2 inches in length, and measure $1\frac{1}{2}$ inch across the throat. There is no alpine plant that flowers at the same season that can compare with the cultivated A. Pulsatilla. The limestone in which the wilding grows should find no place in the soil for cultivated forms, and the open exposure of the Surrey downs must not influence one when selecting places for planting them. A well-cultivated border that does not dry out quickly, or rockwork built on a good soil, and in semi-shade, will suit this Anemone well, whilst effective use may be made of them in furnishing the ground beneath Cornus, Forsythia, and kindred shrubs, that do not throw a dense shade. The white Pulsatilla is seemingly of a different stamp; it revels in the light sandy soil of warm slopes, and invariably dies in places where A. Pulsatilla thrives. G. B. Mallett.

SHORTIA UNIFLORA.

This is evidently a thirsty plant, as it has flourished with me during the execrable season that has played mich et with many a choice alpine. Referring to my notes in the Gardeners' Chronicle of May 24, 1902, I may say my large plant has had this season about twenty-seven flowers, which are the finest it has produced, most of them measuring $1\frac{3}{4}$ inch in diameter.

The deep rose coloured variety, which missed blooming last year, is also flowering, but it does not rapidly increase in size.

SCHIZOCODON SOLDANELLOIDES.

Like the Shortia this plant has evidently enjoyed the rain, and crowns have appeared in different parts of the rockery pocket.

PRIMULA MINIMA.

Primula minima las refused for ten years to flower, but is this year goirg to do so. W. T. H., Alnbank, Alnwick.

IRIS ATROPURPUREA.

With the exception of I. nigricans, the flower of I. atropurpurea is perhaps the darkest-coloured of its group. The whole flower, save for the black blotch and the golden beard-like crest, is of the deepest purple; the falls are also of a dark hue generally. The flower is of medium size, the standard being 2 inches in length and breadth, whilst the strongly recurving falls are rather more than an inch wide, and some $2\frac{1}{2}$ inches long. When flowering the full-grown plant is about 9 inches in height. It is certainly one of the gems among these plants. E. J.

TRADE NOTICE.

JAPAN.—We are requested by our correspondent, Mr. A. Under, of Yokohama, to say that no mails that left Europe between the middle of January and the middle of February, and despatched vid Siberia, have been delivered owing to the outbreak of the war, so that if any correspondents should have received no replies to their communications they will know to what cause to attribute the delay. Messrs. Boehmer & Co., however, state that their business is not affected by the war, and that they are in a position to execute orders as usual. Messrs. Boehmer have opened a branch at 9A. Hankow Road, Shanghai, China, where they will be glad to receive catalogues and other documents.

SOCIETIES.

ROYAL HORTICULTURAL.

APRIL 19.-In conjunction with the ordinary meeting of the Committees of this Society in the Drill Hall, Buckingham Gate, Westminster, on Tuesday last, the annual exhibition of the National Auricula and Primula Society was held. The result was a very crowded Hall, and considerable confusion and inconvenience. The space usually reserved for the sittings of the various Committees was nearly all devoted to the display of exhibits, and the Floral, Orchid, and Fruit Committees sat upstairs in the Canteen. There were no conveniences for keeping together the various plants, and flowers submitted for inspection, and they were placed here and there wherever there haprened to be room for them. Parily owing to this the Floral Committee sat for one hour only. Immediately the Committees rose the exhibits were removed from the room, and some were placed on the ilco: of the gallery, and others in various parts of the Hall, whilst several appeared to vanish altogether, for we were unable to discover them afterwards.

The ORCHID COMMITTEE recommended awards, including three First class Certificates, three Awards of Merit, and one Botanical Certificate.

The FLORAL COMMITTEE recommended two First-cla's Certificates and seven Awards of Merit. The First-class Certificate was awarded to a pure white flowering Hippeastrum named Snowdon. This variety, which has been raised by Mr. C. R. Fielder, gr. to Mrs. Burns, at North Mymms Park, the witer of our weekly Calendar on "Plants under Glass," may be said to have been the most remarkable plant at the meeting.

THE NARCISSUS COMMUTTEE recommended one First-Class certificate and nine Awards of Merit.

THE FRUIT COMMITTEE had not a great deal to do, and made no award to a novelty.

In the alternoon fifty one new Fellows were elected, and Mr. GEORGE MASSEE delivered a lecture in the canteen on "Some diseases of the Potato," a cummary of which will be found on p. 257.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. C. T. Druery, R. Dean, C. E. Shea, A. Perry, Jno. Jenning, J. A. Nic, C. R. Fielder, Charles Dixon, R. Hooper Posrsan, H. Turner, H. J. Cuthush, E. T. Cook, R. C. Noteu t, C. E. Pearson, W. Cuthibertson, H. J. Jones, R. Wilson Ker, W. P. Tiomson, E. H. Jenkins, Geo. Paul, Ed. Mawlsy, and James Hudson.

Mr. G. REUTHE, The Fcx Hill Hardy Plant Nursery, Keston, Kest, showed well-flowered alpine and other hardy plants. Cypripedium Calcebius was flowering ficely. Other plants noticed were Erythronium gigantsum, Orchis longicornis, Ophrys Speculum, O. tenthredinifera, and Trillium sessile californicum. Ramondia Nataliæ was doing well in a large pan; and another pan contained a fine double-flowered lilaccoloured Primrose (Silver Banksian Medal).

Messrs. R. WALLACE & Co., Kilnfield Gardens, Co:chester, brought a variety of alpine plants and Japanese Maples. Fritillarias were a feature; Anemones, Trilliums, Arabis, Erythroniums, and other similar plants were shown well, and Fritillaria recurva was very fine.

THE CRAVEN NUSSERY Co., Clapham, Lancaster, had aipine plants tastefully arranged in a portable stand. An interesting feature consisted in the pans being arranged as complete gardens, miniature temples bridges, arches, streams, &c.

Messrs. J Cheal & Sons, Crawley, showed trays of

Messrs. J CHEAL & SONS, Crawley, showed trays of alpine plants, including some good forms of Primula japonica, Dodecatheon Media, &c. Flowering shrubs and Daffodils were placed at the back (Bronze Flora Medal).

Mr. A. R. UPTON, The Guildford Hardy Plant Nursery, Millmead, Guildford, set up a small but choice collection. Atragene alpina alba, Mertensia virginica, Omphalodes verna, and Androsace among others were good.

The Misses Hopkins, Mere, Knutsford, Cheshire, staged a smalt group of hardy plants, comprised principally of Primulas and Primroses. Queen Alexandra was a very good yellow self Auricula.

Mrs. LUTHER HOLDEN, Penetoft, Ipswich, showed flowers of a brilliant scarlet Anemone, King of Scarlets.

Messrs. John Peed & Son, West Norwood, London, contributed a collection of alpine and hardy plants, including a large basket of Saintpaulia ionantica. Delphinium nudicaule was interesting, as was the pre ty golden form of Sibthorpia europea.

Trays of alpines were also staged by Mesers. Geo. Jackman & Son, Woking Nuresry, Surrey. Primulas. Ranunculus amplexicaulis, Cornus canadensis, Mertensia virginica, Edralauthus serpyllifolius, with its interesting Campanula-like flower, and a tray of coloured Primroses were the chief features of the-group.

Messrs. R. & G. CUPHNERT, Southgate, again staged a magnificent group of forced flowering plants and shrubs, relieved with suitable foliage plants. Some standard plants of Deutz'a crenata flore-pleno were pleasing. The same firm also countibuted to the Auricula and Primula section of the show with a very fine collection of flowers (Silver-gilt Flora Medal)

Messrs. Thos. CRIPPS & Son, The Tunbridge Wells Nursery, Kent, set up a group of Japanese Maples in variety, many of the plants being well coloured, and the foliage beautifully dissected. Messrs. Thos. CRIPPS & Son also showed Deutzia venusta, having white flowers of large size.

Messrs. James Veitch & Sons, Chelsea, S.W., staged a large group, rich in colour, which included Jasminum primulinum, the large primrose-coloured species recently introduced from China: Kalanchoe felthamensis, a free-flowering hybrid with soarlet flowers. The blue Hydrangea was again shown in good colour, and some seedling Hippeastrums. The Cinerarias were especially flue, and a variety, Fantasy, was of a beautiful magenta colour, with quilled reflexed petals. Another pleasing variety was Feltham Bouquet.

Messrs. Storrie & Storrie, Dundee, N.B., staged as number of plants of Primula obconica of a good strain, with some very pleasing shades of colour. A white form was very noticeable in this excellent exhibit.

Messrs. H. Cannell & Sons, Swanley, Kent, again presented a fine display of zonal Pelargoniums in fancy vases, Lady Warwick (white Picotee edge), Charles Curtis (an enormous scarlet), Qusen of Italy, King Victor, Mrs B. W. Currie (very pleasing rosy pink), and Mr. J. A. Bell, being all new varieties. The same firm brought forward a fine new secoling of Ribes sanguineum named King Edward VII. Some trays of Polyanthus Primulas were also contributed by this firm (Silver Banksian Medal).

Messrs. W. Balchin & Son, Brighton, staged a small group of Cape plants, Ericas, Aphelexis, Tetrathecaericoides, Diosma capitata, Boronias, &c., and gave a finish to the group with a row of Primula verticillate. (Silver Banksian Medal).

Messrs. Huon Low & 'Co., Bush Hill Park, Enfield, set up a small group of plants interspersed with Maidenhair Fern. A number of good plants of Auricula Queen Alexandra was arranged along the front, and a fine batch of Schizanthus wisetonensis, with Chorozema cordata splendens and cut blooms of Carnations.

Captain Holford, Westonbirt, Tetbury (gr., Mr. A. Chapman), sent five seedling Hippeastrums, among which "Rufus" was a dark soarlet, of grand form.

ROSES.

The group of cut Roses in vases from Mr. George. Mount's Nursery, Canterbury, Kent, was one of the features of the show, and whether in boxes or vases the blooms were of an equally meritorious quality. A tray of Catherine Mermet displayed this beautiful variety in perfection. Another grand batch of Madame Abel Chatenay, also of Captain Hayward, Caro'ine Testout, Mrs. John Laing, and Mrs. W. J. Grant, Middred Grant, Frau Karl Druschkl, Edith D'Ombrain, Madame Cadeau Ramey, were all good (Silver-gilt-Bauksian Medal).

Mr. H. B. May, Dyson's Road Nurseries, Upper Edmonton, set up a pretty group composed chiefly of dwarf polyantha Roses with some of his choicer Ferns worked in among the group, Pteris Childsit, P. Summersil, and Adiantum Farleyense being exceptionally good. Among the Roses were White Pet, Madame L. Levayasseur, and Dorothy Perkins, all flowering well as pot plants (3ilver gitt Banksian Medal).

Messrs. Benjamin R. Cant & Sons, The Old Rose Gardens, Colchester, also displayed Roses, and showed some beautiful blooms in their collection. The Blush Rambler in pots made an effective background, and had trusses of its pretty single flowers in profusion. The varieties in vases included Catherine Testout, Mrs.

W. J. Grant, Mrs. Starman Crawford, Ulrich Brunner, and Fisher Holmes (Silver Bankslan Medal).

Messrs. F. CANT & Co., Braiswick Rose Gardens. Colchester, staged some cut Roses in trays, and dwarf polyantha varieties as a background. Mrs. Ed. Mawley, Lady M. Beauclerc, Souvenir de Pierre Nolting, and Madame Cochet were some of the best.

Messrs. T. S. WARE & Co., L'd., Ware's Nurseries Feltham, Middlesex, showed a collection of Roses in pots and vases upon the table, displaying some of the better known varieties in their collection. Testout, Liberty, Kafserln Augusta Victoria, Catherine Mermet, Mrs. W. J. Grant, François Crousse, and Bridesmald were noticed.

Mr. E. BENNETT, Pirbright, Surrey, showed some seedling Roses in pots and baskets.

A small collection of hardy plants was shown by Mr.

H. C. PULHAM, Elsenham, Essex.

Messrs. PAUL & Son, The Old Nurseries, Cheshunt, had a pretty group of Roses in pots, with standard Lilacs interspersed for effect. Banksian Roses crowned the whole, the double white and double yellow varieties of this Rose being very pleasing; whi e Deutzla gracilis roses, and Rose Mons. Paul Lede, and an unnamed red variety formed the groundwork.

Messrs. GILBERT & FON, Dyke, Fourne, Lincolnshire, had a number of vases of Anemone corcnaria. The variety King of Scarlets was very fine. Some good mixed doubles, and the variety St. Brigid, were also shown well. A. apennica, A. nemerosa, and varieties of A. Pulsatilla were also locluded in the collection.

Messrs. Buberr & Co., LtD., brought forward a novelty in the form of a patent trough for planting purposes, composed of a porous concrete-like substance, and being in sections, the trough can be enlarged or shortened as required.

Mr. Augustus J. Climpson, Harpenden, Herts, sent a variegated form of Galega t flicinalis.

Messrs. FISHER, SON & SIDRAY, Handsworth Nurseries, near Sheffield, exhibited a standard plant of Cyticus Handsworthensis with white flowers. plant had flowered under glass, and the Committee expressed a wish to see a specimen from the open-air later in season.

F. A. BEVAN, Esq , Trent Park, Barnet (gr , Mr. Fair), exhibited a new hybrid Verbena of the type of Miss Willmott. The flowers are much paler la colour than those of the variety Miss Willmott, but they have a pleasing perfume not usual in Verbenas.

Awards.
Fritillaria imperiolis, inodora is a strong-growing variety, carrying heads of eight to ten large dark crimson-coloured flowers. The nectaries are smaller than in those of F. imperialis, and the flowers are more handsome. Shown by Mr. C. C. VAN TUBERGEN, jun., Hasrlem, Holland (Award of Merit).

Hippenstrum "Ronda."-A large, spreading flower having a while ground and scarlet veining; the segments are very wide. A capital and showy variety. Shown by Messrs. JAMES VEITCH & SONS (Award of Merlt).

Hippeastrum "Snowdon."-This is a pure white variety except for a little green colour at the base. flowers are 63 lnches across, and the segments 3 lnches wide. The stameos and style are pure white, as are the segments of corolla. It is the best acquisition in these plants for very many years past. From Mr. Fielder, gr. to Mrs. Burns, North Mymms Park, Hatfield, who showed two other varieties with whitish flowers (Firstclass Certificate).

Iris Lorteti alba .- This is a most heautiful variety of the species. The standards are white or the faintest shade of helioirope, and the falls pale sulphur-yellow with a reddish-brown blotch. From Messrs. W. Cut-BUSH & SONS (Award of Meril).

Pteris cretica Summersii.—This is a handsome and wellknown crested variety. It was awarded an Award of Merit six years ago, and is an excellent plant for the decoration of apartments. From Mr. H. B. MAY (Firs'class Certificate).

Rhododendron Harry Mangles .- This hybrid was sent by H. A. MANOLES, Esq, Littleworth Cross, Seale, Farnham (gr., Mr. West), who suggested it was probably a cross from R. calophyllum, R. Blandfordianum, do. The flowers have a tube nearly 3 inches long. The segments are each I inch across, and the mouth of the flower $2\frac{1}{3}$ inches across. The colour is a very pleasing shade of pick, the shade being deeper slong the centre of each segment. The leaves are 3 inches long and 14 inch wide. It is a very beautiful variety for cultivation in the temperate house, for Mr. Mangles stated that the varieties, though hardy in the open-alr so far as growth is concerned, lose their flower-buds in early spring as the result of frost (Award of Merlt).

R. Rose Queen.-The preceding remarks apply in a great measure to both of these hybrids, as they are certainly from the same parentage. Rose Queen has shorter, more spreading flowers, and coloured deep rose on the exterior of the flower, and much paler in tint inside (Award of Merit).

Rhadodendron Glary of Penjerrick .- This is a Sikkim Rhododendron, with immense trusses of large flowers of bright red colour with silvery sheen. Shown by R. Fox, Esq., Falmouth (Award of Merit).

Ribes King Edward VII. - A very fine form of R. sanguineum (American Currant) was shown by Messrs. H. CANNELL & Sons. The flowers were much larger than those of the type, and the colour deeper, being rich rosy crimson (Award of Merii).

Narcissus Committee.

Present: Henry B. May (Chairman), Miss Willmott, and Messrs. Robert Sidenham, A Kingsmill, F. A. Bowles, G. Reuthe, W. Goldring, A. R. Goodwin, P. R. Barr, J. T. Bennett-Pce, W. T. Ware, Jas. Walker, Geo. Engleheart, H. Bourne, E. M. Crosfield, John Boscawen. Jno. Pope, C. MacMichael, W. J. M. Copeland, J. D. Pearson, Chas. T. Digby, R. M. Wallace, W. A. Milner, Geo. S. Titheradge, and C. H. Curtis.

Messrs. BARR & SONS, Covent Garden, displayed a general selection, and some of the newer kinds. Peter Barr and Mrs. G. H. Barr, Klog Alfred, Phil May, Gloria Mundi (very rich), Monarch and Weardale. Chanticleer (a big variety of the Emperor class), and Baron de Seatellinho, were ali good (Silver-gilt Flora Medal)

The Silver Vase offered by Messrs. BARR was won by R. A. DANVERS, Esq , Sheppertoo, with a choice assortment in the best of condition. Capt. Nelson, Gloria Mundi, Poeticus almira, Mrs. Walter Ware, Sir Watkin, Mr. J. Berkeley, and Glory of Leiden, were among the best

Mr. LESLIE MELVILLE, Brenstone, Lincoln, had a pleasing and good collection. We noted Mme, Plemp, King Alfred, Sir Watkin, Barri couspicuus, and fine blooms of other varieties (Silver Banksian Medal).

J. A. NIX, Esq, Crawley, also staged a beautiful assortment of these flowers, concealing the vases in a moss setting (Silver Flora Mcdal).

From Dublin Messrs. Hogg & Robertson staged a very representative collection; Lady Margaret Boscawen was very prominent (Bilver Flora Medal).

Messrs. Pope & Son, Birmingham, also staged a fine collection. Giant. Surprise, Weardale Perfection, and King's Norton were all in fine style (Silver Flora Medal).

Messrs. VEITCH & SONS, Ltd., Chelsea, set up a very general collection of these flowers, a free grouping of the kinds being the system adopted (Silver Flora Medal).

Mr. CHAS. DAWSON, Perzance, had a most select assortment, consisting chiefly of novelties. The best were Will Scarlett, Orange Peel, Pligrim (a sort of bicolor Leedsi), Shearwater (white perianth with orar ge-tinted cup), Elizabeth (a soft pale-lemon tone In a Sir Watkin type of flower), and Marie Louise, with a cup of intense fiery-red (Silver-gilt Flora Medal).

Miss F. Currey, Lismore, again showed a very large lot of flowers in many kinds White Queeo, Lady Margaret Boscaweo, Kiog Alfred, and Lucifer were conspicuous in this large and good collection (Silvergilt Banksian Medal).

A small group of Narcissus from H. R. DARLINGTON, Esq., Potter's Bar (gr., Mr. O. Blgnell), contained many good and choice blooms (Silver Bankslan Medal).

A larger group near by, from Mr. R. H. BATH, Wisbech, contained Duke of Bedford, M. J. Berkeley, Albatross, Eyebright, Apricot, Weardale Perfection (fine flowers), and others (Silver Flora Medal).

The Rev. G. H. ENGLEHEART, Dinton, Wilts, sent many choice flowers, of which we especially noticed Goldeye, Hildsgo (soft lemon perlanth with deeper cup of the Sir Watkin type), Virgil (a richly-coloured Poeticus) form), Firebrand (intense cup), Glitter (an improved Barri conspicuus), with several vases of the double Plemp and Argent.

Miss WILLMOTT, Warley Place, Essex, had a small group of choice novelties, most of which obtained awards (see Awards).

Awards.

N. Great Warl y - A giant flower resembling a bicolor Sir Watkin, the huge protruoing crown being widely expanded. A very Landsome flower (First-class Certificate).

N. Warley Scarlet .- A large and telling flower, having a frilled ovate, orange-scarlel crown (Award of Merit).

N. Zenith .- Creamy-white perianth, the flattish crown bordered orange with yellow centre (Award of Merlt).

The three varieties above were all exhibited by Miss WILLMOTT, Warley Place, Essex.

N. Elvira .-- A clustered kind, with orange-yellow cup and white perianth (Award of Merit).

N. Henry de l'ilmorin.-Flower of large size of a creamy hue throughout; a good Ajax kind (Award of Merit).

N. Pyramus, - A bicolor, with soft pleasing yellow trumpet (Award of Merit).

These three were from Messrs. BARR & SONS, Covent Garden.

N. Dewdrop .- Sup cylindrical, frilled and tipped at the margin with palest orange (Award of Merit). From Mrs. BACKHOUSE.

N. Surprise. - A giant trumpet of great size in all its parts (Award of Merlt). From Messrs. Pope & Son, Birmlagham.

N. Bennett-Poë.-From Mr. A. KINGSMILL (Award of Merit).

Tullpa Kaufmanniana coccinea.—This showy red varie'y received an Award of Merit. Exhibited by M. C. VAN WAVERIN.

Orchid Committee.

Present: Harry J. Veitch, E:q. (in the Chair); and Messrs, Jas. O'Brien (Hon. Sec), J. Gurney Fowler, Da B. Crayshay, W. Bolton, R. G. Thwaites, W. H Young, W. H. White, H. Morris, J. Charlesworth, W. A. Filney, F. W. Ashton, F. Wellesley, H. A. Tracy, T. W. Bond, H. T. Pitt, A. A. McBean, M. Gleeson, H. Ballantine, J. W. Odell, W. Boxatl, J. Colman, H. M Pollett, and W. Cobb.

There was again a fice show of Orchids, a larger number of novelties than usual being staged; but owing to the quantity of spring flowers, room had to be found for the Orchids anywhere

A Silver-gilt Flora Medal was awarJed to II. T. Pitt. Esq , Rossiyo, Stamford Hill (gr., Mr. Thurgood), for a very fine group, princi; a'l; Odontoglossums, and amorg which the very handsome O crispum Pittiæ and the heavily blotched O. c. Lindeni vied with each other for the first place. Both these magnificently blotched crispums have points in common, though the intense ruby-purple blo ching of O. c. Linderl is rather the better in that particular. O c Pittim, Lowever, is a model flower. Other good spotted crispums, such as O. c. Maud Rochford and O. c. King Richard were staged, as well as the giant O. cirrosum Pitt's var., varieties of O x loochristy case, O. x Adrian a, Zygopetalum x Perrenoudi Cecil Rhodes, Z. x Sanderi, Cymbldium eburneo-Lowianum, Oncidium phymatochilum, Cattleya Sohroderæ alba, &c.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), was awarded a Silver F.ora Medal for a fine group, the body of which was made up of extraordinarily large and heavily bloomed specimens of Dendrobium Davoniauum, the plants being literally sheaves of bloom. With them were a good form of D. Wardianum album, a very large and finely shaped D. W. giganteum, some very handsome forms of Cattleya Schroderæ, the best of which secured an Award of Merit; C. intermedia Fowlerl, Cymbidium Lowianum concolor, C. x eburnec-Lowianum, Cypr.pedium x W. R. Lee, in fine form, &c.

Mesers. Jas. Vehtch & Sons, Chelica, received a

Silver Flora Medal for a good group, principally hybrids, the gem in which was Dendrobium x Thwaitesiæ Veitch's var., which secured a First-class Certificate (see Awards). With it were P. x crepidatonobile, the dark scarlet Epidendrum × Delphi, a pretty set of varieties of E. x elegantulum, Lælio-Cattleya x Zephyra, L.-C. x Frederick Boyle, L.-C. x highhuryensis, Lælia × Latona, L. × Mrs. Gratrix, &c.

Messrs, tander & Co, St. Albans, secured a Silver Flora Medal for a very bright and effective group, the novelties in which were the fine new Zygopetalum x Gottianum (see Awards), Lælio-Cattleja x Ruby Gem var. Flambeau (C. Lawrenceanum Hyeanum x L.-C. × Schillerlana), L.-C. × Bird of Paradise (L flava × C. Mendelli), a very attractive bright yellow flower with ruby crimson front to the lip; Lycaste Schilleriana magnifica, with very long olive-tinted sepals and white petals and lip; and L. Amesiana, a smaller flower allied to L. xytriophora. Also Loted were Lælio-Cattleya x Dominiana, a number of varieties of Sobraliaa 8. Amesiana being a very fine yellow, rose tlated.

Mesers, Jas. & A. A. McBean, Cooksbridge, were awarded a Silver Flora Medal for a fine group of Odontoglossums, chiefly O. crispum, all grown in their well-known excellent manner. With the varieties of O. orlspum were O. \times Adriane, O. \times Loochristyense, O. Hallil, O. luteo-purpureum, &c.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman) sent Odontoglossum crispum Smeeanum, a pretty rose-tinted flower with many small brown spots; Dendrobium × Venus, Oakwood variety, and Odontoglossum crispum xsnthotes Cooksouæ (see Awards).

Captain G. L. HOLFORD, Westonbirt (gr., Mr. Alexander), sent Odontoglassum x Andersonianum, Westonbirt varlety, a good flower heavily marked with purplebrown.

DREWETT O. DREWETT, Esq., Ridling Mill-on-Tyne (gr., Mr. J. Renwick) showed an inflorescence and leaf of Cypripedium × Lowio-Parishii (Lowianum × Parishii). It had four flowers with sepals and lip yellowish, the upper sepal baving some purple lines; petal 6 inches long, decurved, greenish at base, spotted brown, the rest purple.

DE B. CHAWSHAY, Esq, Rosefield, Sevenosky (gr, Mr. Stables), again snowed the magnificent Odontoglossum triumphans Lionel Crawshay and O. crispum Venus, which latter secured an Award of Merit.

A. WARDURTON, Esq., Haslingden, sent Odontoglossum × ardentissimum, Warburton's variety, a fine white flower showily marked with purple.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr., Mr. W. H. Young), showed Odontoglossum polyxanthum grandiflorum with sixteen flowers on a spike; the unique and beautiful Cymbidium × l'Ansoni, two good varieties of Odontoglossum × Adriane, and a strong spike of Eulophiella Elisahethæ taken from a plant of the original importation.

M. CHAS VUYLSTERE, Loochristy, Ghent, showed a small group of Odontoglossums.

Mr. H. WHATELEY, Kenllworth, showed several good Odontoglessums, one purple - marked form of O. erlapum being very promising.

Mesers. Hugh Low & Co., Bush Hill Park, showed a pretty group, made up of Dendrohium crepidatum, D. lituiflorum, D. tortile, D. Pierardi, D. chrysotoxum, and other Dendrobes; Lycasie Skinneri alba, Cattleya intermedia alba, the singular Cypripedium × Drurio-Hookers, the very distinct Cymbidium Lowianum, Bush Hill Park varlety, a zellowish flower slightly marked with brown, and with a light-reddish zone on the lip, &c.

LUDWIG MOND, E:q., The Poplars, Avenue Road, Regent's Park (gr., Mr. J. O. Clarke), sent Cymbidium Lowianum exquisitum, a good flower with nearly searlet markings on the llp; the plant sent had two fine spikes. Also I wilo-Cattleya × Inter clegans "Blanche Gertrude," somewhat resembling L.-C. × Schilleriaga.

Awards.

FIRST-CLASS CERTIFICATE.

Dendrobium × Thwaitesix, l'eitch's variety (D. × splendidissimnm grandiflorum × Wiganiæ).—This may be pronounced the finest of the yellow Dendrobes of its class, and it resembles D. splendidissimum grandiflorum in every respect, except that the flowers are rich yellow with a slight buff shade in some stages, and with a violet-purple disc to the lip.

Odontoglossum crispum xanthotes Cooksonæ, from Norman C. Cookson. Esq. (gr., Mr. H. J. Chapman).—A model fluwer, of a clear white colour, the lip having a few, and the other segments occasional orange-coloured spots.

Zygopetalum × Gottianum (maxillare Gautieri × Perrenoudii), from Messis. Sander & Sons.—A pretty and very distinct hybrid. Sepals and petals dark bronzy-purple with a slight whitish margin and apex to the segments. Lip white with blue lines from the base.

AWARD OF MERIT.

Cypripetium × Wellesleyanum, from Francis Welles-Ley, Esq, Westfield, Woking (gr., Mr. Hopkins), said to be an imported plant, and resembling a natural hybrid between C. bellatulum album and C. concolor. In shape the flower very closely resembles C. bellatulum album, but the flowers are pale yellow, the lower part of the dorsal sepal the upper part of the lip, and the petals having numerous small purple spots. The flower is altogether different in form to C. concolor, and much broader in all its parts, and especially the lip. The foliage also is very beautiful—dark green with closely arranged transverse silver lives.

Cattleya Schroderw, Fowler's variety, from J. Gurner Fowler, Esq. (gr, Mr. J. Davis).—Perhaps the handsomest and largest form shown. Flower peach blossom coloured, the disc and tube of the lip orange, with a line of yellow also extending down each lateral sepal,

Odontoglossum crispum Venus, from DE B. CRAWSHAY, ESQ. (gr., Mr. Stables).—A very fine form of the typical O. crlspum; flowers white tinted slightly with purple.

BOTANICAL CERTIFICATE.

Calanthe discolor, from Messrs. Cutrush, The Nurseries, Highgate.—A pretty Japanese Orchid, said to be hardy. Leaves broad, plicate; flowers in neat heads, sepals and petals brownish, lip white with a slight rose tint. Two varieties were shown.

Fruit and Vegetable Committee.

Present: A. Dean, Esq. (in the Chair), and Messrs. J. Willard, Ed. Beckett, W. Pope, W. Fyfe, H. Parr, J. Lyne, Geo. Norman. W. Crump, Geo. Reynolds, R. Lewls Castle, H. J. Wright, G. Kelf, F. Q. Laoe, Geo. Wythes, J. McIndoe, and S. Mortimer.

A Cultural Commendation was awarded to Mr. A. H. J. MONTMORENCY, The Grange, Dublin, for a very good sample of new tubers of Purltan Potato.

Mr. JNO. CROOK, Forde Abbey, Chard, exhibited two good Cucumbers of the variety Market Favourite, and other vegetables.

NATIONAL AURICULA AND PRIMULA.

APRIL 19.—The Executive of the Society were in the best of spirits over the success of the twenty-seventh exhibition. Not only was it much more extensive than had been anticipated, but the quality was surprisingly good, the genial weather of the previous few days having operated to heighten the quality of the blooms.

In all the competitive classes Show Auriculas were well represented, and the class for fifty plants constituted a record, for there were six collections staged, though alpine varietles had to be called into requisition to make up the quantity in a few collections. The alpine varieties were both numerous and brilliant, size and quality of bloom being in happy combination.

The Fancy Polyanthus were in strong force, and very fine in quality. The Primroses were not so numerous, still, very good. The gold-laced Polyanthus were somewhat sparlingly represented, as was only natural. Mr. J. W. Bentley brought some finely-grown plants from Manchester, showing one or two of the new varieties at their best. Species of Primulas were represented by one collection of twelve, but there was no collection of six, and not a single contribution of Double Primroses, though they were at the time about their best. The weather was all that could be desired, and there was a very large attendance, the crush during the afternoon being most inconvenient.

Show Auriculas.—There was no lack of interest in this type of flower, as five collections of twelve plants were staged. It was Mr James Douglaks' day, for he was placed 1st with an excellent dozen, well grown and bloomed and generally refined. He had of green edges, Dr. Hardy, Abraham Barker, and Grasshopper (Douglas's); of grey edges, Laneashire Hero (almnst as green), Amy Robsart, and George Lightbody; white edges. Magpie, Conservative, and Vesta; selfs, Mrs. Phillips, Mrs. Potts, and Ruby. Mr. J. Sargent, Cobham, came in a very good 2nd, with green edges, Shirley Hibberd (finely/developed), F. D. Horner, and Abbé Liszt; grey edges, George Lightbody and Richard Haadly; white edges, Mrs. Dunsford, Perseverance, Acme, and Heather Bell; selfs, Gerald, Ruby, and Mrs. Potts.

There were seven exhibitors of six Aurleulas, Mr. J. SARGENT taking the 1st prize with admirable examples of—green edges, Gladlator and Abté Liszt; grey edges, Richard Headly; white edges, Acme and Elaine; and self, Gerald. Mr. J. T. BENNETT Por, Ashley Place, came 2nd; he had—of green edges, Abbé Liszt and Mrs. Henwood; grey edger, Richard Headly and George Rudd; white, Acme; self, Ruby.

There was a good competition with four Auriculas, as many as seven collections being staged; and here Mr. F. A. WELLESLEY, Westfield, Woking, came 1st with good examples of green edge Shirley Hibberd, grey edge George Rudd, white edge Acme, and self Mrs. Potts. Mr. J H. WILSON, Sheffield, came 2nd; he had green edge James Hannaford, white edge Acme, and selfs Cleopatra and Ruby.

There was a good competition with two plants also, Mr. A. S. Hampton, Reading, taking the 1st prize with grey edge George Lightbody and self Ruby, the latter unusually bright in colonr. Mr. G. W. Bentley, Stake-Illi, was 2cd with white edge Heather Bell and self Ruby.

Single specimens.—As is usual, a goodly number of these were staged:—Green edges: 1st, Mr. C. Turner, Slough, with F. D. Horner; Mr. F. Sargent was 2nd with the same. Grey edges: these were sparligly shown, Mr. J. T. Bennett-Poe taking 1st and 2nd prizes with Geo. Lightbody. White edges: 1st, Mr. J. Sargent with John Simonite, but sadly weak in the

tube; and he was 2nd with Acme. Selis: Mr. Wm. SMITH came 1st with Mrs. Phillips, a nice smooth dark variety: Mr. Henwell came 2nd with Zulu, one of the darkest; and Mr. J. W. Bentley, 3rd.

Fifty Auriculas.—The six collections of these filled a large space of tabling, and Mr. James Douglas was an casy 1st, with a very good representative group. He bad of green edges, Diamond, Abbé Liszt, Rolts Green (with its red body colour), and seedlings; of grey edges, Dinham, Ringleader, Amy Robsart, Geo. Rudd, Lancashire Hero, Olympus, and Ajax; white edges, Perseverance, Rachel, Heather Bell. Conservative, and Acme; sells; Ruby, Mrs. Phillips, Sapphire, Mrs. Potts, and Black Bess. Mr WM SMITH was 2nd, he had an excellent representative collection for an amateur, chief among them—green edges, F. D. Horner and Shirley Hibberd; grey edges Rachel, Dinham, and George Lightbody; white edges, Vonus and Mrs. Dodwell; selfs, a seedling, bright rose, well proportioned, flat, and highly promising, Ruby, Blackbird, Mrs. Phillips, and seedlings. Mr. C. Turner was 3rd.

Maiden Growers.—In the class for four varieties, Mr. C. BLICK, The Gardens, The Warren, Hayes Common, was 1st, though the only exhibitor; he had Heather Bell (white edge), and three selfs, viz., Mrs. Potts, Brunette, and Ruby.

Premier Show Auricula.—This was greeo-edge Shirley Hibberd, a well-grown p'ant with eight expanded pips, in Mr. J. SARGENT'S 2nd prize collection of twelve varieties.

Alpine Auriculos.—These were in many cases superb, highly finished and most attractive; though there were only three collections of twelve varieties, but they were remarkably good, and the 1st prize twelve, which were staged hy Mr. J. DOUGLAS, stood out from the others for their ficish. He had of gold centres, Durnsford. Dean Hole, Uranla, Rosy Morn, Duke of York, Firefly, and J. F. Kew; white ceutres, Tevlotdale (an exquisite new variety), Thetis, Ganymede, and Gillie—a really superb collection. Messrs, PHILLIPS & TAYLOR, Bracknell, Berks, came 2nd, with gold centres Mrs. M. K. Smith, Firefly, Sol, Kathleen, Niphetos, Duke of York, Admiral Togo, and Mildred; and white centre Purity. Mr. C. Turner was 3rd.

There were eight sixes of alpines, and again Mr. J. DOUGLAS came 1st; he had Rosy Morn (a distinct and beautiful variety), Uraria. Firefly, and Duke of York; and of white centres, Thetis and Gillie. Messrs. PHILLIPS & TAYLOR were again 20d, having of gold centres, Firefly, Triumph, Cassandra, and Duke of York; white centres, Thetis and Exquisite.

Mr. Price came in 1st out of eight competitors with four superb varieties, splendidly grown and bloomed; they were Urania, Sunset, Duke of York, and a seedling. Mr. HOLDING came in a good 2nd with Mrs. Gorton, Mrs. Danks, Thetis, and J. F. Kew.

The hest single specimen gold centres were Charmer, from Messrs. PHILLIPS & TAYLOR, a finely-finished new variety. Mr. Hampron came 2nd with Ziska; and Mr. PRICE 3rd with Duke of York.

Mr. PURNELL-PURNELL had the best white centre in Mrs. Harry Turner. Thetis, from Messrs. Phillips & Taylor, was 2nd.

Seedling Alpines.—A few seedling Alpines were shown. The hest gold centres were Mabel of the Manor, from Mr. R. HOLDING; Messrs. PHILLIPS & TAYLOR coming 2nd with an unnamed seedling. Messrs. PHILLIPS & TAYLOR were 1st with a white centre, and Mr. C. Turner 2nd, both with unnamed seedlings.

The Silver Medal of the Royal Horticultural Society, offered by Mr. J. Donglas for six plants of seedling Alpines raised from seeds presented by him, was won by Mr. R. HOLDING.

Premier Alpine.—This was Tevlotdale, a beautiful smooth and refined new white centre, with a slight dark grounding shading to bright deep lilac, from Mr. JAMES DOUGLAS.

Fancy Auricules.—Mr. J. DOUGLAS was the only exhibitor of twelve fancy Anriculas, generally eccentricitles. Rolt's Green, with its red instead of a black ground, was a conspicnous feature.

Primu'a species.—There was but one collection of twelve plants, a very fine lot, from Mr. Purnell-Purnell, which consisted of fine forms of obconica, Sieboldi in varieties, denticulata and its white form, japonica, verticillata, floribunda, intermedia, marginata, and frondosa.

The class for slx species brought no exhibitors, but their absence was compensated for by the very fine and interesting di-play made in the class for a box or basket of species tastefully arranged. Mr. J. Grand-Pield, Hayes, was placed let with a large oblong box containing quite an interesting and representative collection, arranged with considerable taste and highly effective. It contained cortuspides, obconica in variety, Sieboldi, verticillata, roseo-capitata, froudosa, some good yellow varieties of Auricula, &c. Mr. J. H. Wilson, Handsworth, Sheffield, who had an excellent collection somewhat similarly arranged, came 2nd.

Fancy Polyanthus.—The improved garden form of these made a brilliant display Messrs. S. Mortimes and J. Douglas making a rare fight for the 1st prize.

which fell to Mr. MORTIMER. They had very fine and varied examples in large pots; Mr. R. DEAN was 3rd.
With single specimens in 8 inch pots, M. P. D. Wil-

LIAMS, St. Keverne, who grows his flowers to an enormous size, was 1st with a rich dark; Mr. Mortimer coming 2nd with a fine yellow variety.

Primroses.—Mr. J. DOUGLAS was 1st with fine specimens in large pots; Mr. R. DEAN was 2nd with smaller plants but of good colours. Mr. P. D. WILLIAMS had the best single specimens, staging very fine varieties.

Groups of Polyanthus and Primroses arranged on a given space were designiful. Mr. S. Mortimer was 1st with a brilliant display, colours varied and remarkably good, and quality excellent. Mr. J. Grandfield was 2nd and Mr. T. H. Barnard, Bedford, 3rd, all having good displays.

Gold-laced Polyanthus. - With three dissimilar, Mr. J. W. BERTLEY, Stakebill, Manchester, was 1st with finely-grown and bloomed plants of Sarah Holden, a fine new black ground; Middleton Favourite and George IV., red grounds. Mr. R. DEAN came 2nd with smaller but correctly-marked flowers of Tiny and Lancashire Hero, black grounds; and Middleton Favourite, red ground. Lancashire Hero, bla Favourite, red ground,

In the class for a single plant, Mr. Bentley was 1st and 2nd with Sarah Holden and Mrs. Brownhill; and Mr. R. DEAN 3rd with Middleton Favourite.

No Certificates of Merit were awarded to seedling

THE DEVON DAFFODIL & SPRING FLOWER SOCIETY.

PLYMOUTH, APRIL 12. - This Society, which was formed last year under the Presidency of the Earl of MORLEY, held its first show on the above date, in the Guildhall, Plymouth. Such success has followed the sister Society of Cornwall in its endeavour to popularise the culture of the Narcissus in that county, that it was determined by Devonshire flower-lovers to inaugurate a similar Society having a like object in view. Cornieh growers did much to ensure the success of the Devon Society's initial show by entering in considerable numbers for the liberal prizes offered, thereby affording an object-lesson to dwellers in the neighbouring county of the wide field of beauty opened by the culture of the newer and rarer Narciasi, a lesson which it is to be hoped the Devon gardeners will take to heart. The entries were large, especially in the division confined to the county of Davon, and the large hall was filled with a lovely array of Narcissi and spring flowers, while the handsome exhibits staged by nurserymen created a fine display.

Certificates of Merit were granted to Mcssrs. Barr & Sons for Narcissus Gipsy Lad; to Mr. G. Reuther, Keston, Keut, for Narcissus Maud and Iris Haynei; to Messrs. T. Challice & son, Plympton, for Clianthus puniceus albus and the spotted Rhododendron Princess of Würtemburg; to Messrs. R. Veitch & Son, Exeter, for Tree-Preony Ellen Willmott; to Mrs. Baineninge, for Mignonette in pots (very fine); to Mr. T. Batson, for seedling Narcissus Doreen, a pretty white flower, two and three on a stem. a cross between Emperor and N. calathinus; to Mrs. E. H. WILLIAMS, for seedling Narcissus Rajah Brooke; to Rev. E. Bourne, for seedling Narcissus; to Mr. R. Sydenham, for bulbs grown in moss-fibre; and to Miss Carew, for Cyclamen.

Among the prize-winners were Messrs. Pope & Sons, Lady Margaret Boscawen, Rev. A. T. Boscawen, C. Dawson, P. D Williams, Mrs. W. Tyacke, Mrs. E. H. Williams, Mr. T. Batson (with Cymry, a good clear yellow seedling with short periauth and broad trumpst), Mr. F. Bradshaw, Mr. H. G. Hawker, the Earl of Morley, Captain Parley, Mr. G. Soltan Symons, and Mr. C. Bain. Certificates of Merit were granted to Messrs. Barr &

The Silver Cup for the best collection of forty va-The Silver Cup for the best collection of forty varieties was won by the Rev. A. T. Boscawen, with a fine stand contaioing excellent examples of Madame De Graaf, Pead, Mrs. Largiry, Beatrice Heseltine, Flamingo, Seagull, Horace, Lucifer, Ensign, Madge, Matthew, Resolute. Messrs. Pope & Sons were 2nd. For a collection of twenty varieties Mrs. E. H. WILLIAMS was 1st, with a seedling Rajah Brocke, Firebrand, Falstaff, Cassandra, and others.

Rhododendrons, hard-wooded flowering shrubs,

brand, Falstaff, Cassandra, and others.
Rhododendrons, hard-wooded flowering shrubs, herbaceous plauts, Camellias, Anemones, Prímroses, Polyanthi, Auriculas, Violets, Begonias, Cyclamens, Azaleas, Roses, Cincrarias, Richardia aethiopica, Pelargoniums, Calecolarias, Freesias, Lily of the Valley, Byacinths, Tulips, Primulas, and miscellaneous stove and greenhouse plants were well shown. The Silver Cup for thirty varieties of hardy flowering shrubs was won by Mrs. W. Coryton, and that for the best Daffodils exhibited in the Devon division by Mr. G. SOLTAN-SYMONS. SOLTAN-SYMONS.

Soltan-Symons.

The unrecrymen's exhibits made a bright show. Messrs. R. Veitch & Son, Exeter, staged fine Hippeastroms, Tree Pæonics, Clematis. Magnolias, Acacias, Canarina Campanula, Corylopsis pauciflora, Lotus pellorhyncus, and other greenhouse and hardy plants. The Devon Rosery, Torquay, had a large collection of pot Roses in full flower. Mr. G. Reuthe, Keston, staged Daffidis, Anemones, Saxifrages, Primulas Muscaris, Erythroniums, a fine pan of Tecophilea

cyanocrocus in good flower, Trillium ovatum and Cyrtanthi. Messrs. BARR & Sons exhibited a large and representative stand of Daffodils, including the new Peter Barr, Gipsy Lad, Firebrand, &c. Messrs, T. CHALLICE & SON, Plympton, showed Bamboos, Andro-CHALLICE & SON, Plympton, showed Bamboos, Andromedas, the certificated white Clianthus, Chorizemas, Anthuriums, and Callistemons. Messrs. WALLACE, Colchester, had Galax aphylla, Shortla galactfolia, Tulipa præstans, Gerbera Jamesoni, Iris warleyensis, I. sindjarensis, Bellis sylvestris, Cypripediums, Anemones, and Fritillarias. Messrs. T. S. Ware, Feltham, exhibited Ramondias, Primulas, Tiarelia cordifolia, Polygala chamæbuxus, Cypripedium japonicum, Calochorti, Echinocacti, Iris Eggerl, I. Korolkowi Leitchlini, and many other interesting plants, Mr. R. Synenham had a table of bulbs well grown in moss-fibre; and Messrs. Saunders & Biss, Exeter, showed models and photographs of greenhouses, illustrating their patent system of glazlug. illustrating their patent system of glazing.

GLAMORGAN DAFFODIL AND SPRING FLOWER.

APRIL 13.-The first annual show of the Glamorgan Daffodil and Spring Flower Society was held in the Town Hall, Bridgend, on the above date, and proved a great success. The entries were very numerous, some of the classes having as many as twenty - four competitors.

Competition in Class I. for twenty distinct varieties of Daffodils was most keen, Mrs. Rhoda Williams taking 1st prize and winning the valuable Silver Cup presented by Miss Talbot, the 2nd prize going to Lady Windson, St. Fagan's Castle, near Cardiff(gr., Mr. 11. A. Pattieren) Pettigrew).
Sir John Llewellyn was 1st in the class for thirty

distinct varieties with a magnificent collection of Daffodils, winning the Cup presented by Messra, Barr & Sons; Lady Windson was 2nd with a meritorious exhibit. Mrs. WILLIAMS, Miskin Manor, won 1st prize in the class for fifteen varieties with a very fine group of Deffodile. of Daffodils.

of Daffodils.

The three classes for Violets brought some very fine exhibits. For the best bunch of singles, Miss Talnor, Margam Park, was placed 1st and 2od; and the two succeeding classes for three bunches were won by Mrs. Ensworth, Landrugh Castle, with exceptionally fine exhibits.

One of the great features of the show was the fine exhibit of cut flowers of Rhododendrons. For the best group of outdoor Rhododendrons, Sir John Llewelln, Pepilergaer, Swadsea was 1st with a very fine collection of forty-sight distinct varieties, in-

crediting many rare hybrids.

Credit is due to Miss Williams, Mickin Manor, and Mrs. Nicholl, sen, for the courteous and able manner in which they carried out the duties of Secretary and

ROYAL HORTICULTURAL OF IRELAND.

THE grand floral fête, organised under the auspices of the Royal Horticultural Society of Ireland, was held recently in the Royal University Buildings. Mrs GOODDODY, of Obelisk Park, secured a number of distinctions in the classes for exotic Ferns, Azaleas, Freesias, Spiræas, and Tulips, and also for the best table of plants and Ferns. Mr. ERNEST BEWLEY was, as usual, well to the fore in the Rose classes, securing two usual, well to the fole in the Bose classes, securing two lst prizes. Other leading prize-winners were Mr. R. W. Booth, J.P.; Mr. A. H. Pim, Mr. Westey, J.P.; Mr. John Millar, Sandymount; Mrs. Mkade Coffey, Mr. C. M. Doyne, Lord Ashtown, Mr. E. Doller, Miss Pim, Lord Plunket, and Miss R. Wrench.

The nurserymen made a spiendid contribution to the display. Messrs. Alex Dickson & Sons, of Newtownards, had a magnificent collection of Roses, and also of Natcissus, Daffolds, Tulis, &c. Among the

Newtownards, had a magnificent collection of Roses, and also of Narcissus, Daffodils, Turips, &c. Among the Roses shown by them were some wonderful specimens of their choicest varieties. These include Catherine Mermet, Captain Hayward. Margaret Dickson, Helen Keller, Lady Roberts, Ulrich Brunner, Mrs. John Laing, Mrs. W. J. Grant, and Muriel Grahame.

Messrs. Hogg & Ronertson had also an interesting and beautiful display from their bulb farm at Rush. This included Narcissus and Tulins—some of the latter being of particularly large size. The varieties included such favoured flowers as King Alfred Sir Francis Drake, Mme. de Graaff, Mr. George F. Brooke, Lady Arnott, Lady Margaret Bescawen, Brigadier, Mr. Charles Hamilton, Mona, Lady Gore Booth, &c. The exhibit was awarded the Society's Silver Medal.

Another very noteworthy exhibit was that of Messrs.

exhibit was awarded the Society's Silver Medal.

Another very noteworthy exhibit was that of Messrs.

HARTLAND & CO., of the Royal Nurseries, Cork. This
comprised principally Daffooils and Cinerarias.

Miss F. W. CURREY, of Lismore, had a very cretty
stand of similar flowers. She was awarded the Society's
Medal for her admirable display.

Another feature of the show was the fine collection
of flowering shrubs shown by Messrs. Pennick, Delgany. For this they were highly commended. The
display included a number of Aucubas,'a grand assortment of Rhododendrons tich in bloom, Japanese
Maples of remarkable colouring, and Azaleas, also
exceedingly rich in tints.

Sir Josslyn Gore Booth showed a fine stand of
Daffodils from his gardens at Lissadell, county Sligo.

ROYAL BOTANIC.

THE USE OF HYDROCYANIC ACID GAS AS AN INSECTICIDE.

Considering the great value attached to the use of "cyanide" or hydrocyanic acid gas in the United States for the destruction of insect pests on fruit-trees in the open-air, it seems scarcely conceivable that the practice should have remained for so long more or less a mystery rather than a true friend to the growers of this Vague recommendations have been set forth from time to time as to the strength and materials to be used. But in many cases the results which followed were as destructive to plant life as to the insects them-selves, while in other cases both escaped uninjured. This clearly demonstrated the want of true knowledge regarding the properties and uses of hydrocyanic acid gas as a fumigant in this country. The conditions pre-vailing here are totally different from those abroad, and it was recognised that the successful the process must be was recognised that to be successful the process must be adapted to meet our requirements. With a view of arrivadapted to meet our requirements. With a view of arriving at these requirements, and removing the operation of "cyanidirg" from an experimental to an established basis, a series of tests were carried out at the Gardens of the Society. One large range 150 feet long, 20 feet wide, and 13 feet high, was successfully done, and followed by a smaller one. In these ranges plants infested with mealy hugs, thrips, red-spider, scale, green-fly, &c, were collected, and in the short space of two hours from start to fluish all above pests were completely destroyed without injury to plant-life. The completely destroyed without injury to plant-life. The preparations consisted in arranging all ventilators doors, &c., to open from the outside, and safely fastening the same to prevent any person entering during the operation. The amount of cubic air during the operation. The amount of cubic air space having been previously calculated and 1,000 feet adopted as a unit, the proper proportions of cyanide and sulphuric acid required were to hand ready for use. Scallow earthenware pans were adopted as generators, and into these the required volume of water and sulphuric acid was placed respectively. Boards about 11 inches wide and 5 feet long were hung over each generator for the purpose of evenly distri-buting the gas, and are worked by attached cords from the exterior of house during generation. The cyanide is then arranged in a shallow tin with a special tipping arrangement attached to the air fin. After carefully placing the cyanide tius in their proper position, beginning at the larthest end of the house and position, beginning at the farthest end of the house and floishing near the door, the operator leaves the structure and makes the door fast. The fans are then started, the cyanide tipped and the gas rapidly generated. The air fan should be worked for a period not exceeding ten minutes, and five is ofttimes sufficient. The time of commencing to generate gas is noted and the period of exposure commences. This varies active period of exposure atmospheric moisture. the period of exposure commences. This varies according to the temperature, atmospheric moisture, nature and condition of plant and pests to be destroyed. At the expiration of this period the ventilators and doors may be opened, and the house fully cleared from gas before any person is allowed to enter. No person must either remain in the building after mixing the cyanide and acid or enter until quite clear. Materials of standard quality should be used, and the English method of using "sodium cyanide" in place of potasstum cyanide should be adopted. Better resulte are obtained by doing this, and the cyanide is of an even quality and a more concentrated form. This is known as the 'Strawson socium cyanide process," invented by Mr. G. F. Strawson, who, in conjunction with Mr. W. F. Emptage and myself, carried out and with Mr. W. F. Emptage and myself, carried out and recorded the experiments. Other tests carried out in Messrs. Ladds nurseries at Swanley, in Scotland, and opinion as to the value of "cyaniding" when carefully carried out.

The following "proportions and uses" have been drawn up by Mr. W. F. Emptage, and are endorsed by

PROPORTIONS AND USES FOR 1,000 PEET UNIT.

(1) For nurserymen in clearing dormant stock outdoor shrubs and trees of scale, American blight, &c., the plants should be stood thickly together in a glasshouse or in acyaniding sned, which should become part of the outfit of every nursery place. 2½ oz. of the sodium cyanide, 130 per cent. strength, 5 fluid oz. sulphuric actd spec. grav. 1%, 15 fluid oz. water, will be ample for the purpose; 50 to 60 minutes may be given as the period of exposure. The trees will be best dry and the temperature of the shed at about 50°.

Nurserymen buying in stock from fresh places, where scale, &c., are found on them or are to be leared, should always subject the plants, &c., to this process. The formulas given will also be found useful for all kinds of

formulas given will also be found useful for all kinds of forest trees when dormant.

(2) For the destruction of all scale insects, mealybug, thrips, &c., on Vines when the fruit is cut, and on Peaches and Nectarioes when the fruit is cleared, and on Orange-trees, Camellias, Gardenias, Stephanotis, Passifloras, Dipladenias, Palms, Plumbago, Euphorbias, Orchids, Fuchsias, Azaleas, greenhouse Khododendrons, Roses, hard-leaved Ferns, Ficus, and many other subjects, when not actually making a new many other subjects, when not actually making a new

Orchids may be "cyanided" safely when the roots are uot making new growth on the outside of the baskets

or in the air. No grower or nurseryman need be troubled with mealy-bug again. For these plants, in a temperature of 50° to 55°, 2 oz. sodium cyanide, 4 fluid oz of sulphuric acid, and 12 fluid oz of water, exposure 40 mioutes, will be perfectly safe quantities to use. The foliage should be durn but this tenet importative in the foliage should be drv, but this is not imperative in the case of dormant plants.

For Vineries in Winter .- At or about pruning time, when the vines are quite dormant, for the destruction of Vine scale, mealy bug, red spider, &c., two cyanidings should be given at intervals of 24 hours of $2\frac{1}{2}$ oz. sodium eyanide, 5 fl iid oz. sulphuric acid 15 oz. water, exposure

50 minutes, temperature of house 5) to 55°.

Fly and other Insects among Growing Plants —For all Plants such as Pelargoniums, when not in flower, Azaless, and general greenhouse plants, 1½ oz. sodium cyanide, 3½ fluid oz sulphuric acid. 10½ fluid oz. water, may be used with perfect safety, providing the plants are dry and the temperature of the house not above 55° exposure 40 minutes. exposure 40 minutes.

exposure 40 minutes.

For Fly Thrip*, &c., on more delicate subjects.—1\(\) oz.

sodium cyanide 3 fluid oz. sulphuric acid, \(\text{9} \) oz water,
exposure 40 minutes. The plants should be quite dry,
and the temperature be lowered to 55° if possible.

Where this is not possible, 1 oz. sodium cyanide will
probably be sufficient, 2 fluid cz sulphuric acid, 6 oz.
water, repenting the operation if peeded.

Tomoto Fly (Aleyrodes). This is a pest that only those who have large Tomato houses infected can fully comprehend. There need be no further trouble in this respect, as the $1\frac{1}{2}$ oz. formula (No. 2) will bring every one down to death. Repeated every two days until all eggs are hatched, there will be a thorough clearance

There is no other method of insect destruction, espe-

clally for Vines. &., that is so cheap and so efficient as the sodium cyanide process.

We hall be pleased to give advice on the use of the gas to all who need to. Etherbert F. Hawes, Royal Botande Garden*, Regent's Park, N.W.

[We have no doubt as to the value of this process, but the vapours are so highly poisonous that we cannot but emphasise the necessity for extreme caution on the part of the operators. En.]

ENOUIRIES.

APRICOTS AND WASPS .- I have Apricot-trees trained on several walls, but in the last two or three years, as soon as the fruit has appeared, se has an army of wasps, which has destroyed all prospects of having ripened fruits. Can any reader suggest a remedy by naming a wash for trees, or anything likely to prevent such depredation of my favourite fruit? Enquirer. [It is possible to obtain "wasp-proof" netting. En.]

RETARDING PLANTS.—At what temperature should Luly of the Valley crowns, bulbs of Liliums, Tuberoses, &c., be kept when in cold stores for purpose of retarding? H. W., New South Wales.

REPLY.

Scum on Ponds.—In reply to your correspondent, "R W. D.," as to removing "scum on a pond," Gardeners' Chronicle, April 16, p. 256, 1 believe he will find spraying the surface of the water with "Bordeaux-mixture" most effectual. Care should be taken not to use it too strong or some of the water-plants may be in-jured. I think one correspondent had to renew the operation in the course of three weeks' time, and then had no more treuble. The spraying did no harm to the fish which were in the pond. Geo. S. Saunders.

ANSWERS TO CORRESPONDENTS.

- ANEMONES: D. E. Not uncommon. On the Riviera, where they grow wild, they may often be seen in this condition. It is due to a partial reversion to leaves. It may not be repeated next year.
- Bulbs: Simpson. If you do not mind waiting, you might plant them as you suggest; but they would probably net do much for the first year.
- Cucumbers: J. T. The plant is attacked with Cercospora melonis. Burn affected leaves and
- cercospora melonia. Burn affected leaves and stems, and try spraying with sulphide of potassium ½ oz. to a gallon of water.

 Eucharis Plants: Novice The manner in which growers induce Eucharis plants to flower twice in each year is as follows:—Being tropical plants they are usually cultivated in

a stove, and the pots are plunged in a hot bed fermed of decaying leaves, &c, with pos-sibly a hot-water pipe passing through it. Some time after the plants have flewered the pots are removed from the hot-bed, the temperature of the house is permitted to decline a little, and very much less water is afforded to the roots of the plants than previously. These changed conditions cause a check to the plants, which is sometimes described as a rest. are allowed to remain six weeks or two months in this comparatively dry condition, and are started into growth again by plunging the pots in a freshly-made hotbed, and affording water and liquid-manure to the roots, and heat and moisture in the atmosphere. The plants are started into growth about two months before they are required to about two months before they are required to flower. Such a system we have seen practised with good results for several years, but the plants eventually deteriorate under this artificial treatment and the bulbs become a prey to the bulb-mite. At the present time gardeners do not risk the life of their bulbs so freely as they did fifteen or twenty years age when the mite was scarcely known. Nowadays Eucharis mite was scarcely known. Nowadays Eucharis plants are afforded water throughout the year, and they bloom naturally. By this system there are few periods when a flower cannot be obtained from the plants, but at no period do they produce such a harvest of flowers as they did under the drying off process, which we cannot recommend.

- Figs: H. T. B. Your Figs are affected with a fungus figured in the Gardeners' Chronicle, July 7, 1900, p. 5, Cercespora Bolleana. Burn the tree; spray the others with weak Bordeauxmixture.
- GARDENERS' WAGES: K. R. We believe you could successfully claim a month's notice or wages in lieu of netice.
- GAS LIME: R P. Four to six ounces per square yard applied in winter would be more likely to do good than otherwise. But such lime contains poisonous compounds of sulphur, and we should not apply it to growing crops, nor plant a crop immediately after affording a beavy dressing.
- GOOSEBERRY SHOOTS: Gooseberry. appear healthy. If the application of the gas-lime were the cause of the mischief all the bushes would have been affected. Possibly the appearances are due to the action of frost on the young leaves.
- HYACINTHS; H. F. We find no disease, but the bulbs have formed no roots, and in one case no flower even has been formed in the bulb. is probably due to the bad season of last year.
- LANDSCAPE GARDENERS: L. G. Most of the large and reputable nurserymen employ com-petent landscape gardeners, but it is not our practice to recommend particular firms.
- NAMES OF PLANTS: Correspondents not an-AMES OF FLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—T. H. T. Corn Salad, Valerianella eliteria.—C. B. B. Cymbidium Lovianum—C. T. Odonteglessum Hallii—Correspondent. 1, Spiræa media; 2, Gladielus illyricus? 3, Pteris trenula—J. M., Clewer Park. Rhedodendren fermosum x Dalhousiæ. There are very many crosses of this type, some named, but many unnamed.—
 Lucey. Populus canadensis.—J. D. Dendrobium Wardianum album.—H. T. 1, Dendrobium aggregatum; 2, Lycaste aromatica; 3, Dendro-bium Pierardi; 4, Aërides crispum; 5, Dendrobium chrysotoxum; 6, Dendrobium Dracenis, often called D. eburneum in gardens.—F. W.. Ventnor. Heuchera sanguinea.—In Doubt. 1, Clivia miniata; 2, Asclepias curassavica; 3, Euphorbia splendens.—A. Y. Anemone apennina.—A. F. T., Llanfar. 1, Odontoglossum luteo-purpureum; 2, Bifrenaria Harrisoniæ, often called Lycaste Harrisoniæ in gardens.—D. & W. C. Ilex aquifolium var. Marnockii.— J. B. Acacia pubescens.—W. C. 1, Rhodo-dendron × Countess of Haddington; 2, a hybrid of R. arboreum —G. B. M. R. Specimen very poor; probably Stauntonia hexaphylla.—V. T. I. Galeandra dives; 2, G. nivalis.—W. G. P. Trichopilia suavis.—A. B. V. Z. 1, Dendrobium

- Wardianum; 2, D. chrysotexum-neither of special merit.—Ecuador. Both Olontoglossum cirrosum.—W. K. Deutzia, garden variety.—
 F. S. Amelanchier vulgaris.—Correspondent. 1, Waldsteinia trifoliata; 2, Anthericum lineare, variegated form; 3, Oraithogalum nutans.—
 H. E. Narcissus Barrii conspicuus.—R. B. Fuchsia procumbens, a very pretty basket plant Fuchsia procumbens, a very process for greenhouse or conservatory.—A. E. G., Wales. 1, Primula verticillata simensis; 2, Abutilon megapotamicum variegatum; 3, gonia incarnata; 4, Eriostemon intermedium; 5, Boronia megastigma.
- PEACH SHOOTS DISEASED: G. A. B. The leaves are affected with the Silver-leaf disease. Cut out all the diseased shoots that can possibly be removed, and burn them. Apply sulphate of iron to the roots, at the rate of 2 oz. to a gallon of water.
- PEACHES: A. B. We can find neither insect ner fungus. The appearance points to a check to growth, perhaps from a cold draught.
- PEAR LEAVES: H. W. D. Although undeveloped and without fructification, we have no doubt that the disease of Pear leaves and shoets is a form of the multiform Apple and Pear scab Fusicladium pyrinum or dendriticum, so often alluded to and described in these columns. Spray the plants with weak Bordeaux-mixture two or three times during the period of growth.
- RICHARDIA ROOT: E. D. R. The specimen arrived in such a condition we cannot determine the exact cause of decay, but there are no indications of fungoid disease.
- To Destroy Gooseberry Caterpillar: R. H., Belgrave. Take 2 oz. soft-seap, ½ oz. of washing soda, 2 oz. white hellebere in powder, and 2 oz. quassia chips; put these into a 2-gallon stone bottle, and pour upon them 1 gallon of boiling rain-water; stir till the whole is thereughly mixed. Then add petroleum 4 ez., stir again, and then fill up the bettle with snother gallon of boiling rain-water. After standing for twenty-tour hours this must be strained through a fine cloth or muslin, and applied with a spray-distributor.
- VELTHA: E. S. B. Some of our correspondents have spoken of good results following its use against club-root, and if you wish to test its efficacy yourself this may easily be done. In Mr. Massee's book, "A Text-book of Plant Dis-eases," lime is stated to be an excellent preventative, using from 40 to 70 bushels per acre. Plants are most susceptible to the disease during the first three weeks after germination, therefore do not neglect to thoroughly lime your seed bed.
- WASH FOR SHADING: A. E. T. A may be made as follows:—Take 1 lb. of Wheat flour, 1 lb. of common candle or Russian tallow, and ½ lb. of whiting. Make the flour into a paste with het water, and then put in into a paste with het water, and then put in the candles while the paste is hot. Crush the whiting into a powder, mix with cold water, and then add to the paste, with as much Brunswick-green (Poison) as is needed. When required for use, warm it in a pail, and paint the glass when the sun is shining upon it.
- WATER-FINDER: Lady M. C. We do not know the address of any such functionary, but as there are many springs immediately adjacent, anyone conversant with the lie of the ground, the character of the soil, and the vegetation, should be able to be successful without the aid of any magic wand.
- COMMUNICATIONS RECEIVED—A, B, R.—B, B, W.—C, T. D.—Mrs. A, W, M.—Geo, F.—B, & Sons—M, H. Walsh, Mass., U.S.A. (photographs)—A, F.—A, Mc.—A, P.—F, P.—G, L.—H W—Irish Subscriber—Valls & Co.—A, E. S.—National Fruit Growers' Federation—H, M.—G, N.—H, P, H, S.—J, McC.—W, R.—C, J. P.—S, S. U.—E, Y.—T, M.—T, Humphreys—K, Hagiwars, Tokyo—F, A, Eaton—R, A.—E, T.—W, M.—C, P.R.—J, O'B.—C, H, K.—L, G, P.—J, E. H.—F, C., Guildford—P, M.—F, J.—W, H, W.—A, W.—W, G.—T, R.—W, H, S.—G, H, W.—E, T.



IRIS HAYNEI, A NEW SPECIES FROM PALESTINE, ALLIED TO I. ATRO-FUSCA: COLOUR OF STANDARDS PURPLE, WITH SILVERY SHEEN; FALLS DARK-BROWN COLOUR WITH BLACK BLOTCH.



THE

Gardeners' Chronicle

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COCKBURN OF ORMISTON AND HIS GARDENER.*

THE part played as an agriculturist by John Cockburn, an East Lothian laird who flourished in the first half of the eighteenth century, is fairly well known from letters he wrote to one or more of his tenants, and which were published exactly a century ago. Another instalment of his letters has just been published by the Scottish History Society, from which it appears he was equally keen as a tree-planter, pigeon - fancier, poultry - keeper and gardener. The letters number thirty. six in all, of which thirty-five were written to Charles Bell, his gardener, head forester, and supervisor in general. While they display the strong points of the writer, they at the same time reveal his palpable weakness-an overmastering desire to induce everybody on his property to adopt his views on rural economy, which, to say the truth, were far in advance of his age, coupled with an inability, distressing to contemplate even now, to get his own servants to do his bidding. Cockburn was M.P. for his native county from the year of the Union till 1741, and his letters, written from 1727 to 1744, indicate that he was

to a great extent a sojourner in the suburbs of London, where a man of his keen perception could not fail to gather numerous hints. So convinced was he of the superiority of English methods that he had Bell up to learn what he could, and continually mentions in his letters points that strike him as worthy of adoption by the Scot. At the same time it should not be overlooked that he was in the rear rather than in advance of some of his neighbours, his cousin, Lord Haddington, for instance, having introduced many improvements in forestry and agriculture previous to Cockburn's taking up the matter. Hepburn of Smeaton, Hay of Whittinghame, Tweedale of Zester, are others who were quite up to the times, and who had improved their estates quite early in the century.

In Letters VI. and VIII. the undoubted kind heartedness of Cockburn is very clearly displayed. These are almost wholly filled with advice to Bell about the management of the orchard and garden, of which Bell's father was tenant; and he not only advised, but urged him to go on every occasion he possibly could to see that the garden was properly cropped, the old Apple trees replaced with better sorts, to try Mulberries and Quinces, to plant quantities of Raspberries, for which there was a demand greater than could be met, above all to grow plenty of vegetables even if he should have to sell cheaper than the usual high prices charged in Scotland. Vegetables at that time were carried to Edinburgh on the backs of horses, and Cockburn points out how much cheaper it would be to send them in a cart. Incidentally he remarks on the price he pays for vegetables at Hampstead-Beans and Peas, 6d. a peck, fine "Collyflowers" at 3d. apiece, Cabbage at 2d., Cos Lettuce at 1d. The rent of market ground near London was 40s. an acre, and wages 18d. a day, while dung cost 6s. a load.

Regarding gardening affairs, he repeatedly urges Bell to spare no trouble or labour in order to secure high-class produce. Fruittrees were to be planted with a flat stone under each—a very old practice. Borders of new soil were to be made for wall-fruit, and where walks were too close they were to be filled under the gravel with new soil also. He also advised root-pruning, and adds as an inducement, "You may remember I did so by the Wall trees at Tottinham, and I have been assured they produce vast quantities of excellent fruit." Two Grape-vines were sent to Ormiston from London, not that he expected them to bear fruit, but because of the utility of their foliage. Yet we find Reid and Justice later mentioning vines as producing fruit. Quantities of young trees and seeds were sent by sea from London, his favourite nurseryman having been "Lowther," though he also dealt with "Switzer," from whom he purchased Leek seeds and "a few of other kinds" on trial. Switzer at this date (1741) had still his shop in Westminster Hall. He also secured special sorts of Onions, prickly Cucumbers, Melons, which he thought could be grown in Scotland only fit for pickling, and quantities of Elms from Hertfordshire. "Matts" were to be used to protect tender crops, and he was very particular that the ground should be thoroughly pulverised to induce free-rooting. Dung-heated frames and bellglasses formed the only means of raising

tender vegetation. At this time and previous to it, the practice of selling surplus garden produce was common, and it is not therefore surprising to find Cockburn according his gardener permission to do so, but only after his "wife" was served. The familiar tone of these letters, which refer to his "wife" and his "brothers," who are also sometimes mentioned by their Christian names, and to Bell himself, whom he calls Charles, is indeed quite refreshing.

The exigencies of space preclude a reference to his planting operations and his tree pruning, to ditching and dyking, to planting trees on the quiet in hedgerows without the knowledge of tenants; to his difficulties with sheep, and worse ones with cattle, which broke through imperfect fences; to his horror of lazy workmen, and his "hope you've got men who won't refuse working in woods or nursery—as your two fine gentlemen did."

I may conclude by noting a curious fact in connection with pigeons, where it is recommended to feed them as a means of attaching them to their own dovecot. The remarks show that pigeons were fed on tares, and the recipient of the letter is told, should tares not hold out, to "buy a Boll of mouse Pease." It seems almost impossible that these (Lathyrus macrorhizus) could be grown in Scotland, and perhaps were rather imported seeds of Lathyrus tuberosus, or "Dutch mice," so called from the tubers with roots resembling exactly these little creatures. The book as a whole forms a delightful study of the rural affairs of a bygone age. P. P. Brotherston.

ORCHID NOTES AND GLEANINGS.

DENDROBIUM TERETIFOLIUM.

INTERESTING Orchids often appear from unexpected quarters, and it is the amateurs rather than the growers of large collections who seem to cherish "botanical" species. On several occasions we have received curious Orchids from D. Campbell Brown, Esq., Bank of Scotland House, Oban, who lays no claim to being a grower of Orchids, and yet those which he possesses seem to thrive remarkably well. Recently there came a specimen of the pretty white Australian Dendrobium teretifolium, which is a plant which has not proved tractable in some large collections. Its long fleshy terete leaves, with sprays of white flowers where they join the stems, make it a graceful plant when grown in a basket or on a block. It is said to have grown for several years as it came, in a half cocoa-nut, with a little sphagnum moss among the roots.

ODONTOGLOSSUM CRISPUM, WITH THREE PETALS.

A singular peloriate flower of Odontoglossum crispum is sent by F. Menteith Ogilvie, Esq., The Shrubbery, Oxford (gr., Mr. Balmforth), who well describes its peculiarities: "You will see that the flower sent has three perfect petals, the lip being replaced by an inferior petal which is the exact counterpart in shape (including the frilling), size, and substance of the two lateral petals, the only difference being a small coloured line near the base. Malformed Orchids are common enough, but I should hardly call this a malformation so much as a case of reversion to the ancestral type. Presumably there was a time when the Odontoglossum had regular flowers with three petals, the lower one changing, by altered circumstances as time went on, a lip exceedingly divergent in many cases from the primitive petal. My flower, it seems to me, has nearly returned to the primitive form. The column is approximately

^{*} Letters of John Cockburn of Ormistoun to his Gardener, 1727-1741. Edited with Introduction and Notes by James Colville, M.A., D.Sc. (Edin.), Edinburgh, for the Scotlish History Society, 1904.

normal, and furnished with the usual fringed wings on each side; but in addition there is a third transverse wing corresponding with the petal, which takes the place of the lip.

In these words Mr. Ogilvie well describes the flower, the only additional feature being that the column is straighter, and the stigmatic surface nearer the apex than in what are called normal forms, a change which is common when reversion in Orchids produce more regular flowers. J. O'B.

Ancistrochilus Thomsonianus var. Gentili.

M. Charles Pynaert, in the Revue de l'Horticulture Belge, March, gives a figure of this pretty epiphytal Orchid originally described by Rolfe. The variety was discovered by M. Gentil in the Belgian Congo, and differs from the type in its violet, not white, flowers and in the greater breadth

NEW OR NOTEWORTHY PLANTS.

HÆMANTHUS LESCRAUWAETII.

Numerous species of Hæmanthus have been discovered in the flora of the Congo Free State, and some of them have been much admired when exhibited in London. A new and pretty dwarf species has been recently brought over from the Congo by M. Lescrauwaet, Forest Inspector of the Congo State. M. E. de Wildeman gives the following description of it :-

"Hæmanthus Lescrauwaetii, De Wild., n. sp.-A somewhat miniature species with a root-stock, and long roots growing between the rocks. Leaves sheathed at the base, four to eight in a group, leaving on the root-stock scars about 1 mm. apart. Petiole somewhat slender, from

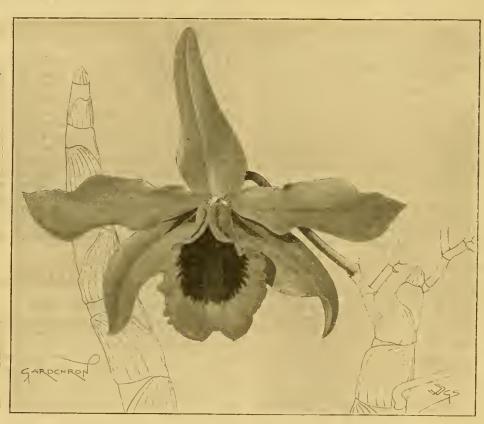


FIG. 118.—DENDROBIUM × THWAITESLE, VEITCH'S VARIETY: FLOWERS YELLOW-BUFF, LIP PURPLE.

and shorter length of the perianth-segments. The plant proves easy of cultivation at Brussels, the pseudo-bulbs being renewed annually. The peduncle bears a spike of four flowers each stellately about 3 inches across with oblong acute spreading segments. The lip projects and has two erect blunt lateral lobes, the median one being narrow, acuminate, hooked. Leaves oblong, tapering at both ends.

DENDROBIUM × THWAITESIÆ, VEITCH'S VARIETY.

THE rich yellow colour of this Dendrobium with its slight buff shade entitles it to be considered the finest of all the yellow flowered Dendrobiums (see fig. 118). It somewhat resembles D. splendidissimum grandiflorum, but differs from that in that the lip possesses a violet - purple disc, and by the presence of a slight buff shading in some stages. The variety was awarded a First-class Certificate at a meeting of the Royal Horticultural Society on Tuesday, April 19, when it was shown by Messrs. Jas. Veitch & Sons, Chelsea.

3 to 4 cm. long between the widening of the membranous sheath and the blade; this is wedgeshaped at the base, sub-obtuse or pointed at the tip, with eight to nine nerves on each side of the chief vein. Secondary veins transverse, sub-oblique; blade 8 to 18 cm. long, and 46 to 5 cm. wide. Floral raceme lateral with regard to the tuft of leaves, and from 15 to 25 cm. long. Umbel rather close, sub-globular, from 6 to 10 cm. in diameter. Valves of the spathe four or five each, 1.5 to 2 cm. in length. Flowers on pedicels 1630 cm. long; perianth rose coloured with a short tube, $2\frac{1}{2}$ mm. long; linear segments 9 to 20 mm. long; filaments longer than the segments, 12 to 24 mm. in length; anthers about 2 mm. long; styles about as long as the stamens. Fruit red-orange, with one or two seeds owing to abortion, from 7 to 9 mm. in diameter. It grows on rocks bordering the western part of the Lake Léopold II., March, 1903 (E. Lescrauwaet, in coll. M. Laurent, n. 205); region of Lula-Lumene (district of Stanley Pool), 1902 (R. P. Hendrickx. coll. J. Gillet, s.n.).

" Observations .- Bulbs of this species were sent to the Lacken Colonial Garden. This plant is classed near to H. rupestris, Baker (cf. De Wildeman, Les Espèces du genre Hæmanthus, pp.6 and 12).

"It differs from the latter species, hitherto only found by Barter in the environs of Nupe (Guinea), by its smaller flowers, shorter stamen-filaments, by the almost equal length of the lobes of the perianth, and especially by the shorter tubes. Further, the Congo species has no bulb, but a sort of root-stock more or less creeping, on which the leaf-sheaths leave circular marks. This rhizome measures about 15 to 20 mm. in width." Louis Gentil.

SOILS AND MANURES FOR SPECIAL CROPS.

(Continued from p. 179.)

HAVING dealt with the question of soils for Roses, and of soil sterilisation for all kinds of intensive work in the greenhouse, we now proceed to deal with the subject, as recommended by Messrs. Woods and McKenny, of the proper course of manuring for Rose-growing under glass.

FEEDING WITH ORGANIC OR FARMYARD-MANURES After the Rose-plants are set in the beds no manurial feeding is advisable until growth has started vigorously, and the soil is filled with roots; then mulch not over one-half inch deep with well-rotted and properly-sterilised sheep, cow, or horse-manure. This first mulch should be followed by a second one as soon as the first is used up by the plants. Subsequently, especially during the middle of winter (December and January), the plants should not be mulched, but liquid-manures should be used. These may be either liquid organic manures, or the so-called chemical fertilisers, or combinations of both. Animal manures, unless carefully saved and protected from heavy rains and excessive fermentation, are not rich, and are very variable in their manurial value. Farmyard manures are most effective and valuable when composted or mixed with the soil, or when used in a well-rotted state as a mulch for growing crops. Rapidly fermenting manure will injure the roots of almost any plant. Liquid-manures should therefore be made from materials that have already fermented or rotted under such conditions as to conserve their fertilising value. The following proportions will make capital solutions: Ten pounds of pulverised sheep-manure to 50 gallons of rain-water; or 20 lb. of cow or horse-manure (droppings, when in a comparatively dry condition) to 50 gallons of rain-water; or 3 or 5 lb. of hen or pigeon-manure to 50 gallons of water. The best way is to put the manure (to which 2 lb. of soot may be added) into a coarse-fibred sack, and soak it in water for several days, sousing the sack up and down occasionally and mashing it with a blunt stick, soas to thoroughly break up the contents. Stronggrowing plants with good root-systems will be benefited by feeding with such manure-solutions once in ten days or two weeks during the periods of most active growth. When growth is slow or checked by cold or cloudy weather, feeding should be discontinued till active growth again indicates its need. This is most likely to be in March and April.

OVER-FEEDING.

There is much greater danger of over-manuring than of under-manuring. If there are indications of over-feeding, sow on the beds some quickgrowing grass, such as Poa annua, or some other quick-growing plant that will take out some of the excess of plant-food; also give a liberal coating of gypsum or quick-lime (slaked), which will counteract an excess of soluble nitrogenous food, and yet help the plants later on. When the weather is favourable, an excess of soluble plantfood material in the soil can be reduced by thoroughly drenching it with water. J. J. Willis, Harpenden. (To be continued)

NARCISSUS "GREAT WARLEY."

In fig. 119 may be seen an illustration of a magnificent Daffodil exhibited by Miss Willmott at the meeting of the Royal Horticultural Society on April 19, when the variety was awarded a First-class Certificate. In general appearance the flower may be described as a bi-coloured Sir Watkin. It will be noticed that one of its chief characteristics consists in the trumpet, which is not only large and bold, but expanded to an unusual degree.

FOREIGN CORRESPONDENCE.

A LETTER FROM JAPAN.

"I TAKE the liberty of sending to you the manuscript enclosed. I am a member of the Tokyo Botanical Society, and have often read your Gardeners' Chronicle with much interest.

I am fond of plants, and have kept a large coldection in pots. My fondness towards them is not limited to the common species cultivated in the gardens of the professional florists. The collection of the wild plants in which I am interested is occasionally indulged in to meet my desire. In the summer season I (sometimes alone and at other times with my partner, who has the same tastes with me) ascend to a high mountain for this purpose. Some of the plants I collect are kept as dried specimens, and some are brought to my garden, where they are cultivated in pots. If these mountain plants are submitted to hybridisation, we shall be able to see an interesting result.

The following were collected in Komaga-take in the last August, which I am now cultivating.

When I attained the height of above 3,000 métres, I found Geum dryadoides with the stems prostrate on the cold beds, covered with cloud and growing together with Pinus pumila. There were found many other species in the same place or in the vicinity; some of them are also grown on the opposite side from the summit. They are as follows:-Geum calthæfolium, Menz., var. dilatata, Torr. et Gr.; Trollins patulus, Salisb., var. genuinus, Rgl. et Til.; Potentilla gelida, C. A. Mey.; Ranunculus acer, Linn., var. Steveni, Rgl.; Anemone narcissiflora, Linn.; Geranium eriostemon, Fisch.; G. Robertianum, Linn.; G. davuricum, D. C.; Gentiana frigida, Hænk., var. algida, Pall.; Pedicularis yezoensis, Maxim; P. Chamissonis Steveni; Lilium avenaceum, Fisch.; Fritillaria camtschatensis, Gaud; Empetrum nigrum, Linn.; Phyllodoce Pallasiana, Don.; P. taxifolia, Salisb.; Cerastium schizopetalum, Maxim.; Alsine arctica, Fenzl.; Vaccinium Oxycoccus, Linn.; V. vitis-idæa, Linn.; Arctous alpina, Niedz.; centra pusilla, S. et Z.; Viola biflora, Linn., Campanula lasiocarpa, Cham.; Arnica alpina, Olin.; Saxifraga cortusæfolia, S. et Z.; Trientalis europæa, Linn.

Besides the above-mentioned species I collected others in another place on this mountain. They are Coptis quinquefolia, Miq, Coptis trifolia, Salish.; Cornus canadensis, Linn.; Hypericum senanense, Maxim.; Gentiana nipponica, Maxim.; Pteridophyllum racemosum, S. et Z.; Primula jessoana, Miq.; Vaccinium præstans, Lam.; Trigonotis Guilielmi, Maxim.; Rubus japonicus, Fock.; Dactylostalix ringens, Rchb., &c.

Oh, wildings of Nature! It is true that the gardens eclipse them; yet I dote upon their tender elegance. They are brought forth amid the storms of chill adversity on the solitary mountains, and bloom there in the middle of the summer season. When I am cultivating them myself I recollect the time of collecting them, recalling the blue Highland mountains and echoing streams to my imagination. K. Hagiwara, 105, Takehayacho, Koishikawa-ku, Tokyo, Japan."

ARE SYNONYMS ALWAYS AVOIDABLE?

In the Gardeners' Chronicle for April 2 we read on p. 219" How synonyms are manufactured." It is chiefly the last word which causes us to offer to the readers of this paper some supplementary information which we trust will put this question into quite a different light.

It is now about twenty years ago that we

means always a paying undertaking. All our fears, however, disappeared as soon as some highborn English ladies told us that this one and no other would be their Tulip for Valentine-day. We accordingly set to work, and the sort being easily propagated, we had in less than ten years sufficient stock to send cut blooms to lady friends who occasionally oblige us by judging.



FIG. 119.—NARCISSUS "GREAT WARLEY": SEGMENTS WHITE, CORONA YELLOW; REAL SIZE.

found a runaway amongst our stock of early single Tulip White Pottebakker; it had sported from pure white into a curious mixture of lemon and sulphur-yellow. It was evident that it was a valuable sport. We took care of it and cultivated a stock of it, feeling sure that as soon as we could offer it in anything like quantity that the public would accept this new shade as a great acquisition.

Making stocks from one single bulb is rather slow work in this electrical world, and it is by no

On every occasion the verdict was what we expected. The flowers possessed qualities to turn even the most obstinate into a lover of Tulips. Since that time our stock increased rapidly, and soon we commenced selling it to our fellow-growers, which is the safest method to make a quick profit.

It was at about this time that we learned that it had sported in exactly the same way with more than one other grower. We hitherto had always called it "Pottebakker, white and yellow," but

knowing full well that this was a very inappropriate designation, and believing that there is a great deal in a name, we hunted for one with sufficient meaning.

About that time your late beloved Queen was failing in health, and thinking it a ladies' flower in the first place we christened it "Memory," hoping that it might live and thrive. It has, however, always been our practice not to push a name too much at the beginning, but to see how things are running. We sold bulbs of this variety under the name of "Memory" to different nurserymen, when some years ago we found that the Royal Horticultural Society had certificated it under the name of "Brunhilde," which name had been given to it by a well-known London firm.

At the same meeting it was shown by a Midlands firm under the name of "Unique," and shortly after that we found both firms discussing in trade papers their individual rights in these names.

We had no reason to interfere as both names seemed to us to be good enough, and believing our friends to be better judges than ourselves, we accepted both names, and since that time it may be found in our list as Brunhilde synonymous with Unique; we dropped the name of Memory unless a customer ordered some bulbs under this name, when of course we knew what he wanted. We remember last autumn one of our London friends ordered some, and in order to ascertain what he wanted we wrote and asked him if he wanted "Pottebakker, white and yellow." It now seems to us that the flowers named Memory were from this supply, and it will be clear to all that they were correctly named, though it is to be hoped that in future they will be known as Brunhilde or Unique.

Had we at the time of the certificate stepped in and told what we knew we should only have complicated matters. Like true parents we kept silent, and should have remained so were it not that we now think that this Tulip can stand on its own legs. We hope hereby to have made it clear that synonyms are not always manufactured, but are the very natural results of different people in different places working at the same time to arrive at the same result.

It now about two years since we withdrew our name and gave it to another sported Tulip, which will before long create as much sensation, and will most likely give the same trouble, or perhaps more; for this one possesses the same charms as to colours, and being less tall it stands the wind better, and is a better bedding plant. Thinking of the proverb, "Once bit twice shy," we will try to prevent more synonyms arising. The lemon-coloured sport of the well-known early single Tulip Cottage Maid (so far as we know has sported nowhere else yet) is henceforth called by us "Memory," in respectful remembrance of the late Queen Victoria. J. H. Kersten & Co., Heemstede, April 7, 1904.

VEGETABLES.

GLOBE ARTICHOKES.

These vegetables should be planted in deeply-dug or trenched, heavily manured ground. The best time for making new plantations is when the plants have started into growth, which in ordinary seasons they do towards the end of March or early in April. Having made good any gaps that may have occurred in the rows of existing plantations, proceed to plant fresh rows according to requirements, doing away with a like number of rows of the older plants. The rows should be from $3\frac{1}{2}$ to 4 feet apart, and the plants should be placed a like distance in the rows in triangular patches of three. Planting should be done with a garden-trowel, and the soil made firm about the roots. Water should be given to settle the soil, unless rain occurs at the time of planting, and then lay on a mulching of

short dung of 2 or 3 inches thickness. These plants will yield a supply of "'chokes" just as the heads from established plants are exhausted; and the novelty of having this much-esteemed vegetable so late in the season is duly appreciated by employers and their guests. On the approach of severe weather—eay, in November or December—a good surface-dressing of manure should be placed between the rows and plants, the latter being wrapped round with dry litter or Bracken rather more than three parts of the way up, as a protection from severe frosts. The green variety finds more favour than the purple one, but it is advisable to grow a row or two of the latter, as tastes differ.

TURNIPS.

A good sowing should now be made of "Snow-ball" to succeed the supply previously obtained from the earlier varieties sown during February

TREE-LIFTING IN ST. JAMES' PARK.

THE nation's tribute to the memory of the late Queen, which is to take the form of a monument in St. James' Park, has necessitated a vast amount of work by the Park authorities in the removal of beds, alterations of existing boundaries, the making of new approaches, &c. The old Mall is being replaced by a magnificent road running from the Palace front and terminating eventually in Trafalgar Square. This handsome broadway is being planted with avenues of Plane-trees, which withstand the London atmosphere better than any other tree. The road terminates in a magnificent crescent in front of Buckingham Palace, having a setting of masonry to form the sweep. This architectural feature was, we suppose, unavoidable; but it has destroyed one of the prettiest landscape effects in



FIG. 120.—THE TREE RAISED AND READY FOR TRANSPORTATION.

and March. Sowing should be repeated at intervals of three weeks up to the end of July. A sowing of "Orange Jelly" or some other reliable late variety should be made early in August for winter and spring use. Assuming the soil is light rather than heavy in texture and of average fertility, do not manure the ground for the crop, but simply dig it a good spit deep. When dry make the bed firm, and apply a good surface-dressing of dry soot. Rake the surface level and sow the seeds thinly in drills about 1 inch deep and 15 inches apart. Fill in the trenches with the feet, treading the whole firmly and raking the surface once more. Protect each sowing from birds by a piece of small-meshed garden-netting supported on forked sticks. As soon as the plants are large enough to handle thin them to 3 or 4 inches apart in the rows; when they have all started well into growth draw out every alternate plant, so as to insure a good even crop. Work the Dutch-hoe between the rows every fortnight or three weeks to destroy weeds and promote growth. H. W. W.

London. In the centre is a round bed of Rhododendrons, which will form the site for the statue. To obtain an uninterrupted view of this monument from various points, wide vistas are being constructed, radiating from the statue and extending through the Green Park and St. James' Park. This has rendered necessary the removal and re-planting of numerous trees. To facilitate this work, the Superintendent of the Royal Parks, Mr. C. Jordan, has constructed a tree-lifting machine, and by his courtesy we were enabled to see this machine at work.

It consists of a strong steel carriage on four wheels, of which the front and sides are the principal features, the back being a movable structure, and only fixed after the tree is slung, to give rigidity to the machine when travelling. There is no body or back axle, a bifurcated support on either side, in which the wheels are fixed, taking the place of the back axle. Thus, when there is backed over the tree to be removed, there is nothing to impede it, or prevent its being so stationed that the tree is in the centre of the

carriage. Running along on either side is a strong windlass or winch, to which chains are attached. The tree having been prepared for removal by over the hole on strong planks, which are laid in a gauge the width of the wheels apart. The whole can now be raised by means of the chains



FIG. 12'.—A GINERAL VIEW OF THE MACHINE, WITH A TREE IN COURSE OF TRANSIT.

digging a suitable trench around it, and leaving sufficient soil to form a good ball round the roots, is undermined to enable two stout boards to be and windlasses, and is suspended in the centre of the vehicle. It can now be carted to any desired position in the grounds. The operation



Fig. 122.—Tree being lowered for replanting.

placed beneath it. Next, boards on either side of these centre ones are placed in position, which completes a platform on which the tree with ita soil is now standing. The machine is next brought is now repeated of placing the planks over the hole for the wheels, and additional ones in the centre for the horses. As soon as the machine is in position these centre boards are removed, leaving the tree suspended over its new situation. It is a simp'e matter to lower the tree and draw out the planks from beneath. The tree which we saw manipulated weighed, together with the soil, about half a ton; but the machine is capable of lifting trees weighing 2 tons. A large number of Elm, Ash, Plane, and other trees have been handled by the aid of this apparatus with greater ease, more rapidly, and with comparatively little injury to the tree.

The machine was made by Messrs. L. Faulkner & Sons, Engineers and Ironfounders, Hersham,

Walton-on-Thames.

ALPINE GARDEN.

IRIS IBERICA.

This dwarf and beautiful species was recently exhibited by Messrs. Cutbush & Sons. only is it one of the smallest, being about 8 inches high, but it is remarkable for its colour. The upper portion of the flower, when viewed at a short distance, is distinctly heart-shaped. The foliage, with its linear leaves, almost closely folded lengthwise, and forming a complete arch, is a characteristic feature. It is more nearly an evergreen than many kinds, therefore less liable to succeed if treated in the same manner as those species from Palestine, which require drying off. This species should not be so treated. I never grew, nor have I seen grown, any plants of Iris iberica to equal some I had in a large bed in the open years ago. The plants were imported. pieces, and first flowered after being two years planted. The soil was nearly all yellow loam from the Banstead district, the surface of the bed being made firm with a turf-beater. The standards of this Iris are of a whitish colour, beautifully reticulated with dark lines; the falls are of dull brown colour with tawny streaks and a blackish oval blotch. It is a perfectly hardy and enduring species, whose natural flowering period in this country is the first half of May. E. H. Jenkins, Hampton Hill.

THE GREAT HEPATICA (ANEMONE ANGULOSA).

Hepaticas are still favourites with everyone who cares for old-fashioned flowers. The many forms of the common Hepatica, as we still love to call Anemone Hepatica of the botanists, are cherished; and it cannot be said that they are of less beauty than the newer A. angulosa, the Great Hepatica, which has come into general cultivation within recent years. A. angulosa blooms less profusely than the common Hepatica but it has larger flowers, being almost the size of a crown piece, and in the type are of a fine skyblue, although there are varieties having lilac, white, and rose - coloured blossoms. beautiful, while the bolder growth of the plant, and its large five-lobed, toothed leaves, give it a distinct appearance from the other Hepaticas. Itis a free grower, but, like the Hepaticas, it prefers a little shade, and I have seen it flower nowhere as well as on an east exposure. It is essential to prolong the duration of the leaves as long as possible, and one successful cultivator in the trade covers his beds of Hepaticas with light littor, such as branches, in summer, for this purpose.

The typical Anemone, or Hepatica angulosa, beautiful as it is and fine as are its flowers, has in one of its forms a great defect. This is its paucity of blooms; this variety seemingly devoting its energies to the propagation of the species by sending out runners. This variety should be discarded for that which increases but slowly at the root, and which flowers more freely. Then there is the fine variety called major, which comes earlier than the type, and is larger in all its parts.

No variety is prettier than the type, which has flowers of a fine shade of blue; but those who

wish can secure the lilac-coloured variety, which is more expensive to purchase. Also higher in price is the charming white variety, Anemone angulosa alba, sent out, I think, by Herr Max Leichtlin, and accompanied by the lovely rose-coloured A. angulosa rosea.

It is difficult to conceive any more beautiful spring flowers than these truly "noble Liverworts," as our forefathers called the Hepaticas. They are natives of Transylvania, and require a little stronger soil than the light, sandy soil sometimes recommended for them. S. Arnott, Carsethorn-by-Dumfries, N.B.

TREES AND SHRUBS.

ENKIANTHUS SUBSESSILIS (SYN. E. NIKOENSIS).

Enklanthus is a genus of Ericaceous shrubs not much grown in English gardens, but still containing some very charming species. It is, indeed, the rarity of its species, and not their want of beauty, that is the cause of the genus being so little known in this country. Three or four species have, however, been cultivated at Kew—and probably a few other places—for some years past. E. subsessilis is the last addition to the cultivated species. It was collected in Japan by Maries in 1878, also by Mr. J. H. Veitch at Nikko in 1892; but for its introduction to cultivation we are indebted to Professor Sargent. He collected seeds in Japan in 1892, and from them plants were raised at the Arnold Arboretum, one of which was given to the Kew collection two years ago.

This Enkianthus is a deciduous shrub of close, bushy habit growing from 3 to 8 feet high in a wild state. The leaves, as in other species of Enkianthus, are borne in rosettes at the ends of the twigs; they vary in outline from ovate to obovate, are 1 to 1½ inch long with margins minutely toothed, and are almost sessile. The flowers occur, ten or twelve together, on spikes 1½ to 2 inches long; they are borne on slender pedicels ¾ inch in length, the urn-shaped corolla being white and ¼ inch long. It is not, however, particularly attractive in its flowers, but, like all the Enkianthus we cultivate, it is very beautiful in autumn through its leaves turning bright red before they fall. W. J. Bean, Kew.

RHODODENDRON X MOOREI.

There is now flowering in the garden of Thomas Acton, Esq., Kilmacurragh, Ireland, a Rhododendron which was raised many years ago in the Glasnevin Botanic Garden by crossing R. arboreum with R. campanulatum. Its parentage is abundantly evident in both foliage and flowers, the former being large, dull green above, clothed with buff-coloured felt below; and the flowers are large, white, wavy, and spotted inside with purple. Mr. Moore informs me that this is one of a number of seedlings and hybrids raised by his father. some of which he sent to Rhododendron-cultivators in Cornwall more than twenty-five years ago, and some have since been distributed among friends in Ireland. It is probable that R. campanulatum, one of the most vigorous and hardy of the Himalayan species, has played an important part in the production of many of the popular garden Rhododendrons, notwithstanding the absence of any record of its having been used by the early breeders. W.

BELGROVE.—A sympathetic and appreciative notice of Mr. Gumbleton's garden near Queenstown is published in the last number of the Revue Horticole. M. André, after enumerating several of the choice contents of this remarkable establishment, expresses his delight at his visit, and he declares that the garden surpassed his expectations.

The Week's Work.

THE HARDY FRUIT GARDEN. By H. MARKHAM, gr., Wrotham Park, Barnet.

Grafting. — This work should be finished as speedily as possible. The bark of the more forward trees will now part with ease, and if the scions have been embedded in the soil in a cool part of the garden, no difficulty should be experienced in getting every graft to grow. See that the bark of the scion and bark of stock meet, and do not hind them together too tightly. Broad material in a wet condition is best for use in making the ties, and when these have been made encase the whole with clay, &c., prepared specially for this purpose. Examine trees which have been grafted some time, and if the clay has cracked or parted from the wood, make this good. It is essential to keep the scions air-tight and in a moist condition until union has been effected. The following varieties of Plums are good ones to work upon new stocks and headed-back trees—Victoria, Gisborne, Belgian Purple, Pond's Seedling, River's Early Prolific, The Czar, Monarch, and Waterloo. The Gages and other choice dessert varieties should be grown on walls, &c.

Grafts of last Scason.—Trees that were grafted last year may require to be afforded supports, &c. If there is the least danger of the grafts becoming damaged from the wind when in leaf, fasten suitable stakes to the stock on which the grafts are growing, and then secure the grafts to the stakes also. These should be kept in use, and inspected occasionally until danger of their getting blown off is past. See that all recent grafts are properly labelled, and make a note of the variety of stock each has been grafted upon.

Figs.—Young trees that are growing in pots but are intended for planting in suitable positions out-of-doors should be thoroughly soaked with water at the roots before they are turned out of the pots. Provide good drainage, auitably prepared soil, and make the soil firm before planting. Disentangle the roots of the trees, and shorten slightly any of the long roots. In planting spread out the roots at different angles and cover them with soil; then afford water through a rosed water-can. Fasten the branches loosely to the wall, so that the trees will not be "hanged" as the ground subsides. Fig-trees on walls require much space for extension in order that they may be fruitful.

General Work.—During fine weather hoe the ground amongst Gooseberry bushes and other fruit-trees, or between any crops, to destroy weeds, &c. This work should not be neglected on any account, or it will result in causing very much more labour later in the season. Seedling weeds will soon dry up in fine weather, but if allowed to grow they will seed and spread by such means to all parts of the garden.

THE ORCHID HOUSES.

By W. H. WHITE Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Cattleyas and Lælias .- Plants of C. Mendeli and C. Mossiæ which have failed to produce flower-sheaths, or specimens that have deteriorated will now commence to make roots, and may be repotted and started afresh. Unhealthy plants should not be allowed to bloom, therefore previous to repotting them remove any flower-sheaths they have. Strong healthy plants of the abov species, also C. Skinneri, C. speciesissima, C. Schilleriana, C. intermedia, Lælia tenebrosa, L. purpurata, and the various Cattleya and Lælia hybrids now showing for flower will require a light position, and rather more water at the roots until the flowers expand, when the supply of water may be lessened until growth recom-mences. C. Lawrenceana and C. Schroderæ will now be passing out of bloom in most collections, and after the flowers have faded should be placed in the coolest part of the house and be kept comparatively dry at the root, but not so dry as to cause much shrivelling of the pseudo-bulbs; a slight shrivelling will do no harm. Afford fresh rooting material when the plants commence to grow or make new roots, and treat them as was advised in my last calendar for

others of the same species. C. gigas, C. Hardy-ana, C. Dowiana, and its variety aurea are commencing to grow afresh and require as much light as can be given them, but very little water will be needed at the roots until the young growths have become several inches high, when the supply should be carefully and gradually increased. Defer repotting until the plants have flowered, and until new roots are seen pushing out from the base of the current season's growth. The dwarf-growing C. citrina is now in flower, and should be suspended in a cool, dry house, and afforded a limited quantity of water. Several of the long-bulbed Cattleyas, as C. amethystoglossa, C. Leopoldi, C. Harrisonæ, C. Schofield iana, &c., now commencing to grow, may safely be repotted if this process is necessary, and the young roots will quickly establish themselves in the new compost. Plants of C. superba may, when the new breaks appear, be afforded fresh rooting material. Plain shallow pans without perforated holes in their sides are preferable to pots or baskets. They should be suspended near to the roof in the warmest house. Until this species is well established in the new compost its roots need little water. Great care is necessary in this respect at all times, as the young sary in this respect at all times, as the young growths are extremely liable to decay if too much moisture be afforded them. The thin-bulbed Lælia harpophylla, and the dwarf-growing L. pumila, and its varieties præstans and Dayana, will require less water now they are at rest, and should be placed in the coolest part of the intermediate-house. Towards the end of May, or as soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights become warmer that may be a soon as the nights are soon as the night are soon as th mediate-house. Towards the end of may, of as soon as the nights become warmer, they may be removed to a light, airy position in the Odonto-clossum-house. Such distinct Cattleyas as C. glossum-house. Such distinct Cattleyas as C. Walkeriana, C. dolosa, and C. nobilior, should be suspended close up to the roof-glass of the Cattleya or Mexican-house.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Strawberries.—Much care and attention are necessary in order to maintain a constant supply of Strawberries from pot plants until fruits ripen out-of-doors, especially if the plants have to be grown in vineries and Peach-houses. The plants require very frequent applications of water, and feeding with liquid manure, the neglect of which would weaken the plants, and favour red-spider. When the supply of ripe fruits from succession plants is likely to exceed the demand, the fruit may be retarded by removing the plants to a house or pit having a north aspect. If the cultivation afforded be suitable, the finest examples of forced Strawberries are generally obtained during the month of April. Take care that late batches still in their winter quarters are supplied with water at the roots as often as is necessary. Unheated pits are suitable structures in which to fruit the latest plants, and if (the pots be plunged in coalashes, the plants will be benefited. The favourite autumn-fruiting variety St. Joseph should receive attention. Prepare the plants now in small 60-size pots for repotting into 48-size and 32-size pots later on. Do not permit the plants to auffer from want of water. Let them stand on a bed of coalashes well exposed to the sun.

Vines.—We are now thinning Grapes that will riper in June. This operation should be done with care, and a knowledge is necessary of the different varieties and the size to which the berries are likely to attain. But in every case the crown berries are those which should be retained, and such varieties as Black Hamburgh must not be thinned severely. Before the berries commence to colour it is better to have a few berries to remove, and it may be stoneless berries, than to lament the thinness of the bunches. Give close attention to pinching laterals and sub-laterals beyond the bunches, where space is available, otherwise remove the lateral altogether. Afford the plants moderate but frequent applications of stimulating manure, and admit air to the house on every favourable opportunity. Damp down the house at closing time in the afternoon with diluted drainings from the stable.

Vine and Peach-borders out-of-doors.—The present is a favourable season to give attention

to outside borders, and if necessary to remove all inert soil down to the roots, which are now active. For a top-dressing I have found nothing to equal light coverings of burnt ashes, the greatest proportion of which is wood-ashes. These remain in an open, sweet, and wholesome condition for a considerable time, and the roota revel in them. Such a top-dressing with specially prepared material from the stables answers well. Afford light and frequent waterings with the revolving sprayer.

THE FLOWER GARDEN.

By A. B. Wands, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Tropwolum speciosum.—Roots that were taken up in the winter and placed in boxes will have made 3 or 4 inches growth. If they have been hardened off they may be planted out at once; every small piece will grow. Tubers may also be planted and seeds sown in a cool, shaded frame. A compost of peat and loam is best. Slugs will eat away the young shoots if not checked by the use of slaked lime or some other means. Shelter these shoots from wind. A useful and pretty climbing plant to associate with this apecies is Tropwolum peregrinum, the Canary-creeper.

Shrubs.—In consequence of the dry winds which have prevailed, all evergreen ahrubs lately planted should be afforded water, and be well mulched with good rotten dung. Spray them overhead, if possible late in the afternoon, which is of more assistance to them than too much water at the roots, as there will be little root-action for some weeks to come. Camellias can be successfully planted now, and it is necessary to mix some rongh peat in with the soil. Camellias are not planted so frequently as they might be. The trees are perfectly hardy, and the foliage very bright. Large specimen evergreens requiring to be transplanted may have a few of their larger branchea cut away, to give them a better chance of starting into growth.

Annuals raised from seeds sown some weeks ago on the hot bed will be ready for pricking-out into frames. Six or 8 inches of good soil ahould be placed in the frame upon a firm bottom, which will enable them to be lifted better, thus minimising the check at planting-out time. For the same reason do not place manure under them in the frame. Care should be taken not to presa the dibber against the stem of the young seedlings, or damping will occur. They will require shading until they have become established. Close the frames early in the afternoon, and for a few weeks cover them at night. Air must be given during the day to prevent damping. Keep a sharp look-outforslugs and other insect-enemies. Should the weather be favourable, Stocks may be planted direct into their summer or flowering quarters. When this plan is followed protection should be given them till they obtain a roothold and the weather is more genial. The same treatment may be applied to Antirrhinums.

Borders of Herbaceous Plants.—Use the hoe frequently, and afford mulches and root-waterings to recently-planted roots. Late-flowering varieties of herbaceous plants may still be planted, and any roots left over from planting should be placed in a reserve garden to supply flowers for cutting; it will obviate cutting from the main border.

Climbers.—These may now be planted, and will at this time of the year soon start into growth; as most of them can be obtained in pots. If the soil needs it fresh compost should be added. Wistanias, Clematis, and Gaultherias like a mixture of peat. Young growths of the Clematis will require attention, while Jasminum nudiflorum will need thinning out and the strongest shoots tying back. For planting in vacant places where there is plenty of room, suitable subjects are Wild Hop, Convolvulus, Lathyrus sylvestris, Solanum dulcamara (Bitter-sweet), and Akebia quinata. The latter is hardy here and makea a beautiful climber, doing best in a good mixture of peat and loam. Half-hardy climbers include Passiflora cœrulea (one of the best), Cobæa scandens, and Bignonia radicans, most of which are hardy in the South, or need only slight protection in the winter.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Begonia Gloire de Sceaux, B. Ensign, B. Mrs. Heal, &c.—Old plants of these varieties having been rested are starting into growth, and their propagation should now be undertaken. Cuttinga of the first-named variety, if inserted at any time from the present date to the end of May, will flower from December until the beginning of April, during which time this plant is most useful. I do not find that B. Ensign produces cuttings so freely as Gloire de Sceaux, therefore a good stock should always be reserved for propagation. The cuttings of the above-named varieties are best inserted singly in small pots. Afford them a compost of loam, leaf-soil, and peat in equal proportions, adding some coarse silver sand. Cuttings of the tuberous-rooted Begonias may also be inserted at the present time. Propagation of the latter by means of cuttings is resorted to in the case of named varieties or very superior seedlings which it may be thought desirable to increase.

Euphorbia (Poinsettia) pulcherrima.—Place a few old plants of these in the atove to provide cuttings for an early batch of plants if required, and afford them a watering. When the growths are from 3 to 4 inches in length, take them off with a heel, and insert them singly in small pots filled with sandy soil. Afford a watering, and plunge the pots in the propagating-frame, or on a hotbed.

Codiacums (Crotons).—These are now in ful growth, and tops taken off at the present time will make roots freely in sandy soil if the base of the cuttinga be not too woody. Plants with good tops, but which are too tall for decorative purposes, may be utilised for propagation. Take off the tops about 6 inches in length, and after removing some of the bottom leaves, cut the base back to a point where it is moderately soft. Insert the cuttings singly in small pots, and plunge the pots in the propagating-frame. Cuttinga which have been rooted by the process of "ringing," as advised in a former Calendar, and are now established in small pots, must be transferred to others 5 inches in diameter directly they are sufficiently well rooted, otherwise the young foliage will be prevented from developing as it should do.

Ixoras are very useful for room decoration when grown in small pots. For this purpose cuttings should be inserted as soon as half-ripenod shoots of the current season's growth can be obtained. Insert these singly in small pots previously filled with a compost of peat, leaf-soil, and a little loam, together with plenty of sand, and plunge the pots in a brisk bottom-heat. When the cuttings are well rooted, transfer them to pots 4½ inches in diameter. Grow the plants on without stopping, and in due course good trusses of flowers will be produced. When the flowers have faded, cut the plants back, and when they have made growths an inch long, shift them into pots a size larger, and grow on as before without stopping. These plants require a high temperature, abundance of atmospheric moisture, and shade from bright sunshine.

THE KITCHEN GARDEN.

By John Penrland, Gardener to C. H. B. Firth, Esq , Ashwicke Hall, Marshfield, Chippenham.

Mushrooms.—If Mushrooms are in demand all the year, collect manure, and having prepared it by frequent turnings make up new beds. During the summer months the beds should be made in the coolest situation at command, either indoors or out-of-doors. The north side of a wall, a cellar, or a plantation are suitable positions, but any aituation will do that is shaded from the sun. When making beds out-of-doors prepare mounds or ridges 4 to 6 feet wide at the base, rising in height to about 3 or 4 feet, according to the width. Whatever the width or height, the mounds should be formed rounded at the top, and the sides made at an angle to allow the soil to keep in position after the spawn has been inserted. In commencing peg out the distance required, and when building make firm from start to finish by treading and beating the manure as the work pro-

ceeds. Subsequently insert a few pegs along the bed to give an idea of the temperature. These should be tested every alternate day, and when the heat has declined to 80° insert piecea of spawn about the size of a bantam's egg at 3 inchea apart over the bed, just a little under the surface of the manure. A day or two afterwards cover the bed about 3 inches deep either with loam from an old pasture, or with any good garden soil. Beat this firm, and make it smooth with the back of the apade, afterwards cover lightly with a little hay, and protect the bed from rain that would be likely to make it too wet. Examine the beds occasionally, and when the spawn commences to run be careful that it does not run into the hay, which it will do if the hay has been applied too thickly, and has since become damp. The covering of hay should be kept in a loose condition.

Brussels-Sprouts from seeds sown early and that have been hardened off well may now be put out on the quarters where they are to remain. Plant them in lines 2 feet apart, and allow the same distance from plant to plant in the rows. If the soil is deep and unusually rich a little more space may be necessary, but in our case the diatances stated are sufficient. If the plants are very small, plant them at distances of 6 inches apart in the lines, and afterwards thin them out as required. If the garden is of limited extent only, these thinnings will be found nice sturdy plants for planting between the lines o Potatos after the Potatos have been earthed up.

Sceds.—Sow Chicory. Examine the seed-beds, note any failures, and ascertain if there has been anything forgotten; and if possible make good the omission. Failures should not always be attributed to the seedsmen; we have oftener agen them result from mismanagement on the part of the cultivator. Causes of disappointment arise from such mistakes as sowing too deeply, or at a time when the soil is not in a proper condition, from neglect after sowing, allowing the birda to steal the seeds or permitting the slugs to eat the seedlings as they are pushing through the soil. These things result from carelessness and want of observation.

THE APIARY.

By EXPERT.

The spring cleaning of the apiary should be proceeded with as quickly as possible. Carefully examine and number each stock. Make the smoker ready for use, and have a plentiful supply of fuel. Also prepare a carbolic cloth dipped in a solution of one part carbolic acid to five parta of water, with a little glycerine. The carbolic should be Calvert's No. 5. Cleaning operations should be commenced by giving the bees a little amoke and removing the risers to enable one to have plenty of room. After drawing out the dummy examine each frame and acrape away all small pieces of wax, &c., on the ends and bottoms. Examine the frames upside down also, as wax grubs will often be found right up under the shoulder of the framez. To do this lower the frame in the left-hand till it is straight up the 14-inch way, turn the same round as if on a pivot, and then turn upwards, when the other aide of the frame is presented without any difficulty. If turned right up the weight of honey and bees is likely tobreak the comb. Proceeding with each frame, scrape the floor board and sides, and when all have been cleaned remove the scrapings on the floor board with a wide knife or small brush, moving two or three frames forward as room permits, until each one is in its properposition; then replace the dummy. The top of each frame should be scraped and the pieces of comb removed. Should they contain any honey, allow the comb containing it to remain on the top bars for a few days for the bees to clear out. The frames containing brood should not be kept out of the hive any longer than is avoidable while cleaning, as it may become chilled. All small pieces of wax and scrapings should be cleared up, and not left about the apiary. By destroying wax grubs now, we may prevent a great number infesting the bees later on.

Continue a little gentle feeding when necessary. All stocks in a dirty condition should be placed in a fresh hive, and the old one removed

for cleaning.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well os specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPEE, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.-The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

(Ilustrations .- The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.-Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR MAY.

MAY 1 Dusseldorf Exhibition (Orchard Chids) (three days). SUNDAY. Royal Horticultural Society's Committees Meet. Scottish Horticultural Associa-tion Meet. TUESDAY, THURSDAY, MAY 5-Linnean Society Meet. MAY 6 Royal Botanic Society, Lecture

MAY 6 Dusseldorf Exhibition (Cu
Flowers) (four days). FRIDAY. MAY 7 Sociélé Française d'Horticul-ture de Londres Meet. German Gardenere' Club Meet. SATURDAY. MAY 9 United Horticultural Benevo-lent and Provident Society's Committee Meet. MONDAY. WEDNESDAY, MAY 11 { Royal Botanic Society's Ex-THURSDAY, MAY 12 { Düsseldorf Exhibition (Fruits and Vegetables) (four days). FRIDAY, MAY 13-Royal Botanic Society, Lecture. Royal Boaric Society, Lecture.

Committees Meet, and National Tulip Society's Show combined.

Horticultural Club Meet.

Annual Festival Dinner of Royal Gardeners' Orphan

Fund at Hotel Cecil. TUESDAY,

THURSDAY, MAY 19 Strighton Horticultural Society Meet.

Dusseldorf Exhibition (Cut Flowers) (six days). FRIDAY, MAY 20-Royal Botanic Society, Lecture.

SATURDAY, May 21-German Gardeners' Club Meet. MAY 24 { Linneau Society (Auniversary) Meet. at 3 P.M. TUESDAY,

WEDNESDAY, MAY 25 Royal Caledonian Horticul-tural Society's Show at Edin-burgh (two days).

FRIDAY, MAY 27-Royal Botanic Society, Lecture. MAY 30 Annual Meettog and Dinner MAY 30 of Kew Guild at Holborn MONDAY. Restaurant.

May 31 Royal Horticultural Society's Show in the Temple Gardens, Thames Embankment (three days). TUESDAY,

BALES FOR THE WEEK.

WEDNESDAY NEXT, May 4—
Palms, Plants. Begonias. Cannas, Perennials, Geraniums, Ferns, Lilles, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.—Azaleas, Koses, Cannas, Palms, &c., at Stevens' Rooms, 38, King St., Covent Garden, W.C., at 12.30.
FRIDAY NEXT, MAY 6—
200 lots of Cypripedium niveum; also Cattleya gigas, Established Orchids, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.
For further naticulars see our Advertisement columns. I

(For further particulars sec our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

TOAL TEMPERATURES:—
LONDON.—April 27 (6 P.M.): Max. 58°; Min. 42°.

April 28, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp., 55°; Bar, 30°1. Weather dull and warm.

PROVINCES.—April 27 (6 P.M.): Max. 55°, South-east Coast of England; Min. 45°, North-east Coast of Eogland.

It is still a matter of dis-An Apple for pute, or rather of difference the Tropics. of opinion, whether the Apple and the Pear should be classed in one and the same genus (Pyrus), or whether the Pears should be held to constitute one genus (Pyrus), and the Apples be included in another (Malus).

Whilst botanists are divided in opinion on the subject, common usage unhesitatingly affirms the distinction between Apples and Pears. In ordinary circumstances there is, of course, no difficulty whatever in distinguishing an Apple from a Pear, whether in foliage, flower, or fruit; but in the circumstances under which the botanist dealing with a large number of wild species from various countries is placed, the distinction is not always easy to perceive. Speaking broadly, the only constant difference (if it he constant) is that the Pears have masses of "grit" or lumps of hardened cells in their tissues, whilst the Apples seem never to possess these "stone-cells." It may seem to some that these are matters of academic rather than of practical importance; but whilst this is not wholly true in this specific instance, as a general statement it is safe to affirm that we never can tell when knowledge of a fact may be turned to account. Many, perhaps most, of the important practical results of which we are now reaping the benefit owed their origin to some discovery deemed at the moment to be of trifling, if of any consequence at all, from a practical point of view. We are reminded of these facts by the publication, in the February number of the Bulletin of the Botanical Society of France, of a new species of Pyrus (or as the author, M. Bois, prefers to write it, of Pirus), native of Annam. This tree, M. Bois tells us, was found by M. D'ANDRÉ at the summit of Lang-Bian, in Annam, at an altitude of 2,000 metres, on the edge of a forest. The discoverer speaks of the tree as an Apple. The external appearance of the fruit is indeed quite that of an Apple, but the numerous masses of grit (stone-cells) in the flesh are such as are characteristic of Pears. Unlike most wild Pears and Crabs, the tree is destitute of spines. The flowers have not yet been observed, but the fruits are globular, 4 to 5 cent. across, greenish-yellow, and with a rough flavour like that of a Crab Apple. The climate of Lang-Bian is like that of Southern Europe, and is such that a sanitarium has been proposed to be erected there, whilst an experimental station and a meteorological observatory have already been established. It is anticipated that the district will ultimately be of importance by supplying the colony with European fruit and vegetables, and for raising cattle, thus rendering Cochin China independent, as regards supplies, of China proper. From a cultural point of view the im-

portance of the discovery of this new Pyrus rests in the circumstance that it may be as a stock whereon European varieties may be grafted. If experiments made with this object prove successful, whether in the case of Apples or of Pears, the introduction of this new species into our own tropical and subtropical Colonies is much to be desired. Many thousands of seedlings have, we are told, already been raised, so that we shall not have long to wait for the proof of the utility of the tree.

The new species has been called Pirus Doumeri by M. Bois, in compliment to M. DOUMER, the founder of the experimental station above alluded to.

So far as we can see, there is no species like it in the enumeration of Chinese plants now approaching its completion under the auspices of Mr. Hensley.

BAMBUSA PALMATA (See Supplementary Illustration).-For the opportunity of figuring this species we are indebted to Messis. Gauntlett, of Redruth, who make a speciality of the culture of Bamboos. Lord REDESDALE speaks of it as a strikingly beautiful and most effective species, conspicuous from the great size of its leaves, which are often used by the Japanese peasants to wrap up the bits of salt fish or other condiment which they eat with their rice. The leaves are from 12 to 13 inches long, and 3 to $3\frac{1}{2}$ inches broad, tapering suddenly into a fine point, brilliant green, smooth and shiny, glaucous beneath. Lord REDESDALE finds it thrive equally well under full sunshine and in deep shade.

ROYAL HORTICULTURAL SOCIETY. - The next meeting will be held on Tuesday, May 3, in the Drill Hall, Buckingham Gate, Westminster. At 3 o'clock a paper on "Enemies of the Apple Tree," by M. Chas. Baltet, will be read. A total of 498 new Fellows have been elected since the beginning of the present year.

- The Rt. Hon. Lord Redesdale has been compelled to resign his seat on the Council of the Society, owing to illness in his family, compelling his absence from England. The Council has elected W. A. BILNEY, Esq., of Fir Grange, Weybridge, to the seat on the Council thus vacated by his Lordship. The Council has conferred upon LORD REDESDALE the Victoria Medal of Honour in Horticulture.

THE SURVEYORS' INSTITUTION.-The next Ordinary General Meeting will be held in the Lecture Hall, on Monday, May 16, 1904, when a discussion will take place on the paper read by Mr. Thomas Blashill (Fellow), at the meeting of April 18, entitled "London Streets and Street Traffic."

THE GARDENERS' ROYAL BENEVOLENT INSTI-TUTION.—We have received the following communication, which we leave to the earnest consideration of our readers :- "You are doubtless already aware that Mr. HARRY J. VEITCH, for the last fifteen years Treasurer of the Gardeners' Royal Benevolent Institution, will, at the request of the Committee, occupy the Chair at the Festival Dinner in aid of the funds, at the Hotel Métropole, on June 28 next. No one probably has done so much for the benefit of necessitous gardeners and their widows as has Mr. VEITCH, who has given unstintingly both of his time and of his money to assist the good cause, and the undersigned members of the parent Committee feel that the present is an excellent opportunity for the gardeners of Great Britain and Ireland, as well as of all interested in gardening, to show their appreciation of what Mr. VEITCH has done and is doing by assisting to make this a record year in the financial annals of the Institution. Will you kindly assist us to do this? With this object in view we ask you to very kindly bring the subject before every gardener in the country. The Institution is supporting 207 pensioners-121 men at £20 and 86 widows at £16 per annum respectively, at an annual cost of £3,796. To meet this sum the only guaranteed income is about £860, leaving the remainder to be raised by voluntary contributions, subscriptions, and donations. This is a great responsibility, and we ask our fellow-gardeners throughout the British Isles to help to lighten this heavy burden. Fifteen pensioners were placed on the funds at last election, leaving thirty-eight unsuccessful candidates-several quite blind-on the list awaiting aid. The number of old and necessitous gardeners and their widows applying for assistance continues to increase, and without more generous support from gardeners, for whose benefit, and that of their widows, the charity exists, there is nothing for the Committee to do but turn a deaf ear to the appeals which come before them. Wotes are given for every guinea subscribed or collected, and it is possible for a gardener by subscribing for a few years to be entitled to as many votes as will secure his election-in case of need-without outside help. The Secretary of the Institution (Mr. G. J. INGRAM, 175, Victoria Street, S.W.) will gladly furnish any further information you may desire to have. H. Barnes, Peter Blair, Willm. Crump, W. Denning, Jas. Douglas, M. Gleeson, Jas. Hudson, John Jennings, J. McIndoe, A. MacKillen, G. Norman, S. Ostorn, Owen Thomas. Bailey Wadds, Geo. Wythes.'

St. Louis.—Fifty acres are devoted to out-ofdoor gardening at the Exhibition, nearly 10 acres of which are allotted to Roses and 10 to a wild garden. When the Exhibition opens a vast display of fruits, especially Apples, preserved by cold storage, will be made.

LINNEAN SOCIETY.—The next general meeting of the Society will be held on Thursday, May 5, 1904, at 8 F.M. Papers: Mr. J. Cash, "British Freshwater Rhizopoda;" Mr. J. Lewis Bonhote, "On Colouration in Animals and Birds;" Dr. W. G. Ridewood, F.L.S., "On the Cranial Osteology of the Fishes of the Families Mormyridæ, Notopteridæ, and Hyodontidæ." A ballot will be taken in respect of Professor Eudène Louis Bouvier, Paris; Dr. Carl Chun, Leipzig; and Dr. Hugo de Vries, Amsterdam, as foreign members.

NATIONAL FRUIT GROWERS' FEDERATION.

—A meeting of the Council on Monday the 18th sinstant was well attended, and Col. C. W. Lono, M.P., presided. The Annual Report was drawn up and agreed to; and the agenda for the forth-coming annual general meeting on May 9 was arranged. The principal subject for discussion, after the routine business has been disposed of, will be "The Importation of Foreign Fruit for Jam-making, and Inspection at Ports of Entry."

SCHEDULES RECEIVED. — NATIONAL ROSE SOCIETY'S Exhibitions on Wednesday, July 6, in the Inner Temple Gardens, Thames Embankment, London; and on Tuesday, September 20, in the new Horticultural Hall, Vincent Square, Westminster.

THE BOARD OF AGRICULTURE AND FISH-ERIES has commenced the publication of a weekly return of the market prices of fat and store stock, dairy cattle, dead meat, provisions, fruit, vegetables, hay and straw, at certain representative markets in Great Britain. The prices are supplied by the official reporters of the Board, and are prefaced by a brief summary of the chief features of the week's business, based upon the reports furnished by them. The Return contains the information for the week ending with the previous Saturday, and is intended to be issned every Wednesday. It is published at the price of 1d., and is to be obtained from Messrs. EYRE & SPOTTISWOODE, East Harding Street, London, E.C., or Messrs. OLIVER & BOYD, Edinburgh, either directly or through any bookseller.

DAFFODILS.—Mr. HARTLAND has sent us a gathering of Daffodils from his nursery at Cork. They belong to two sections, the one in which the flower-tube is broadly funnel-shaped, much shorter than the segments, and the corona trumpet-shaped, as long as the perianth segments (the magni-coronatæ) of Baker; the other in which the flower-tube is almost cylindric, nearly as long as the segments, and the corona

cup-shaped, about half the length of the segments, medio-coronati (Leedsi). To the first or trumpet Daffodils belong:—

M. J. Berkeley.—A variety of the maximus type; flower nearly 3 inches long; tube broadly funnel-shaped, with conspicuous green nerves; segments oblong, \(\frac{3}{4}\) inch wide, bright yellow; corona 1\(\frac{1}{2}\) inch, deep yellow, about the length of the segments; border much recurved, with six conspicuously rounded, deep, plicate lobes.

Maximus superbus. — Similar to the preceding, but smaller in all its parts.

Spread Eagle.—Flower nearly 3 inches long; tube broadly lunnel-shaped, yellow; segments pale yellow, twisted; corona yellow, longer than the segments.

Buttercup.—Flower 13 Inch long; tube broadly funnel-shaped, distended in the middle, about the length of the oblong, pale yellow segments; corona longer than the segments, deep yellow, slightly recurved at the margins.

Lorna Doone.—Flower 2 inches long; tube funnel-shaped, green, much shorter than the broadly-oblong, or ovate-oblong pale yellow segments; corona longer than the segments, deeper yellow, cylindric tubular, not much if at all reflexed at the margin.

Jeannie Woodhouse.—Flower 13 inch; tube funnel-shaped, greenish, rather shorter than the oblong whitish segments; corona deeper yellow, broadly tubular, border lobulate, reflexed.

White Wings.—Flower 2 inches icng; tube broadly funnel-shaped, greenish, shorter than the oblong segments; corona of the same pale sulphur colour as the segments, broadly tubular, edge plicated, but not reflexed.

To the second or cup Daffodils belong :-

Duchess of Westminster.—One of the Leedsi section; flowers 3½ inches in diameter; tube narrow, elongated, cylindric, green; segments white, spreading, oblong; corona half the length of the segments, cup-shaped, sulphur-yellow, slightly infolded at the edge.

Mrs. Langtry.—Very similar to the preceding, but somewhat smaller, the segments less purely white, but the corona paler.

R. D. BLACKMORE.—A memorial window and a tablet with a medallion portrait has been erected in Exeter Cathedral to the memory of the author of "Lorna Doone." To horticulturists he was known as one of the ablest pomologists of his time. To those who knew him personally his kindliness charity, and humour endeared him. As is well said on the tablet:

"Insight and humour, and the rhythmic roll Of antique lore, his fartlle fancies sway'd, And with their various eloquence array'd His sterling English, pure and clean and whole."

"He added Christian courtesy and the humility of all thoughtful minds to a certain grand and glorious gift of radiating humanity." Cradock Nowell.

"MEMORIA IN ÆTERNA."-On Friday last a very interesting ceremony took place at the Botanical Institute of the University of Brussels, when commemorative tablets were placed to do honour to the memory of FRANÇOIS CRÉPIN, ALFRED DEWEVRE, GEORGES CLAUTRIAN, and EMILE LAURENT. Professor ERRERA presided over a meeting of about forty botanists and friends, including the directors of various public establishments, professors of ithe University, and others. Professor ERRERA traced in touching terms the career of the four distinguished scientific men-Dewevre, who died after two years' botanical exploration of the Congo, in the course of which he discovered Landolphia Thollonii, a caoutchouc-yielding plant; CLAUTRIAN, who died after a journey in Malaya, and who obtained renown for his researches on digestion in the carnivorous plants, and on the occurrence of glycogen in fungi; EMILE LAURENT, of whose career and its sad termination we have lately spoken, and of whose labours M. HUBERT spoke with discriminating eloquence. M. DURAND recalled the many services to science rendered by his predecessor, M. CRÉPIN, as widely known among horticulturists as among botanists for his study of the genus Rosa. M. HUBERT, the Director of the Agronomical Institute of Gembloux, spoke of these four distinguished men as adorning the vast field of humanity in the same manner that the fields and hillsides are enamelled with the rarest and most beautiful of flowers."

THE CALENDAR OF GARDEN OPERATIONS .-A new, much enlarged, and illustrated edition of PANTON'S Calendar has just been issued. The original booklet was planned and carried out by Mr., afterwards Sir, Joseph Paxton, and has had a very large sale. The present, latest of many successive revised editions, has been brought up to date by members of the staff of the Gardeners' Chronicle. It contains, in addition to the calendar of monthly work, lists of select vegetables, fruits, and flowering plants, articles on Chrysanthemum; Sweet Peas, Vines, &c.; instructions for propagation, notes on insect and fungus pests, receipts for cooking fruits and vegetables, hints on pig and on poultry The work is copiously illustrated, keeping. &c. and is intended not only for the cottage-gardener and allotment-holder, but for the amateur generally. The "reason why" of the various gardening operations is suggested, and it is hoped that the publication will be found useful to County Council lecturers and their auditors, as well as to practical gardeners of all grades. It is published at a low price (6d.) so as to bring it within the reach of all classes of the community, by H. G. Cove, at 41, Wellington Street, Covent Garden, London, W.C.

FRUIT FARMS .- In response to the public appeal by the Minister for Agriculture method by which the Small Holdings Act of 1892 could be made effective, Mr. Sampson Morgan has written a lengthy article for the Fortnightly Review for May under the title of "Small Fruit Farms for England," in which compulsory purchase and payments similar to those provided in the Irish Land Act are advocated. Much space is devoted to the subject of "Wages and Skill." with the view of showing the need of educated labour on the farm. The theory of the late HENRY GEORGE with regard to the sub-division of land and decreased productivity is called in question. The small fruit farm is the writer's panacea for the persistent growth of the trade in imported food-stuffs, the serious increase in permanent pastures, and the depopulation of the rural districts. Our annual imports of Apples, Potatos, Onions, and Tomatos alone now exceed 22,000,000 cwt.

A FORTUNATE GARDENERS' SOCIETY .- Of the numerous mutual improvement societies gardeners have established over the country few are in such fortunate circumstances as that at Birmingham. In the room at the Athletic Institute, where the monthly meetings are held, the Society possesses a library of books upon every branch of gardening and botany capable of affording invaluable information to the members. The books are contained in two cabinets, and number over 200 volumes. We had recently an opportnnity of looking over some of the works, and found amongst many others those following:-Baillon's Natural History of Plants, in seven vols.; Sowerby's English Botany, in twelve handsome vols.; the exceedingly useful Treasury of Botany, in two vols.; Paxton's Magazine of Botany, in sixteen vols. : Bentham's British Flora, in two vols. ; Popular History of British Ferns (T. MOORE), Manual of Coniferæ (Veitch), Cross and Self Fertilisation of Plants (DARWIN), Nicholson's Dictionary of Gardening, in four vols., also the recently-issued Supplement, in two vols.; Encyclopædia of Gardening (J. C. Loudon), English Flower Garden (W. Robinson), British and Exotic Ferns (E. J. Lowe), in eight vols.; English Flower Garden (W. Robinson), Flowering Plants, Grasses, Sedges, and Ferns of Great Britain (A. PRATT), in sixteen vols.; also an edition published in 1891, in four vols.; Fruit Manual, by Dr. Hood; Johnson's Gardener's Dictionary (WRIGHT and DEWAR); Grasses of Great Britain (Sowerby); the handsomely illustrated Herefordshire Pomona (H. G. Bull, M.D.), in two

vols; the expensive but invaluable Index Kewensis, in four vols; Art and Practice of Landscape Gardening (H. E. MILNER); Manual of Orchidaceous Plants (VEITCH), in two vols.; Paxton's Flower Garden, in three vols.; Paxton's Magazine of Botany, in sixteen vols.; The Gardens of the Sun (F. W. BURBIDGE); Plant Lore and Garden Craft of Shakespeare (Rev. H. N. Ellacombe, M.A); Variation of Animals and Plants under Domestication (C. DARWIN), in two vols.; Sweet's Hortus Britannicus, &c. The majority of the volumes have been presented by friends, and the Society has an invested capital of nearly £300, also bequeathed by sympathetic well-wishers. Taking into consideration the fact that the Society has nothing to do with exhibitions and their attendant risks, the invested sum is considerable. A printed catalogue of the books can be obtained by the members, and most of the volumes may be borrowed for study at home, but a few of the larger and more expensive works are used for reference in the Society's room only. The Librarian is Mr. W. GARDINER. We wonder if the members of the Society are fully alive to the advantages they possess, and if good use is made of the information within their reach? Now that we have drawn attention to the circumstances of the Society, we hope many Midland gardeners who at present do not belong to the Society will become members, and make it the powerful influence for the dissemination of knowledge it ought to become. The Secretary is Mr. DEEDMAN, Botanic Gardens, Edgbaston Birmingham.

GARDENER OBTAINS COMPENSATION. - A gardener named Joseph Jesse Richings has obtained compensation at the Gloucester County Court under unusual circumstances. On June 2 last year, whilst in the act of picking up leaves from the lawn, his face came into contact with the point of a leaf of the American Aloe (Agave americana). The spine entered the ball of his left eye, inflicting injuries from which he has not jet recevered. His employer had insured her servants against accident, and the company paid RICHINGS 10s. per week compensation for a time, discontinuing to do so upon a medical man having certified that the gardener was fit for work again. After hearing counsel on both sides, his Honour awarded claimant 10s. 6d. a week and half the value of the occupation of the house, assessed at £16 a year. Richings was earning £1 1s. per week at the time of the accident, and had a free house on the premises.

BOTANICAL LECTURES AT CHELSEA.—Prof. J. REYNOLDS GREEN, Sc.D., F.R.S., is delivering a course of nire lectures in advanced botsny on "The Metabolic Processes of Plants," in the Chelsea Physic Garden. The lectures are delivered at 4 P.M. on Wednesdays. The third lecture will be on Wednesday next, May 4, on the following subjects:—"The processes following the absorption of gaseous and mineral substances. Construction of food. Nature of food and classification of food-stuffs. Carbohydrates. Proteids. Fats. The construction of food not an anabolic process. The consumption of energy involved. Construction of carbohydrates. The Chlorophyll apparatua and its source of energy. Work of Engelmann, Timiriazeff, and other observers. Nature of chlorophyll. Its antecedents and the products of its decomposition. Its relations to CO₂."

VISIT TO WISIEY.—A correspondent informs us that a party of members of the Fruit and Floral Committees of the Royal Horticultural Society paid a visit to Wisley Gardens on Tuesday afternoon last, going by train to Kingston-on-Thamea, thence per brake to Wisley, having a very delightful ride. The country is just now wearing a deliciously fresh green aspect, and flowering trees and shrubs are in abundance. At

the garden the Pelyanthuses and Primroses in many thousands were so beautiful as seen in every direction as almost to defy description. Myriads of charming hardy spring flowers are in great plenty, and most beautiful; so too are very many flowering trees and shrubs. A great portion of the outer ground has been cultivated and cropped, and there is a hig collection of Pæonies planted, as also Irises. Ground is being rapidly prepared on which to erect glasshouses. The visit was greatly enjoyed. The party returned to the Hut Hotel and partock of tea together, everything being served admirably and reasonably.

KEW NOTES.

Mucuna sempervirens, Hemsley.—It is rare that we obtain flowering specimens of any species of Mucuna in this country, as they usually require to reach large dimensions before flowering. A plant of the above-named species in the Temperate house is now in flower for the first time in Europe. It was discovered by Dr. Henry near Ichang, in China, and seeds were received from him in 1886, from which the present plant was raised. It is planted out in a border, and forms an exceedingly vigorous-growing climber about 90 feet in length. From the ground to the gallery, which is 30 feet high, it forms a strong woody stem, and from the gallery it is trained along two stout wires suspended across the corners of the south end of the house, and forming two huge curtains of foliage. For many years it has been grown in this way, for the sake of its large, handsome, evergreen foliage.

The plant is at present bearing two pendulous racemes of flowers on one of the old woody stems about 40 feet from the ground, and one smaller raceme on a thin stem about two years old. The flowers are papilionaceous, of great substance, and are fully 21 inches in length, the colour being reddish-purple on the outside and of a lighter shade of the same colour in the interior, shading off at the base of each petal to a creamy-white. The leaves are petiolate and ternate, 9 inches to I foot in length, usually as broad as long, dark green above, light green below. The upper surface, tegether with the main nerves of the lower surface of the young leaves, are covered with small, closely adpressed hairs, which are very irritating to the skin when the plant is handled. The hairs disappear shortly after the leaves reach maturity. Chas. P. Roffill.

CYRTOPODIUM PUNCTATUM, Lindley.

This handsome Orchid is now flowering in the warm Orchid-house at Kew, ita gorgeously-celoured flowers and bracts making a display unsurpassed by any Orchid. It is of easy cultivation and free-flowering nature, and its strong growths with their gracefully arched leaves have a very decorative appearance. The panicles of flowers are developed with the young growths, and are usually about 2 feet high, with numerous yellow and chocelate-brown coloured flowers, about $1\frac{1}{2}$ inch across, the lateral lobes of the lip being brownish-red. There are large petaloid bracts at the base of each spikslet and each flower, of the same showy colour as the flowers; the largest of the bracts measures 3 inches in length and 2 inches in width.

Cyrtopodiums requiremuch the same treatment as Thunias. When the young growths commence to make roots the plants should be repetted, and placed with the warm Orchids until the growths are mature; they should then be removed to an intermediate temperature. During the winter months, when the plants are leafless, they should be afforded only sufficient water to keep the pseudo-bulbs from shrivelling. It is a native of Brazil, and was figured in the Botanical Magazine, t. 3507. W. H.

HIPPEASTRUM "SNOWDON."

WE have now an opportunity of presenting our readers with an illustration (see fig. 123, p. 283) of the white Hippeastrum abown by Mr. C. R. Fielder, gr. to Mrs. Burns, North Mymms Park, at the last meeting of the Royal Horticultural Society. Mr. Fielder has kindly supplied us with the fellowing interesting particulars:—

"The history of the white Hippeastrum 'Snowdon' is, I have no doubt, similar in one respect to that of many other good plants which have been produced by cross-breeding, viz, it was not the result of indiscriminate crossing, but was the fruit of persistent working towards an ideal or standard which I fixed when the first cross was made. This was in 1893; and each year afterwards those seedlings which showed the greatest advance toward the standard, were selected and cross-fertilised, every cross being made with a view of obtaining improvement of some definite kind. It was sometimes necessary to break out of the regular track in order tobring in form or shape, size of flower, and vigour. In 1899 a seedling flowered which showed a considerable advance, the flowers being of good form and size, and only faintly tinted with colour. Among the offspring of this plant were two good white varieties, and these were the parents of Snowdon.

"I am greatly indebted to the Hen. Evelyc Ellis, who, after the death of the Dowager Lady. Howard de Walden, allowed me to take the seedling Amaryllis I had raised, and thus permitted me to continue cross-breeding."

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

IRIB HAUSEKNECHTII (a, of Bornmuller; b, of Siehe; and c, of the Gardeners' Chronicle, April 16, 1904, p. 251).—The confusions that sometimes occur in botanical nomenclature are sometimes due, not to any inherent difficulty of the case or circumstances, but to lack of proper record. May I therefore point out that there are three different plants to which the name Haussknechtii has been applied, and that the one distributed by Siehe under that name I have called 1. Sieheana in The Book of the Iris, which will be published shortly. I. Hausaknechtii of Bornmuller is an Apogon, and the name must stand. It is not, I believe, in cultivation. The other two, b and c above, are June Irises, and are closely allied to I. persica. If c was senthome by Siehe it must be a second "Haussknechtii" from him. It differs from b (which I have called I. Sieheana) conspicuously in leaf character, and apparently quite as markedly in the falls, which are pointed instead of being obtuse. My only knowledge of it is from the Gardeners' Chronicle, and probably no determination can be safe without a re-examination of the living plant. The original I. Haussknechtii is described by Baker in his Handbook of the Iridex, p. 4. Of the other two, good material still requires careful examination and description. R. Irwin Lynch. [It is clear that the plant sent us by Mr. Reuthe, and exhibited several times this spring by him and others, is not the same as that described by Baker, l.c. Ed

THE AURICULA SHOW.—The Auricula show on April 19 at the Drill Hall was very interesting, not only on account of the extent of the exhibits, but also because of the little breaches that are seemingly being effected in that "Chinese wall" which the National Auricula Society [following old tradition] has set up to illustrate their notions of what an Auricula should be like. The notions seem to have been that there must be only two types of Auricula, viz, the Show Auricula and the Alpine Auricula; the former with its monotonous colourings, thrum-eyes, pineyes, paste, and powder, and the latter also with its restricted colours and forms, much as

the Chinese restricted the form of their women's feet, imagining that distortion was the only type of beauty. In my opinion the show of Auricu'as on

Society. But curiously enough, in the Gardeners' Chronicle of April 23, p. 279, under the heading of "Farcy Auriculas," it is stated that "Mr.

types must be an eccentricity. On the same day there was a fine display of Narcissi, the growers of which were all evidently striving to utilize any

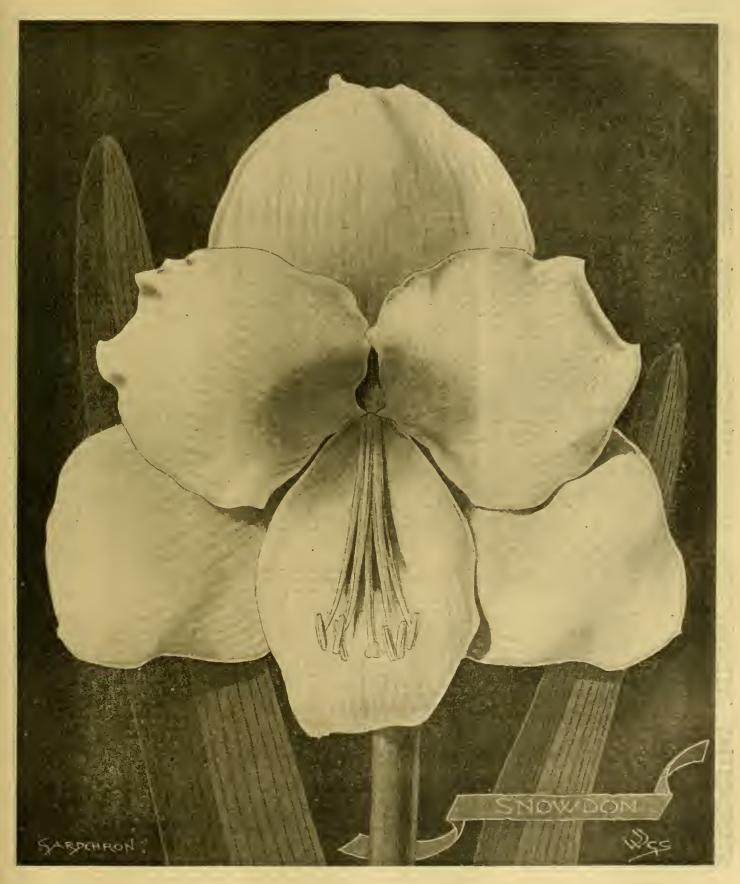


Fig. 123.—white hippeastrum "snowdon," exhibited by Mr. fielder on april 19: natural size. (see p. 282.)

the 19th was the best that I have yet seen. There was evidence of a desire to break through the absurd restrictions of the National Auricula

J. Douglas was the only exhibitor of twelve fancy Auriculas, generally eccentricities." It would appear that any deviation from the orthodox

valuable variations in this beautiful genus, brought about by crossing or by natural sport, for the benefit of every one concerned in the cul-

tivation of these charming bulbs. What would be said if all these fine variations of the Narcissi were rejected, and only those tailored according to a certain type accepted as models for prizes, medals, &c? I think horticulturists are to be congratulated that no "National Daffodil Society" has yet been set up! In the same issue of the Gardeners Chronicle, p. 271, it is stated that "no Certificates of Merit were awarded to seedling Auriculas' Yet it has been stated that the old Auriculas are not what they used to be, probably because they are propagated only by cuttings. Whether this be true or not, there is no doubt that nature has devised numerous ingenuities for forcing plants to effect crosses and so strengthen their vigour. I am sending you a number of flowers of seedling Auriculas to show what wealth of variation there is in the Auricula, if only someone would be bold enough to utilise these variations and evolve not only two types, but dozens of types of various colours. The Auricula is very fine for the open border, its varied colorations are striking, it is hardy, and, best of all, sparrows do not touch it. I cannot grow either Primulas or Polyanthuses, as sparrows will not let them alone. E. Bonavia, M.D. [A fine and varied selection. Ed.]

SURFACE-GROWTH IN ORNAMENTAL WATERS. -"W. D.," who is troubled with green scumlike growth in his Lily-pond, may like to know the method adopted with success by the Michigan Agricultural College in freeing noxious weeds from a lake in which Lilles, &c., were cultivated. This lake is a ½ of an acre in extent, and the method first employed was that of removing the scum from the surface with a rake by a man on a raft, and carting it away. After careful experiments it was found that the following formula, applied with a spraying-machine, had the effect of ridding the pond of its objectionable surfacegrowths:—Copper sulphate, 4 lbs.; unslaked lime, 4 lbs.; water, 60 gallons. This effectively destroyed the spores of the various organisms found in the scum, and in two days the pond was practically clear, the decaying matter having all sunk to the bottom. Before adopting this method it would, however, be much the best plan to make careful experiments, as the depth of water and hardiness of the species of aquatics cultivated therein would make some difference in the results, although the entomologist at this College reported no harm resulted to fish and frogs by these sprayings, and he believes the breeding of mosquitos was materially checked. Water-Lily-culture is now becoming so popular that any information now becoming so popular that any information that can be gained as to the eradication of offensive growths, too frequently seen on our rivers, lakes, &c., would be of great value, and perhaps "W. D." may be induced to give the results of his experience in this direction on some future occasion. F. Lance, Sutter future occasion. F. James, Sutton.

- I was very much troubled with this for years. The green scum (Blanket Weed) rising in May and remaining most persistently until the autumn, turning meanwhile a brown colour, which was still more objectionable. The evil was effectually cured by some liquid furnished to me by Mr. Otto Hehner, the water analyst, of No. 11, Billiter Square, London, E.C. Frank Crisp, Friar Park, Henley-on-Thames.

QUEEN WASPS. — After such a cold, wet summer as that of last year, one would have imagined wasps would have been few, but that such is not the case will be seen when I say that we have killed fifteen Queens in the past few weeks, most of them being found in the Melon and Pine range, although several were killed in an unheated Peach range. I do not remember ever before seeing so many in early spring. It is needless to say we have been keenly on the alert since we saw so many flying about, which, if not killed now, will multiply prodigiously and prove disastrous to the fruit crops later in the season, of which there is now so good a promise. J. Mayne, Bicton.

ALGERIAN SWEET PEAS .- Towards the end of last summer a gentleman from Algiers staying in England gave my employer seeds of half-a-dozen varieties of Sweet Peas, showing colours which he had obtained from cross-breeding our English varieties with those he had growing already. Be told me that they were quite distinct in point of

earliness from our own varience, and a month in his garden in Algiers, flowering a month to some conditions. Having to earliness from our own varieties, and were grown earlier under the same conditions. provide Sweet Pea flowers for cutting during the London season I sowed these Algerian and English varieties on the same day; they have been grown side by side, and were afforded identical treatment, standing on the floor of a cool Peach-house all the winter. The result is now apparent; the Algerian varieties fully bear out all that was promised of them. They are from three weeks to one month ahead of the English varieties, and if the colours are not quite so bright, the size of the flowers leaves nothing to be desired. I enclose growing haulm of each. The Algerian varieties are quite distinct in foliage from our own; in fact, in growth they look more like the everlasting Pea, while their precocity is apparent. W. H. Clarke, Aston their precocity is apparent. W. H. Clarke, Aston Rowant Gardens, Oxon. [These Peas are re-markable for the harder character of the leaves as well as for their greater earliness. The pre-vailing colours in the flowers are rose, purple, and blue. The standards of many of them are 2 inches across, and they are delightfully fragrant. ED.

THE PROPOSED GARDENERS' ASSOCIATION. -Your correspondent's fears (see p. 249) are not shared by the majority of gardeners, neither do I believe employers would object to their gardeners joining an Association if conducted on the right lines. The questions as to wages and hours of labour are very well to fix for public gardens, but for private places must be left to employer and gardeners, as local customs and conditions vary. Let the object of the Association be to bring all gardeners in closer touch and intercourse with each other, and to assist those who are out of employment into positions for which they are qualified, as many a good man with ability to fill the most responsible position remains in obscurity; and when the unfortunate time comes that he is compelled to make a change what chance has he? The Nurseryman's Register is but little use; the advertisement columns in gardening papers are worse. If an Association formed, with provincial committees as suggested, every competent gardener would be known, and, what is equally important, every employer who pays a fair wage might be re-gistered and known to the executive committee. Might the movement not eventually lead to the amalgamating of all gardening bodies—the Gardeners' Benevolent and Orphan Fund, &c.?

SPINACH TO STAND THE WINTER. - On the 8th of August last year, a sowing was made of the prickly or Winter Spinach, and of the roundseeded or Summer Spinach, on similar soil and in close proximity, with the following results at the present date—April 16: only 10 per cent. of the plants left at the final thinning of the prickly variety have survived the winter, whereas of the round-seeded Spinach more than 95 per cent. have survived. I may state that in the previous year the same course was followed with similar results. I hardly feel justified in again sowing prickly Spinach to stand the winter. J. McCallum, Burkham House Gardens, Alton, Hants.

FORCING STRAWBERRIES.—In reply to "An Interested Reader," I think that his failure is chiefly due to the plants having been grown (I presume on a stage) beneath the Vines, instead of being placed on a shelf near to the glass. I grow about 500 plants of the variety Royal Sovereign. I cannot start them quite so early as "An recannot start them quite so early as "An Interested Reader," as I should not be able to keep up a supply; but by starting my first batch on January 21 I gathered ripe fruits of fine size and quality on Easter Sunday (April 3). I cannot agree with his informant, that by stirring the surface soil and applying a little artificial manure harm was done; my opinion being that such treatment would be very beneficial, and all mine are so treated. I prepare my layers as early as possible from plants set out in the previous year, but which are allowed to fruit, as I cannot afford the space to grow plants specially for layers. think the results are almost, if not equally, as good as when grown from non-fruiting plants.

L. Lawrence, Digswell Gardens, Welwyn, Herts.

NURSERY NOTES.

DAFFODILS AT DITTON.

Forecasts, which predicted but a mediocrity in quality this season for the Narcissus family, have been rather falsified by the summer-like weather which has recently prevailed. Indeed, the weather has been too summer-like, the large amount of sunshine bringing the flowers on so rapidly as to shorten their flowering period very appreciably. Unfortunately, this hot spell of weather was succeeded by cutting north-west winds, which swept over the beds and injured the flowers. A great stretch of Daffodils in bloom is, perhaps, one of the prettiest sights to be seen in early spring, and when this is repeated again and again, as one sees it in the nursery grounds of Messrs. Barr & Sons at Long Ditton, relieved here and there with a bed of Irises, Anemones, Tulips, Muscaris, and such-like plants, the effect is gorgeous indeed. And such a collection, too, of species, sections, and varieties! Here is a batch of the large vase or trumpet-shaped kinds, adjoining a bed of the pretty Star Narcissi; another with the choice Poeticus or Pheasant'seye; others with the curious hoop-petticoatkinds, forms of the Leedsii, Barrii, Burbidgei, and other sections known only to specialists of these flowers.

What an advance from the old "Daffydowndillies" of our forefathers! What cumulative efforts such a collection as this represents-the careful hybridising, selection, and interweaving of species to produce such types of flowers! To-Messrs. Barr & Sons we owe much of this advance; and although new enthusiasts have stepped in, Peter Barr was the pioneer. What can surpass that beautiful white Ajax named after him, a batch of whose large, bold flowers was included among the choicer beds? Madame de Graaff, another lovely white trumpet, is almost as pure and chaste.

Weardale Perfection was noticed with large rich corona and white perianth. Una is a large-flowered Leedsii, with a very bright citroncoloured crown, which it unfortunately hides with its pendulous habit. It is one of the aims of Narcissus raisers to obtain this red in the trumpet Daffodils, and the variety Apricot is the farthest step yet made in this direction. This variety has a trumpet which, opening pale-yellow, eventually becomes rich buff or apricot colour.

Cassandra is a fine variety of N. poeticus, and one of the best of this beautiful section. There was a large batch of the robust-growing Gloria Mundi; it has a rich yellow perianth and reddish Maggie May (delicate yellow), Lucifer, Sequin (pure white perianth and gold-coloured cup), Madame Plemp (a handsome bicolor), Lobster, and J. B. Camm, all deserve mention. Sunset is a very sweet-scented and good form of the Intermedius section. An interesting section is the rush-leaved Daffodils, of which we noticed a double-flowered variety, Lady Godiva. All the flowers of this section are beautifully

The varieties Mrs. W. Ware, Gem, Duchess of Westminster, Geo. Nicholson, and Loveliness, a handsome new flower with a long creamy trumpet, are all flowers of the highest merit.

In passing through the nursery the striking. blue of a bed of Muscari conicum, "Heavenly Blue," the Grape Hyacinth, was very noticeable, and on examination the flowers were found to be strikingly large, the spikes abundant and of a most exquisite shade of blue. Another plant of interest was the old double form of the common wood Anemone, called A. nemorosa alba flore-The Poppy-red Tulip, T. Greigi, with its maculated leaves, was very handsome. Among a large collection of Cydonia japonica a variety

Simonii was very conspicuous, its rich scarlet flowers being much handsomer than those of the type. A new Aubrietia, "Fire King," was also noticed.

ALPINE PLANTS AT COMELY BANK, EDINBURGH. The Comely Bank Nurseries of Messrs. Cunningham, Fraser & Co., Edinburgh, have long been noted for alpine flowers, as well as for shrubs and other nursery stock. Within recent years even more attention has been paid to the alpines. A visit in April showed a number of good flowers in excellent condition, and many in flower. Saxifrages are a specialty of the collection. Among these there is a remarkably fine stock of S. Boydii flowering profusely and in perfect health; its fine bright yellow flowers were most attractive. Beside it were many plants of the new S. "Faldonside," not yet distributed. It was raised by Mr. W. B. Boyd, of Faldonside, Melrose, and is a charming Saxifrage of the Boydii character, with flowers of paler yellow, but of more perfect form and slightly larger than those of that fine plant. There was also a stock of the other new one of the same character, named "Cherrytrees," from the garden of Mr. James Boyd, the raiser of S. Boydii. Its flowers are pale-sulphur coloured, and while not so bright as those of either S. Boydii or S. Faldonside, are very attractive. S. Boydii alba, which I cannot consider a white replica of the type, but which is a good plant notwithstanding, was also well represented.

One of the greatest rarities in the collection was S. Ferdinandi-Coburgi, in bloom. This favourably impressed me, with its fine yellow flowers and its good habit. Has anyone else flowered this Saxifrage in the United Kingdom? S. porophylla was also in flower, and will form a fitting companion to S. Grisebachii, which it much resembles in the colour of its red inflorescence; its foliage is of a different character. S. Elizabethæ, whose flowers are yellow, was also in bloom. In the Burseriana section there were three forms-the type, the fine B. grandiflora, and the profuse-flowering form called multiflora. The true S. luteo-viridis, although not showy with its greenish pale-yellow flowers, is a distinct and beautiful variety. S. aretioides primulina is now very scarce, but I saw a few good plants at Comely Bank. Other noteworthy ones were S. retusa, S. pyrenaica in various forms, and S. tombeana; while the Megasea section is also represented by several of the best forms, the earliest being S. afghanica, looking very attractive with its white, rosy-tinted flowers.

Drabas are not very widely grown, and the demand for them is comparatively small; but I observed in flower D. aizoon, D. aizoides, and several others. A plant worth remark, because of the yellow tips to its foliage in spring, is Helianthemum luteum, which appeared quite bright, and at a little distance like a plant in bloom.

The collection of Primula species is steadily growing. Unfortunately, stock of some kinds is not plentiful anywhere, but as there is a renewed demand for these attractive plants, it is pleasant to come across good collections. The mere common species and varieties, such as P. denticulata, its variety alba, P. d. cashmeriana, and d. c. alba; P. rosea, and other general favourites were plentiful, while there were also many of the less common species, among them being an unusually good specimen of P. suffrutescens, P. Allioni, P. helvetica, P. spectabilis, and others.

We do not often see the dove-coloured Helleborus torquatus in a Scottish nursery, but it was in flower on this rockery. Androsaces are well represented, among them being A. pyrenaica in flower, with A. Laggeri, A. Chumbyi, and several more commonly-seen species. Daphne Blagayana seems a little tender in some positions in Edinburgh, but on a rockery there was a good speci-

men, while smaller plants in the frames were equally beautiful, with their fragrant white flowers.

One of the finest sights was a frame of Morisia hypogæa, with most of the plants in full flower, and the picture of health. The bright yellow flowers on their cushions of varnished-like leaves were charming. Ramondias and Haberleas were looking well, and all the species and varieties in commerce were represented. Among the Dentaria section of the Cardamines was D. pentarphylla, a species not so frequently seen as at one time, and one which I recollect in the Edinburgh Botanic Gardens more than twenty years ago. It has flowers which one may venture to call purple.

Among the other plants noted in or out of flower were Synthyris reniformis, S. pinnatifolia, a nice lot of Statice minuta, Epigæa repens, a magnificent lot of Gaultheria Shallon, Soldanellas, Bryanthus erectus, Rhododendron or Rhodothamnus Chamæcistus, a few plants of the now scarce Scilla bifolia rosea or rubra, Linum salsoloides, difficult to propagate; Anemones of various species, a nice lot of Veronica Allioni, and a stock of the best New Zealand Veronicas, among which were a few plants of V. Lindsayi, Mr. R. Lindsay's pink-flowered hybrid. A bed of several hundreds of Tulipa Kaufmanniana showed great variation in colour and form, among them being some of the best types, and deserving careful selection. Dwarf shrubs, such as Ericas, Menziesias, Rhododendrons, and others were all very numerous and interesting. S. Arnott.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

APRIL 19.- Present: Dr. M. T. Masters, F.R S. (in the chair); Mesers. Gordon, Baker, Bowles, Chittender, Saunders, Lynch, Prof. Boulger, Dr. M. C. Cooke; Revs. W. Wilks and G. Henslow (hon. sec.).

Pear-tree and Scale Insect.—Mr. SAUNDEBS reported as follows on specimen received from Mr. Ward, Bostne, Falmouth:—"The insect on the spur of the Pear-tree is one of the scale insects, 'the mussel scale' (Myticaspis pomorum), a very common pest on Apple-trees. They may be got rid of by painting the infested parts with 8 ounces of soft-soap dissolved in a gallon of water, rubbed well into any inequalities of the bark. Do not only paint just the parts where the insects are, but for some distance up and down the stem or shoot, for these insects when young are active, and crawl freely about the trees; they are then so small and inconspicuous that they may readily be overlooked."

Pear Scab.—Dr. Cooke replied to enquiries on the two following subjects: "One of the many forms of Pear-scab, Fusicladium pyrinum, is now attacking young Pear-shoots in some localities, forming black patches, but at present without any production of the mould. This is so well known on Pear and Apple, both on foliage and fruit, that it needs no description. Freely spraying with a solution of sulphate of iron should not be omitted at this season of the year."

American Violet Disease. — "The American Violet-disease, culminating in Alternaris, which has been fully described in the Journal (vol. xxvii, 1902, p. 27, pl. il, fig. 25), is again appearing in several localities, and is a most dangerous and destructive parasite. At present we have found no conidia on the spots, so that the destruction of the diseased planta will assist in checking its dissemination."

Biological analogy,—Dr. Cooke read the following interesting note on diseases: "I venture to call the attention of the Committee to a remarkable instance of what I have termed 'biological analogy.' The Board of Agriculture, in a circular recently issued, states that a contagious disease affecting horses, called epizetic lymphangitis, has made its appearance in this country. After describing its principal features it goes on to eay that 'an organism is the cause of the malady, and it is easily transferred from the wound of a diseased horse to a wound on another horse not affected. The most common means of such transfer is by the agency of sponges, rubbers, brushes, &c.' This is precisely analogous to what takes place with the wound parasites of trees of fungold origin, and it is

interesting to observe and watch such caces, since the treatment which succeeds in one case may be equally successful in the other. It may be added as suggestive that in the case of diphthetia in the human subject, treatment with sulphur has proved eminently successful; to like manner is the same remedy applied to the Vine O'dium and the Rose mildew, both of which in habit hear a resemblance to diphthetia." A vote of thanks was given to Dr. Cooke for the above communications.

Cabbage-leaf with Funnel-thoped Facrescences.—Mr HOLNES sent an example of this not uncommon phenomenon; it is outgrowth analogous to those on "crested" corollas: and is comparable with ovulea when metamorphosed into foliaceous appendages.

Wood Sorrel with deep Rose-coloured Flowers.—He also sent a plant of Oxalis Acetosella "growing amongst the ordinary form with Wood Anemones, Dog's Mercury, &c., in a wood. The Wood Anemones were also frequently pink, especially on the outside. The soil is greensand, and contains, I believe, both Iron and magnesia."

Rhododendrons.—"Glory of Penjerrick," a very handsome flower, shown by Mr. Ron Fox: a miscellaneous collection of Sikkim species, by Mr. Graham Vivian; and both rose and white trusses from the same tree of R. Falconeri, by Mr. J. M. Rogers, of Riverhill, Sevenoaks. He observes:—"Of late years the buds have been getting less and less white." Mr. Wi ks remarked that it was not at all uncommon with this species to produce very differently coloured flowers. Dr. Masters observed that R. ciliatum was originally figured by Sir J. D. Hookef, as Itlac; but cultivated plants of to-dsy always bore white flowers.

Cedars at Chelsea.—Dr. Masters showed an old lithograph, but the date was not given, of two of the original Cedars in the Chelsea Garden. They were planted in 1688, when 3 feet high; the last has now been removed.

Injury to Roses by the Use of the French Secateurs—Mr. Hudden showed a number of shoots pruned with this instrument, and all had died in consequence. It appears that it makes a horizontal cut, and the pith shrinking, water fills the cup. decays the 1 ith, and the adjacent shoot is killed. Mr. Hudden adds that he has shandoned its use and returned to the knife, making a slanting section. Mr. Baker added that it was most important that the instrument used, whatever it may be, should be perfectly sharp, as blunt once injured the stems. Mr. Lynch also added that he had abandored the use of the secateur at Cambridge.

HORTICULTURAL CLUB.

"BACK TO THE LAND."

An interesting contribution to the discussion of this perplexing problem was made by Mr. T. W. Sanders, at a meeting of the Horticultural Club, Hotel Windsor, on April 19. Mr. Sanders laid emphasis upon the great need that exists for adapting education in rurall districts to the requirements of boys who are expected to remain in such districts, and obtain their livelihood by the cultivation of the foil. He welcomed the school gardens that are being established in many counties, but said that the idea was by no means a new one. He remembered one in Worcestershire many years ago, and many of the boys that were taught to take an intelligent interest in country pursuits were now living and working in the country, whilst others who liad not been afforded such opportunities had become railway porters or similar employes in the towns. Mr. Sanders deprecated the attempt to transport townspeople who were town-bred, and who possessed none of the instincts of the country, finto rural localities, where he was certain they would be as unhappy as they were useless. The object should be to keep the lads born in the country of country parents from migrating to the towns, and the crux of the question was education. But it was also necessary that life in small villages should be made more cheerful than it often i? Those who could should take an interest in teaching the people useful handicrafts. He instanced a case in which a rector's son had learned to make baskets in order to teach the people of the district to make the best use of their Willows. Mr. Sanders had visited Ireland, and found that the priests in country places there interested themselves keenly in the work of the people, being fully alive to the points in a shorthorn beast, and in chases and hutter-making.

fully alive to the points in a shorthorn beast, and in cheese and butter-making.

Proceeding to speak of how a greater population could be maintained by the cultivation of the land, Mr. Sanders said that the day of cereal growing was gone, and it must be succeeded by what has been described as "intensive cultivation." Market gardening of fruit and vegetable crops, and dairy farming, for feeding the people in the towns, was the work to be done in the future. And this brought the lecturer to repeat the warning given so often in these columns and elsewhere—that it is a nistake to send all the produce to

great markets like that of Covent Garden or Manchester, and thus cause a glut. Better distribution was needed; and the cultivator should [seek to create and supply a market as near to his own ground as one could be found. The subject of railway rates was mentioned, and the practices of railway companies de-nounced "Reformed land ords were spoken of, and the subjects of alletments and small holdings, Mr. Sanders incidentally mentioning that Mr. Jesse Collings has a Bill for presentation to Parliament which it was believed would greatly facilitate the transferrof land and the acquirement of small holdings, which was desirable from exact resist of view. which was desirable from every point or view.

The work of the Garden Ci y Association does not commend itself to Mr. Sanders, who described it as moving the people from one place to concentrate them again in another place. The work of the Board of Agriculture having been alieded to, Mr. Sanders described the system practised in Ireland as being much superior to that of our own. In Dublin there are held Agricultural Parliaments, composed of two representatives from each county. This body dis-cusses agricultural questions, and recommends to a body of eight appointed by themselves once a year to conter with and advise the Minister. In this country, abere being no such means for the Minister of Agri-alture to acquire information, it was assumed that he had eight to gark without sufficient knowledge of he had citen to work without sufficient knowledge ci

The Rev. J. H. Pemberton, who described himself as a country parson and a landowner, commenced the subsequent discussion. He described how as one of the Board of Guardians he had much to do with of the Board of Guardians he had much to do with the boarding out of young lads, and how eventually must of them became employes of the Great Eastern Ey. Co., rather than stay on the land and have little or no wiges during the winter. He did not blame them, for the unpertainty of the wages offered in the country was such that very few would guarantee them work throughout the year. His (Mr. Pemberton's) Board was the first in commence school cardening. Board was the first to commence school gardening and the Education Department subsequently made the subject part of their Code, but it did not contribute funds subject partother cog, out it administration to the state of the scheme, although they were absolutely necessary. Mr. Pemberton said the reason why the people would not stay upon the land was that they could not get bread and cheese there. The land had to bear three burdens- 1 the landowner. (2) the occupier, (3) the labourer. This threefold burden he thought to be unnatural and prohibitive. In the circumstances, he maintained that a lad's chances were better in the town

than in the country.

Mr. C. E. Pearson referred to the fact that the British Mr. C. E. Pearson referred to the fact that the British farmer appeared to be incapable of co-operating with his colleagues to their mutual beneft. Mr. Pearson had something to say also of cottages. Everyone appears satisfied that the provision of good and saitable cottages has a bearing on this question, and Mr. Pearson stated that his firm has built good cottages, which pay sufficient interest on capital at a weekly rent of 3s, 6d. They have abolished the "parlour," and have a living room, a scullery and one bedroom downstairs, and two bedrooms upstairs.

room, a schilery and one bedroom downstairs, and two bedrooms upstairs.

Mr. Dennis, of Covent Garden Market, and a member of Mr. Chamberlain's Tariff Commission, disagreed with the lecturer in regard to the cultivation of cereal crops in Britain. Much of the land was only suitable for cereals, and it should be remembered that the yield of cereals in Eritain was greater per acre than in America or in Russia, and the crop would pay now, as it has done before, if the conditions were the same. The harriers were the incidence of local travition. now, as it has done before, it he conditions were the same. The barriers were a incidence of local taxation, a imperial taxation (Land Tax, 3 railway rates. The question of railway rates was the worst, and Mr. Dennis related that he imported Tomatos from the shores of the Mediterranean in bulk for the same price that his customers had to pay for the carriage of similar goods from Covent Garden to Brighton. Yet they had to be taken to Paris by rail, carted across Paris to the Northern Railways, conveyed by train to Boulegne, shipped to England, brought by rail to London, and thence by van to Covent Garden

Mr. Geo. Monro, who presided, made some pertinent

Mr. Geo. Monro, who presided, made some pertinent remarks upon the question of distribution.

At the next merting, on May I., Sir J. T. D. Llewelyn (President) will speak upon Himalayan Rhododerdrons for English Gardens. It is a pity that this meeting will clash with the Annual Festival of the Royal Gardeners Orphan Pund, at which function Sir Irevor Lawrence is to preside.

NATIONAL AURICULA & PRIMULA.

APRIL 14.—The large Shrer Gilt Medal of the Royal Horticultural Society given by Mr. J. Douglas for the 5, 6, 7, 6, 14, 16, 17 1c, 12, and 22, was awarded to Mr. Pricz, an amateur from Reading. The above awards could not be verified in time for the general Report of the exhibition held on Tuesday the 19th inst. published

MIDLAND DAFFODIL.

APRIL 26 and 27.-As is usual a very fine exhibition was brought together on this occasion, and though in a few cases the blooms had passed their best, there was a good and varied display, most of the leading cultivators and raisers being represented. Some fine seedlings were staged, while miscellaneous exhibits contributed many varied and interesting features. The entries were very numerous, especially in the case of the floral decorations, while bouquets of Daffocils were plentiful and of good quality. There were thirteen small tables decorated with Daffodils, the same number of bowls of Narcissi, several bowls of Polyanthus Narcissi and other Daffodils, and boxes of out flowers racked for transit. Tulips in pots were a very fine feature.

In class 1 for a collection of Daffodils in fifty varieties, In class 1 for a collection of Daffodils in fifty varieties, Mrs. E. M. Crosfield, Wrenham, was 1st, showing among other novelties Saladin. and Maid Marian, to which Awards of Merit were made. Glory of Leyden, Mme. Plemp, Weardale Perfection, Horsfieldi, Blackwell, Waverin Giant, Cassandra, Milady Seedling, Grandee, White Wings, Herrick, &c., were all of fine quality. Mr. A. L. Leslie Medville, Lincoln, and Messrs. Pope & Son, Kings Norton, both staged good groups in this class.

groups in this class.

Mr. H. B. Young, Lincoln, was lst in the class for a collection of twenty-five varieties, with flowers of very good quality, including Mrs. W. T. Ware, Emperor, Empress, Crown Prince, Grandee, Barril conspicuus, Capt. Nelson, Aurantia, Queen of Spain, Flora Wilson, Reanty & Wr. H. HARPHILL Alton being 2nd

Beauty, &c., Mr. J. H., HARTHILL, Alton, being 2nd.
With a collection of twelve varieties of Daffodil
seedlings, Miss Willmott, Great Warley, was placed
lst, several of her varieties gaining First-class Certificates and Awards of Merit. Messra, Van Wavenen & Sons, Hillegom, were 2nd.

For six varieties of seedlings, Mrs. R. O. BACKHOUSE, Hereford, was let with some pretty novelties; Miss K.

Hereford, was 1st with some pretty novelties; Miss K. SPUERELL, Norwich, being placed 2nd.

There was a good competition in the class for twelve trumpet Daffodils, Mr. J. H. HARTHILL, Olton, taking 1st with some very fine blooms, including Victoria, Mme. Plemp, Mme. de Graaf, Queen of Spain, Maximus, Ariadne, Horsfieldi, J. B. M. Camm, Glory of Leyden, &c. 2nd, Mr. B. B. Young, Lincoln.

For six distinct varieties of trumpet Daffodils the Rev. T. Buncombe's (Buabon) blooms of Emperor, Mme. Plemp, Glory of Leyden, M. J. Berkeley, Mme. de Graaf, and J. B. M. Camm, were placed 1st.

Mr. A. L. MELVILLE was 1st with twelve varieties of medio-coronati Daffodils, excellent blooms of Crown Prince, Seagull, Katherine Spurrell, Beauty, Commander, and Leedsif Gem being shown. Mr. A. M. Wilson, Spilsby, was 2nd.

Wilson, Spileby, was and.
With six varieties of medio-coronate the Rev. T. BUNCOMEE was successful with Barri conspicus, Sir Watkin, Mrs. Langtry, Beauty, C. J. Backhouse, and Geo. Nicholson; Mr. C. L. BRANSON, Coleshill, taking

2nd prize.

In the competition for six distinct varieties of parvi In the competition for six distinct varieties of parvi-coronsize Daffodils, equal 1st prizes were awarded to Messrs. Pope & Son, who had delightful examples of Mr. C. Bowley. Flora Wilson, Picotee, Clarissa, John Bain, and Ornfamme; and to Mr. A. L. Leslie Mel-VILLE, who had, distinct from the foregoing, Agness Bain, Baroness Heath, Falstaff, Vanessa, and Blood Orange.

The class for six distinct varieties of Poeticus brought some charming blooms. Mr. A. M. Wilson was placed 1st with Sister Mary, Chancer, Poetarum, Dante, Al-

mora, and Virgil. Mr. J. Douglas was a close 2nd.

Messrs. Pope & Son offered special prizes for six
varieties of Dafodils of a certain value; and 1st prizes
were awarded to the Rev. T. Buncombe (twelve distinct
with orange cups), Mr. F. A. Walton (six ditto). Mr.
B. C. Carrwelloff, King's Norton, was 1st for twelve varieties of a certain value.

For six distinct varieties of Daffodils, competitors to have never won a 1st prize at a Daffodil show, Mr. A. R. Goodwin, Kidderminster, was placed 1st with some good flowers of well known sorts.

PREMIER BLOOMS OF DAFFORMS

The premier Trumpet Daffodil was a fice bloom of King Alfred, shown in the collection of Messra J. R. Pearson & Soys. In the medio-coronate section a fine bloom of White Queen, shown by Messra. Pope & Soys, bloom of white queen, shown by Acessa. Fore & Sons, was successful; while the premier of parvi-coronate section was Poetic Horick, shown by Mrs. CROSFIELD. A Silver Medal was also awarded in each case.

A class for nine distinct varieties of cut Tulips brought Mr. R. C. Cartwright 1st prize; and Mr. S. S.

Mr. R. C. Cartwright was the only exhibitor of six vases of Spanish Iris, staging some charming blooms.

wases of spanish firs, staging some charming blooms.

Mr. J. A. Kenrick was 1st with twelve bunches of hardy spring flowers; and the Rev. J. Jacob, 2nd.

Daffodils in pots were shown in classes for twelve and six pots respectively. Mr. R. Cartwright was 1st in the largest class: Mr. J. A. Kenrick, 2nd

For six pots Mr. J. Sceaner was 1st; Mr. W. D.

DEEDMAN, Edgbaston, 2nd.

Mr. R. C. Cartwright gained 1st prize with six pots of Polyanthus Narcissi: and Mr. Deedman was 2nd

of Polyanthus Narcissl; and Mr. DEEDMAN was 2nd.

Single Tulips were a very fine feature at Birmingham. Mr. R. C. CARTWRIGHT was 1st with Queen of the Yellows, Fabiola, Unique (very fine), Joost Van Vondel (very fine white), Spaendock, and Keizers Kroon. Mr. J. A. KENRICK was a close 2nd, the latter exhibitor also staging Lily of the Valley, and winning 1st prize for Lilium Harrisii.

Table decorations were represented by thirteen

Table decorations were represented by thirteen small tables, each arranged with Daffidils and their foliage, and all were very pretty. Messrs. Pope & Sons were 1st with a charming arrangement, and Messrs. CLARK 2nd. For a bouquet of Daffodils Messrs. POPE & SON were 1st, and Messrs. FELTON & SONS, Hanover

Square, London, 2nd.

In the class for howls or centre-pieces of Daffodils, it was decided to give two series of prizes, one to bowls and vases, and one to centre-pieces. Messrs. Port & Son had the best bowl, and Mrs. Martin the best Messrs. Pope centre-piece. Bowls of Polyanthus Narcissi grown in moss-fibre made a pleasing feature, the best three coming from Mr. GBEGG: while Mr. R. C. CARTWRIGHT had the best three bowls similarly grown, but of ordinary Daffedils.

The best box of cut blooms of Daffodils packed for

market came from the MIDLAND SPRING GARDENS CO.: the Rev. J. Jacob being 2nd.

COLLECTIONS OF PLANTS AND FLOWERS.

Miscellaneous groups formed a considerable portion of the exhibition and furnished many interesting features. Messrs. Barr & Sons, King Street, Covent Garden, contributed a very fine collection of Narcissl, including many valuable novelties (Silver-Gilt Medal). Miss Currey, Lismore, Ireland, also had one of her unique collections of Daffodils. Messrs. Dickson & Co, Ltd., Chester, had an excellent group of Daffodils (Silver-Gilt Medal). Messrs. Pranson & Sons, Chilwell Nurseries, Lowdham, had an excellent collection of Daffodils (Silver-Gilt Medal). Messrs. Simpson & Son, Harborne, had a group of Daffodils in pots; Mr. J. W. Cross, Wisbech, also had a good assortment of Daffodils (Silver-Gilt Medal). Mr. John Walker, Nurseryman, Thame, had his double sulphur "Phænix" in fine character; Sir H. Gore Booth, Silgo, had a collection of Daffodils and Tulips. Messrs. Felton & Sons, Hanover Square, had elaborate floral decorations (Gold Medal). Messrs. J. Gilkert & Sons, Bourne, had one of their usual collections of Anemones, and also one of Daffodils. Mr. W. A. Watts, St. Asaph, had fine Polyanthus, the effect being grouped whad starping. Messrs. Miscellaneous groups formed a considerable portion Dafidils. Mr. W. A. WATTS, St. Asaph, had fine Polyanthus, the effect being spoiled by bad staging. Messrs. REAMSBOTTON & Co., Geashill, King's County, had a grand collection of their beautiful Anemones (Silver-City Model). grand collection of their beautiful Anemones (Silver-Gilt Medal). Mrs. Thompson, Birmingham, had a collection of Cacti; The MIDLANDS SPRING GARDENS COMPANY had Daffodils; Messre. Hogg & Robertson, Nurserymen, Dublin, had Daffodils and brilliant Tulips (Silver-Gilt Medal). Mr. J. Kingsmill, Ripon, had Daffodil. Messre. W. P. Gunn, Olton, Daffodils and table decorations (Silver-Gilt Medal); and some other small collections were staged.

LINNEAN.

APRIL 21.-Professor H. S. VINES, F.R.S., President in the chair.

Mr. Clement Reid exhibited drawings b Mrs. Reid of fruits and seeds of British preglacial, interglacial, and Roman plants: 2nd series—Calycifloræ.

interesting addition to the interglacial flora is the South European Cotoneaster Pyracantha, which occurs abundantly on the Sussex coast in deposits which yield also Acer monspessulanum, Najas

minor, and N. graminea.

The preglacial Calycifloræ include Trapa natans; but the rest of the species yet determined are still living in Britain; many, however, need further examination.

The plants from Roman Silchester include the Vine, Bullace, Damson, and Coriander.

Mr. R. Morton Middleton exhibited a holograph lettler from Linnaus to Haller, dated Upsala, May 12, 1747, conveying the intelligence of Haller's being elected a Foreign Member of the Royal Academy of Sciences, Stockholm, Toe President and the General Secretary. Stockholm.-The President and the General Secretary

Stockholm.—The President and the General Secretary contributed some brief remarks.

Dr. O. Stapf, on behalf of Mr. W. B. Hemsley, exhibited some specimens of Primula vulgaris, Huds., which displayed the phenomenon of phyllody of the calyx in an unusual degree.

GARDENERS' DEBATING SOCIETIES.

BIRMINGHAM AND MIDLAND COUNTIES. — A goodly number of members met on the 11th inst to hear Mr. J. C. Tallack, of Shipley Hall Gardens, Derby, lecture on "Pruning of Hardy Fruit-trees." The lecturer advocated the extension system of pruning, which means, briefly, allowing the main branches to extend as rapidly as is consistent with (I) ripeness of the wood, (2) strength to be self-supporting, and (3) a proper balance of the bead. To prove that the extension method is not new, quotations were taken from a work by John Abercrombie, of Tottenham Court, published in 1779, entitled The British Fruit Gardener and Art runing. The Apple was the first fruit dealt with.

forming a framework, the lecturer said always out to forming a framework, the lecturer said always cut to an outside bud, and in the direction in which it is intended to direct the branch. When once the foundation is secured, the less shortening of the main branches the trees get the sooner will they come into bearing condition. Unripened tips Mr. Tallack thought could more often than not be traced to (1) bad planting, or (2) inattention to root pruning rather than to the effects of indifferent weather, and should always be removed. Trees trained on the extension principle make comparatively few sides shoots along the principle removed. Trees trained on the extension principle make comparatively few side-shoots along the branches. Individual varieties of Apples have their own peculiarities. Some are to a certain extent pendulous in habit, others apright; while the majority come between these two extremes. Such varieties as Irish Peach, Margil, &r., bear principally on the ends of the new wood, and if they are subjected to indiscriminate pruning, very light crops of fruit follow. For very dwarf trees the Erench Paradise was recompared to the property dwarf trees the Erench Paradise was recomvery dwarf trees, the French Paradise was recom-mended as a stock; for trees of larger growth the Eng-lish Paradise; and for orchard trees the Crab or free

Speaking of Pears, he advised getting a thorough foundation as quickly as possible. If dwarf trees are required, the Quince should be used as a stock, which is also good for heavy soils and damp situations, and for sandy light soils in which the Quince does not for sandy light solls in which the Qlince does not succeed, its influence may be given by double grafting. Old wall trees, the fruit of which may have fallen of in size, and consequently in quality, may often be resuscitated by root pruning one winter, giving the roots fresh soll, and the following winter reducing the spurs by one-half, or even in bad cases by two-thirds.

The Plum abhors a too free use of the knife, and beyond removing the useless side-spray and checking the very vigorous shoots little need be done. Summer pruning of both bush and wall trees should be carried out to admit light and air to the fruit and to remove aphides, which love to congregate at the ends of the new growths. Any leading shoot which shows signs of out-balancing the rest should have its point pinched

out during the early summer.

The Cherry, like the Plum, dislikes the knife, as wounds made on hard wood nearly always exude gum, which is frequently a source of canker. Summer pinching is by far the best way to deal with any too-

pinching is by far the best way to deal with any too-exuberant growths.

Gross shoots of the Apricot proceeding from the spurs or breast wood should be rubbed out early in the season, and those of more moderate growth pinched to within three or four leaves of the base.

HULL HORTICULTURAL.—The subject of the paper read on Tuesday, April 12, was The Arrangement of Bookwork," by Mr. Clarke, of York. Several errors in the formation of a rockwork were shown and hints on the right way to work explained. The rockery should be firm and secure, and the plants should be allowed a deep root-run into good soil, for which was recommended a mixture of loam leaf-soil, and sand. Sand beds should be made in some part of the rockery, which would serve as a hospital where weakly plants might be put to recruit their strength. The rockery should be made in autumn and planted in spring, which would thus allow time for it to settle down. Straggling and aggressive plants should not be allowed to destroy others, but should be pruned back in the antumn. W. R.

SHIRLEY (SOUTHAMPTON) GARDENERS'. - Qu April 15 an excellent address on "The Narcissus and Daffodil" was delivered by Mr. Ernest Ladhams. Mr. Ladhams, after describing the method of classification, dealt with the cultivation of the Narcissus, and with various methods of planting. C. J. P.

BRISTOL AND DISTRICT GARDENERS' .attended meeting was held on the Sistinst. when Mr. P. J. Worsley gave a lecture on Daffodils. Mr. C. H. Cave occupied the Chair. With the aid of several diagrams the lecturer pointed out the different forms of Daffodill. dils. Raising Daffedils from seed was a long process and after waiting for five years the development was sometimes not very encouraging, although the culti-vator was sometimes rewarded for his patience by obtaining flowers of a new form or colour. H. K.

EGHAM AND DISTRICT GARDENERS".- On Wednesday evening, April 6, a very interesting paper was given by Mr. W. Swan, entitled "Phases of Modern Gardening." Taking his audience back to the time when heating was done with bark, leaves, manures, and flues, and pointing out the difficulties consequent on those systems, Mr. Swan traced the great progress made since in the forcing of flowers, fruits, and vegetables. The part meaning will be held on Walnesder tables. The next meeting will be held on Wednesday.

READING AND DISTRICT GARDENERS'.-The last fortnightly meeting of the above Association was held in the Club Room, and was largely attended. The subject for the evening was "Present-day Orchid Culture," by Mr. W. Bound, Gatton Park Gardens. Many of the ideas put forward with regard to culture were entirely new to the majority of the members, yet they added interest to the discussion which followed, for it proved to be one that brought out many points which were of great benefit to those present. There were some excellent exhibits presented at the meeting,

including a splendid plant of Dendrobium nobile, by Mr. H. Wynn, Cressingham Gardens, Five new members were elected.

LOUGHBORDUGH GARDENERS' ASSOCIATION. LOUGHBOROUGH GARDENERS' ASSOCIATION.—
On Tuesday, April 14, this Association held their usual fortneightly meeting in the Iown Hall, Mr. J. T. Smith presiding. A special show of spring dowers was held, and formed an attractive display. The subject for the evening was "The Cultivation of the Violet," Mr. Hawkes, of Garendon, being the lecturer. He dealt with the subject in a practical manner, fully detailing the cultivation from the cutting to the flowering stage. A discussion followed. Votes of thanks to the Chairman and Lecturer terminated the meeting.

MARKETS.

COVENT GARDEN, April 27.

COVENT GAEDEN, April 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general arerages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. EDJ

Cut Flowers, &c.: Average W-client Proces.

d. d. d.

Acades, bunch 4-10 Mimosa (Acades),
Anemones, per
doz bunches 09-16 Naruissus, p. dez
Arums, per doz 1-40 bunches 10-10

Arums, per doz 1-40 bunches 10-10

Phensant Eye,
Dunch 10-10

Oct. 10-1 bunch ____ 0 5-10
Briteris, per dor. 2 0-40
Bouvardiss, per bunch ____ per doz. __ Orchids: Odontoglossums, per dozen blooms 2 0- 6 0 Cattleya, doz. 10 0-12 0 Bouvardias, per bunch — 0 4 0 5 Camellias, box — 1 0 2 0 Carrations.bnch. 1 0 4 0 Pelargouium 5, Crotonleaves.bunch 0 5-1 0 Daffodils, per dox. bunches. — 1 0 - 4 0 Eucharis, per dox. 2 0 3 Euphorbia, bunch 2 0 - 2 0 - doublescarles, per bunch — 0 6 - 2 0 Primaroses, per doxan bunches 40-60 Eucharis, per doz. 20-3 Euphorbia, bun. 10-30 Ferns, Asparagus, per bunch — 06-20 French, per doz bunches 03-04 Maidenharr, doz bunches 60-20 Gardenias, box — 16-40 Gladolus, Blushing Bride, per doz bunches 40-50 Iris, doz bun. — 10-6 Lilac (French), per bunch — 16-10 Lilium auratum 30-40 deses banches cses, Mermet, per bunch 0 - 10 dczeb burnar-03-04 Eoses, Mermet, per bunch — 60-90 — white, bunch 15-40 — pink, bunch - red. bunch - red. bunch - red. bunch
- Safranos, beb.
- French, bunch
Smilar, per dor
trails Spirmas, bunch
Star dor bunches 10-20 1 5- 20 per bunch 16-10 Stardoz bunches 16-20 Stocks, per doz. 26-26 Stocks, per bunch 16-26 Stocks, per doz. 26-26 Stocks 20-25 03-04 0 4- 0 6 0 5- 10 - white doz. bun 3 0-4 0 doz. bunches 6 0 PLANTS IN POTS, &n.: AVERAGE WHOLESALE PROCESS
2.4. 3.4.
Acaclas, per doz. 12 0-50 0 Geraniums, dbl.
Adiantums, dcz. 4 0-5 0 - white 4 0-6
Arbor Vitz, doz. 9 0-15 0 - punk - 4 0-6
Arbor Vitz, doz. 5 0-3 0 Herbaccous plants
Araleas, doz. 15 0-36 0 Herbaccous plants
Araleas mollis, pot 16-3 0 Hyacinths, Dutch,
Begonia, per doz. 4 0-5 0 Hyacinths, Dutch,
Cineranas, dozen 4 0-5 0 Ivy Geraniums,
Crotons, per doz. 12 0-34 0 per doz. - 5 0-13
Crotons, per doz. 12 0-34 0 per doz. - 6 0-5
Crotons, per doz. 12 0-34 0 per doz. - 6 0-5 10-20 8 0-13 0

CIO OFFI PAR FOR THE CALL OF THE CALL	har menini		
Cyclamens, doz. 90-130	Lilac-trees, each.	3 0-	4 (
Cyperus, per doz. 3 0- 4 0	Lycopodiums,per		
Daffodils, per doz. 60-50	dozen	3 0-	
Dielytra specta-	Marguerites, dez	5 0-	
bilis, per dozen 12 0-15 0	Orange-trees, each	3 5	10 6
Dracenas, variety,	Palms, var. each	3 0-	20 0
dozen 12 0-45 0	Pelargoniums.		
Ericas, per desen 6 0-24 0	double scarlet,		
Enorymus, vars	per doz	7 6-	. 3 (
per dozen 4 0- 6 0	Primulas, perdes.	4 0-	- 6 0
Ferns in var., per	Pteris tremula, 12	4 0-	- 5 6
deren _ 4 0-30 0	- Wimsetti, doz.	4 0-	- 5 (
Ficus elastica, per	- major, dozen	4 0-	- 6 0
dezen 9 0-34 0	Spirma, per doz	5 0-	- 9 (
Fuchsias, p. dez 6 - 9 1	Tulips, various,		
Genistas, per doz. 6 0-10 0	dezen roots	10-	- 1 6
FRUIT: AVERAGE V			
8.G. 8.G.		t.d.	2.5

FRUIT: A	VERAGE W	HOLESALE PRICES.	
			84. 84
Apples. Amstra-		Grapes. Almeria.	
han, in cases		per dom	4 6-11 6
		- Muscat p. 1b.	50-
_ per barrel		Lemons, per case	
- Tasmanian			20-46
_ Cases	50-50	Oranges, per case	
Bananas, bunch	1 6-13 0	Feaches, per dez.	
- loose, dozen	10-16	Pears, per case	
Figs, per dez	4 0 0	Pines, each -	
Grapes, Bambro		Suramberries, A,	
A, per lb	4 - 50	per lb	
B, per lb	3 4-3	- B, per lb	1 0- 1 6

VEGETABLES: AVER	E AHOLESALE PRICES.
1212	84.14.
Artichokes.Globe,	Onions, per baz _ 6 6 -
per dozen	- packlers.steve 4 0-5 0
- Jerusalem, p.	Parsley, doz. bun
sieve 1 0-11	- S1679 1
ASDAMAZUS, Surue.	Parsonne, per bag 3 0- 1 4
bundle	Peas per lb I
- Paris Green	Peas per lo I Potatos, per ton 30 0-180 0
- English, bur. : -	- irane, lb _ 0 . 1-0
Beans, dwarf, lb.	- New Teneraliz,
Beetroots, bushel 3	Des CAT TIP A-19 6
Capbages p dez. 0 = 13	Earlines, per
Carrots, per doz.	dozen bunches 1 -
buncties _ 3 4 7	Electricate, Yorks,
- per saz	per dozen
Cauliflowers.doz 1 - 1	- Natherl, dez ! - 1
Celery, per dozen	Eslad, small, pun-
buncles . 1 . 1 .	nets, per doz 0 5-1 0
Cress, doz. pon 1	Seakale, per doz.
Cucumbers, doz. 2 0- 3 - Endive. per doz.	Spallots, lb _ 0 2-0 7
Endive per doz. 1 - 1 -	Spallots, ib 0 2-0 3
Garisc, per lb 3 3 -	foliach, p beah, 1 % 3
Horseradish, fo-	Timates, Canary
reign, p. bunch 1 (- 1 ? Leeks, doz. bun 1 - 1 4	Deeps 3 - 4 5
Leeks, doz. bun 1 - 1 4	- Channel Islds,
Lettuces.Cabbage, per dozen _ 1 1 6	per lo 0 8- 1
per dozen _ 1 1 4	- English, 00%, 1 0-11
M.St. doz 3 [- 1]	Tarmers doz ben. 2 0- 2 4
Mushrooms(house)	- per bag _ 20 -
per lb 1 1	A SEEDY DIS TRIEL
Opions, green,	rows. per doz. 6010
duz bun as . " - 1 0	Watercress, per
diz bin as 0 - per case	dozen zunches 0 4-0 6
REMARKS - Analysis and	Pases a to 1" new case
Care Pears 's to d	a Granas 1 : to 1's nee
harrel - sanamana incom	o. Grapes, le to l'a per c. in variety, la to la per Lettrie el to-la per dozen:
bandle: 8: Main Cabbane	Terrora of tods per dozen
Herseradish English we	il grown, per dozen, la di ;
Cohnets and Cranharria	s are over. Home - grown
Constant and Cratice of	a me a cess mama . E a a m

Cobbase and Eroccoff are now coming or hat Radishas rou d French, in baskets of 15 dozen. Is to 40 her basket: Worvester Asparigia. In the 5d per bundle. Cabbase, per half tally, is. These are of very good quality. PCTATOS.

Homegrown, 90s. to 11 . per ton foreign, 70s. to 1.0s. do.; Dunbars, 130s. to 150s. do Seed-tubers in variety. John Bath. 22 & 34, Wellington Street, Covens Garden.

COVENT GARDEN FLOWER MARKET.

THE market is now gay with spring flowering plants, and most of the winter subjects are over. A few good Cyclamen, lowever, are still to be seen, also lodgen Azaleas. Canerarias continue pleatiful and good. The Azhiess. Canerarias obstance pleasing and good. The spring-flowering Ericas are now at their best, E. Carendishi being beautifully dowered also E ventracces roses and E. perspions mans. E. caodidissimats good, and there are a few fine plants of E. propendens. good, and there are a tow one plants of E propensions.

E. Wilmoreana continues good Hydrangeas are very plantiful and of good malay, E. Hortensia being well coloured, large plants of this and the variety Thomas Hogg are now on sale. A few well-towered Bhodedendrons are to be had. Show Pelargoniums are good in a variety of bright colours. Zonals are now a great feature in the market, we dowered plants of most market sorts now being in, and for these growers thin good noise. Some good injusts in hoods are of tain good prices. Some good plants in posts are also numerous; most of these are packed in small boates, a dozen plants being in each box Iny-leaved Pelangoniums are also very good. Galilee and Madome Crousse especially, which inducates that spring is at hand. Well flowered plants of Heliotropeum in steme pots are now common. Fuchsias are also coming from several growers in a size pots, the plants being beautifully flowered. Mignometre is not see plenutiful, the spring-sown plants not being quite ready. Intermediate Stocks both crimson and white ready. Intermediate 50018; both estimated and white are very five this; season. Bhodanthe is another indication of spring, and may be seen on several Stands. Verbena Miss Blen Willmott is already to be seen in well-flowered plants; this sells well, and is now quite. wen-nowered pourts; this sens well, and is now quite a favourite market plant. Bybrid Perpetual Reses to 4-size pots, mostly pink varieties are fairly good, but make only about at per desea. The large Crimson Ramblers are very fice, but the demand is not so good as might be expected. If the demand is not so good namoters are very noe, but the demands is hot to good as might be expected. Littum longularums in pots are also very good but sale for them is rather slow. Ferns and Palms of all sizes are pleptiful, and the trade in these plants has much improved.

Barry - FLAVIS

ERECUSE FLANTS

Tress now occupy considerable spare in the market It seems rather early to start but London people like to commence their gardens as soon as bright weather and light evenings appear. Some may have to replant but many things succeed in sheltered places, and they seem to suffer less when in the ground than when kept in pots or boxes. There is not much bloom on most of the plants except the ronal Pelargoniums. Single Peuroias in dower are already to be seen, but the blooms are not of the best quality. Paneles are very fine this season. Inc careful selection of seed every year which is practised by most growers gives the very year which is practised by most growers gives the very year which is practised by most growers gives the very best results, and is a marked contrast to those grown from ordinary seeds which a few growers are bringing in.

CTT FLOWERS.

The trade for cut blooms can be said to be only fairly good. Supplies all round are most abundant. Roses are very good, the best trade being in good reds.

All Liliums are still very plentiful; auratums are very fine no *; longiforums are still at a low price, and this keeps the price of Calias down, though these are not quite so plentiful as they were a few weeks ago. Carnations are more abundant, and some fine blooms are to be seen; a few good Malmaisons are included, but these are very choice. In Orchid blooms some good Cattleyas are on sale, and make good prices. Dendrobiums, Odontoglossums, and Lycastes are not much in demand. Oucidium concolor and O. flexuosum are favourites with the florists. Spanish Iris in all shades of colour are now plentiful. Gladiolus The Bride is obtainable, as is also the delicate flest-pink variety. Lily of the Valley continues pleutiful. Eucharis, Stephanotis, and Tuberoses are not plentiful, but Gardenias continue abundant and sell at a very low price. White Sweet Peas are no * to be seen on several stands; there are also a few flowers of pink and mauve shades. White Pinks are in, but the blooms are very small. Violets are getting scarce. Tulips are now mostly past, but there are a few good varieties of the choicer late-flowering sorts, such as Buuton d'Or, which is very bright; there are also some good Parrot Tulips. Daffodils are still over abundant. In the French Market, boxes of four and a half dozen blooms of Princeps were being sold at 1s. 6d. per box.

SEEDS.

London, April 26 — We have to report a brisk demand for all agricultural seeds. Red Clover and Alsike fully maiotain the advance in values already noted. White Clover has become scarce, and is now worth some shillings per cat. more then last week. Rye-grasses in good request and firmly held. Trefoil steady. Hurst & Son, 152. Houndsditch.

FRUITS AND VEGETABLES.

GLASOOW, April 27.—The following are the averages of the prices during the past week:—Apples, Maine (U.S.), 15s. to 26s. per barrel; Californian Newtown Pippins, 10s. to 12s. per box; Canadian, 16s. to 23s. per barrel, and 8s. to 12s. per box; Tasmanian, 10s. to 12s. per barrel, and 8s. to 12s. per box; Tasmanian, 10s. to 12s. per case; Australian, 12s. to 14s. per case; Oranges, Valeneda, 420's, 10s. to 12s. per box; large, 16s. to 20s.; 714's, 12s. to 17s.; Jaffas, 10s. to 12s.; Lemons, 4s. to 6s. per box, and 8s. to 12s. per case; Grapes, 2s. to 3s. 9d. per ib. (bome); do. Belgian, 1s. 6d. to 1s. 9d.; Tomatos, Teneriffe, 3s. to 6s. per box: Beans, English, 1s. per ib.; Mushrooms, 1s. do.; Cucumbers, 6s. per doz; Onions, Egyptian, 6s. to 7s. per bag.

LiveBpool, April 27.—Wholesale Vegetable Market (North Hay).— The following are the averages of the current prices during the past week — prices varying according to supply:—Potatos, per cwt., Main Crop, 4s. 9d. to 5s. 6d.; Up-to-Date, 4s. 6d. to 5s.; Euronies, 6d. to 10d per dozen bunches; Swedes, 2s. 3d. to 3s. per cwt.; Carrots, 5s. to 6s. do.; Parsley, 8d to 10d per dozen bunches; Onions, 6reign, 3s. 9d. to 5s. 3d. per bag; Cucumbers, 3s. to 4s. per dozen; Cauliflowers, 2s. to 2s. 6d. do.; Cabbages, 8d. to 2s. do. Fruit: Apples, Tasmanian, 8s. 6d. to 10s. 6d. per box; special, 10s. to 13s. 6d. do.; Newtown Pippins, 7s. 6d to 8s. 6d. per box; American, 12s. 6d. to 19s. 6d. per barrel; Oranges, Valencia, 6s. to 9s. 6d per case; superior, dc., 9°. to 14s. 6d. do.; Newtown Pippins, 7s. 6d to 8s. 6d. per poc; Lemons, Palermo and Messina, 3s. 3d. to 5s. 6d. per case,—St. Johns: Potatos, 1s. to 1s. 2d. per peck; new, 34. to 6d. per lb.; Asparagus, 3s. 6d. to 5s. 6d. per loo; Cucumbers, 4d. to 8d. each; Grapes, English, 2s. to 3s. per 1b.; do, foreign, 8d. to 10d. do.; Pines, foreign, 8d. to 10d. do.; Pines, foreign, 8d. to 6d. of. Asparagus, 1s. to 4s per bundle; Cucumbers, 4d. to 6d. each; Cobnuts, 8d. to 10d. per lb.; Grapes, English, 2s. 6d. to 4s. per lb.; do.,

ANSWERS TO CORRESPONDENTS.

- Address : J. D. The address of the Nurserymen, Market Gardeners', and General Hailstorm Insurance Corporation is 41 and 42, King Street, Covent Garden, London.
- ANTS: J. H. W. We hear Beetlecute well spoken of, but we do not know what is the active ingredient. The "Ant-killer" contains arsenic in very large quantities and is correspondingly dangerous.
- Beetles: C. S. & Co. Cockroaches; try "Beetlecute.
- cute."

 Books: Mrs. A. W. M. The Chemistry of the Garden (Cousins) is an excellent little work, and may be obtained from the Publisher of this Journal, price 1s. 1d. As you require an inexpensive book describing garden operations, you would do well to get, also from the Publisher, The Calendar of Garden Operations, written by the staff of this Journal, price 7½d. post free.—J. D. The American Carnation: How to Grow it (C. W. Ward) was reviewed in these columns on July 11, 1903, p. 16.

 Business: A. B. It is impossible to advise you.
- Business: A. B. It is impossible to advise you, and were it otherwise we should decline the responsibility. You do not say whether you have any experience or not. If not it would be

- better to take a situation in some market establishment or florist's business before risking your capital.
- CORRECTION: TULIPA KAUFMANNIANA COCCINEA. This variety, which gained an Award of Merit on April 19, was shown by C. G. Van Tubergen, junr., not by Messrs. Van Waveren, as stated in last week's issue.
- CUCUMBERS: J. M. D. Look to the roots. The fruits seem to have been checked in their growth. F. C., Guildford. The fungus is commonly called "Flowers of Tan," Æthalium septicum. A thorough syringing with water containing a little permanganate of potassium will remove the fungus.
- DRILL HALL SHOW: At the last meeting of the Royal Horticultural Society, Messrs. W. Cut-Royal Horticultural Society, Messrs. W. Cut-bush & Sons, Highgate, made an exhibit of a collection of Primulas, including a consider-able number of species and types.
- GRUBS IN BOWLING GREEN: G. H. W. The turf is infested with grubs of the Daddy Longlegs (Tipula oleracea). From the great toughness of the skin the grubs are often known as Leather-jackets. They cause enormous damage to grass and other crops, in consequence of the grubs gnawing the young plant just below the surface of the ground. A mixture of lime and gas-water distributed by a watering-pot over the grass will exterminate the larvæ. Birds, especially starlings, are very useful, and should be encouraged.
- be encouraged.

 Grubs Damaging Peach Trees: F. Jackson. The grubs are the larvæ of a small species of moth, and probably those of Penthina variegana, a pest already recorded from your district as injurious to fruit-trees. Try an application of quassia and soft soap in the following proportions:—quassia 3½ lbs., soft soap 2½ lbs., water 50 gals. You cannot, however, apply this or any other wash while the trees are in bloom. Parisgreen (Poison), at the rate of 1 oz to 20 gallons of green (Poison), at the rate of 1 oz to 20 gallons of water, would prove the most efficacious, but Peach leaves are very apt to "scorch" from this treatment.
- NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number. — Wilson. Genista hispanica (the Spanish Broom). — Wm. G. Epimedium rubrum.—W. H. W. 1, Rhododendron Veitchianum; 2, R. Sesterianum; 3, R. Countess of Haddington. — W. H. S. Rhododendron Veitchianum.—W. K. 1, Luzula sylvatica; 2, Hypericum Androsæmum.—J. G. Cupressus MacNabiana, so far as we can tell without the cones. — T. W. Kæmpferia rotunda (Scitamineæ), India. — W. B. H. Pulmonaria officinalis. Thank you for sending good specimens carefully packed.—B. W. 1, probably Berberis vulgaris; 2, B. Darwinii; 3, Azalea amena. swered in this issue are requested to be so good 3, Azalea amœna.
- ORCHIDS FOR WARM GREENHOUSE: P. H. G., Portsmouth. The following, if carefully tended, Portsmouth. The following, if carefully tended, should thrive with those you already have:

 Sophronitis grandiflora, Cattleya labiata, C. Loddigesii, Cymbidium Lowianum, Cypripedium insigne, C. Charlesworthii, Lælia albida, L. anceps, L. autumnalis, L. pumila, L. Jongheana, L. tenebrosa, Lycaste aromatica, L. Skinneri, most of the species and varieties of Masdevallia, Miltonia spectabilis, Odontoglossum grande, O. pulchellum, and most of the Odontoglossums which are easily obtainable: Onciglossums which are easily obtainable; Oncidium crispum, O. prætextum, O. Marshalli-anum, and others of the same class; Selenianum, and others of the same class; Seienipedium (Cypripedium) Sedeni, and most of the green-leaved Cypripediums of the same section: and Zygopetalum Mackaii. It is rather difficult to understand your remark that Dendrobium nobile and Odontoglossum cristians and Cypripedium with your form pum are growing well together with you, for they do not usually thrive in the same house.
- Pelargonium Cutting: C. J. G. S. Thank you for the photograph; there is nothing very unusual in the production of leaves among the flowers. We often see such cases.
- PELAROONIUM (GERANIUM): P. M. excess of moisture the foliage is attacked by a fungus, Botrytis vulgaris. Admit as much air as practicable, and syringe with a rose-coloured solution of permanganate of potash at the rate of two ounces of potash to three gallons of water.

- PRIMROSE: W. N. B. The umbellate form of the common Primrose, often but erroneously called
- PHLOX: J. E. H. The cuttings have damped off owing to the presence of a fungus at the roots. Water with a weak solution of nitrate of soda every alternate day.
- Pond with Flannel weed: L. G. R. A very good cure for this is the Bordeaux-mixture, recommended on p. 272 of the issue for last week. See also note on p. 284 of this issue. If the surface be sprayed by either mixture the cattle must not be permitted to drink the water for some time afterwards. You might put hurdles round the pond for a time. If this is impracticable then allow the swans and ducks to eat up the weed, which they will do if sufficiently numerous.
- PRIMULA OBCONICA: A. M. C. D. We cannot offer an opinion unless we see specimens.
- Scorching in Vinery: G. F. We cannot understand why there should be scorching if you have followed the practice described in your letter. Scorehing and scalding usually result from growing the Vines too weakly through employing insufficient ventilation, and especially from neglecting to open the ventilators early on bright mornings. Have you examined the glass in the roof? This should be free from faults, or it will focus the sun's rays in places and cause the trouble of which you complain.
- CHRYSANTHEMUMS: Irish Subscriber. Single Chrysanthemums cannot be treated on the same system as the double-flowering varieties, for the very obvious reason that if flowered on any other than the terminal buds they would cease to retain their character as singles, and become a medley of rough, semi-double flowers. One of the objects for securing crown or early buds of ordinary chrysanthemums is that, by anticipating the latter part of the growth, the buds retained are induced to form considerably more florets in the flowers than they would otherwise do, and hence become more double. All singles must therefore be allowed to terminate their natural growth before flowering. They should, however, be stopped when about 6 or 8 inches high to induce a bushy growth. This one stopping will suffice for short-jointed, dwarf varieties, as they branch again of themselves; but for those of taller growth a further selves; but for those of taller growth a further stopping should be given about the middle of June. To secure the flowers on the date re-quired, viz, November 7, you should grow only such varieties as can be depended upon for flowering about that time. The fact of having to wait for the terminal growth makes many of the single-flowering varieties very late. the single-inwering varieties very late. There are, however, plenty of earlier varieties, of which we give you names of some of the most suitable:—Mary Anderson, Miss Annie Holden, Miss Annie Mumford, Snowflake, Victoria, Earlswood Beauty, Daisy Brett, Kate Williams, White Perfection, Mrs. Roberts, and Connie. They are prettiest if left in natural sprays, but if large specimen flowers are required they if large specimen flowers are required they must be disbudded, retaining one bud only to each shoot.
- STATICE SEEDS: C. D. Separate the withered flowers a little, and sow them on the surface of the soil in a seed-pan covered with a sheet of glass in a warm frame or greenhouse, and wait the result.
- Tomatos: L. G.P. The plants are suffering from the "sleepy disease," caused by a fungus. Water-ing with a solution of nitrate of potash will help the plants if not too far gone already.
- VINE LEAVES: H. C. D. Warts due to too much moisture and not enough ventilation.
- COMMUNICATIONS RECEIVED .- L. C.-J. C .- Caroation-OMMUNICATIONS RECEIVED.—L. C.—J. C.—CATOALIOM—J. MCK.—Caps—C. S.—T. R.—Fruit Grower—R. M.—C. P.—J. W. B.—R. R.—F. Denls—W. & J. B.—J. O'B—W. H. (photograph)—E. C. C. D.—Spring—J. B. R.—R. L. C.—E. A. T.—J. W. E.—E. T. C.—P. W. Voet, Holiand—J. S.—W. Hales—Langdale Pikes—J. S. U.—C. P. R.—J. Stocks (photograph will be used)—Expert—P. Weathers—T. C.—J. M.—W. G. S.—S. M.—G. H. S.—J. S.—J. R.—J. G. H. S.—J.

Supplement to the "Gardeners' Chronicle,"

PLANTED OUT FIVE YEARS AGO FROM A SIX-INCH POT. THE CLUMP NOW MEASURES 22 FT. THROUGH. BAMBUSA PALMATA GROWING IN THE NURSERY OF MESSRS, GAUNTLETT & CO., REDRUTH, CORNWALL





THE

Gardeners' Chronicle

No. 906.-SATURDAY, May 7, 1904.

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PICTURES AT THE ROYAL ACADEMY.

ON Monday last the Royal Academy opened its one hundred and thirty-sixth exhibition of oil and water-colour pictures, architectural drawings and sculpture. The show is spread over eleven galleries, exclusive of a water-colour room, a black-and-white room, an architectural room, and a central hall. It contains something more than the usual number of figure subjects, portraits, landscapes, sea-pieces, gardens, and studies of flowers and fruit.

The medical press sometimes notices cases of normal or aberrant anatomy, or natural or strange skin colours in the nude or seminude figures and portraits; a journal zealous for correctly-made clothing sometimes anathematises the cutting, sewing, and button-placing of the clothes of the illustrious or the Aeademy-exhibited ladies and gentlemen whose names are or are not given in the catalogue; whilst the architectural journals venture to point out beauties or defects in the designs for buildings and building decorations. In a like way the Gardeners' Chronicle is naturally attracted towards garden-views, trees, landscapes,

flowers, and fruit. The "class" journals do not like "Impressionist" work; the medical papers are averse to bones out of joint and impossible muscles; the clothing journals jeer at the cut of coats and gowns such as are not usually seen on a private view day of the Academy; and the architectural papers revolt against impossible perspective. In the same way the Gardeners' Chronicle cannot sometimes refrain from expressing aversion to incorrect representations of the subjects which some contributors make a speciality. The Daffodil season, which has hardly passed, is represented this year by several studies of Daffodils. One of these hardly "suggests" Daffodils at all. To the writer it "suggests" the sudden and violent impact upon the canvas of one or two very decayed Oranges. It is probably true that some "Impressionist" artists produce "impressions" or "suggestions" simply because they are unable to produce anything better. At any rate, "suggestions" or "impressions" of those plants, certificated as "First-class" by the officers of the Royal Horticultural Society, would not be accepted by the readers of the Gardeners' Chronicle as adequate representations. A plate of decayed Oranges or an explosion of a torpedo could not be published and called "a study of Daffodils." The painter's reply to this is, that the "colour-effect" is all he sees, or all that can be seen. Well, others see a good deal more, so does the Floral Committee, and so, we venture to say, judging from experience, do most of the readers of this

Gallery I.—14, "A Sandy Shore on the South Coast" (B. W. Leader). The view represents a placid summer day; the picture is somewhat low in tone, and not quite in Mr. Leader's usual manner. In the foreground are masses of Sea-Holly. In the same room is 18, "In the West Country" (Alfred Parsons), in this master's usually excellent manner; and 45, "Willow-trees at Sunset" (George Clausen). This remarkable picture is without the artist's usual rustic figures. The name indicates the nature of the subject. Everyone knows Mr. Clausen's splendid work, from which this picture is somewhat a departure as regards subject. Mr. Clausen's pictures are founded on deep and true knowledge and painted over positively correct and powerful drawing, with colour that is Nature herself.

Gallery II.-73, "Michaelmas Daisies" (Augusta M. Bowen), a well-painted study of purple Asters; there is more old china in the picture than flowers, but the general colour-effect and correctness of drawing are excellent. 79, "Autumn Roses" (Chas. T. Doda); and 97, "Roses" (Louise E. Perman), are not the Roses of rosarians. The attention of the visitor is here arrested by 94, "In the Bean-field," a fine work by George Clausen; and 102, "Old Seoteh Firs, Lochan - Eilan" (J. MacWhirter). The latter hardly reminds us of the colour of old Scotch Firs. Amongst landscapes worthy of study are 113, "The Valley of the Stour, East Bergholt, Suffolk" (David Murray); 118, "A Showery Summer Day" (Sir Ernest Waterlow); and 120, "The Wild-fowler" (J. Herbert Snell), a study of a winter sunset. 134, "Red Roses" (Rose E. Welby) would not attract a rosarian. 161, "Golden Fruit and Flowers," a study of Lemons, Oranges, and Daffodils, by E. T. Sutcliffe, appears to

be a good piece of work, but is placed too high for inspection. In this gallery is 156, "The Widow's Garden" (Frank Craig). This is really a good study of Shirley Poppies; the Poppies occupy the whole of the foreground; in the background are two figures—one appears to be Sir Henry Irving after playing in the "Lyons Mail." He seems to have induced a strange, portentous widow in the character of a Sister of Mercy to look at the Poppies; the widow appears to be sniffing, and expressing indifference to the floral display.

Gallery III.—168, "A Quiet Evening," and 184, "Evening among the Surrey Pines" (B. W. Leader), in this artist's well-known facile manner.

Gallery IV.—The strikingly powerful 258, Gleaners Coming Home" (George Clausen); 264, "Cluny Waters, Braemar" (Herman G. Herkomer); and a picture for colour effect, 312, "Geraniums" (Mary D. Holmes).

Gallery V.—326, "The Heat of the Day, Flatford, Suffolk," and "Flatford: Scene of Constable's picture of 'The Hay-wain,'" as at the present time, both by David Murray. 362, "A Frosty Night" (George H. Boughton), a study of winter with ice and folk sliding and a distant village. In this room is 361, "A Central Panel of a Reredos for the Church of the Holy Trinity, Paris" (E. A. Abbey); it obtrudes itself by its size, its gold background and raw colour; it represents the crucifixion of the Lord, with St. Mary and St. John.

Gallery 17.-389, "The Last of the Season"; these are Roses-yes, no doubt-the last of the season. 418, "Daffodils"; the artist's word for it. 441, "Rhododendrons" (William J. Muckley); the artist is an accomplished master of this kind of work, flowers and leaves correctly drawn and well painted; we trust, however, that Mr. Muckley will not fall into the "dewdrop" down-grade. We venture to suggest that he has too many dew-drops in this work. Old and hardened observers of flower paintings despise dew-drops; they do very well on Primroses and birds'-nests, as painted by young ladies in their teens, but older folk cannot do with them. Amongst figure subjects is 457, "The Gambler's Victim" (Arthur C. Cooke); a young gambler, ruined at card-playing, sits dejected in a chair; it is the early morning of a cold winter day, the candles have guttered in their sockets, a chair is overturned, and cards are littered over the floor, with broken glass and spilled wine. A notable picture, low in tone, drawn and painted with great care.

Gallery VII.-462, "The Dancing Lesson," by the same artist (Arthur C. Cooke); this, like the last, is in the style of Wilkie or Hogarth, but more correctly drawn than the works of either of these artists. The foremost girl in the dance looks exactly like the young wife in Hogarth's "Marriage à la Mode." The perspective of the Oak wainseoting and the blocks of Oak of which the floor is composed is excellent. Both pictures show close and time-exhausting preliminary study, and both are somewhat low in tone; the latter picture is injured by being placed next to the strong and contrasted coloration of 465, "When We were Boys Together" (John R. Reid). Mr. Cooke is, we believe, the son of the well-known contributor to our pages, Dr. M. C. Cooke.

Gallery VIII .- 525, "The Land of the Rising Sun; Fuji-Yama from above Hakone" (Alfred East); a Japanese garden with the great snow-capped mountain in the distance, almost invisible against the bluish-white sky. 527, "Summer Floods, Flatford, Suffolk" (David Murray). 537, "Bonnie Scotland" (Alfred Parsons); a landscape in this master's fine manner, foreground of Rhododendrons in flower. 559, "A Welsh River" (B. W. Leader). This gallery contains two very large and very startling pictures - one 540, "Mammon" (Rob. Sauber). We cannot explain this; it is in the style of the "Two Crowns" exhibited a year or two ago. Mammon is represented by a knight on horseback; both man and horse are in armour, the knight wears a large tilting helm with slits for the eyes, but the rider's head is up so that he cannot see. There is no provision on the armour for the knight's tilting piece, which seems a strange omission; and the armour of both man and beast is yellow, as if of brass-a peculiar metal for a tournament; perhaps it is meant to represent gold, of which "brass" is the slang form, the title of the picture being "Mammon": the work requires study.

The other huge picture is 526, "Despised and Rejected of Men" (Sigismund Goetze). It represents the life sized Lord tied to a Roman altar. On the figure's right is a vile, modern, racing tipster, reading the betting news from a halfpenny pink newspaper; in the foreground is a well-dressed, eigarettesmoking ruffian in a shiny silk top-hat and white kid gloves; just before this man is an over-dressed, pearl-ornamented frail woman: these are meant for enemies of the Divine Teacher. Between the betting-man and the degraded wretch in the tall shiny hat is an inoffensive-looking man of science with gold-rimmed spectacles holding up a testtube containing a Prussian-blue fluid-some form of prussic acid; the face of this man is almost identical with that of a well-known man of science, but now deceased. Nothing could be more offensive than this close association of scientific research with the worst forms of blackguardism.

Gallery I.V.—585, "Christmas Roses" (A. F. W. Hayward), "Hellebores," in the good style of Muckley. 597, "Anemones," apparently accepted because it just fills up a little vacant space: struggling artists should send in a few triangular pictures; they would be sure of acceptance. because they would fill in the spaces just under the cornices of the doors. 664, "Wind Flowers," "Anemones" (Florence W. Whitfield; better than the average. 676, "Dahlias" (R. Willis Maddox): inferior blooms. 686, "Rose Boule de Neige" (A. F. Hayward), and 724, "Pink Roses" (R. Grafton Green), are all above the average. 750, "A Corner of the Paris Flower Market" (Stuart Hobkirk); some floral nevelties here. 756, "A Frosty March Morning" (George Clausen); gardeners at work in the open.

Gallery N.—"Lilium longiflorum" (H. M. Shaw); very pleasant to see these blooms well and correctly drawr. Great care has been taken in the production of this work. The Lilies are shown in a large olive-green vase.

WATER-COLOUR ROOM.

There are usually a few carefully studied drawings of garden and flower subjects in this room, and there is about the average this year. 969, "Autumn's Glory" (Maude Angell); these are white Chrysanthemums. 973, "Winter" (Woodhouse Stubbs); Hellebores and Grapes. 975, "Lilac" (Arthur Englefield); white and coloured varieties. 1012, "Honeysuckle" (Bertha Maguire); a good drawing; butterflies added. 1013, "Gloire de Dijon Roses" (Woodhouse Stubbs); very good. 1026, "Anemones," a suggestion by Hannah Mayor. 1050, "Harbingers of Spring" (J. Jessop Hardwick); pretty Primroses, a pretty little birds'-nest, and three pretty little darling eggs—yes, we have seen this kind of sweetly pretty subject before, and never wish to see another, whether in an oblong or a triangular frame!

NEW OR NOTEWORTHY PLANTS.

SAXIFRAGA LILACINA, DUTHIE.*

This very attractive novelty, from the Western Himalaya, was raised in the Royal Botanic Gardens at Kew from seed received from the Botanical Department of Northern India in 1900. It flowered for the first time during the early part of last month, and was brought to my notice by Mr. W. Irving, who has already drawu attention to it in a recent number of the Garden. The



 \mathbf{F}). 124 —SAXIFFAGA LILACINA, AS GROWING IN THE ALPINE HOUSE AT REW.

plant forms very compact, greyish-green, cushionlike masses, which, when not in flower, might at a little distance be mistaken for tufts of some lichen. It appears to be most nearly related to S. imbricata of Royle, from which it differs by its lilac-coloured peduncled flowers, and by the leaves having three distinct pits on the upper surfacs near the apex. The leaves of the rosettes have thin cartilaginous edges, and are quite glabrous except along their incurved margins towards the base. The floral leaves are clothed with glandular hairs, except at their darker green and somewhat fleshy tips. The peduncles and calyx are glandular-pubescent, and of a pale green colour. There is a tinge of purple on the upper portion of the claw of each petal, which accounts for the dark centre to the flower as seen from above. The reddish-brown anthers turn black after maturity. The seeds having reached Kew during the early part of 1900 must have been collected in Hazára, and not in Kumaon, as stated by Mr. Irving; for my native plant-collector, Inayat Khán, was travelling in Hazára during the summer of 1899, and did not visit Kumaon till the following year. The herbarium specimens received from Hazára were fruiting ones only, and in that condition bore a close resemblance to S. ramulosa, under which name the seed was distributed. J. F. Duthie, Kew.

SOILS AND MANURES FOR SPECIAL CROPS.

(Continued from p. 274.)

FEEDING WITH COMMERCIAL FERTILISERS.—While it is, perhaps, safer to rely on organic or farmyard manures, with ground bone and wood-ashes to supplement them in phosphoric acid and potash, yet Roses, as well as other crops, can be grown without organic manures by the use of commercial fertilisers alone. Artificial manures where used in connection with organic manures will first be considered.

It is safest to use quick-acting and easily soluble fertilisers like nitrate of soda, sulphate of ammonia, guano, superphosphates, &c., in soils containing a good deal of fibrous material, leafmould, or partially decayed vegetable fibre, which will absorb the artificial fertiliser and give it up slowly to the roots. In a compost made as previously described, feeding with liquid-manure can be profitably alternated with commercial fertilisers. If the vegetative growth needs stimulating and brightening, and the plants have strong root systems, give a dressing of nitrate of soda, sulphate of ammonia, or guano-10 oz. to 50 gals. of water per 100 square feet of area. If the plants do not have strong, vigorous-feeding roots, and especially if the soil is not rich in fibrous material, use 6 oz. of the artificial manures to 50 gallons of water. Continue at intervals of ten days to two weeks till growth is active and the foliage is of a good rich green colour. If growth is active and of proper colour, but spindling and soft, the need of potash and lime is indicated, because, as we saw when considering the chemical constituents of the Rose plant, these elements contribute to the building up of the plant tissues in the form of organic compounds; in this case nitrogen should be avoided. Potash may be supplied by giving a light dressing of pure wood-ashes, 1 lb. to 20 square feet of bench. Or if pure wood-ashes are not available, sulphate of potash can be used at the rate of 8 to 12 oz. to 50 gallons of water per 100 square feet of bench, at intervals of ten days to two weeks, or sprinkled dry at the same rate per 100 square feet. When sulphate of potash is used it should be followed after the second or third application by a sprinkling of quick-lime (slaked), about 1 lb. to 20 square feet. When the plant growth is plump and solid, use only the ordinary manure-water when needed. If the plants are growing well, but are not making flower-buds, reduce the quantity of nitrogenous food and give phosphoric acid, either steamed bone-meal at the rate of 1 lb. to 20 square feet; or, if it is desirable to avoid the nitrogen of the bone, give a dressing of superphosphate (37 per cent. soluble), 1 lb. to 100 square feet, and follow in a few days by lime, as directed above. The superphosphate may be applied in water, using 1 lb. to 50 gallons of water for 100 square feet, or it may be sprinkled over the soil in a dry state, but broken up finely. If there is reason to believe that there is a general lack of plant food, a complete fertiliser should be used, alternating with liquid - manure. It is recommended for the manurial mixture: 1 lb. of

^{**} Saxijraga (§ Kabschia) lilacina, Dulhie, sp. nov. — Habitu S. imbrica a simtlis, sed floribus pedunculosis li acinis differt. Caudiculi nunero.i, densissime foliosi, columniformes, caspitosi. Caules floriferi ½-1 pol!., uniflori, glandulose pubescenter. Folia rosulata alterna 1—2 lin., oblonga, obtura, versus ap!cem recurvata et incrussata, ad basim spirse ciliata, margine cartilagineo et incurvato, supra prope apicem 3-5 foveolatis. Folia caulina 1—2, alterna, erecta, 2—3 lin., lineari-oblonga vel spatulata, obtusa, glandulosa ad basim semi-amplexicaulia. Flores 5 si lin. diametro, pallide lilacini cum oculo purpureo. Calyx 2 lin., paulo infra mediun divisus, glandulose pubescens; lobis ovato-oblongis, obtusis. Petala 4 lin., obovato-rotundata, ad basim cuneata, pallide lilacina, venis purpureis, marginibus undulatis. Stamina calyce duplo longiora. Styli ovario acquilongi. Capsula non vira.

nitrate of soda or guano, 1 lb. superphosphate, and ½ lb. sulphate of potash for 100 square feet of area. Unless soil conditions are favourable and the plant roots strong, the amount of manure mentioned is a little too large, 1 lb. of the mixture per 100 square feet is safer. The amount of available water in a square foot of moist loam 6 inches deep (½ cubic foot) is approximately 5 to 7 lb. (or pints), or for 100 square feet from 500 to 700 pints or pounds. At this rate, 1 lb. of material in solution in the 50 gallons of water (about 1 to 400) would add 4.8 grains, or approximately one-sixth of an ounce to each square foot (6 inches deep). Counting the water in this amount of soil under the most favourable conditions for growth as 5 to 7 lb. per

BOOK NOTICE.

THE MANGO. Published by H. G. Cove, 41, Welliugton Street, Covent Garden, price 1s.

Mr. Marshall Woodrow has written a pamphlet with coloured illustrations relating to the varieties and culture of the Mango. The good varieties are so excellent and the bad ones so very inferior, that Mr. Woodrow has done well to call attention to the fact, particularly as it is as easy to grow the good sorts as it is the bad. Propagation is effected by grafting. A description of several varieties is given. For those concerned with tropical fruit-growing this little treatise can be confidently recommended.

Löfgrenii, Macradenia rubescens, M. paraensis, M. Regnellii, Notylia hemitricha, N. inversa, N. pubescens, N. nemorosa, N. yanaperyensis, N. rosea, N. aromatica, N. sagittifera, N. Wullschlægeliana, Rodriguezia maculata and varieties sexcristata and bicristata, R. eleutherosepala, R. microphyta, R. uliginosa, Quekettia microscopica, Q. micromera and others, Telipogon latifolium, Saundersia mirabilis, Rodriguezia obtusifolia, R. pubescens, R. venusta, R. secunda, Ionopsis paniculata, Comparettia falcata, and Trizeuxis falcata.

The work is essentially a scientific one, and the Orchid parts are characterised by that careful elaboration which M. Alfred Cogniaux exercises in all work entrusted to him.



FIG. 125.—BLUEBELLS GROWING IN A PLANTATION NEAR LANCASTER.

iquare fcot of bed, there will be a soil solution (assuming that what is added remains argely in solution) of from I to 500 or I to 700. This is as strong as most plants will stand without nore or less injury to the feeding roots. It is too strong to risk such very soluble and active naterials as nitrate of soda, nitrate of potash, and muriate of potash, but is safer for superphosphates or sulphate of potash, as recomnended above.

It is unsafe to use chemical fertilisers or liquid nanures in full strength on a heavy soil which s not provided with sufficient fibrous root naterial.

A few manurial formulas for Rose-growing which have been tried and proved successful, will be given in our next contribution. J. J. Willis. Tarpenden.

FLORA BRASILIENSIS FASCICULUS CXXVII., ORCHIDACEÆ VIII.

In this M. Alfred Cogniaux continues the enumeration and description of the Brasilian Orchids with Maxillariinae Pfitzer, including Maxillaria Ruiz et Pav., Scuticaria Lindl., Camaridium Lindl., Ornithidium, Salisb., Trigonidium Lindl. and Eulophidium Pfitz. Telepogon, Macradenia, Warmingia, Notylia, Trichocentrum, Rodriguezia, Ionopsis, Scelochilus, Comparettia and some other genera are also enumerated in so far as the Brazilian representatives are concerned, and a large number of them illustrated, including forty species of Maxillaria, Camaridium pendulum, Ornithidium squamatum. O. chloroleucum, O. ceriferum and O. flavoviride, Trigonidium macranthum, T. obtusum, Warmingia

BLUEBELLS.

THE 1st of May in the vicinity of London, for once in a way, realised what the poets have imagined. The nonsensical rhapsodies of a Ruskin were indeed not needed to stir our sensibilities, as our eyes lighted on that day on just such a scene as that shown in our illustration. The Bluebells were so abundant that a soft halo of blue floated over the flowers like a fine mist. Cuckoos, nightingales, thrushes acclaimed the fact that spring, if not summer, had indeed come. The copse in which the Wood Hyacinths were growing is not more than eight or nine miles from London-and, indeed, within a mile or two of one of its most populous suburbs. New railway stations, hideous advertising hoards and builders notices, all give warning that copse and Bluebells must scon give place to rows and rows of unlevely

cottages. With this anticipation before us it is no small satisfaction to know that the Bluebells are safe in one corner of Kew Gardens, near the Queen's Cottage. Long may they remain! Our illustration was taken in the vicinity of Lancaster by Mr. R. W. Cole.

FRUIT REGISTER.

PEAR CHARLES ERNEST.

A fruit described by M. Baltet as having the form of Beurré Bachelier and the colouring of Beurré d'Amanlis. The flesh is delicate, melting, sweet, and agreeable to the palate. It comes after Doyenné du Comice, and hefore Beurré Diel. It is figured and described in the March number of the Bulletins d'Arboriculture, &c.

ECKLINVILLE SEEDLING APPLE.

In the neighbourhood of West Drayton this variety does remarkably well, and in the fruit gardens at Heathrew, about 4 miles distant, it is a comparative failure. The soil in the Drayton district is a good loam resting upon several feet of first-class brick earth; in the other instance the top soil is a medium loam, with a gravel subsoil. The Heathrow trees always bloom well, but fail to carry more than a few stray fruits. The cultivation in both instances has been nearly the same. When lifting one and two-year-old trees in the nursery here, I have always noticed what a large quantity of roots this variety possesses; so evidently by this it is a gross feeder, and requires more nourishment than many other sorts. The wood of the Heathrew trees is of a softer texture, and lacks the hard, wire-like nature of the Drayton trees.

Looking at the matter from a market fruit-growers' point of view, it seems to me to be a mistake to plant a variety which under ordinary cultivation has proved itself to be a failure in a certain neighbourhood, or which does not come so fine and good as in a different locality; yet how often this is the case, and as things are at present I do not see how it can be avoided. Beginners at fruit-growing for market have generally a preference for certain varieties; but without experience and a knowledge of the neighbourhood how can they tell whether any of the sorts they wish to plant will succeed in the locality or not? I consider it would he a great boon to would-be fruit-growers if the Board of Agriculture (or some other body) would collect in every neighbourhood likely to he used for fruit-growing for market particulars with regard to the cropping and quality of all the popular market sorts of fruit. If this were printed in a concise form, anyone could then avoid planting trees likely to be unsuitable. E. T., Heathrow, Middlesex.

KEW NOTES.

RUDGEA MACROPHYLLA, Benth. - During the past three weeks a grand specimen of this fine evergreen stove plant has flowered in the Victoria - house. Although belonging to rather a large genus, very few species are in cultivation; and from a decorative point of view R. macrophylla is by far the best of them. It makes a stout woody shrub some 6 feet in height, with epposite, shortly petieled, glabreus leaves, varying in length from 10 to 15 inches, and from 4 to 6 inches in width, with an acuminate apex. The flowers are produced in large, dense, globose heads at the apex of the stout growths; they are light primrose-yellow when first expanded, turning to pure white in a day or se. The individual flowers very closely resemble those of a Stephanotis in shape and texture. The plant recently in flower was one measuring 6 feet in height and 3 feet through, and carried fifteen heads of these levely blossoms, making a truly handsome display. It is a very old garden plant, and was introduced from Brazil many years ago. It grows freely under ordinary stove conditions, preferring a mixture of good fibrous leam, leaf-soil, and silver-sand; the head of the plant should be kept near to the glass during

the winter. Under such treatment it will produce a profusion of flower annually. Figured in *Botanical Magazine*, t. 5653.

DENDROBIUM UNDULATUM, R. Br.

A plant of this species in flower has a growth measuring 7 feet in height and $1\frac{1}{2}$ inch in diameter near the base; the leaves are quite leathery in texture, 3 to 4 inches long, and 2 inches broad. The large racemes of hrownish-yellow flowers are produced near the ends of the growths, being from 18 to 26 inches long, and carrying from twenty to thirty flowers, each having a diameter of about 2 inches; the margins of the sepals and petals are very much undulated, like the flower of a Gloriosa. It is a native of N.E. Australia and New Guinea, and requires plenty of heat when making its growth, after which it should be rested

BIRMINGHAM BOTANICAL GARDENS.

In the last annual report of the Birmingham Botanical and Horticultural Society were the following words:—"The Committee have...decided that the object in view may be best attained by...a beld attempt to increase the attractiveness of the Gardens to subscribers and others by modernising the outdoor grounds and making the Society's headquarters...the centre of information as well as attraction to all who are interested in hotany and horticulture."

To carry out such a scheme more funds were necessary; an appeal was therefore made for £2,000, and a substantial sum was obtained. Under the management of the new Curator, Mr. T. Humphreys, who succeeded Mr. Latham last



Fig. 126.—Lathræa clandestina growing in the royal botanic society's gardens, regent's park.

under cooler conditions. It was figured in the *Botanical Register* in 1841, t. 41. The figure is that of a very small spike, and does not do justice to the species. W. H.

LATHRÆA CLANDESTINA.

This beautiful parasitic plant was displayed in quantities at the last exhibition of the Royal Botanic Society at Regent's Park, and subsequently the photograph reproduced at fig. 126 was taken by Mr. Gregory, showing the plant to be growing in great masses on the roots of the Beech and Willow in the society's garden. The species is a native of South-western France, but has been successfully introduced to many English gardens.

At fig. 127 we have reproduced a sketch made by Lady Dyer fifteen years age of the plant growing on the Willow near to the Palm-house at Kew. When growing in masses the plant is very effective by reason of the ivory-white fleshy bracts and rosy-lilaz coloured flowers. October, improvements were commenced without delay, and much has been accomplished during the past winter. The Water Lily-house, which had fallen into a positively dangerous condition, has been rebuilt, and at the time of our visit a few weeks ago, appeared very promising for the coming season, when it is hoped this house will have an important attraction for the public of Birmingham. With a view to secure this end, preparations have been made for the cultivation of the Victoria regia. The Queen of Water Lilies was cultivated in these gardens many years ago, but as there have been no opportunities for the Birmingham felk to see the plant for nearly twenty years past, it will undoubtedly preve more interesting to them than the usual collection of Nymphæas. There is just the possibility that the Victoria will not thrive so well as could be wished, owing to a difficulty in getting the water warmed with the means that are available for that purpose. Every effort, however, is being made to overcome this, and if success is achieved the effect in the house, with the Lily in the central circular tank, and pretty climbing plants such as Cissus discolor and others growing beneath the roof from the pillars, with their growths hanging over the surface of the water, will be very pretty. The side stages afford room for plants with ornamental foliage and others in flower, whilst several additions have been made to the climbing flowering plants.

By passing from the conservatory through part of the large exhibition hall, entrance is gained to two span-roofed houses, each divided into two compartments. On the right hand are the show house and an intermediate greenhouse, and on the left hand the stove and Orchid-house. Whilst passing through the exhibition hall it is noticed that the Curator's house opens into this hall, and that there are many good climbing plants growing



Fig. 127.—Lathræa clandestina: flowers rosy-lilac, bracts white. (see p. 292.)

Adjoining the Water Lily-house is the great conservatory or Palm-house. It contains Palms and tree-Ferns mainly, and among the collection two are specially interesting from the fact that they were raised by Mr. Latham. One of these plants is Dicksonia × Lathami, obtained from a cross between D. aborescens and D. antarctica. The plant is about 12 feet high, and the handsome fronds being very plumose, are much heavier than those of D. antarctica. The other plant is an unnamed bigeneric hybrid 20 feet high, being from a cross between Alsophila excelsa and Cyathea insignis princeps.

there, and two fine Camellias. One of these is the old favourite variety Alba Plena, in a great tub, the plant weighing about 5 tons. It has been in these gardens for ten years, and has flowered abundantly each winter. The other specimen is one of that handsome Camellia, C. reticulata, distinct in its foliage, and having flowers of larger size and more brilliant colouring than those of any other Camellia. Unfortunately the appearance of this one is such as to cause a certain amount of anxiety, but it may be hoped that Mr. Humphreys will succeed in restoring it to health.

In the Orchid-house the following plants were in flower: Cypripedium Morganiæ (C. superbiens x C. Stonei), with four strong spikes, each bearing two flowers, having the handsome striped sepals and spotted petals characteristic of this hybrid; C. villosum (a quantity), C. Lathamianum (C. Spicerianum x C. insigne), another hybrid raised by Mr. Latham (this plant makesa pretty Orchid for cultivation in pans; when so suspended the flower-spikes droop and the flowers have a pleasing effect); Cymbidium eburneum, Ceologyne cristata, Phalanopsis Stuartiana, Oncidium tigrinum splendidum, Odontoglossum pulchellum, Platyclinis glumacea, Dendrobium Rothschildianum (two excellent flower-spikes), D. Ainsworthii, &c. Among the plants not in flower at the time were some well-cultivated specimens; and in addition to the Orchids, we noticed more than a dozen plants of Platyceriums, including P. grande. In the adjoining stove a collection of representative plants is being worked up, with a view of making the house decorative, and including species possessing peculiar interest from one standpoint or another.

The most notable plant in the greenhouse was one of the Vacciniaceæ, Agapetes [Thibaudia] macrantha, growing in a pot 10 inches in diameter. It is the largest plant we remember to have seen, and has been flowering for the past four months. At the time we saw it there we computed that there were 250 flowers then open, and many of themare produced in clusters of four or five directly from the old hard wood, almost as low as the rim of the pot. An illustration of the curiouslymarked tubular flowers was given in the Gardeners' Chronicle, Jan 19, 1901, p. 47. The general plants in this house were either bulbous species or forced shrubs, and Cinerarias, Rhododendrons, Primulas, &c. Eupatorium ianthinum, strongly grown and flowering well, served to brighten the adjoining plant-house, for which, as in the stove, efforts are being made to obtain a good collections of species.

Out-of-doors improvements are being made in all directions. Flower-borders have been overhauled and replanted—one has been widened and raised to give a better appearance; the walks are being put in good repair, and the edgings renewed and straightened. Some of the shrubberies have been partly rearranged, and others require to be done. It is intended to plant a good collection of flowering trees and shrubs, and these will add further interest to the garden, the species already possessed being far from representative of the wealth there is now available. At the same time the double-flowered Cherry is represented by a fine old tree that makes a glorious show, observable from nearly every part of the garden.

The rockery is the most important feature at present in the outdoor garden, being of a very large extent. Previous to the flowers opening one of the most remarkable plants was Veronica cupressoides, which grows there much better than in most gardens. A new rosary, a quarter of an acre in extent, has been formed and planted.

The Committee, with the honorary Treasurer, Mr. Neville Chamberlain, and the honorary Secretary, Professor W. Hillhouse, of Birmingham University, are determined to make the gardens more attractive and useful, so that they may become in a greater degree than ever a centre for the dissemination of horticultural knowledge, and for the encouragement of the practice of gardening. Means have recently been provided in the gardens for Professor Hillhouse to make personal experiments in regard to the etherisation of plants intended for extra early forcing, and we hope that their result may be to increase our knowledge of the processes by which the change in the plants is brought about. That there is a change is known perfectly, and cultivators are already able to make use of the changed condition advantageously; but the "why" and "wherefore"

must be fully determined by continued research. That the practical management of the garden is in capable hands is already proved by the manner in which Mr. Humphreys has carried out the initiatory improvements.

ORCHIDS AT MESSRS. J. & A. A. McBEAN'S, COOKSBRIDGE.

[See SUPPLEMENTARY ILLUSTRATION.]

ODONTOGLOSSUMS in the highest state of cultivation occupy the greater part of the houses in this compact nursery. Father and son alike take an absorbing interest in Orchids, and especially in Odontoglossum crispum, with such astonishing results that the younger Mr. McBean, who controls their culture, has acquired for himself the title of "Champion Odontoglossum - grower." Experts declare that few collections in the world can rival the Odontoglossums at Cooksbridge; and Odontoglossum-collectors assert that plants in their natural habitat are surpassed by those at Cooksbridge, Sussex.

The largest plants are in three long span-roofed houses, whose interiors have a central stage brought well up to the light, with a rather lower staging running round the sides and end. The finest plants are arranged on the central staging, and a glance from the doorway affords a sight of magnificent spikes of the best type of O. crispum from one end of the house to the other. The plants which bear them have enormous pseudobulbs and fine thick, hard leaves, many of them being of a rich reddish-purple tint. The spikes are allowed to perfect all their blooms, and the presence of fifteen to twenty flowers on a spike is common. One superb clear white form had thirty - one very large flowers; another vigorous specimen had a branched spike of over sixty blooms.

Notwithstanding the profusion of flowers and the great size of the spikes, the plants are growing with extraordinary vigour, pseudo-bulbs often having two strong growths each bearing a large flowering spike, which supports Mr. McBean's contention that if the plants are properly grown flowering heavily does not cause them to suffer.

DETAILS OF CULTIVATION.

The span-roofed houses are loftier than is generally considered advisable for these plants. staging in the first house (which was originally a Palm-house) is of wood and of the ordinary open kind. There is no close staging to retain moisture, but the same result is obtained from the ground beneath, which has a sprinkling of ashes over the surface. There are ventilators both bottom and top, but the lower ones are rarely used, and the top ones very carefully so as not to cause a current of air in any part of the house. Mr. McBeau stated that when too much air is admitted the excessive evaporation caused entails the distribution of a much greater quantity of water, both in the pots and about the houses, than is good for the plants. His plan is to preserve a low, moist, and even temperature in the houses by carefully restricting the amount of artificial heat supplied and guarding against too much ventilation, which only results in the escape of heat and moisture to such a degree as to necessitate the use of an injurious amount of artificial heat in order to keep up the temperature. This is especially to be guarded against in late winter and spring, when cold, dry winds often prevail. At that season the Odontoglossum builds itself up for the year, and if stunted then it cannot recover itself sufficiently.

The other two houses of the block are similar to the first, except that the staging is composed of iron standards, with water-holding bases to prevent insects climbing up them, and an iron frame on which flat, red porous tiles are laid on which to stand the plants.

Spotted forms of Odontoglossum crispum are the chief object of this extensive culture. Recently Mr. McBean paid 340 guineas for one bulb of O. crispum Ashworthianum, yet he has several which he considers much finer. On one side of the first house is a batch of plants representing some thousands of pounds in value. These are not all Mr. McBean's property, for other growers with refractories or forms which they would like to see at their best, send them for development. Several grandly-spotted forms are in flower and bud, the best being O. crispum Pittianum, O. c. Persimmon, and O. c. F. K. Sander, which, when seen to perfection, is expected to cause quite a sensation among experts in Odontoglossums. O. crispum Abner Hassel, now in flower, is a very handsomely blotched form; O. c. Grace Ruby is large, finely shaped, and richly blotched. Some good O. Hallii, O. × Wilckeanum, O. × Adrianæ, O. triumphans, and a pretty purple-spotted O. Pescatorei appear, and along the middle of the central stage in two of the houses the Oncidium macranthum bave enormous bulbs, and send their long spikes of large yellow-and-purple flowers around in all directions. The specimens of the violet-coloured Odontoglossum Edwardi, and the brilliant scarlet Sophrontitis also do well and are flowering freely. The raising and cultivation of seedling Odontoglossums were recently commenced, and the venture promises well.

It should be said that the Odontoglossums are carefully shaded from bright sunlight by thin

light shading.

In the smaller houses the development of the Odontoglossums, from their arrival in cases as freshly-imported plants to their flowering stage, can be seen. On arrival the plants are carefully trimmed of all dead and useless parts, and lightly planted in beds of moist peat arranged on the staging, the pieces being placed close together so as to occupy as little rcom as possible. Here they are acclimatised, and when ready are potted into fibrous peat and sphagnum-moss. The advantages of this method are obvious. By being closely planted the new arrivals take less room. Those which are fated to die are gone before the potting takes place, and as this is not done until the plants are ready to grow, the material about them is then fresh and sweet, which would not be the case if they were potted up when first received.

Large quantities of Odontoglossums in all stages are in the various houses, and as they are the favourites they bid fair to crowd many other things out. Nevertheless, there is a goodly assortment of other Orchids. In the large Cattleya-house is a fine selection of the large-flowered Cattleyas and Lælias, and of which the forms of C. labiata at their last flowering in November, together with C. Warscewiczii, Dendrobium Phalænopsis, &c., made a fine show (see Supple-

mentary Illustration).

In one house was a good display of varieties of Dendrobium nobile, a large quantity of D. atroviolaceum in bloom, a very large and showy form of D. × Juno; whilst among a batch of seedlings a very fine and distinct hybrid was noticed, with large flowers of a delicate pink tint, the disc of the broad open labellum being sulphur-yellow, with some peculiar violet markings at the base. Other good plants remarked included a small lot of the best Cypripediums, including C. Lawrenceanum Hyeanum, C. x aureum excelsior, a lot of C. insigne Sanderæ, and some C. i. Harefield Hall; a small lot of Phalænopsis, Epidendrum bicornutum (very strong), and a quantity of good Cymbidiums, including the rare C. \times eburneo-Lowianum concolor.

THE DUTCH ORCHIDOPHILEN CLUB will hold its exhibition on May 28 and 29 next at Haarlem, where there is always something interesting to horticulturists.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Lælia anceps.—In the Cattleya or Mexican-house plants of L. anceps and its numerous varieties that were repotted in February have been rooting freely for some time past, and are commencing to push forth new growths; therefore it is necessary to afford them more atmospheric moisture by damping between the pots two or three times each day. For some time to come it will be sufficient if the surfacemoss be lightly sprinkled over occasionally, to keep it in a growing condition.

East Indian House.—Such plants as Aërides, Saccolabiums, Angræcums, Mystacidiums, Vandas, Renantheras. &c., that are making numerous aërial roots from their stems must now be afforded a hot and moist tropical atmosphere. their principal requirement during the growing season. At the same time fresh air and light must be afforded with discretion or the foliage will become spotted and unhealthy. Only a moderate supply of water for those roots con-tained in the pot is necessary, just sufficient to keep the surface of aphagnum moss in a healthy condition. Some plants of the above species are producing flower spikes, but weakly growths or those which have failed to retain plenty of foliage at their base should not be allowed to flower for a year or two, the excessive production of flowers being one of the principal causes of so many of Vanda Hookeriana, V. teres, and V. Miss Joaquim should be placed in the lightest position available, and be well syringed overhead several times each day whenever the weather is suitable. The Cypripediums in this house if well rooted should be afforded plenty of water all through the growing season, and a slight syringing overhead early on all warm, sunny afternoons will assist them to make clean, healthy growtha. Do not allow water to remain in the growths or axila of the leaves of such species as C. Stonei, C. Lowii, C. Rothschildianum, and others of that section, as they are liable to decay from this cause. Commence to afford water in small quantities to all the Calanthes of the vestita section whose growths are rooting freely; also to those Dendrobiums that were reported early The present is the critical period in the season. with both Calanthes and Dendrobiums, for until the plants are thoroughly well rooted they may be easily injured by over-watering. The same remarks are also applicable to the Catasetums, Cycnoches, and Mormodes. The evergreen section of Calanthes should now be showing for flower, and until the blooms have faded should be afforded copious root-waterings. plants, if necessary, two or three weeks after they have flowered.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Peaches.--If such varieties as Alexander and Waterloo are grown in the earliest house, frnits will now be ripe, and those of Hale's Early Royal George, and Stirling Castle swelling and colouring fast. Upon trees covering their allotted space, remove all shoots that will not be required for fruiting next season. Place latha across the elevate them well above the foliage, and draw the leaves through the trellis in order to expose the fluits to the sun. Syringing may be continued provided water is available that will leave no stain upon the fruit. Maintain a free circulation of air in the houses, but be especially careful during cold winds. Afford water to the border, and loosen the covering material that no more water may be necessary until the crop has been gathered.

Late Peach Houses .- By careful ventilation the fruits in these houses may be so retarded that they will not ripen before those on the open walls. Disbudding as advised for earlier housea

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must be given attention. If fruits have set freely these should be thinned, leaving very few more than will be required for the crop. Retain the best placed fruits, and those properly fertilised may be distinguished by their increased size. Afford water to the borders if necessary. Syringe the trees twice daily in favourable weather, performing the second syringing in time for the trees to become fairly dry before night.

Newly-planted Vines must not be allowed to suffer from drought, nor watered excessively. Strong tendrils upon the advancing growths will indicate that the roots are active. Sprinkle the surface of the border morning and afternoon in bright weather. Regulate the growths, and secure them with loose ties. Allow all the shoots to remain that can be exposed to the light, but pinch individual shoots that are extra strong. Maintain a night temperature of 65° to 70°, rising during the day by sunheat 10° or 15°.

Pines.—Give special care to ventilation, the sudden outburst of sun having an unfavourable effect upon the crowns, especially upon ripening fruit. Admit air at the top of the house or pit when the temperature reaches 80°, closing in the afternoon with much atmospheric moisture, and with a temperature of 90° or 95°. Give individual attention to plants in pots, and when any require water thoroughly moisten the soil with diluted guano-water, applied at a temperature of 85° to 90°, ponring some into the axils of the leaves at the same time.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Strawberry Plants.—If any plants which have berne heavy crops of fruit under glass are required for planting in the open, they should be hardened prior to turning them out of the pots. Vicomtesse Héricart du Thury is a capital variety for producing fruits of medium size during the month of September and later. For this particular purpose the plants should be afforded a warm border where protection can be easily given them when necessity arises. Another method of obtaining late Strawberries is to reduce the balls of plants which have been previously forced, repot them, and plunge the pots to their rims in coal ashes, removing all runners, &c., to encourage the plants to throw up late flowers. When the fruits have set, remove the pots under glass to ripen the berries. Valuable fruits for late use can often be obtained in this way. Land which is intended for beds of Strawberries to fruit next season should have been deeply dug and heavily manured some time since to allow it to consolidate. This applies more particularly to light, shallow, gravelly soils, on which the life of the plant is very short. After the land has been prepared for planting, apply a good dressing of fresh soot, taking care first to destroy all weeds.

Planting.—Set out the rows 2 feet apart, and allow about 18 inches between each plant in the rows, the distance being determined by the variety and the nature and depth of the soil. For plants intended for autumn fruiting, 15 inches apart either way will be ample space to allow. Before turning the plants out of the pots, see that the soil and roots are thoroughly moistened with water. Dress the plants with a little Gishurst Compound and flowers-of-sulphur if redspider or mildew is present. When planting Strawberry-plants on newly dug soil, keep the crowns rather low; do not reduce the balls too much, but loosen the roots with a pointed stick sufficient to allow of their being spread out. Plant firmly, using a potting-stick for this purpose. Should the weather prove dry after planting, afford water liberally whenever necessary. Apply the hoe between the plants, and mulch them with short, well-decayed manure. Plants thus treated should produce a heavy crop of fruits the following year.

Pear-trees.—Most espaliers and trees trained on walls are this year producing a wealth of bloom, some of the individual trees being literally covered with blossoms from the bottom to the top of the tree. In such cases it will be well to go over them and thin some of the clusters. By thinning out the blooms a better set of fruits is

often obtained. Pitmaston Duchess, and others of the larger fruiting kinds, together with the choice dessert varieties, should be among the first to be thinned. When time will not permit of the flowers being thinned, early thinning of the clusters of fruit should not be neglected if fruits of large size are desired.

THE FLOWER GARDEN.

By A. B. WADDS, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex.

Bedding Plants. — These should be potted as they become rooted; and in order to have good plants by the end of the month or the first week in June they should be ready for potting now. Those that were potted some weeks ago should be transferred to a cold frame; and as cold winds still prevail, air must be admitted with great care. Keep all bedding plants in their sorts; this will save much time when they are required for planting. Pelargoniums should not be pinched after this date, but all flowers should be removed. Lantanas will still require to be pinched and to have their flowers removed. The same treatment is required by Ageratums, Heliotrope, and Lobelias.

Sweet Peas.—These are making slow progress, and where the soil is heavy the recent rains have made the surface hard. This should be stirred carefully with a small hand-fork or a pointed stick, and a small quantity of wood ashes applied along the rows. Wood ashes are very beneficial on stiff soils, and are especially useful along the rows after sowing any kind of seeds on heavy land. As soon as the seedlings are through, draw the soil up to them, and at the same time give them a dusting of lime. A few small boughs may be placed along the rows before the final staking.

Pinks.—Increase the stock as soon as possible, but do not take so many cuttings from the plants as will make them appear thin and the beds bare. The cuttings are best placed round the sides of pots, and the pots plunged in a hot-bed. A little artificial manure may be applied to the old beds, and the Dutch-hoe should be worked through them

Dahlias.—Plants potted some weeks ago will be well rooted now, and may be placed in a cooler frame previous to removal out-of-doors. If old tubers have been planted, any shoots they may make should be covered up at night for some weeks to come, or they may suffer damage from frost.

Bedding Begonias.—Both tuberous and fibrousrooted Begonias will now be far enough advanced to be placed in a cool brick frame on a hard ash bottom. Water and air must be afforded carefully, and the frames closed early to conserve a little heat. The frames must be covered up at night.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire

Salvias.—The best varieties for greenhouse and conservatory decoration in the autumn and early winter are S. splendens, S. Bethelli, S. rutilans, and S. patens; and of these, S. splendens and S. patens are probably the most useful and effective. The chief point in their culture is to see that the plants do not become root-bound in the earlier period of their growth, and to use the syringe freely among them to prevent the attacks of red-spider. Cuttings made from soft young shoots take root very readily, and may be inserted at the present time to form plants for conservatory decoration. Insert the cuttings in 5-inch pots, and plunge them in a hot-bed. Where the cuttings have made roots, potthe little plants singly into small pots, and grow them in an intermediate temperature. The plants may be allowed to flower in 6-inch pots, or pots of a larger size, according to the size of the plants it is desired to grow. Harden the plants off gradually, and when all danger of frost is past stand them on ashes in the open-air.

Reinwardtia trigyna and R. tetragyna.—Cuttings of these very showy yellow-flowered, winterblooming plants may be inserted now in pots filled with sandy soil, and the pots plunged in a hot-bed. When the cuttings are sufficiently rooted, let them be potted singly into small pots

and placed in an intermediate temperature. Afford them a shift into larger pots when necessary; a shift into pots 5 or 6 inches in diameter being suitable for the final potting. The compost may consist of three-parts fibrous loam and one-part leaf-soil, together with some coarse silver sand. The plants must be syringed freely to keep down red-spider. Towards the end of June place the plants in a cold frame until the autumn. Pinch out the points of the shoots occasionally to produce a bushy habit of growth.

Indian Rhododendrons (Azaleas).—As these cease flowering remove the old seed-pods, and fumigate the plants or spray them with an insecticide, in order to destroy thrips or other insects, which, if not destroyed before introducing the plants into heat to make their growth, will spread rapidly and cause much injury to the foliage. Let those plants which require to be repotted be attended to, as advised in a former Calendar.

THE KITCHEN GARDEN.

By JOHN PENTLAND, Gardener to C. H. B. Firre, Esq. Ashwicke Hall, Marshfield, Chippenham.

Protection for Crops.—Although the month of May has commenced, we must be prepared to protect tender plants should sharp frosts occur, and these are probable for a fortnight or more yet.

Scarlet Runners.— Those raised in heat and which have been well hardened off are now ready for planting out in sheltered situations, but previous to doing this have the stakes put in their places, to which the Beans can be planted and fastened. The stakes should be made about 9 feet long, and placed in lines 7 feet apart, and at an angle, for each two lines of stakes to be brought together at the tops and tied to rods, which are easily placed lengthways of the lines for the purpose. This system, though seldom adopted, is one of the best to protect the Beans against rough winds, as it matters not which way the wind blows there is ample support. It will keep the stakes steady and prevent them swaying about and destroying the crop. I strongly advise those who stake to adopt this plan, for besides its stability it has an advantage at the time of gathering the crop, for owing to the angle at which the stakes are placed they bring the Beans better within the gatherer's reach. A sowing may now be made in open ground which has been well manured and prepared by deep digging or trenching. We have had good results from making trenches about 2 feet 6 inches wide, and 2 feet deep; these were three-parts filled with manure. This was trodden firmly, the soil was placed over it, and the seeds sown along the top.

French or Dwarf Kidney Beans may be plantedout on sheltered borders in lines 2 feet apart; and if the roots are matted together in the pots it is not advisable to break them up. It will be better to thin the plants if too thick by pinching some of them off at the top of the soil, and allow the remainder space enough in the lines to develop properly. After they have been planted, shade them from strong sunshine for a few days, and afford protection from frost. Make sowings for succession out-of-doors. Sow seeds of the climbing variety Tender-and-True, or Mont d'Or.

Peas.—Make another sowing for succession. Use the hoe often along the sides of the rows of Peas coming through the ground, and make the soil as fine as possible previous to earthing-up the plants before applying stakes. We prefer to stake twice. A few twigs, 18 inches long, put in after earthing-up, keep the Peas in their place, and do not draw them up unduly, as the taller stakes do if applied so early.

Seed Sowing.—Make good any omissions as soon as possible. Sow late varieties of Broccoli, such as Cattell's Eclipse, Late Queen, Veitch's Model, and Methuen's June. Sow seeds of Turnips and Radish for succession.

Cucumbers and Tomatos.—Attend to the stopping and tying of these, and make another sowing of Cucumbers if necessary. Ventilate the pits containing Tomatos freely when the weather is favourable.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants
for naming, should be addressed to the EDITOR,
AI, Wellington Street, Covent Garden, London.
Communications should be WRITTEN ON ONE SIDE ONLY OF

Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself re-

sponsible for any opinions expressed by his correspondents.

Allustrations.—The Editor will be glad to receive and select
photographs or drawings, suitable for reproduction, of
gardens, or of remarkable plants, flowers, trees, &c.; but he
cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, MAY 7 Société Française d'Horticulture de Londres Meet. German Gardeners' Club Meet. WEDNESDAY, MAY 11 Royal Botanic Society's Exhibition in Regent's Park.

FRIDAY, MAY 13-Royal Botanic Society, Lecture.

BALES FOR THE WEEK.

WEDNESDAY NEXT, MAY 11—
Ornamental Palms, Herbaceous Plants. Lillums,
Crotons, Ferns, Begonias, &c., at 67 & 68, Cheapside,
E.C., by Protheroe & Morris, at 12.—A well-placed
Glasshouse Property, 15 Greenhouses, Sheds. &c.,
St. Mary's Nursery, Adelaide Road, St. Mary's
Grove. Richmond, by Protheroe & Morris, at the
Mart, E.C., at 2.

FRIDAY NEXT, MAY 13—
2.500 Odnutrologogoum crispum, 650 Cattleya Men-

8 500 Oduntoglossoum crispum, 650 Cattleya Mendelii and Schroderæ; also Established Orchids, by Protheroe & Morris, at, 67 & 68, Cheapside, E.C.,

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the cusuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON.—May 4 6 P.M.): Max. 61°; Min. 43°.

May 5, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp., 56°; Bar., 30. Weather bright and warm.

PROVINCES.—May 4 (6 P.M.): Max. 57°. Guildford;
Min. 48°, West Coast of England.

Düsseldorf.

This exhibition was opened on May 1 by the Crown Prince of Germany, and from all points of view was a great success. Over twenty acres of land were tastefully laid out as model gardens, orchards, Rose - gardens, &c., in which many of the well-known nursery firms of Belgium, France, Germany and Holland displayed their various specialities. Broad walks were edged with Tulips from Messrs. Krelage & Son, and shrubs from Fredk. Roemer, Quedlinburg.

A large building was devoted to Palms, Azaleas, rock plants, &c., but the whole was more or less of a commercial character, very few good specimen plants being shown. Some few clipped trees were planted out. In the gardens we noticed a model Japanese house with the typical small landscape-garden attached; also a Roman villa, with water-garden and bath, a very pretty feature.

The success of the Exhibition was the result of Herr Beyrodt's energy and work, and for this he was voted by the Jury an objet d'art as a Prize of Honour, in awarding which they expressed their entire satisfaction with the arrangements made. A magnificent banquet, which was attended by about five hundred persons, to which the Jury and the members of the Press were invited, was given on Sunday. Speeches were made by Prof. F. ROEBER (who was in the chair), Prof. CLEMEN, Herr VON RHEINBABEN, Minister of Finance, and others. At a

réunion of the foreign representatives at the Park Hotel on Monday, Herr Beyrodt expressed great pleasure at the way in which the Exhibition had been supported by the firms from other countries. They had done well; but they had much to learn, and looked forward to the hearty support of Belgium, England, France, and Holland for the success of their future endeavours.

The Exhibition has been wonderfully well attended, the Orchid Pavilion especially so. On the second day the crush was so great that the doors, which had been closed to prevent too many coming in, were burst open by the crowd, and the police were powerless till aid was requisitioned. The Exhibition will remain open one day longer than at first intended.

The Orchid Pavilion (fig. 128), a splendid structure about 105 feet by 95 feet, with semi - circular bays, lofty dome, and well lighted on all sides, was the chief centre of attraction. In this building was arranged one of the most extensive exhibits of Orchids ever held in Germany. Herr Otto Beyrodt, Marienfelde, Berlin, showed 450 plants of Odontoglossum erispum, each one carrying good spikes of flowers. Also a number of O. Adrianæ, a few good spotted O. crispum, and some well-grown plants of Lælia purpurata, one of which carried seven spikes of flowers with good dark lips. He also staged about fifty plants of Cypripedium Lawrenceanum with spotted foliage, and good groups of various Dendrobiums and Odontoglossums.

M. CHARLES VUYLSTEKE, Loochristi, Glient, showed a splendid lot of thirty-three home-raised Odontoglossum hybrids, for which he was awarded the first prize of 700 marks and the large Gold Medal of the Society. This exhibit contained twelve different hybrids, including five new ones not previously shown, most prominent of which were O. x ardentissimum Impératice Augusta Victoria, O. a. jucundum and O. a. regale. The first is a perfectly round flower with a white ground, very heavily blotched, deep purple, and remarkably akin to O. Pescatorei Veitchii. In the group were six unspotted forms of O. ardentissimum with the name "exornatum" attached; one was an O. roseum. Two good types of mirificum (sceptrum x crispum) were shown, one having deep rose ground; also two plants of O. concinnum (excelsum x delectum). The parentage of this hybrid is not absolutely certain, but there is no reason to doubt from its appearance that it is the result of crossing a natural hybrid O. x expansum with Pescatorei, it containing the distinct characters of both. Another remarkable plant was O. architypium, which appears to be a secondary hybrid, containing a large amount of triumphans blood, but too closely marked for a direct hybrid between Harryanum and triumphans. It is difficult to say what the other parent is, but it appears to suggest triumphans × Rolfeæ. The flower has a deep yellow ground, sepals and petals nearly covered with deep red-brown marbling, lip yellowish-white lightly spotted at the sides, and having two deep brown eye spots. Another of the new forms was O. amandum, which is undoubtedly from Pescatorei × Wilckeanum, its sepals being creamy-yellow with two bars of brown blotching; the petals contain one large blotch and two inferior

spots, the lip almost white of Pescatorei form, with two small spots on the disc.

Another new variety was O. formosum, probably from Rolfeæ × Pescatorei. This plant, in its white loose form sparsely spotted with lilac, shows an evidence of a second cross. O. fuscum was shown, and is probably from sceptum × Wilekeanumalbens, which, though distinct from, much resembles in colour and form the handsome hybrids which have emanated from M. VUYLSTEKE under the name Vuylstekei.

M. Chas. Maron, Brunoy, France, was awarded 700 marks and a Gold Medal for a very large group, comprising 100 hybrids of Lælio-Cattleya, the best of which was L.-C. Kronprinz Frederick Wilhelm, a striking gem (L.-C. flavescens × L.-C. intermedio-flava), a secondary hybrid of exquisite yellow, the lip alone being tipped with crimson-purple. He also showed O. crispum spectatum, which in form is most like O. c. Rex, both petals and sepals having a heavy ground colour of brown-purple, overlayed with crimson purple blotchings. A remarkable feature of this plant is that its column is deep crimson almost from head to base.

A new and peculiar class was one for a group of Orchids in and out of flower, suitable for supplying cut flowers all the

year round.

Messrs. Huon Low & Co., Enfield, England, were awarded a 1st prize with some 300 plants of well-known and useful species. Herr Francke, Magdeburg, was awarded a 2nd prize for a smaller group of well-grown plants.

Mr. Charles Smissaert, Apeldoorn, Holland, showed a good group of various Odontoglossums and Vandas. One good spotted Odontoglossum was named Madame Smissaert, this coming in the smaller spotted section. M. Lambeau, Brussels, showed a nice lot of mixed Orchids, the finest plant being Miltonia Bleuana.

M. PAUWELLS, Meirelbeke, Ghent, staged some well-grown plants of useful sorts. He had sixteen plants of Phalenopsis amabilis variety Rimestadtiana, three or four of which were fine varieties, all carrying large spikes of white flowers. These plants were imported only fifteen months ago, and have bloomed three times since. It is a fine market plant, easily grown, and may when better known be a good rival to Odontoglossum crispum.

M. Georges Magne, Boulogne-sur-Seine, had a miscellaneous lot of Orchids nicely

arranged

Countess Louis de Hemptinne showed a fine collection of Cattleyas and Lælias. The best was C. Schroderæ La Diva, of a very beautiful soft rose colour and fine texture. On this stand was also Cyrtopodium punctatissimum, a wonderful plant over 5 feet high and carrying three huge spikes of flowers 4 feet in length, a fine specimen of a plant, but one seldom shown and not often seen in bloom. This exhibitor was awarded four first prizes.

A fine collection of botanic Orchids was shown by Count FURSTENBERG, Schloss Hagerpoet, Düsseldorf, one of the best being Bifrenaria tyrianthiana.

C. F. Karthaus, Potsdam, showed a fine blotched Odontoglossum crispum var. C. F. Karthaus, of good form and deep colour, carrying a fine spike of eleven flowers.

MAURICE VERDONCK, Gentbrugge, Ghent, had a good collection of Cattleya Schroderæ

and Lælia purpurata, small plants of very fine varieties with dark lips.

Herr WALTHER, Frankfurt, had a fine group of Cattleya Schroderæ.

Mr. Gustav Vinke-Dujardin, Scheepsdaal. Bruges, had also some good Cattleyas, including C. Schroderæ, Mendelli alba, and Trianæ.

In the centre of the pavilion was staged by M. L. T. DRAPS-DOM, Laeken, Brussels, a grand group of specimen Crotons, twenty darge plants some 7 feet high and 5 feet in NARCISBUS "ELAINE." — Messrs. Dicksons, Ltd., Chester, have sent us flowers of this pretty variety of the Leedsii section, raised by the Rev. G. H. Engleheart, and shown before the Royal Horticultural Society on May 7, 1901, when it was awarded a First-class Certificate. The flower has a circular perianth 3 inches across, the crown heing three-eighths of an inch deep and seveneighths of an inch across. The colour of the perianth is pale ivory, and of the crown a shade nearer that of lemon. Messrs. Dicksons inform us that they will distribute the variety in the coming autumn.

NATIONAL FRUIT GROWERS' FEDERATION.—Mr. A. T. MATTHEWS, Secretary, informs us that the annual general meeting will be held at the Caxton Hall, Westminster, on Monday, May 9, at 2 30 P.M.

EARLY MELONS.—Melon fruits, when ripened very early or very late in the year, generally lack flavour; but this defect did not characterise an excellent fruit received on April 29 from Mr. F. JORDAN, gr. to Dr. TALBOT, Impney Hall, Droitwich. It is a seedling variety raised from a cross between Frogmore Scarlet and



FIG. 128,-THE DÜSSELDORF EXHIBITION: VIEW OF THE ORCHID HOUSE AND RHINE BRIDGE.

diameter. They included Lord Rendell, Beauty, Baron James de Rothschild, and Paul Weber. On another stand were some good Cypripediums.

M. GOOSSENS. Angerghem, Brussels, had a large collection of water-colour paintings of various Orchids (Gold Medal). The Gardeners' Chronicle was awarded a Silver-gilt Medal for its illustrations of Odontoglossums.

THE "TEMPLE" FLOWER-EHOW.—Intending exhibitors at the annual Flower-show of the Royal Horticultural Society in the Inner Temple Gardens, London, E.C., on May 31, June 1, and June 2, can obtain a schedule, with entry form, &c., on application to the Secretary, 117, Victoria Street, Westminster. A penny stamp should he enclosed to cover postage.

BOTANICAL LECTURES AT CHELSEA.—The fourth lecture by Professor J. REYNOLDS GREEN, Sc.D., F.R.S., will take place on Wednesday next, May 11, at 4.30 p.m., upon the following subjects:—Photosynthesis. The observed facts. Theories based upon them. Hypotheses of Baeyer, Erlenmeyer, Crato, Bach, Lieben. The probable stages in the construction of sugars. Carbonic acid as a source of supply. Experiments in cultivating plants in the presence of CO. Formaldehyde and its position in the constructive processes. The vital action of the chloroplastid. The application of the solar energy. Construction of carbohydrate in the absence of chlorophyll.

THE ROYAL BOTANIC SOCIETY. — The next exhibition will be held on Wednesday next, when experiments with motor lawn-mowers will be continued.

Turner's Scarlet Gem. The fruit was of large size, prettily netted, and possessed deep flesh of a bright scarlet colour. Mr. JORDAN says that he has remarked that scarlet-fleshed Melons ripen a little earlier than others. In an accompanying letter he writes :- "I cut our first fruit on April 22, have cut eight since, and the whole batch will be ready next week. I always grow our first batch in 12-inch pots, plunged closely together in leaves, and sow the seeds direct in these pots, putting two seeds in each pot, and afterwards pulling out the weaker one. The plants are trained on the the weaker one. The plants are trained on the cordon system. These were sown on January 4. The plants carry two fruits each; I have fortyone fruits on twenty plants. We have only once cut earlier Melons, and this was three years ago." Mr. JORDAN'S success with late Melons was described by us in a descriptive note upon the Impney Gardens published in these pages on February 20, 1904.

"BOTANICAL MAGAZINE."—No. 1,407 of the entire work, issued in May, still bears on the title the name of Curtis, as a survival. It includes plates 7952 to 7956:—

Epipremnum giganteum, H. Schott, t. 7952, is a climbing Aroid, with large cordate, oblong, leathery leaves, 6 to 8 feet long, 1 to $1\frac{1}{2}$ foot broad, and a convolute yellow spathe about a foot long, enclosing a cylindric spadix or spike covered with hermaphrodite flowers. The plant forms a very striking object in the Aroid-house at Kew, to which it was introduced by Mr. RIDLEY, of Singapore, the plant being a native of the Malay peninsula.

Marsdenia Inthurnii, Hemsley, t. 7953, is a climbing Asclepiad, with cordate ovate, softly downy leaves, and purple flowers in globose heads, 1 to 2 inches across, the five lobes of the corolla margined with yellow, according to the figure. It is a native of British Guiana, whence seeds were sent to Kew by Mr. Im. Thurn, now Lieutenant-Governor of Ceylon.

Dicentra chrysantha, Walpers, t. 7954, is a Californian perennial, with deeply-cut glaucous leaves, and loose panicles of yellow flowers with the peculiar shape proper to the genus. It flowered at Kew last year in the open-air, sheltered by a wall, but is spoken of by Canon Ellacombe as "hardy, short-lived, and never producing seed."

Chlora crispa, Lindley, t. 7955.—This is one of a set of terrestrial Orchids brought to Kew from Chile by Mr. Elwes. Its very striking characteristics and handsome appearance were noted in the Gardeners' Chronicle at the time of its flowering last year.

Iris warleyensis, t. 7956, is one of the Xiphion section, described by Sir M. Foster in these columns in 1902, vol. xxxi., p. 386, fig. 134.

FESTIVAL DINNER OF THE ROYAL GAR-DENERS' ORPHAN FUND.—The sixteenth annual dinner in aid of the Royal Gardenera' Orphan Fund will take place, as we have already announced, on Tuesday evening, May 17, at the Hotel Cecil, Strand, W.C. The chairman on this occasion will be Sir TREVOR LAWRENCE, Bart. President of the Royal Horticultural Society, and it is hoped there will be a good company present. Our readers know what excellent work the Fund is doing in alleviating the distress of gardeners' widows by providing sustenance for the orphans. The charity is now maintaining over one hundred children at a cost of some £1,300 per annum. At the last election only ten candidates could be provided for, and subscriptions are therefore urgently needed. Donations for the Chairman's list may be sent to the Secretary, Mr. B. Wynne, 30, Wellington Street, Covent Garden, W.C., or to any member of the Committee. The Secretary will also be glad to hear from any one desirons of being present to support the President of the Royal Horticultural Society.

COTTAGE GARDENING IN SURREY.—The presentation of the first Silver Knightian Medal granted by the Royal Horticultural Society for special excellence in cottage gardening in Surrey, took place in the Institute, Witley, on the evening of the 29th ult. The recipient was C. Bridgwater, a carter on Lord Derry's estate, who has hal for three years the best garden in the four extensive parishes forming the local Cottage Garden Society's district. The competitor last year obtained the very high total of 184 marks, having a very fine garden, admirably eropped, and kept in perfect condition. The gathening at the presentation was presided over by Lord Middleton, Lord-Lieutenant of Surrey, the presentation being made by the wife of Mr. St. John Brodrick, the Secretary for India and M.P. for the division. Short addresses elucidatory of the work of the Surrey Education Committee

and methods in garden judging were given by the County Horticultural Instructors, Messrs. J. Wright, V.M.H., and A. Dean. A similar medal for the best county allotment is to be given to F. Reynolds, of Merton.

SCHEDULES RECEIVED. — THE SOUTHERN COUNTIES CARNATION SHOW (now included in the operations of the Southampton R.H.S.) is to be held on July 22 at the Royal Pier. The schedule of prizes comprises thirty-two classes for Carnations and Picotees. Encouragement is given to showing flowers in their natural state, nine classes being devoted to vases of undressed blooms. There are also some classes for Sweet Peas and hardy flowers. Mr. W. Garton, Jun., is still taking an active interest in the show, being chairman of the Special Committee for the Carnation show, and a donor of special prizes.

SCHOOL TEACHERS' EXAMINATION IN COTTAGE AND ALLOTMENT GARDENING.—The Royal Horticultural Society will hold an examination in Cottage Gardening on Tuesday, June 21, 1904. This examination is intended for, and will be confined to, elementary school teachers. It has been undertaken in view of the increasing demand in country districts that the schoolmaster shall be competent to teach the elements of cottage-gardening, and to supply the want of any test whatever of such competence. The general conduct of this examination will be on similar lines to that of the more general examination. A copy of the syllabus with full particulars may be obtained by sending a stamped and directed envelope to the Secretary, Royal Horticultural Scciety, 117, Victoria Street, Westminster.

BOARD OF AGRICULTURE AND FISHERIES.—
The Departmental Committee appointed by Lord
Onslow to enquire into and report upon the
fruit industry of Great Britain held sittings on
the 27th, 28th, and 29th ult. The following
members were present:—Mr. A. S. T. GriffithBoscawen, M.P. (Chairman); Col. Long, M.P.;
Mr. C. W. Radcliffe-Cooke, Mr. Hodge, Mr.
Monro, Mr. Vinson, Dr. Somerville, Mr. P.
Spencer Pickering, and Mr. Ernest Garnsey
(Secretary). The following witnesses gave
evidence:—Mr. F. King, of St. Ives, Hunts; Mr.
Spencer-Pickering, M.A., F.R.S., a member of the
Committee; Mr. C. D. Wills, of Toddington,
Gloucester; Mr. John Idiens, of Evesham, Worcester; Mr. W. Templeton, of Netherburn,
Lanarkshire; Mr. George Sinclair, of East Linton, Midlothian; and Mr. James Macdonald, of
Welton, Blairgowrie.

ROSE SHOW FIXTURES (see also p. 217).—The following additional Rose Show fixtures for 1904 have been received through the courtesy of Mr. Mawley:—June29 (Wednesday), Farningham and Richmond, Surrey; July 4 (Monday), Maidstone; July 6 (Wednesday), Hanley*; July 12 (Tuesday), Gloucester; July 13 (Wednesday), Harrow; July 14 (Thursday), Southsea*; July 16 (Saturday), Manchester.

MR. AMOS PERRY.—We regret to hear that Mr. Perry, the well-known cultivator of hardy plants at the Winchmore Hill Nurseries, has met with a serious accident whilst trying to stop a pony belonging to himself, and which was attached to a governess car. We hope that Mr. Perry's expectation that he will be able to get about again in the course of ten days or so will be realised.

"CASSELL'S POPULAR GARDENING."—This is a new serial publication conducted by Mr. W. P. WRIGHT, whose energy and industry seem to know no limitations. The work, so far as it has gone, is well got up, and the text is eminently practical,

* Shows lasting two days.

adapted to the season of the year, and appropriately illustrated. The plan adopted will necessitate an elaborate table of contents, as well as a copious index.

Obituary.

MARKET GARDENER'S DEATH.—Mr. AUGUSTINE BUXTON, aged 58, market gardener, of Crow Farm, Tarvin Bridge, Chester, met with his death on April 28. He left Chester at 7.30 in charge of a lorry loaded with vegetables for Birkenhead market. A subsequent examination showed that the deceased had been run over by the heavily-laden waggon.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

THE PROPOSED GARDENERS' ASSOCIATION.—May I, as a supporter of any movement towards organisation of labour, have a word with those "peaceably disposed" gentlemen who seem to be taking things "lying down." A conference seems to have been held in their little sphere, and the doom of a Gardeners' Association unanimously agreed upon. To my surprise they do give to "Trade Unionism" the credit of having raised or regulated wages; for this favour they have my thanks. But the old tale is raked up—viz that such an Association would cause strife between employers and employés. One might think that co-operation or combination among workers was unjust! What a standpoint for a British worker! I appeal to workers in the horticultural field to combine as other workers have done, and bring their profession to a better standard. I submit Carlyle's words: "This that they call the Organisation of Labour is, if well understood, the Problem of the Whole Future." Langdale Pikes.

— The spectacle of men asking themselves i they are justified in demanding sufficient to enable them to live in reasonable comfort with a family and save something from their pay to provide foold age, is too ridiculous. In other walks of lift we find men without a tithe of the gardeners knowledge or responsibilities whose pay is never theless higher, and whose liberties are greater It is true that the methods adopted for securing those advantages have not always been altruistic This is regrettable, but it is scarcely so intoler able as the present outlook of the average skilled gardener. "The living wage" is a strictly legitimate ideal, even for gardeners, and the suggestion that the efforts now being made for the improvement of their lot resemble the "confidence trick" is entirely unmerited. J. S.

GERMAN GARDENERS AND ORGANISATION.—
It may interest "Regent Spark" and others to learn that the "German Gardeners' Association' has been in existence since 1891. Among the more recent results of intelligent co-operation in Germany may be mentioned the rate of pay to journeyman landscape gardeners, which in Berlit amounted recently to 50pf, per hour—equal to 8d, per hour under English conditions. This was solely due to the fact of their being members of an efficient organisation, recognised by employers Among the advantages offered by the German Society to its members are those of free legal advice, loans of books relating to gardening, weekly journal, registration, and assistance when unemployed. Pierre Roulante.

BUD SCALES IN ACER PALMATUM, AND IT GARDENS.— The splendid garden form "atro purpureum" pushes out its dark ruddy-purpleaves from within very large, light-green scales No one seeing this plant for the first time would expect to see purple leaves issuing from such colourless envelope. The scale is much large and more conspicuous than in any other garded form I have. In "viridans dissectum" the principal scale is not so large, and in many the light red-leaved and variegated rosy forms is in some cases abortive and always inconspicuous. In some eases it becomes variegated consults of the particular of the leaves, and is not uncornantly foliose and sub-partite at the apex. The only form that seeds with me is the type A. particular of the partic

natum, having green leaves. This has seeded with me both in the open and in pots, and the seeds are plump and full of albumenoid matter, yet none of them have germinated. A. Worsley, Isleworth.

SURFACE WEED ON POND.—In the early part of last year we were troubled with the growth of 'Blanket' or "Flannel Weed" in the Lily-pond nere. Trying to clear it by drawing it to the sides and scooping it out was of very little wail, as in twenty-four hours the weed appeared ugain as thickly as ever. At length a young wild duck, which had been reared with some tame oirds, took to wandering, and located itself in the pond, and from this time the weed disappeared. Full-grown ducks attack Nymphæa leaves and do harm, but young ones, while their oills are soft, appear unable to do any injury; and as young wild ducks, if not pinioned, take to a wild life when full-grown, there is no fear of their remaining too long under artificial conditions; consequently they would be safer than tame ones to introduce to a pond for cleansing purposes, unless the tame hirds are to be killed off young. Tame birds might not take so kindly to the weeds. J. C. Tallack, Shipley Hall Gardens, Derby.

SAXIFRAGA FERDINANDI - COBURGI. — With reference to my question (p. 285) as to whether Saxifraga Ferdinandi-Coburgi had flowered elsewhere in this country than at Comely Bank, Edinburgh, I am glad to learn from Mr. Hindmarsh, Alnwick, and Mr. Beamish, Ashbourne, Co. Jörk, that this fine Saxifrage has flowered with them this year. S. Arnott.

EARLY FORCING OF STRAWBERRIES. - There has been much complaining this spring that early hatches of pot Strawberries have not been so satisfactory as could be wished, and doubtless "Interested Reader" is right in his surmise that the summer of 1903 was to a large extent answerable for this. As regards the soil used, I think it would have been preferable had your corre-spondent left out the Mushroom-bed manure, considering that the learn employed was of a heavy nature, and if he had relied more upon feeding the plants when the pots were filled with roots once or so each week with manurial waterings given in a week state, though in my own case I find the plants grow strongly enough without even that aid. When placed under glass, however, and the plants make a start to push up new leaves and flower-stalks, we supply them with weak guano-water when root-waterings are necessary, which is not very frequently for the first six or eight weeks. One detail would have been better omitted—namely, the stirring of the soil after growth was visible, because, let one be ever so careful, it must surely more or less damage roots that should be on the surface. When starting to force Strawberries in mid-winter the plants require all the light it is pessible to give them, and they should not be more than 15 inches from the glass roof. Your correspondent did not state whether the plants showed well for flower or not, but I presume they did not. Many an early batch has proved a failure through inattention in regard to the pollination of the flowers. This is very important in the case of plants flowering in January and early in February. Growers who have no suitable shelves for the plants should start them on a mild hot-bed of fresh leaves, covering them with two or three light frames, and keeping the plants within a foot of the glass. J. Mayne, Bicton.

IRIS IBERICA.—In the third line of my note on p. 277 on this plant, the word "smallest" should read "dwarfest." So far as the flower alone is concerned, this is large in proportion to the plant when established. I consider strong loam with very firm planting to be of the greatest help in growing this plant; also fullest exposure to the weather as opposed to drying off, &c. E. H. Jenkins.

POLYANTHA ROSE MDE. N. LEVAVASSEUR.—
I find this charming Rose an excellent variety for early forcing. At the present time we have planta that were lifted from the open ground in November, 1903, and potted into 8-inch pots. Ouring the winter months they were placed in a

Peach-case. Early in February last the plants were removed to a house having an atmospheric temperature of 50° to 55°. The planta grew strongly, and are new carrying from six to eight clusters of bright crimson flowers with a paler centre. This will make a grand bedding Rose, as a second crop of flowers form on the young growths when the first flowers have been removed. Chas. Page, Dropmore Gardens, Maidenhead. [Some pretty specimens accompanied this letter. Ed]

HIPPEASTRUM "SNOWDON."—We are glad to learn of the advent of another good white Hippeastrum. We gather from your report on p. 265, and from the fact that it received a First-class Certificate, that it is really a fine kind; but it is not the first white variety. We think the first one put into commerce was our variety Aphrodite, raised about twenty years ago. We tried to improve upon it in breadth of petal, and if Mr. Fielder has succeeded in this, we warmly congratulate him. Kelway & Son, Langport.

FOREIGN CORRESPONDENCE.

INSECT AND OTHER PESTS OF THE APPLE.

The Apple requires incessant attention to protect it from insect and other injuries, some of which are the consequence of bad planting, unsuitable situation, and bad cultivation. These can be checked and the soil improved by: 1st, securing moisture for the trees which turn yellow when the roots are in dry earth; 2nd, by draining off the surplus water from soils and subsoils which, if constantly wet, impoverish vegetation, and consequently diminish the fruit crop. The leaves lose their vitality, turn black or pale, become weakened, and fall prematurely.

Yellowing.—Where this is noticed, first remove the surface soil for some distance round the steins above the roots and replace it with fresh compost of sandy clay, turf, river mud, rotten turf, or animal or vegetable refuse; water the whole with liquid manure or house refuse. When the trench is filled, cover in with a mulch of leaves, farmyard litter, or mud, through which the rain, enriched in its passage, will filter slowly.

Blackening.—Blackness and withering of the young shoots and leaves caused by over-dampness of soil require the removal of the water by drainagepipes of alder-wood or of terra-cotta, by trenches tilled with stones and faggots, and by constant working of the soil round the tree. If the tree is still young it may be lifted and re-planted on a mound, then staked and pruned. Light sandy earth mixed with ashes and cinders should be mixed in with heavy soil.

Canker.—Canker may proceed from undue shade, a cold situation, over-pruning, not to mention unseen bacilli, and other fungi causing injury to the bark, &c. As soon as seen, every canker spot forming or formed should be cut out and a dressing be applied to the parts laid bare. Woodtar, grafting wax, St. Fiacre ointment, are efficacious for this purpose. Avoid pruning the branches, and improve the soil by adding, near the rootlets, phosphates and powdered sulphate of iron. Coat the stems and principal branches with a mixture of clay and cow-dung to keep out frost, and also to protect from over-much sun—all precursors of canker.

Frosts. — Downfalls of water, followed by a frost that glazes the stem of the tree will often induce injury to the bark when the thaw comes. In exposed positions it is often necessary to cover the stem up to 2 or 3 feet with a straw band or a quantity of sulphated (\hat{r}) hay, which also keeps off hares and rabbits. These and other destructive animals can be trapped or kept at a distance by a covering of galvanised iron netting arranged in cone-form round the stem.

Mistleto.-This vegetable parasite is objection-

able when abundant, but is easily cut off when beginning growth.

Mosses, Lichens, &c .- Remove the old bark with the moss and lichens, which on stems and branches hinder the respiratory functions of the tree or harbour insects. A scraper or a metal brush can be used to effect this after rain, and the operation should be followed by a sponging with a solution of sulphate of copper or of iron. Burn all infested scraps; this is a sanitary measure, practicable at all seasons, and to trees of all ages, even those newly planted. This acraping process, followed by a washing with tobaccowater or with lime-water alone or with the addition of sulphate of iron, is employed for the small Chermes aspidiotus, a sort of Coccus which attacks the bark of Apple-trees when unduly shaded or trained as espaliers.

Woolly Blight. - This terrible pest must be incessantly combatted, as it rapidly destroys the trees throughout the whole orchard. Apples with spreading branches are most exposed to it. With young trees in the nursery or orchard, the parts attacked may be dressed with soft-soap and tobacco-water, applied with a coarse-haired brush which will penetrate the cracks. Renew the operation after a week or fortnight, and, indeed, whenever the pest appears. forget to cut away and burn the affected twigs and branches. Large Apple-trees can be limed round the roots. As soon as the leaves fall, raise the earth round the stem and roots, and replace it with a dressing of lime or soot. This will prevent the insects from hibernating.

Green or Brown Aphis.—Many sorts of aphis occur on the still green shoots and check the flow of the sap. Crush them with the gloved hand, dust with tobacco or pyrethrum powderwash with solutions of black soap, then with plain water. Young plantations are particularly liable to attack; water should be plentifully used by syringing and bathing the buds and leaf-shoots, and the operation should be repeated whenever necessary.

Yponomeuta.—This Apple-scale, which is spreading more and more, can be extirpated by a gloved hand, picking off the nests of the larvæ enclosed in cobweb-like webs, and by crushing these or throwing them into the fire.

Caterpillars.—Collect and burn the collections of eggs that cover the stems and branches shaded from the rain, and that are produced by a Bombyx. Cut off branches whose curled, dry leaves show the presence of a brood of the insects, and burn them. Proceed thus also with the eggs of the Lackey Moth that encircle the young wood and are less easy to find.

Cockchafers and Grubs.—Vigorous measures are necessary from the first. Careful working of the soil of nursery or garden with a digging-fork ensures the destruction of larvæ and nests. Strawberries and salad plants grown in the ground attract the grubs of cockchafers. When one of these plants dies dig it up from the soil, and probably the pest will atill be clinging to the roots. Young sædlings are also exposed to attacks from the Mole-Cricket. Follow its gallery with the finger; when its nest is found pour in with a funnel some drops of oil and a litre of water. The insect comes out and dies in the open air.

Beetles of various kinds.—These include small beetles hard to eatch, but dressing the tree helps to destroy them. The transformations peculiar to different species being checked they succumb if their place of shelter is destroyed. Remove the old bark from the tree, dress the stem and branches with sulphur, clean not only the infected Apples but surrounding trees with any strong wash, remove a layer of earth and turf round the stem, and completely destroy any life it may contain by fire. The "Lisette" (Phyllobium), which eats the spring buds, can be

gathered and crushed in the morning and during rain or watering. The Agrilus, like the Goat-Moth, can be tracked in their tunnels. A grease-band around the trunk will prevent the female of the Winter-Moth from depositing her eggs in the bark or in the sap-wood. Well-set lanterns serve to attract many winged enemies seldom visible owing to their minuteness and by their nocturnal habits. Apple Pyralus and flies (Cecydomias) are amongst these, and all the fruits, alas! cannot be put into bags. Of the day-insects, the birds partly or wholly relieve us. Charles Baltet, Troyes. [Delayed in publication. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

MAY 3.—The Drill Hall, Westminster, was again crowded with exhibits on the occasion of the usual fortnightly meeting of the Committees on Tuesday last. It was so crowded that there was not proper convenience for the Committees to sit, or for placing the plants and flowers that were submitted for inspection by the Committees. They were moved from piller to post, and some, we fear, escaped the notice of most visitors.

There was a fine display of Orchids, and the Orchid Committee's awards included three First-class Certificates, and three Awards of Merit.

The FLORAL COMMITTEE under considerable difficulties sat for one hour, and had a very large number of exhibits for inspection. Their awards included one Botanical Cerlificate, two First-class Certificates, and seven Awards of Merit.

The Fruit and Vegetable Committee had again very little to do.

The NARCISSUS COMMITTEE recommended one Firstclass Certificate, and six Awards of Merit, four of these being for Tulips.

In the afternoon fifty-five new Fellows were elected; and a lecture by M. CHAS. BALTET upon "Some Enemies of the Apple" was read by the Assistant Secretary, it having been translated by the Secretary, the Rev.W. WILKS, M.A. (see p. 299).

Floral Committee.

Present: W. Marshall, Esq (Chairman); and Messrs. E. H. Jenkins, Geo, Nicholson, Jno. Green, J. F. McLeod, W. Howe, R. Hooper Pearson, C. R. Fielder, Chas. Dixon, W. Bain, Chas. Jeffries, C. J. Salter, W. P. Thompson, Chas. E. Shea, M. J. James, H. Turner, Geo. Paul, C. T. Druery, Jno. Jennings, H. J. Jones, J. W. Barr, and R. W. Wallace.

PHILADELPHUS LEMOINEI PURPUREO - MACULATUS, shown by Sir Thevor Lawrence, Bart., Dorking (gr, Mr. Bain), had flowers with a purplish mark at the base of each petal. It is quite a distinct "break," but the plant bore very few flowers, and the Committee expressed a wish to see the variety again when grown out-of-doors. It is allied to P. Coulteri.

CARNATION MARIE.—This is a most fragrant variety with flowers $2\frac{1}{2}$ inches across, having a perfect nonsplitting calyx. The petals have a fringed edge, and the colour is rose and white. Its value will be for decoration, the flower being of a type little admired by the florist. Shown by Messrs. Fellon & Sons, Hanover Square, 8 W. We understood that this variety obtained an Award of Merit, but it is not included in the official list of Awards.

LATHYRUS PUNESCENS, with long recemes of bluisblilac-coloured flowers, was shown. It is a very lovely species, but too tender for cultivation out-of-doors in most districts.

The Algerian variety of Sweet Pea, described in our columna last week as being earlier than those usually cultivated here, were shown by Lady PLOWDEN, Aston Rowant.

SCUTELLARIA VENTENATII, shown by J. T. BENNETT-POË, Eq.. Holmewood, Cheshunt, is a species having rather slender growth, ovate leaves, and long slender racemes of bright scarlet flowers an inch long. The flowers are of brilliant colour.

Mr. W. A. WATTS, Bronwylfa, St. Asaph, North Wales, sent a collection of flowers of varieties of coloured Primroses.

CAVARINA CAMPANULA. — This is a very old plant, from the Canary Islands, and was figured in *Botanical Magazine*, t. 444. It is a greenhouse perennial, and produces solitary, drooping, campanulate flowers of yellowish-purple with red veining. Planta were shown in flower by Messrs. T. S. WARE, Feltham. It is an interesting and useful species.

Miss Easterbrook, Fawkham, Kent, showed a basket of lovely Roses, which exhibited much taste in its arrangement

A collection of Camellia flowers was shown from the garden of Sir F. Bahry, Bart., St. Leonard's Hill, Windsor (gr., Mr. R. Brown). Sir F. Bahry has 200 or more bushes growing out-of-doors without protection at any time, and has found that thuse exposed to east winds succeed as well as any of the others. He has raised many seedlings from seeds ripened out-of-doors, and in one instance has a plant from a seed which dropped from the tree and germinated underneath. Many very pretty seedling varieties were shown among the flowers at the Hall (Bronze Banksian Medal)

Messrs. Jas. Veitch & Sons, Ltd., Royal Exotic Nurseries, King'a Road, Chelsea, showed a group of flowering plants, including Cineraria polyantha, in several pretty varieties, such as "Fantasy," Feltham Beauty, &c.; also a very dwarf Cineraria named Antique Rose, of the type of the florists' Cinerarla, the colour a very curious shade of rose; Rhododendron Countess of Haddington, Hydrangea Hortensia, with blue flowers; Kalanchoe Felthamensis, Corydalis thalictrifolia, &c.

From the HARDY PLANT NURSERY, Keston, Kent (Mr. G. Reuthe), came a group of hardy and alpine plants, including Ramondia Nataliæ in flower, several species of Primula, Fritillarias, and other plants.

Messrs. Gilbert & Son, Bourne, Llucolnshire, exhibited a group of flowers of St. Brigld Anemones, also varieties of A. fulgens and A. coronaria, the variety King of Scarlets being very fine (Silver Banksian Medal).

Digitalis canarismsis, or more properly Isoplexis canariensis, was shown in a pot by Messrs. T. S. WARE, of Feltham. It is a greenhouse evergreen species, and produces golden-yellow-coloured flowers in a terminal peduaculate raceme (Botanical Certificate).

A striking group was that displayed by Messrs. Jas. VEITCH & SONS, consisting of standard plants of Cerasus pseudo-cerasus Watereri, and Pyrus malus Scheideckeri, with plants of Hydrangea Hortensia Veitchii along the front. The latter has large white ray flowers of a faint flush-pink tint, the disc flower being of a deeper pink. The Cerasus and Pyrus were quite the handsomest of this class of plants seen in the Drill Hall this season; both are hardy (Silver Flora Medal).

Mr. John Russell, Richmond Nurseries, Surrey, brought a collection of Clematis and aome other plants, including Cytisus præcox and Andromeda polifolia, the latter mainly for effective staging. Among the Clematis, Miss Bateman (fice white), Henryii, Lady Londesborough (pleasing heliotrope), Duke of Edinburgh, Marcel Moser, and Nelly Moser were all pretty.

Mesers. John Waterer & Sons, Ltd., American Nurseries, Bagshot, Surrey, showed a number of hardy Rhododendrona in pote, interspersed with plants of Japanese Maples. Among the best Rhododendrons were Everestlanum, Cynthia, Baroness Lionel Rothschild, William Austin (very dark purple). Frederick Waterer (with the margins finely fimbriated), and Pink Parl, the latter carrying rosy-pink flowers having the upper petals pleasingly spotted, the individual blooms being 4 inches across. Mrs. E. C. Stirling, a new variety, has a fine trusa carrying large well-shaped flowers of a light rosy-pink colour (Silver Banksian Medal).

Messra. R. & G. CUTRBERT staged another of their large exhibits of forced flowering plants. It was almost a replica of their former displays, nevertheless it made a bold show, and was greatly admired by visitors (Silver Flora Medal).

Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, set up a collection of zonal Pelargoniums, the plants being in pots. Among the Pelargoniums were choice Ferns and plants of Asparagus plumosus. The plants being exhibited in pots demonstrated their habit and flowering qualities better than when bunches of bloom only are displayed. Among the varieties we noticed Misa Gertrude Ashworth (white), King of Denmark (fine salmon), Condance (enormous scarlet), Hall Caine, Cyclope (unique), and the curious Cactus form Fire Dragon (Silver Flora Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, again displayed Pelargonium blooms in vases, this time including some of the show varieties. The fancy vases used, placed over a white cioth, lend themselves, to attractive display. Among the show varieties Volouté Nationale alba, Linda, Queen Alexandra (new), Duke of Cornwall, Lord Carrington, and King Edward VII, were conspicuous, the latter being a fine new variety having red salmon-coloured flowers, with the usual darker markings on the posterior petals (Silver Banksian Medal).

Lord Aldenham, Aldenham House, Herts (gr., Mr. E. Beckett), sent a large and varied collection of floweriog sprays of trees and shrubs arranged in vases. The collection indicated the vast amount of handsome plants available for the shrubbery and borders at eur disposal. Ribes in many apecies, Berberis, Cydonias, Rhododendrons, Amelanchier canadensis, Choisya ternata, Daphne pontica, Eleagnus longipes, and Myrica Gale are but a selection of this large group (Silver Flora Medal).

ROSES.

Among several good groups of Roses shown, that of Mr. G. MOUNT, Canterbury, took the premier place. The collection of fine and beautifully grown examples consisted of many of the choicer kinds (Silver-gilt Flora Medal).

Adjoining this latter group was another display of Rose blooms belonging to Mr. B. R. Cant, Colchester. Here some good flowers were presented, and trained pot plants of Blush Rambier and Dorothy Perkins, both flowering profusely (Silver Flora Medal).

Honries, Ltd., Norfolk Nurseries, Dereham, had vases of cut Roses, with weil-trained and plentfully-flowered plants of Crlmson Rambler at the back. A feature of this exhibit were some good single varieties. "Purple East" of this type being very fine. Many of the cut blooms were past their best, although others, such as Caroline Testout, Lady Roberts, and Boadlees, were good (Bronze Banksian Medal).

Lady Wantage, Lockinge Park, Wantage (gr., Mr. W. Fyfe), staged aome beautiful vases of Fortune's Yollow Rose. They were in excellent condition, and made a charming group, entirely filling a small table. Many visitors wished they might grow this distinct Rose with equal success.

Mr. Chas. Turner, Royal Nurseries, Slough, staged a collection of show and fancy Auriculas, some nice grey-edged and other seedlings, and older varieties such as Hercules, Chas. Turner, Chrysis, Mrs. Harry Turner, and Beauty.

Mr. WILL TAYLOR, Osborn Nursery, Hampton, Mid dlesex, had vases of Roses, in a charming and fragrant group.

Mr. E. POTTEN, Camden Nursery, Cranbrook, Kent had ten pots of the polyantha Rose Dorothy Perkins which made a pretty display.

Another pretty group mainly composed of Roses was displayed by Messrs. Thos Cappes Son, The Tunbridge Wella Nurseries, Kent. Crimson Rambler in the centre, with taller plants of Dorothy Perkins at the back, Maples, Clematis, Hydrargeas, and an edging of Eurya latifolia completed a pretty group (Silver Backsian Medal).

A fine pyramidal group of Cinerarias was set up by Messrs. James Carter & Co., 237, 238, High Holborn, London—Cineraria sinensis with the taller-growing stellate type at the back. The colours included rich blues, crimsons, scarlets, and other shades in large well-shaped flowers upon dense heads (Silver Flora Medal).

THE GUILDFORD HARDY PLANT NUMBERY, Millmead, Guildford, sent acollection of alpines in pots and pane. Gentlana verna with its handsome blue flowers was fine white G, acaulis was equally striking. Violas, Irises. Saxifragas, especially S. Guildford Seedling, Phloxes and other similar plants were well shown. Rubus arcticus was doing well in a small pot (Bronze Banksian Medal). Gabrielle Mouod, a new mauve-coloured variety, was also included.

Mesars. Geo. Jackman & Son, Woking Nursery, Surrey, displayed trays of alpines, Cypripedium macranthum with its rosy streaked flower, Ramondias, Ranunculus amplexicaulis, Geum montanum, Lithospermum caulescens with its orange-coloured flowers, and the interesting Tiarella cordifolia were all doing well.

Messrs. Thos. Ware, Ltd, Ware's Nurseries, Feltham, Middlesex, staged a group of alpines comprised mainly of some fine forms of Primula Sleboldi. A pan of Sarracenia flava was doing well; Primula sikkimensls with its tall spike of golden flowers was included. Cypripedium pubescens, Trillium erectum, Sarracenia Drummondi, and Calceolaria violacea were all notices. Silver Banksian Medal).

The MISSES HOPKINS, Mere, Knutsford, Cheshire, showed some good Primulas, including a batch of the fine yellow Auricula Queen Alexandrs. A Daisy named Alice was conspicuous, the rosy quilled petals heing very pleasing, and carried on large heads of flowers.

Messrs. J Cheal & Sons, Crawley, had a number of alpine plants and spring-flowering shrubs. Cytisus purpureus var, pendula was interesting, and well flowered. The foliage of Quereus Coneordia was as striking as many handsome flowers. Magnolias, Cerasus sinensis Sieboldii, Primula japonica, and trays of alpines (Silver Banksian Medal).

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N., staged a group of alpine plants, including some rare and interesting noveltles, such as Trillium sessile rubrum, with very dark purple flowers; T. erectum, T. grandiflorum, and T. grandiflorum rubrum. A batch of Geum Heldreichi was finely displayed in a pan; Mertensla virginica (beautiful blue), and Arnebla echioides.

Another collection of alpines was displayed by Mr. John Box, West Wickham. Arranged in trays, with suitable rockwork setting, they included many interesting plants of this section. Some good forms of Aubrictia were noticed.

Mesers. WM. CUTHUSH & SON, Highgate, London, N., displayed a collection of alpines in a natural manner, using a setting of rockwork in trays, including hardy Orchids—Cypripedium parviflora, C. pubescens, C. montanum, O. candidum, and C. calceolus. Primulas and Irises were good, and a background of suitable flowering shrubs gave a pleasing effect to the whole. The same firm also displayed the polyanthus Rose Dorothy Perkins. The plants were trained to tall stakes, indicating their adaptability for climbing purposes, some being as high as 12 ft. (Silver Flora Medal).

Mr. M. PRITCHARD, Christchurch, Hants, set up finely flowered specimens of alpines and bulbous plants. Orobus vernus alhus roseus, Fritillaria pyrensica, Onosma alba, a fice new white Onosma, were all noticeable. Some good Tulips, including some of the Parrot varieties, were shown (Bronze Backsian Medal).

Messrs, Hugh Low & Co., Bush Hill Park, London, N., set up a number of greenhouse plants—Schizanthus, Boronias, Carnations, Gerbera Jamesoui, &c., a fine row of Auricula Queen Alexandra being used as an edging to the collection.

Messrs. John Peed & Son, West Norwood, S.E., set up a collection of Japanese Maples, which were very bright in colour, and contained some good specimens of these interesting foliage plants (Bronze Flora Medal).

M. FRANTZ DE LAET, Belgium (agent: Mr. RICHARD ANKER, Addison Nursery, Napier Road, Kensington), had miniature pots of Erlca persoluta, and also Azaleas in the same tiny pots, both itowering well, and apparently flourishing in their lilliputian conditions. A toy greenhouse accommodated quite a number of these interesting little plants.

A batch of two dozen plants of Schizanthus wisetonensis was set up by W. D. James, Esq. (gr., Mr. W. H. Smith), West Dean Park, Chichester. The plants were of large size, and resembled halls of flowers, so profusely were they flowering. The colours were pretty, and the strain is evidently a very fine one. The culture was deserving of praise (Silver Banksian Medal).

Awards.

Auriculas Triumph, Vesta and Gold Crown, all from Mr. DOUGLAS (Awards of Merit).

Carnation Leander, — This is a bright salmon-redcoloured flower of good form, 3½ inches across and broad, even petals, fragrant, and possessing a nonsplitting calyx. It has very long stems, but they apparently need to be afforded a little support from wires. Shown by Messrs. Felton & Sons, Hanover Square, S.W. (Award of Merit).

Clivia miniata aurea.—This is presumably a variety of C. miniata with narrow segments and poor form compared with that of the best red-flowered varieties. Its quality is in the colour, which is yellow over all the perianth, stamens, and style. It is the most yellow Clivia we have seen, and there were sixteen flowers in the truss. Shown by Mrs. Powys Rogers, Perranwell, R.S.O., Cornwall (Award of Merit).

R.S.O., Cornwall (Award of Merit).

Lomaria Mayi.—This is a very handsome seedling variety of L. cilista. The margins of the piunce are crenate rather than ciliate, and the plant grows more freely and larger. The longest fronds at present on a plant two years old are 2½ feet, and 14 inches across. Shown by Mr. H. B. May (First class Certificate).

Nicotiana Sandera.—This is a heautiful hybrid obtained from a cross between N. affinia and N. Forgetiana. Treated as an annual it will flower out-of-doors in much the same manner as N. affinis, but the flowers

are shades of red, varying from "Calanthe" colour in some plants to rich purplish-red in others. Messrs SANDER & Co., St. Albans, showed a group of excellent plants in pots. This cross was illustrated in a supplement to the Gardeners' Chronicle, Oct. 10, 1903 (First-class Certificate).

Onosma album.—A species with pure white flowers, except a little yellow colour at the lower end of the tube. The species is described as coming from "Lüke Vindot," and is said to be as hardy as any species and a free grower. Like other Onosmas, every part of the plant is covered thickly with short white hairs. Shown by Mr. Pritchard, Christehurch (First-class Certificate).

Pansy Mark Mills, shown by FRANK LLOYD, Esq, Coombe House, Croydon (gr, Mr. M. F. Mills), was one of the best show Pansles we have seen. The flowers were quite circular in form, 2½ inches across, and in colour deep reddish-brown, with yellow border to each petal. The colouring was unusually true, and the Committee was nearly equally divided, but eventually a Vote of Thanks was recommended in place of an Award of Merit.

Saxifraga Rhai superba.—A deep rose-coloured variety, of the type that will have an excellent effect when planted in a mass.

Tritonia, Prince of Orange.--This is a very fine variety, with circular flowers nearly 2 inches across, of orangered colour. Shown by Miss WILLMOIT (Award of Merit).

Narcissus Committee.

Present: H. B. May (Chairman), and Miss Willmott, Messrs. A. R. Goodwin, W. F. M. Copeland, G. Reuthe, E. A. Bowles, Jno Pope, G. S. Titheradge, P. R. Barr, W. T. Ware, W. Poupart, J. T. Bennett-Pcë, R. Sydenham, Rev. G. H. Engleheart, R. Dean, J. D. Pearsoo, Van de Graaf, Rev. S. Eugene Bourne, W. Goldring, C. T. Dlgby, A. Kingsmill, Jas. Walker, John R. de Boscawen, W. A. Milner, and C. H. Curtis.

The chief exhibit of Narcissi before this Committee was that from Miss WILLMOTT, Great Warley, the entire group being practically composed of novelties or recent varieties. A good deal of attention was bestowed upon the group as a whole-a collection probably unique even in Daffodil history; for so advanced a date, too, the flowers were in excellent condition. A few varieties specially deserving notice are Moonlight, a flower like montanus but with two flowers on a scape, very pretty, with a drooping habit. Seabird, a Leedsii form with yellow frilled eup; Firefly, rather small, psle yellow, and fiery cup; Countess Grey, a bicolor Queen of Spain type; Noble, small bieslor Sir Watkin; Will Scarlett-this kind seems to hold the field at present with its large dominating saucer-like crown of deep orange; Mrs. Berkeley, a rather small, elegant, white Queen type of flower; Beacon, a fiery-cupped incomparabilis kind : Earl Grey, a large flower with the long straight trumpet of Queen of Spain, and a bicolor; King Alfred, rich yellow, and Dorothy Kingsmill, a bicolor (Gold Medal).

Messrs. BARR & Sons, Covent Garden, W.C., also showed many good kinds in company with yet unnamed seedlings. Among the above we noted Cleopatra, self yellow; Ajax, King Alfred, a superb flower; Vivid. a rich cup with Leedsii perianth; Lady Audrey, a very large white Ajax with lemon-tinted cup; Maggie May, very fine; Apricot Phænix, a double incomparabilis of distinct hue; Duke of Bedford; Poeticus Glory, very good flower in form and size; Stella, flore pleno; and Red Star, a pretty drooping kind with rich cup, Messrs. BARR had also a fine lot of Tulips (Silver-gilt Flora Medal).

Messrs. R. H. BATH, Ltd, Wishech, staged a goodly collection of bedding and early Thlips, together with a few of the self-coloured kinds. Among the latter we noted amber Madame Krelage, Sultan, Europe, Bouton d'Or, with Painted Lady, and others. Of Narcissi we noted N. Nelsoni superbus, with good flowers; N. hi-color grandis, and other late sorts (3ilver Flora Medal).

Messrs. Wallace & Co., Colchester, had an exhibit largely composed of Tulips in their several sections, Pride of Haarlem, O'Brien, St. Bruno, representing Darwin kinds. Among other sections we noted Golden Eagle, Golden Crown, viridiflora præcox, vitellina, Ostrowskyana, and the intensely-coloured Hasgeri nitens (Silver Flora Medal).

Messrs. Hoog & Robertson, Dublin, made a brave display of Tulips. Of early single kinds we noticed La Rève, Koh-i-Noor, Pink Beauty, and Primrose Queen; of doubles; Clothilde, Count Leicester, and Murillo (yellow). The May-flowering kinds included T. retro-flexa, Golden Eagle, and White Swan. A showy and interesting group of species contained the new dasy-stemon, a very pretty kind with buff-yellow and primrose flowers, and acutely pointed segments, Kolpakowskyana, Haageri nitens and primulina.

Messrs. JAS. VEITCH & SON, LTD., Chelsea, had a large array of the leading single and double bedding Tulips. One or two of these will be found under Awards, and for the rest we may say the group was both representative and extensive (Silver-gilt Banksian Medal).

Mr. G. REUTHE, Keston, Kent, had a few good Narcissi, such as Red Cup, bleolor grandis, Lucifer, Commander, Madame de Graaff, Gloria Mundi, and poeticus grandiflorus, &c.

Mr. A. KINGSMILL, Harrow Weald, showed Narcissus Undine, white, drooping, with twin flowers; N. Rhymester, a large poeticus variety; and N. Snowgleam, a Leedsii with lemon crown.

Awards.

N. Count Visconti.—A very large flower of Queen of Spain type, with handsome straight trumpet that is nearly cylindrical; colour a soft yellow shade (Firstelss Certificate).

N. White Ensign.—Apparently a Leedsii with very white segments, and rich yellow, well expanded crown (Award of Merit).

N. Flag of Truce.—There is in this the Queen of Spain type in a nearly pure white flower: a chaste and good kind (Award of Merit).

The three varieties above were shown by Miss Will-Motr, Great Warley, Essex.

Tulip Inglescombe Pink.—A very handsome Tulip with large flowers of rose-salmon hue, faintly edged with yellow, and lightly lined with the same near the tip A hase of pale sea green inside is very striking. It is one of the May-flowering self kinds. From Messrs. W. Ware & Co., Ltd., Bath (Award of Merit).

T. De Wet. - Yellow with orange flame, a showy bedding Tultp (Award of Merit).

T. Sir T. Lipton.—A good early Tulip of a rich searlet erimson (Award of Merit).

These two latter came from the Messrs. VEITCH & Sons, Ltd., Chelsea.

T. Moucheron. - A flower of rich crimson hue, large and effective. Exhibited by Messrs. R. H. Bath, L'd., Floral Farms, Wishech (Award of Merit).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas. O'Brieo (Hon Sec.), de B. Crawshay, H. M. Pollett, Norman C. Cookson, W. Cobb, F. Wellesley, J. Colman, J. Douglas, W. A. Bilney, H. T. Pitt, R. G. Thwaites, A. A. McBean, F. W. Ashton, T. W. Bond, G. F. Mcore, W. H. Young, W. H. White, H. J. Chapman, J. W. Potter, F. Sander, H. Little, H. A. Tracy, and W. Boxall.

A Silver-gilt Floral Medal was awarded to NORMAN C. COOKSON, Esq., Oakwood, Wylam-on-Tyne (gr., Mr H. J. Chapman) for a fine group of grand Odontoglossums, including some new blotched forms of O. crispum, and hybrid Orchids raised at Oakwood Among the Odontoglossums O. erispum Norman was a very striking white flower with showy groups of purplish blotches in each segment; O. e. Sibyl, which had already secured an Award; the fine O. c. xanthotes Cooksoniæ, which got a First-class Certificate at the last meeting; O. c. Chapmanii, a finely-shaped flower, with broad, equal segments with clusters of reddishclaret blotches; and the brilliantly blotched O. c. Clive (see Awards). Other good forms of O. crispum were shown, and among the Oakwood seedlings Cattleya × Oakwoodiensis (Wm. Murray x Mendelii) ts the showiest of hybrids in which C. Lawrenceana appears; C. x Jupiter, Oakwood variety, an equally meritorious pro duct; Cypripedium Lawrenceanum Hyeanum, Oakwood seedling, a very sturdy grower, bearing five emerald-green-and-white flowers. A set of Oakwood hybrid Phaius were also shown, including varieties of P. × Phebe, one of which, with ereamwhite sepals and petals tinged with lilac and large, openly-displayed purple lip veined with orange, was a beauty.

H. T. Pitt, Esq, Rosslyn, Stamford Hill, secured a Silver-gilt Flora Medal for a fine group, principally of Odontoglossums, the central figure in which was the magnificent O. x Wilckeanum Pittiæ, which had previously been accorded a First-class Certificate. Beautiful as it was when certificated, it was even more beautiful now; and the fine plant, with a spike of sixteen massive yellow and chestnutred flowers, secured for Mr. Thurgood, the grower, a well-merited Cultural Commendation. Among the mass of good things in Mr. PITT's group were noted a fine form of Odontoglossum × elegantissimum, many fine and blotched O. crispum, a pretty plant of the feather-lipped Bulbophyllum harbigerum with three spikes, I ælia purpurata Novelty (nearly white), two fine specimens of Oncidium phymatochilum, O.

leucochilum, O. covcolor, the handsomely-blotched Odontoglossum crispum Cannonianum, the richlycoloured O maculatum anceps, a yellew-tinted Angulea uniflora. Vanda Denisoniana, with two spikes of white flowers; Cypripediums, various showy Cattleyas, including the fine white C intermedia Parthenia, &c.

J. Bradshaw, Esq., The Grange, Southgate (gr., Mr. Whitelegge), received a Silver Flora Medal for an excellent group, in which the large forms of Lycasie Skinneri, for which his collection is noted, were well displayed. Also Lycaste × Balliæ, with eight rosecoloured flowers; the quaint L. gigantea, varieties of Cattleya Schroderæ including a fine C. Schroderæ alba, with four flowers on a spike; C. intermedia alba. C. Lawrenceana, with twelve flowers; good C. Mendeli, varieties of Odontoglossum crispum, Oncidium Marshallianum, Cymbidium Lowianum concolor, Lælio-Cattleya x Lucasiana, L -C. x Ingrami, &c.

H. S. GOODSON, Esq., Fairlawn, West Hill, Putney (gr., Mr. Geo. Day), secured a Silver Flora Medal for an excellent group of very well-grown plants of geed quality. The most remarkable were Cattleya Mendeli H. S. Goodson, a large white flower with chrome vellow disc and broad rose-purple front to the lip; and Leelio-Cattleya x Lucia var. H. S. Goodson, a hright yellow flower with ruby-crimson front to the lip. At the back of the group was a fine selection of Dendrobium Wardianum, D. nobile, D. crassinode, D. x Ainsworthii, &c.; and among others noted were the dark scarlet form of Epidendrum x O'Brienianum, F. radicans, various good large-flowered Cattleyas, Dendrobium Jamesianum, Lælio - Cattleya Ascania, Cattleya eitrina, Lælia harpophylls. Oncidium concolor, forms of Lælla purpurata, Odenteglesaums, &c.

Messrs. ETANLEY, ASHTON & Co., Southgate, were awarded a Silver Flora Medal for a showy group, lu which several fine specimens of their superb largeflowered type of Occidium varicosum Rogersti were effective features; the flowers are of great size and rich bright-yellow colour with varying marks of cinnamon-brown in front of the crest. A very handsome claret spotted Odontoglossum crispum was noticed; another form of fine shape with one large blotch on each segment, Cymbidium Lewianum concolor, brightly coloured Masdevallia × Pourbaixii, &c.

Messra. Sander & Son, St. Albans, received a Silver Flora Medal for a good representative group, principally hybrids, among which were excellent examples of Lællo-Cattleya x Aphredite, L.-C. x Martinetii, L.-C. × Ily. Greenwood, Cypripedium × Amphion superbum (Harrisianum euperbum x Lawrenceanum), a large finely-formed flower of good colour; Cattleya \times suav s (3chroderæ x Skinneri), C. intermedia alba and nivea, Lycaste lasioglossa with eight flowers, a fine set of the Odontoglossums of the season, Angulea Clowesii, &c.

Messrs. Charlesworth & Co., Heaton, Bradford, secured a Silver Flora Medal for a very bright group, in the centre of which was a fine specimen of Lælic-Cattleya × Hyeana splendens; with it were two fine L.-C. x Mercia with yellow flowers; L.-C, x G. S. Ball, L.-C. x Dora L.-C. x Wellsiana alba, L.-C. x Digbyano-Mossiæ, L.-J. x Digbyano-Schroderæ, Spathoglottis Kimba'liana, Cattleya × Jupiter (Lawrenceana × Warscewiczii), C. x Enld, a grand form of Odontoglossum Harrvanum &

Mesars. Huon Low & Co., Bush Hill Park, staged an effective group made up of Cattleya intermedia alba and other Cattleyas, a very handsome C. Trianz, Lælio-Cattleya × Mozart, C. Lawrenceana, Masdevallia Houtteana, M. ochthodes, Lycaste aromatica, Dendrobiums, &c.

Sir H. SCURODER, Eart., The Dell, Egham (gr., Mr. Ballantine), showed cut spikes of an interesting set of Odontogloseums, by far the most beautiful of which was the rose purple spotted O. Pescatorei Schroderiana.

C. J. LUCAS, Esq , Warnham Court (gr , Mr. Duncan). showed a small group of Odontoglossums, in the centre of which was a very large and distinct O. triumphans.

Sir TREVOR LAWRENCE, Bart., Burford (gr., Mr. W. H. White), sent Cattleya intermedia Aquinii, a singular form, in which the tips of the petals are developed and coloured purple like the lip.

H. L. BISCHOFFSHEIM, Esq., The Warren House, Stanmore (gr., Mr. Ellie), showed a fine form of Lælio-Cattleya x bletchleyensis and Odontoglossum triumphans.

J. GURNEY FOWLER, Esq , South Woodford (gr., Mr. J. Davis), sent Cattleya x Alfred Fowler (granulosa x Trianæ), a distinct hybrid with cream white sepals and petale tinged with lilac, and with purplish front to the lip. Also Cypripedium x Mary Beatrice "Queen of Athiopia," with blackish-purple tinted flowers.

H. DRUCE, Esq., Circus Road, St. John's Wood (gr., Mr. Walker), seut Cypripedium x Mrs. H. Druce (niveum × beliatulum), a clear white flower densely spotted with purple; C. beliatulum nobilius, a very handsomely spetted form; C. x Walkeriana (concolor x bellatulum), yellow with purple spote; and C. x Miss Daisy Druce (Chamberlainianum x concolor Regnieri), a pretty flower with distinct traces of C. Chamberlatnianum in its habit; flowers white, the petals and dorsal sepal tinged with green and bearing light purple lines.

C. L. N. INGRAM, Efq., Elstead House, Godalming (gr., Mr. T. W. Bond), sent Lælio-Cattleya \times splendens. W. THOMPSON, Esq., Stone (gr., Mr. Stevens), showed the dark - coloured Odontoglossum × Vuylstekei Thompson's var.

AWARDS OF MERIT.

Odontoglossum crispum Clive, from NORMAN C. COOKson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. H. J. Chapman).-One of the brightest-coloured of blotched O. crispums, the bright mauve-purple backs to the flowers giving an additional attraction. The plant, which was a small one, hore good flowers with nearly equal sepals and petals; the petals and lip fringed. Flowers white, the greater part of the sepals and petals taken up with heavy reddish-claret blotching, which shaded off to mauve towards the margin. Crest of lip yellow, in front of which is one large and several smaller reddish-chestnut blotches.

Odontoglossum crispum Clio, from W. THOMPSON, Esq., Walton Grange, Stone (gr., Mr. Stevens) .- A very fine form, with resy-lilac tlated flowers, some of the segments also bearing one or two cinnamon-brown

Odontoalostum nebulosum Gurney Wilson, from Gurney WILSON, Esq., Glenthorne, Hayward's Heath,-A grand flower, of perfect shape, and a distinct improvement on other forms of O. n. pardinum. All the segments broad, silver-white densely spotted with greenishpurple spots.

Fruit and Vegetable Committee.

Present: A. Dean, Esq. (in the Chair); and Messers. Jas. H. Veitch, S. Mortimer, Ed. Beckett, W. Bates, John Lyne, H. Parr, Gco. Norman, Owen Thomas, H.

Markham, F. Q. Laue, J. McIudoe, J. Willard, A. H. Pearson, W. Fyfe, J. Jacques, and G. Reynolds.
Mr. J. Honday, Havering Road, Romford, sent a Rhubarb, Hobday's Giant. The petioles were over 3 feet in length, and were thick in proportion.

Mr. S. HEILBERT, Tee Lodge, Holyport, Maidenhead, sent a bex of Potatos May Queen.

Messrs. Surron & Sons, Reading, received a Cultural Commendation for two baskets of culinary Peas, Sutton's Early Giant.

Messrs. H. Cannell & Sons, Swauley, Kent, sent excellent heads of a new Cabbage, "First to Cut" (Cultural Commendation).

MANCHESTER AND NORTH OF ENGLAND ORCHID.

AURIL 15.-This meeting was held in conjunction with the spring show of the Royal Betanical and Horticultural Society of Manchester. The following awards were made :-

GROUPS.

Messrs. J. Cypher & Sons, Cheitenham; Messrs. J. Cowan & Son, Ltd., Liverpool; and Messrs, Charleswohth & Co., Bradford, each a Silver-gilt Medal. R. WOHTH & CO., Bradiord, each a Silver-gitt Medal. R. Ashworth, Esq., Newchurch, and E. Ashworth, Esq., Wilmslow, Silver Medal. A. Warburton, Esq., Haslingden, Gold Medal. Mr. S. Allen, Sale, and Mr. J. Robson, Altrincham, Silver Medals. S. Gratrix, Esq. Manchester; E. Rogerson, Esq., Manchester; W., Duckworth, Esq., Flixton; and Hugh Low & Co., Enfield, Bronze Medals. Messrs. Stanley, Ashton & , Lendon, and D. McLEOD, Manchester, Veles of Thanks.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispum var. Gratrixee, and O. c. var. Robsoniana, from S. GRATRIN, Esq.

Odontoglessum x mirificum var. splendens, from J. COWAN & CO. O. crispum var. Carnusianum, from R. ASRWORTH,

Esq. Lelio Cattleya × G. S. Ball var. auperba, from R. Ashworth, Esq.

Dendrobium x Apollo var. grandiflora, from E. Ash-WORTH, Esq.

Odontoglossum x ardentissimum Vine House var., from A. WARBURTON, Esq.

AWARDS OF MERIT.

Odentoglossum × Duvivierianum, from STANLEY, ASHTON & Co.

O. x sceptrum var. nobilior, O. x waltonense, and Mesospinidium vulcanicum, from W. Thompson, Esq. Lælio-Cattleya x Lucia superba, from R. Ashworth,

Dendrobium × Cybele var. Ashworthianum, from

E. ASHWORTH, Esq.
Odontoglessum crispum var. Queen Alexandra, from

A. WARBURTON, Esq. P. W.

NATIONAL AURICULA

(MIDLAND SECTION).

APRIL 26, 27,-The fifth annual exhibition was held in association with that of the Midland Daffedil Soctety, in the Betanical Gardens, Edgbaston, on the above date, the plants being staged in the large Palmhouse adjoining the Show-house. The number of plants staged showed the great interest taken in these flowers in the Birmingham district, notwithstanding that two of the principal exhibitors were outsiders, viz, Mr. James Douglas, Great Bookham, Surrey, and Mr. J. W. Bentley, Stakehill, Manchester.

SHOW AURICULAS.

The principal class in this group was for six varieties, Mr. J. Douglas being awarded the 1st prize wartedes, Mr. J. Douglas being awarded the ist prize with excellent examples of green edges, Mrs. Henwood, and Cato (Douglas), a promising brightedged variety of good properties; grey-edged, George Lightbody and Richard Headly; white edge, Magpie, in fine character; and self, Ruby. Mcssrs. Pope & Son, nurserymen, King's Norton, were 2nd with good examples of Abraham Barker, green edge; Richard Headly, grey edge; Acme, white edge; and Gerald, a fine dark self, with two others. Mr. Douglas was also placed 1st with four varieties, having green edge, Mrs. Henwood; grey edge, George Mr. Douglas was also placed ist with four varieties, having green edge, Mrs. Henwood; grey edge, George Lightbody; white edge, Magpic; and self, Raven, a dark varlety aptly named. Mr. C. Winn was 2nd, his three best plants were grey edge, Lancashire Hero; and selis, Mrs. Potts and Ruby. There were ten exhibitors in this class; and also in that for two plants, in which Mr. R. C. Cartwright, King's Norton, came 1st, with green edge Shirley Hibberd, and self Mrs. Potts. Mr. E. Danks. Aston. came 2nd with the Mr. E. DANES, Aston, came 2nd with the Mrs. Potis. same varieties.

In the classes for single plants, the best green edges In the classes for single plants, the best green edges were Shirley Hibberd, Abraham Barker, and John Hannaford, the prizes being awarded in the order named. The best grey edges were George Rudd (1st and 3rd), and Rachel; white edges, Acme (1st and 3rd), and Mra. Dodwell; selfs, Gerald, Ruby, and Mrs. Potts.

The premier show Auricula was white edge Magpie,

shown by Mr. Douglas in his 1st prize collection of six plants.

ALPINE AURICULAS.

These were shown in excellent character. The best six varieties came from Mr. J. W BENTLEY, Stakehill, who had varieties of his own raising of fine quality-Queenie, Dr. Pegg, Attraction, Dr. Kershaw, and Tilly Slowboy, gold centres; and Modesty, white centre. Mr. J. DOUGLAS was a close 2nd with J. F. Kew (very fine), Firefly, Minerva, and Resy Morn, gold centres; Hilda and Thetis, white centres.

Mr. Bentley was also 1st with four alpines among ten competitors, having Tilly Slowboy, Estelle, and Bunthorne, geld centres; and Novelty, white centre.
Mr. J. Douglas came 2nd with Golden Drop, Rosy Morn, and Firefly, gold centres; and Ganymede, cream

centre. In the class for two plants, Mr. R. Holding, Basall Heath, was 1st, having Mrs. Gertor, gold; and Argus, cream centres. Mr. F. T. Poulson, Stafford, came 2nd with a seedling and Thetis.

The premier alpine Auricula was J. F. Kew, a highly-developed truss of which was in Mr. Douglas's 2nd

prize six.
Classes for maiden growers for amateurs,

for single plants followed, but the method of staging adopted made it difficult to discriminate varieties. Special prizes were also offered by Messrs. Tomlinson & Hayward for seedlings shown by local growers, which resulted in some promising seedlings being

GOLD-LACED POLYANTHUS.

Mr. J. W. BENTLEY was 1st with three plants, staging Mrs. Brownhill, Cheshire Favourite, and Sidney Smith: Mr. J. STOKES, Harberne, coming 2nd with Miss Turner, George IV., and Middleton Favourite. The best single specimen was Sarah Holden, from Mr. Bentley, who Messrs. Pope & Son had the best basket of Primulas

in variety; Mr. R. C. CARTWRIGHT being 2nd.

MIDLAND DAFFODIL.

(Continued from p. 286).

APRIL 26, 27.-A considerable number of seedlings were submitted to the Committee, and the following Awards were made :-

FIRST-CLASS CERTIFICATES OF MERIT to

Great Warley (see fig. 119, p. 275), and to Moonstone, a hybrid of triandrus, a sulphur-white self, having a

finely-formed fringed trumpst. A chaste and refined variety.-From Miss WILLMOTT.

AWARDS OF MERIT were made to

Warley Scarlet, having a large creamy perianth and open shallow cup edged with fiery orange; highly

Count Visconti. - One of the Johnstoni type, having a sulphur perianth and pale-yellow trumpet.

Snowdrop.-Of the same character of flower; perianth white, and trumpet delicate cream.

Furstin Marie Octtingen -A bicolor of the same type as the two former, with white perianth and pale-yellow trumpet.—The foregoing four varieties were from

Acme.—A bandsome poeticus, pure white perianth with broad, finely formed segments, and rich deep reddishorange cup. Mr. Engleheart regards this as the best Daffodil be has yet raised.

Epic -A large poeticus, pure white perianth, open saucer-shaped cup edged with orange, and affording a

Fearless.-Of the incomparabilis section, perianth white, large open frilled cup of a bright-yellow colour. Gold Eye.-Broad white perianth, with a flattened deep golden cuphaving a slight beading of orange. - The four foregoing varieties were from the Rev. G. H. ENGLEHEART.

Saladin .- A white trumpet variety of the character of Madame de Graaf, but with a deeper tinted trumpet, and more expanded at the mouth.

Maid Marian.-Of the same character as the latter, but sufficiently distinct, the perianth perhaps a little

The two foregoing were from Mr. E. M. CROSFIELD Wrexham.

Janet Image. - A fine form of the Leedsil section; white perianth and delicate creamy-sulphur trumpet. From Messrs. BARR & Son, Covent Garden.

Snow Elf .- White perianth with creamy trumpet; a well-proportioned flower.

White Knight. - A variety of much the same character Eif, and highly promising. From Messrs. DE GRAAF BROS, Leiden.

Ethelbert.—Of the poeticus section; white perianth with shallow open cup edged with deep crange.

Dainty.—Belonging to the triandrus type; sulphur perianth, pale yellow trumpet—a refined flower. From Mrs. R. O. Backhouse, Hereford.

FIRST-CLASS CERTIFICATES OF MERIT were also

given to
Rose Madame Levarasseur, a large basketful of which was shown in splendid condition; and to

Carnation Leander, a very fine and full salmor-pink self, borne on long stout stems, and having a perfect calyx. From Messrs. Felton & Co., Hanover Square,

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Wisley, Surrey. Height above sea-level 150 feet. The following are the "mean" readings for the week ending April 30, 1904.

1904.	TEMPERATURE OF THE AIR.				URE ON						
30.	At9A.M.		DAY.	NIGHT.	TEMPERATURE GRASS.	t deep.	deep.	deep.	RAINFALL.	SUNSHINE.	
APRIL 2 TO APRIL 3	Dry Bulb.	Wet Bulb.	Highest.	Lowest.	LOWEST 7	At 1-foot deep.	At 2-feet	At 4-feet deep.	24	S.	
	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	ins.	hr. min.	
MEANS	51	47	57	43	35	49	19	48	Tot 0 10	3 32	

THE WEATHER IN WEST HERTS.

Perfect spring weather .- The past week was the fifth warm week we have now had in succession. The days were not particularly warm, but on two nights the exposed thermometer never fell below 45° and 41° respectively, which are high readings for the time of the year. On the coldest night the same thermometer showed only 1° of frost. The ground is at the present time about 1° warmer than is seasonable, both at 1 and 2 feet deep. Rain fell on three days, to the total depth of 1 an inch, but nearly the whole of that quantity was deposited on the first day of the present month. This rain re-started the bare soil percolation gauge, through which no measurable quantity of rain-water had pre-viously come for ten days. It, however, in no way affected the gauge on which short grass is growing, through which there has been no percolation at all for the last three days. The sun shone on an average for three and a quarter hours a day, which is about and s half hours a day short of the average duration. The winds were as a rule, high, and came principally from some westerly point. The amount of moisture in the air at 3 o'clock in the afternoon was, on an averageabout 3 per cent, in excess of a seasonable quantity.

APRIL.

A noteworthy absence of north-easterly winds .- April proved exceptionally warm and windy, with a small rainfall and an unusual amount of sunshine. Taking the month as a whole, this was, with two exceptions (1893 and 1891), the warmest April that I have yet recorded here. There occurred no period of cold weather during the course of it, and at no time did the exposed thermometer register more than 5° of frost, which is the highest extreme minimum in April of which I have here any record. Rain fell on twelve days, to the aggregate measurement of about 1; inch, which is about of an inch in defect of the average for the month. Of that quantity about 13 gallons-that is to say about one-fifth of the total raintali-came through both percolation gauges. The sun shone on an average for five and a half hours a day, which is about half an hour a day in excess of the April mean. The winds were, as a rule, exceptionally high; indeed, htgher than in any April since 1886, or for eighteen years. On the other hand, for no hour did the mean velocity exceed 20 miles. Another remarkable feature vas the absence of north-easterly winds. In fact, for only seventy-six hours, or three days, was the direction any point between north and east. The mean amount of moisture in the air at 3 P.M. was 2 per cent. less than is seasonable. E. M., Berkhampsted, May 3 1904.

MARKETS.

COVENT GARDEN, May 4.

COVENT GA	ILDEN, Blag 4.
PLANTS IN POTS, &o.: Av	ERAGE WHOLESALE PRICES.
Acadas, per doz. 12 0-50 0	Geraniums, white 1 0-6 0
Adiantums, doz. 4 0-80	- pink 40-80
Aralias, per doz. 4 0-80	Heliotropes, doz. 5 0- 6 U
Arbor Vitæ, doz. 9 0-18 0	Herbaceous plants
Adiantums, doz. 4 0-8 0 Aralias, per doz. 4 0-8 0 Arbor Vitæ, doz. 9 0-18 0 Arum Lilles, doz. 5 0-8 0	and perennials,
Aspidistras, doz. 18 U-36 U	per box 1 0- 2 0
Aucubas, per doz. 4 0-8 0	Hyacinths, Dutch,
Azalea mollis, pot 1 6-3 0 Azaleas, each 1 6-3 0	per doz 8 0-12 0 Ivy Gerantums,
Azaleas, each 1 6-3 0 Begonia, per doz. 4 0-8 0	rer doz 60-80
Cinerarias, dozen 40-80	Lilac-trees, each. 30-40
Crotons, per doz. 12 0-24 0	Lycopodiums,per
Cyclamena doz 9.0-18.0	dozen 3 0- 4 0
Cyperus, per doz. 30-40	Marguerites, doz. 6 0- 8 0
Dangqus, per doz. 6 0-8 0	Mignonette dcz 4 0-80
Dielytra specta- bilis, per dozen 12 0 18 0	Musk, per dozen 3 0- 6 0 Orange-trees, each 3 6-10 6
Dracænas, variety,	Palms, var., each 3 0-20 0
dozen 12 0-48 0	Pansies, in boxes 1 3-2 0
Ericas, per dozen 6 0-24 0	Pelargoniums,
Euonymus, vars.,	double scarlet,
per dozen 4 0- 6 0	per doz 4 0- 8 0
Ferns in var., per	Petunias in boxes 1 3- 2 0
dozen 4 0-30 0 Ficus elastica, per	Primulas, perdoz. 4 0-6 0 Pteris tremula, 12 4 0-8 0
	- Wimsetti, doz. 40-80
fuchsias, p. doz. 6 0- 9 0	- major, dozen 4 0- 6 0
Genistas, per doz. 6 0-10 0	Spiræa, per doz 5 0-8 0
Geraniums, dbl.	Tulips, various,
scarlet, p. doz. 40-80	dozen roots 10-16
VEGETABLES: AVERAGE	E WHOLESALE PRICES.
z.d. s.d.	
\$.d. s.d.	Onions, per bag $\stackrel{s.d.}{\stackrel{\cdot}{}} \stackrel{s.d.}{} =$
\$.d. s.d.	Onions, per bag 7 0 - - picklers, sieve 4 0- 5 0
Artichokes, Globe, per dozen 2 0-3 0 — Jerusalem, p.	8.d. 8.d. Onions, per bag 70 — — picklers, sieve 4 0- 5 0 Parsley, doz. bun, 1 6- 2 0
### ### ##############################	8.d. 2.d. Onions, per bag 70 — — picklers, sieve 4 0- 5 0 Parsley, doz. bun, 1 6- 2 0 — sieve
### ### ##############################	8.d. 2.d. Onions, per bag 70 — — picklers, sieve 4 0- 5 0 Parsley, doz. bun, 1 6- 2 0 — sieve
### ### ##############################	Onions, per bag 70 — - picklers, sieve 4 0-5 0 Parsley, doz. bun. 1 6-2 0 - sieve 1 0- Parsnips, per bag 2 0- Peas, per lb 0 6- 10 Potatos, per ton 90 0-140 0
### ##################################	A.d. s.d. A.d. A.
### ##################################	a.d. e.d.
### ### ##############################	Onions, per bag 7 0 — — picklers, sieve 4 0 - 5 0 Parsley, doz. bun. 1 6 - 2 0 — sieve 1 0 - — Parsnips, per bag 2 0 - — Peas, per lb 0 6 - 10 — frame, lb 0 2½ - 0 3 — New Teneriffe, per cwt 12 0-16 0
### ### ##############################	
### Artichokes,Globe,	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 10-1 3 #### Asparagus,Sprue, bundle 0 8 — — Psris Green 3 6 — — English, bun. Beans, dwarf, lb. Beetroots, bushel 2 6-3 6 Cabbages, p. doz. Carrots, per doz. bunches 2 6-3 0 — per bag 3 0-4 6 3 0	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 Asparagus,Sprue, bundle 3 6 — — English, bun. 3 6 — — English, bun. 1 6-3 6 Beatroots, bushel 2 6-3 6 Cabbages, p. doz. 0 Carrots, per doz. bunches 2 6-3 0 — per bag 3 0-4 6 Cauliflowers,doz. 1 0-1 6	## Add is hes, per dozen bunches, per dozen bunches Add is hes, per dozen Add is hes, per dozen
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 10-1 3 ### Asparagus,Sprue, bundle 0 8 — — Paris Green 3 6 — — English, hun. ### Beans, dwarf, lb. ### Beetroots, bushel Cabbages, p. doz. 0 9-1 3 Carrots, per doz. bunches 2 6-3 0 — per bag 3 0-4 6 Cauliflowers,doz. Celery, per dozen Calery, per dozen 10-1 6	
### Artichokes,Globe,	
### Artichokes,Globe,	
### Artichokes,Globe, per dozen 2 0-3 0	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — — Paris Green 3 6 — — Paris Green 3 6 — — English, bun, Beans, dwarf, lb. Beetroots, bushel 2 6-3 6 Cabbages, p. doz. 2 0 9-13 Carrots, per doz. bunches 2 6-3 0 Cauliflowers,doz. 2 6-3 0 Cauliflowers,doz. 2 6-3 0 Cress, doz. pun, 0 8-10 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb 0 3 —	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — Psris Green 3 6 — English, bun, 1 6-3 6 ### Beatroots, bushel 2 6-3 6 Cabbages, p. doz. 0 Carrots, per doz. bunches 2 6-3 0 — per bag 3 0-4 6 Calery, per dozen bunches 6 0-9 0 Cress, doz. pun, 0 8-1 0 Cucumbers, doz. 1 3-1 6 Garlic, per lb, Horseradish, fo	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — — Psris Green 3 6 — — English, bun. Beans, dwarf, lb. Beetroots, bushel 2 6-3 6 Csbbages, p. doz. Carrots, per doz. bunches 2 6-3 0 Carrots, per doz. bunches 3 0-4 6 Cauliflowers,doz. Celery, per dozen hunches 60 -9 0 Cress, doz. pun. 68-1 0 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb 0 3 — Horseradish, foreign, p. bunch 1 0-1 3 Leeks, doz. bun 1 0-1 3	Onions, per bag
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — Paris Green 3 6 — English, bun, 1 6-3 6 ### Beatroots, bushel 2 6-3 6 Cabbages, p. doz. 0 9-1 3 Carrots, per doz. 2 10-1 6 Celery, per dozen bunches 6 0-9 0 Cress, doz. pun. 0 8-1 0 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb Horseradish, foreign, p. bunch 1 0-1 3 Leeks, doz. bun 1 0-1 6 Lettuces, Cabbage,	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — Paris Green 3 6 — English, bun, 1 6-3 6 ### Beatroots, bushel 2 6-3 6 Cabbages, p. doz. 0 9-1 3 Carrots, per doz. 2 10-1 6 Celery, per dozen bunches 6 0-9 0 Cress, doz. pun. 0 8-1 0 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb Horseradish, foreign, p. bunch 1 0-1 3 Leeks, doz. bun 1 0-1 6 Lettuces, Cabbage,	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — — Psris Green 3 6 — — English, bun, Beans, dwarf, lb. 0 8-0 9 Beetroots, bushel 2 6-3 6 Cabbages, p. doz. 0 9-1 3 Carrots, per doz. bunches 2 6-3 0 Carrots, per doz. clery, per dozen hunches 6 0-9 0 Cress, doz. pun, 0 8-1 0 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb Horseradish, for reign, p. bunch Leeks, doz. bun 1 0-1 3 Leeks, doz. bun 1 0-1 6 Lettuces, Cabbage, per dozen 0 9-1 0 Mut, doz 0 9-1 0 Mut, doz 0 9-1 0	Onions, per bag
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — — Paris Green 3 6 — — English, hun. ### Beans, dwarf, lb. ### Beetroots, bushel Cabbages, p. doz. 0 9-1 3 Carrots, per doz. bunches 2 6-3 6 Cauliflowers,doz. Celery, per dozen hunches 60-9 0 Cress, doz. pun. 0 8-1 0 Cucumbers, doz. 2 0-3 6 Endive, per doz. 1 3-1 6 Garlic, per lb 0 3 — Horseradish, foreign, p. bunch Leeks, doz. bun 1 0-1 3 Lettuces,Cabbage, per dozen 0 9-1 0 Must, doz 2 0 — Mustrooms(house)	
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — English, hun. ### Beans, dwarf, lb. 0 8-0 9 Cabbages, p. doz. 0 9-1 3 Carrots, per doz. bunches 2 6-3 0 — per bag 3 0-4 6 Cauliflowers,doz. Celery, per dozen hunches 6 0-9 0 Cress, doz. pun. 0 8-10 Horseradish, foreign, p. bunch Lettuces,Cabbage, per dozen 0 9-1 0 Mushrooms(house) per lb 0 9-1 Onlone, green, 0 9-10	Onions, per bag
### Artichokes,Globe, per dozen 2 0-3 0 — Jerusalem, p. sieve 1 0-1 3 ### Asparagus,Sprue, bundle 0 8 — — Paris Green 3 6 — — English, hun. ### Beatroots, bushel Cabbages, p. doz. Carrots, per doz. bunches 2 6-3 6 Cauliflowers, doz. 2 0-3 6 Cauliflowers, doz. 2 0-3 6 Endive, per dozen hunches 6 0-9 0 Cress, doz. bun 1 0-1 3 Cucumbers, doz. 2 0-3 6 Endive, per dozen Horseradish, foreign, p. bunch Letx, doz. bun 1 0-1 3 Letx, doz. bun 2 0 — Mushrooms(buse) per lb 0 9-1 0	

OUT FLOWERS, &O.: AVE	RAGE WHOLESALE PA	RIOES.
8.d. s.d.		s.d. z.d.
Anemones, per	Marguerites, yel-	
doz bunches 0 9-1 6	low, doz bunch.	10-20
Arums, per doz. 10-40	- white doz. bun	3 0- 4 0
Azalea mollis, per	Narcissus, p. doz.	
bunch 0 6- 1 0	bunches	1 0- 2 0
Azaleas, per doz. 2 0- 4 0	- Pheasant Eye,	. 0 0
		16-30
	per doz	1 0- 3 0
Bouvardias, per	Orchids: Odonto-	
bunch 0 4-0 6	glossums, per	00 00
Camellias, box 1 0- 2 0	dozen blooms	2 0- 6 0
Carnations, Mal-		10 0-12 0
maison, dozen	- various, doz .	2 0- 6 0
blooms 6 0-12 0	Pelargoniums,	
Crotonleaves.bun. 0 6- 1 0	zonal, dozen	
Daffodils, per doz.	bunches	3 0- 6 0
bunches 1 0- 4 0	- white, dozen	
Eucharis, per doz. 20-30	bunches	4 0- 6 0
Euphorbia, bun. 1 0- 3 0	- double scarlet,	
Ferns, Asparagus,	p. doz. bunches	30-40
per bunch 0 6-20	Primroses, per	, , , ,
- French, per	dozan hunches	0 6-1 0
	Poses Marmat	0 0 1 0
doz. bunches 03 04 - Maidenhair,	Roses, Mermet,	2 0- 4 0
	per bunch	
doz. bunches 60-80	- white, bunch	1 0- 3 0
Gardenias, box 16-40	- pink, bunch	16-30
Gypsophila, doz.	- red. bunch	1 6- 4 0
bunches 4 0- 6 0	- Safranos, bch.	1 0- 2 0
Gladiolus, Blush-	- French, bunch	10-20
ing Bride, per	Smiley, doz.tralls	1 8- 2 0
doz bunches 40-50	Spira as, bunch	0 4-0 9
Iris, doz bun 10-60	Star doz.bunches	16-30
Ixia, perdoz. bun. 3 0- 3 6	Stock s, per doz	20-26
Lilso (French),	Tuberoses on	
per bunch 1 6- 2 0	siem, bunch.	0 9-1 0
Lilium auratum	- short. p. doz.	0 3-04
per bunch 2 0- 4 0	Tulips, Red, per	
- longiflorum,	bunch	0 4-0 6
burch 16-40	- various, per	
- lancifoltum 1 6- 2 6	bunch	0 6-10
Lily of the Valley.	- Parrot, per	0 0 1 0
	doz bunches	60 —
		00 —
FRUIT: AVERAGE V	VHOLESALE PRICES.	
s d. s,d.	1	s.d. s.d.
Apples, Austra-	Grapes Almeria,	
lian, in cases 8 0-12 0	per doz	6 0-10 0
- Nova Scotia,	- Muscas, A, p. lb.	# C 8 0
per barrel 15 0-17 6	- B, p. 1b.	3 0- 4 0
- Tasmanian	Lemons, per case	7 0-25 0

- Ta s m a nian
Cases ... 6 0-10 0
Bananas, bunch 7 0-12 0
- laose, dozen 1 0-1 6
Figs, per doz ... 2 0-8 0
Gooseberries, per peck ... 5 0-10 0
Grapes, Hambro'
A per lb ... 3 6-4 6
B, per lb ... 3 6-3 0

Environmental forms, per case 7 0-25 0
Melons, earlt ... 1 0-2 6
Oranges, per case 9 0-40 0
Pears, per case... 4 0-10 0
Pines, each ... 2 0-4 0
Strawberries, A.,
per lb ... 2 0-3 0
- B, per lb ... 1 0-1 6 B, per lb. ... 2 6-3 0 B, per lb. ... 10-16

REMARRS.—Broccoli and Cabbage are both coming in fast. Kent crates of Broccoli fetch from 5s. 6d to 6s. per crate; pads, 1s. 6d 2s., and 2s. 6d. each; Worcester Cabbages, ed. to 1s. per dozen; Gooseberries, 1s. per quart; pecks of ditto, 8s. to 10s; Cherries, French, per box 1s. to 1s. 6d.; Asparagus, foreigo, 10d. to 2s. 6d. per bundle; Jamaica Mangos, 2s. to 4s. per dozen; Australian Pears, 4s. to 16s. per case, some damaged fruit; Cape Grapes, eases 12s. to 15s. each. Natural-grown Mint is good. Worcester Asparagus, 1s. 3d, 1s. 6d, 1s. 9d, 2s. per bundle; Lisbon Potatos, 5s. 6d, per box.

POTATOS.

Home-grown, 90s. to 110s. per ton; foreign, 70s. to 120s. do.; Dunbars, 130s. to 140s. do Sced-tubers in variety. John Bath, 32 & 34, Wellington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

Pot plants of Pelargoniums form nowa most important feature in the market, zonals being especially showy. The deep scarlet varieties, Raspail and double H. Jacoby, are both good. Ville de Poitiers is also very showy; King of Denmark remains the best salmon-coloured variety. Roby is a fine semi-double pink, and will make a leading market variety. Berthede Presilly is another good pink variety, the earlier consignments of which were not well flowered, but it may now be seen in fine condition. Madame Alfred Ercknev is a good orange shade, and Hermione is the best white In singles, Robert Hayes (pink), Itall Caine (red). Captain Flayelle (crimson-scarlet), and Albion and Snowdon (good whites), are all to be seen. Well flowered plants of West Brighton Gem are plentiful. Growers are brioging in Ivy - leaved varieties. Plenty of well-flowered plants of Madame Crouste and Galifee cau be obtained; also a few Souvenir de Chas. Turner, and other varieties. Show varieties of Petargoniums are also plentiful from several growers. Margnerites continue, very abundant, and now that they can be used out-of-doors sell more readily. Fuchsias are an important feature, but there is nothing new among them. Ballet Girl is one of the best, while Mrs. Rundle, Scarcity, and Lady Heytesbury are still favourites. Harrison's Musk in (8-size pots)s plentiful, but there is not so much trade for this as there was a few years ago. Porplants of Pelargoniums form nowa most important but there is not so much trade for this as there was a few years ago.

A few of the early-flowering sorts of Clematis are still to be seen, and some well-flowered plants of C. mani have already appeared. Spring flowering Ericas are very fine, and include the varieties Cavendishi. Spenseri, ventricosa magnifica, hybrida, propendens, and candidissima. Besides Verbena "Miss Willmott," some well-flowered plants of white and purple varieties were in the market to-day, April 30. Hydrangeas are at their best. Lilium longiflorums are good.

BEDDING PLANTS.

BEDDING PLANTS.

These are now an important feature in Covent Garden. Single Petunias with one flower open on each plant are very good; also the large-flowered spotted Mimulus. Paneies are very showy; growers who have made them a specialty have them finer than ever this season. Zonal Pelargoniums in 60-size pots are very bright. Most growers bring them in with one good truss of bloom open on each plant, and, packed together, they make a fine show. Polyanthus and Primroses are plentiful. Marguerites in 60-pota, if in bloom, sell much better than those not in flower. sell much better than those not in flower.

CUT FLOWERS.

A week has made a considerable difference in Daffodils, some growers having quite finlahed for the aeason whilst all yellow varieties are getting short, although forms of the poeticus type are still plentiful. Spanish Iriese are taking the place of the Daffodils, and are now very plentiful in all shades. Roses continue abundant, La France and Mrs. J. Laing are both good. General Jacqueminot is still the leading crimson. Niphetos and Kalserin Augusta Victoria are both fine. Orchid bloom is plentiful—Cattleyas are better, while Odontoglossum crispum, O. triumphans, and Dendrobiums are seen in quantities. Stephanotis, Eucharia, Gardenias, and Tuberoses are more plentiful; Liliums continue good, and are in excess of the demand. Lily of the Valley is not plentiful. There are still a good many Tulips of the late-flowering and Parrot varieties. Pelargonium bloom can be had in plnk, white, and mauve; I find the latter colour is a favourite with some florists. Carnations are fairly plentiful, but good yellows and good whites are scarce. A few fine plnk Malmalsons are in, and make big prices. Trade generally may be regarded as good, but, as one grower remarked, the supplies are over abundant. A week has made a considerable difference in Daffo-

ANSWERS TO CORRESPONDENTS.

A CURIOUS BULB: J. W. B. The offset or new bulb is really the development of a bud in the axil of a scale leaf. In this case it commenced to grow as a shoot, which, becoming arrested, afterwards took on the bulbous form, and finished as such. Thanks for sending the interesting specimen.

Asparagus: Spring. The culture of Asparagus in England and France is not the same. The French like to have all their Asparagus blanched, and therefore cover their plants 12 or 15 inches deep with soil, and cut the growths directly they appear above the surface. In England it is generally preferred to have an inch or two of green tip to the growth, and if the roots are covered 9 or 10 inches deep by throwing up extra soil over them in March, and the growths cut when they are 2 or 3 inches or so above the surface, you will have Asparagus the condition it is most appreciated in this country. Never allow the growths to remain after they become loose. See note on Asparagus in our issue for January 2, or The Book of the Asparagus, by Chas. Hott, obtainable at this office.

Begonia Gloire de Lorraine: E. B. In our issues for March 26 and April 9 will be found information regarding the culture and propagation of this plant.

BLACK CURRANT: J. B. R. The swollen condition of the buds (fig. 129) shows that the bushes are attacked by the destructive mite, which can only be seen by the use of a powerful microscope. The best remedy is to take away and burn the bushes badly affected; cut the affected shoots from those remaining, and rake away the surface soil from about the bushes, so far as can be done without damaging the roots, then top dress with fresh soil. The variety of Black Currant known as Boskoop Giant is recommended as being less liable to attack. The Hazel and Filbert are attacked by a similar mite.

Bowling Green: J. W. Our expert has given this matter his careful attention, and finds the turf to be affected by the trapeze worm (Allolobophora trapezoides), which is exceedingly tenacious of life, as is shown by its being one of the most widely distributed of all the earthworms. There were no traces in the turf of any other destructive organisms, so the mischief is attributed solely to this pest. No eggs were found in the turf. The eggs or cocoons are usually deposited in decaying matter, manure, &c. Hence the eggs of the trapeze worms may be expected to occur freely

in the rotten manure and soil put under the turf. This may be nearly exhausted, in which case the worms may in time fail to find sufficient material to induce them to remain. That can only be proved by lifting the turf. If there still remains under the turf any of the mould and manure, the eggs will continue to be laid there, and chemicals will not destroy them. In this case the only remedy is to lift the turf, remove or burn all the offending soil, and prepare the bed for relaying the turf. For details respecting the worm, see forthcoming article in the Gardeners' Chronicle.

CALANTHES: Carnation. Your Calanthes have become affected with a disease which sometimes attacks them even when they seem up to that point to be progressing satisfactorily. Once attacked in this way there is nothing to be done but to destroy the plants affected and rely on the healthy ones for future stock; or, better still, get bulbs for next year from another still, get bulbs for next year from another garden. As with many other plants extensively grown year after year, a change of stock is beneficial. You do not say whether your Calanthes have always been grown from the same stock, but we conclude that they have.

CLAIM FOR WAGES: One Anxious. better consult a solicitor.

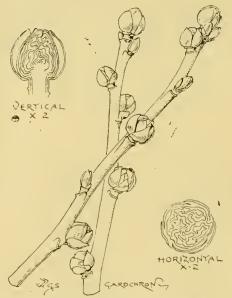


FIG. 129.—BUDS OF THE BLACK CURRANT AFFECTED WITH MITES.
(The mites themselves are not shown.)

COWSLIPS, ONSLIPS, "COVEE-KEYS," &c.: E.C.C.D.
In A Dictionary of English Plant Names
(Britten) it is stated that by Cover-keys, or Covey-keys, is meant the Oxlip, not the true Primula elatior, Jacquin, but the plant known as P. variabilis, Goupil. In the neighbour-hood of Ashford, Kent, the word Culverkeys is applied to Primula veris L., and the wine made from this plant is called "Culverkey-wine." We do not know if the name is applied to Primula veris elsewhere, but suppose that it is not. Aquilegia vulgaris and Scilla nutans have also been known as Culverkeys in other localities. "Skeat-legs" is a common name in Kent for Orchis mascula and less generally for Kent for Orchis mascula, and less generally for other Orchids. Its derivation, according to the book already cited, is from "scoet" or "sceat," meaning any description of wrapping of swathing, the stem or "leg" of the plan being partially enveloped in a sheathing-leaf.

Fuchsia: J. M. A variegated sport. Cultivate it and see if it is of any value; we cannot tell from the scrap sent.

GRUB: G. K. The larva you send is that of the goat-moth, most destructive to fruit-trees.

Insects: J. Mc. The winged flies are of some dipterous insect allied to the St. Mark's Flycertainly not the Pear-mite, which is much smaller and has no wings.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A. B. C.,

Lancashire. 1, 2, 3, 4, varieties of Odonto-glossum triumphans—1 a very fine form, the others interesting on account of their remark-able variation; 5, nearest to O. × Andersonable variation; 5, nearest to O. × Andersonianum, and with distinct traces of O. gloriosum (which would be one of the parents) in the wings of the column. The texture is that of O. crispum, and, being unspotted, is in effect a bad O. crispum. The yellow flower is nearest to Odontoglossum × Adrianæ aureum; the rose-coloured is called Odontoglossum crispum roseum.—Odon. Not Odontoglossum bicton-ense, but Oncidium leucochilum, one of the prettiest of cool-house Oncidiums. It is a native of Mexico and Guatemala. Under cul-tivation it grows better with Odontoglossums than with the Brazilian Oncidiums of the same habit of growth. It thrives with the cool-house Brazilian Odontoglossums of the O.crispum class. — Botany. — Osmanthus ilicifolius.—J. McK. Dendrobium Falconeri; good, but not extraordinary.—No name, Price's box. Dendrobium teretifolium.—Cape. Satyrium coriifolium.— C. G. D. 1, Adiantum plumosum; 2, A. cuneatum gracillimum; 3, A. tenerum Victoriæ; 4, At the gractimum; 5, A. tenerum victoria; 4, A. cuneatum; 5, A. pulverulentum.—W. H. C. Celsia cretica.—L. B. W. Piptanthus nepalensis.—Z. Q. 1 and 2 are poor varieties of Cypripedium × Calypso (Boxallii × Spicerianum); 3, probably the result of crossing C. exul and C. barbatum.—Henkel, Darmstadt. A form of Cattleya intermedia.—R. N. H. Onci-dium leucochilum.—Botanist. Geranium striadium lencochilum.—Botanist. Geranium striatum, probably an escape from some garden.—Westyl. 1, Trollius europæus, Globe-flower; 2, Quercus Ilex; 3, Primula denticulata; 4, Aubrietia deltoidea; 5, Alyssum saxatile; 6, one of the Leedsi section of Narcissus, impossible to name the particular variety.—J. H. B. 1, Kerria japonica; 2, Ribes aureum; 3, we cannot name the Tulip, send to some grower.—W. C. One of the many forms of the Japanese Acer palmatum.—J. B. 1, Berberis grower.—W. C. One of the many forms of the Japanese Acer palmatum.—J. B. 1, Berberis Darwinii; 2, Berberis stenophylla; 3, Funkia Sieboldi variegata; 4, Fritillaria Meleagris, white variety; 5, Triteleia uniflora; 6, Hedera Roegneriana; 7, Hedera Helix variety; 8, Cotoneaster microphylla.—J. A. Send when in flower: we cannot name the specimens you send. flower; we cannot name the specimens you send; 1 is Doronicum caucasicum.—S. T. H. 1, Streptosolen Jamesoni; 2, Abutilon Savitzianum; 3, Choisya ternata; 4, Glechoma hederacea, variegated form; 5, Cupressus funebris.—J. McC. Narcissus Bernardi H. E. Buxton.—J. H. Narcissus Queen of Spain.

"SHOT-HOLE" FUNGUS: Fruit-grower. It is not caused by bad cultivation, but by a fungus, Cercospora circumscissa. Spray with the ammoniacal solution of copper carbonate, as previously advised; and refrain from using the Bordeaux-mixture on Peach, Nectarine, or Almond-trees.

SURFACE WEEDS ON POND: W. H. W. See further note on p. 299.

VINE-LEAVES: Fruit-grower. There is no fungus disease; the disfiguration is from scalding. The leaves have been wet when the sun has become suddenly bright and the ventilators insufficiently open. We presume you have not syringed the Vines with diluted liquid-

WATER-FINDER: Lady McC. If you will kindly forward us your address we will send you a letter from a correspondent.

YEW HEDOE: Yew. In cases where the whole of the tree, or even greater part of tree is dead, remove them root and branch, and early next autumn plant specimens of considerable size in the vacancies thus caused. Cut away all dead branches from the other trees, and top-dress the roots with some rich soil.

COMMUNICATIONS RECEIVED.—H. J. C.—L. M.—C. W. D.
—A. W.—D. R. W.—W. H. D.—W. T.—M. Correvon—
B B. W.—S. D.—W. W.—J. H., Haarlem—J. S.—J. G.
—C. T. D., thank you, carrection noted—N. W. C.—
R. C. G.—M. Mottet, Paris—Borneo—V. N. G. & Co.—
Rendall & Coombs—G. S.—F. M.—H. G. C.—W. F.—
E. M.—Deols—C. R.—W. B.—In doubt—A. Pettigrow
—L. T.—W. W.—J. D. Campbell—N. E. B.—J. H. P.—
C. H.—J. P.—E. H. J.—H. W. W.—T. Beumer, France
—H. J. C.—C. P. R.—G. B. M.—T. H.—J. O'B.—C. S.—
T. R.—C. B. Braintree—A. T. M.—J. F.—A. M. P.—
G. S.—J. M.—F. W. D.—W. S. C.—A. C. D. N.—T. M. R.
—W. U.—Persica—Old Subscriber.



VIEW IN THE CATTLEYA HOUSE OF MESSRS. J. & A. A. McBean, Cooksbridge, Sussex.



THE

Gardeners' Chronicle

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HIMALAYAN BAMBOOS.

ARUNDINARIA FALCONERI* AND A. FALCATA.

MR. FREEMAN-MITFORD (now Lord Redesdale) has already pointed out 1 that "the majority of the plants hitherto cultivated in this country under the name of Arundinaria falcata have proved to be Thamnocalamus, or rather Arundinaria, Falconeri." Gamble 2 suggested the same name for the A. falcata of Rivière'a Les Bambous, a Bamboo widely cultivated in the West and South of France and in Algeria. Nevertheless there is still considerable confusion concerning those two species, and it has become more complicated by the accession of A. nobilis, a new species proposed by the author of the Bamboo Garden, and by the doubtful position of the A. gracilis of the horticulturists. An account of their history and distinctive characters may therefore not be out of place. The history, so far as it can be traced, explains sufficiently how the confusion arose, whilst the tenacity with which garden names once established cling to their objects, whether right or wrong, accounts to a great extent for the persistency of the error.

HISTORY OF THE HIMALAYAN BAMBOOS.

A. Falconeri. - Although Wallich distributed herharium specimens of Bamboos from the temperate parts of the Himalaya as early as 1821,

* Arundinaria Falconeri has been figured and described quite recently in Botanical Magazine, tab. 7947.

the existence of Bamboos in that zone remained unnoticed for some time, mainly, as I suppose, because the altitudes at which they were found were not indicated on the distribution labels. It was left to Royle to mention first this phytogeographically interesting fact. He3 says, in an account of an excursion to Chor Mountain (12,000 feet) in Sirmore, "Higher up patches of snow were seen, and the Himalayan Bamboo, which had been levelled with the ground. The barometer stood at 21.324." This was on May 9, and the altitude must have been above 9,500 feet. Then two pages further on he has this paragraph: ' of the Bamboo tribe, which in the hills is used for the same purposes as the Bamboos in the plains, is found commonly at elevations from 7,500 to 10,000 feet. Its annual atema are yearly beaten down by the fall of snow, which protects its perennial roots from excessive frosts." Those are the only passages, so far as I know, where Royle refers to Bamboos in the Himalaya; and it does not seem that their occurrence at such elevations impressed him greatly. In any case, it is certain that he considered all the Bamboos which he had seen in the temperate zone of the Himalaya as belonging to one species, which was to him simply the Himalayan Bamboo. There is at Kew, accompanied by notes in Royle's handwriting, a splendid drawing, which was no doubt intended to illustrate this "Himalayan Bamboo." It represents the same species which was in the following year described by Nees as Arundinaria falcata from specimens collected by Royle.5

Thus Arundinaria falcata came to stand for the "Himalayan Bamboo," or the "Hill Bamboo" (as the European residents called it) of the North-western Himalaya, although we know now that Arundinaria falcata rarely ascends to more than 7,000 feet, and that the Bamboo referred to by Royle in the passages quoted must have been, in part at least, A. spathiflora. Under the circumstances it is not surprising that Ed. Madden (then a captain in the Bengal Artillery, and an enthusiastic explorer of the Himalaya of Kumaon and Garhwal), when coming across flowering and fruiting patches of "Hill Bamboo," put it down as Arundinaria falcata. This find is very important, because it contains the key to the confusion alluded to in the beginning of this article, as well as the pedigree of probably all the specimens of Arundinaria Falconeri in the gardens and parks of Europe and Algeria. It was in September, 1846, when Madden6 was crossing from the Sarju Valley into the Pindari Valley (North-west Kumaon), and going up the latter towards the Pindari glacier, that he met with "the luxuriant and most abundant Nigala Bamboo (Arundinaria falcata), which, from 20 to 30 feet high, overhangs the path in the most graceful but to-day unwelcome? clumps; it reaches up within a few miles of the glacier, and is also common on the western face of the Dhakree Benaik9; it is very generally in seed, now ripe and ripeniog. The mountaineers assert that this only takes place every twelve years (a suspicious period), and that then the plant dies. They are certainly so far borne out in this that all the fruit-bearing specimens do seem fading away, and that for several years past I have in vain tried to procure the seed."

INTRODUCTION OF SEED TO EUROPE.

Madden collected a considerable quantity of the seed to send it home, and he believed 10 that it "produced all the plants living in Great Britain and Ireland." There is still at Kew the letter, dated February 13, 1847, and received in April, by which he advised Sir William Hooker of the despatch of "a good supply of Hill Bamboo seeds," requesting him at the same time to transfer onehalf of them to his friend, Mr. Moore, of the Glasnevin Garden, Dublin. The seeds reached their destination safely, and as early as July of the same year Ch. Lemaire was able to announce, in Van Houtte's Flore des Serres 11 the arrival of an excellent and quite extraordinary (ébouriffante) novelty, namely, a Bamboo producing canes 30 to 40 feet high, and growing in the Himalaya at an altitude of 8,000 to 10,000 feet, where the snow lies 10 feet deep in the winter. He adds that he has before his eyes (in Van Houtte's establishment) young plants which would in the future show whether the expectations they raised were justified. Van Houtte included them in his next Prix Courant for 1848. I have not seen a copy of it, but from a quotation by Decaisne 12 it appears that it contained account by Van Houtte, according to which he planted a seedling of this Bamboo in the open-air, where it was exposed to the full rigours of the winter, the thermometer falling once to 5° F. Notwithstanding this, the rhizome was, on February 15, when the note was written. "perfectly healthy, showing eyes ready to pierce." The Bamboo thus advertised soon found its way into the gardens and parks of Western France, the Riviera and Algeria, and the greenhouses of the climatically less favoured parts of Europe, whilst the credit of having introduced it went to Van Houtte, the enterprising Belgian horticulturist.13 Considering how very little was known of the Himalayan Bamboos previous to the publication of Munro's great monograph in 1868, and how scarce and imperfect the material representing them in the European herbaria was, it is not surprising that nobody thought of challenging the correctness of the determination of thia Bamboo as Arundinaria falcata. However, in 1875 the Bamboo flowered for the first time in Europe (at Nantes 14 and at the Duke of Sutherland's place at Trentham 15), and the following year the flowering was general all over Europe (Western France, Paris, Riviera, Italy, Eisenach, St. Petersburg, England, Ireland), in Algeria, and in the United States (at Boston), the phenomenon creating universal surprise. Munro16 then pointed out that this so-called Arundinaria falcata was really his A. Falconeri, a perfectly distinct apecies. Unfortunately, Rivière took no notice of this correction, and all the numerous statements in his elaborate paper, "Les Bambous," 17 referring to "Arundinaria falcata," and his description of it, including an excellent figure of an inflorescence, really belong to A. Falconeri. This fact contributed certainly more than anything else to the perpetuation of the old error, which has not died even yet. There is no evidence of a reintroduction of A. Falconeri after 1847, and it may safely be assumed that not only, as Madden thought, the British, but all the European and Algerian specimens of Arundinaria Falconeri, are descendants of the Pindari Bamboo from which Madden gathered seeds in September,

A. nobilis .- Identical with A. Falconeri is A. nobilis. This was, as already stated, described by the author of The Bamboo Garden in 1896, and he suggested, on the strength of a letter by Mr. Rashleigh, of Menabilly, in Cornwall, that it was probably introduced from China. There is a specimen named A. nobilis in the Temperate-house at Kew, received from Lord Redesdale, which is, in my opinion, certainly A. Falconeri. Other specimens received last spring, as A. nobilis from Mr. J. C. Hawkshaw, Liphook, Hants, and from Dr. Heard, Rossdohan, Kenmare Bay, are also A. Falconeri. Mr. Hawkshaw's plant was in flower, and the determination was therefore as easy as it was certain; moreover, it was confirmed, quite independently of me, by Mr. Gamble.

Lord Redesdale was probably misled to take his Bamboo for a new species by a misconception of A. Falconeri, for the description he gives of this species is clearly that of the true A. falcata. As to the origin of A. nobilis, I must confess that I do

not quite understand Mr. Rashleigh's letter. He says "about this time (namely 1836-1838) much attention was drawn to the parent of the present race of these plants of Bamboo which during about thirty years or more grew on (a fine plant unchecked by winter) in that part of the garden here which is still called the Chinese Garden." Should not 1846-48 stand for 1836-38 when the discovery of A. Falconeri by Madden created much sensation? The plants then raised would be the parents "of the present race," and the statement of their having grown on during about thirty years would tally with the fact that A. Falconeri flowered, fruited and died in England, as elsewhere, about thirty years after its introduction. Mr. Rashleigh also said that he felt sure "that this Bamboo came here through the East India Company's directory." This may be the case; in fact, Madden says in his letter to Sir William Hooker, referred to above, that he also sent recently parcels of seeds to the Secretary of the Admiralty at Calcutta, and it may be that some of the seeds forwarded to the Admiralty went to such of the East India Company's directors as were interested in horticulture. On the other hand there is absolutely no evidence to support the theory of a Chinese origin of A. nobilis. Otto Stapf, Kew.

- REFERENCES.

 1 The Bamboo Garden, p. 170.

 2 "Indian Bambusee," in Ann. Bol. Gard. Calcutta, Vii., p. 21.
 - Illustr. Bot: Himalayan Mountains (1833), p. 21.
- 3 Illustr. 1801. Inmutagin about the St. 1818. 4 Linnæa, ix. (1834), p. 478.
 5 Nees says: "In Nepalia legit et. Royle;" but this is certainly wrong, as Royle was never in Nepat. It is true that Wallich collected the same species in Nepal, but the condition of his specimens practically excluded the assumption that the description was made from them.
- 6 Journ. Asiat. Soc., Bengal, xvi., i., pp. 217, 218.
 7 It had been raining all day long.
 8 This passage is taken from the diary for September 17 (lc), and refers to Madden's march from Kathi to Dwall (7,967 feet). The glacier descends to almost 11,700 feet.
 2 The pass between the Savin and Nindari Value.
- The pass between the Sarju and Pindari Valley. It was also collected in 1847 or 1849 by Strackey and Winterbottom on Madhári Pass, to the north-east of Dhakri Binak between the rivers Sargu and Ramganga.
- 10 Ann. & Mag. Nat. Hist., 2nd Ser., xi., p. 350.

 11 Vol. III., p. 215b.

 12 Revue Hort., Ser. iiI., vol. ii., April, 1848, p. 126.

 13 Rivière, Les Bambous, p. 100.

 14 Lalande, in Revue Hort., 1875, p. 282.

 15 Specimens in the Kew herbariuw.

 16 Gardeners' Chronicle, 1876, ii., p. 774.

 17 Bull. Soc. d'Acclimat, 1878.

(To be continued.)

THE GENUS CORYDALIS.

This genus till lately has not been held in high estimation among gardeners in general, although such old friends as C. solida, C. cava, and its white variety, with C. lutea, a wild or perhaps only naturalised plant on or near old walls, have always been welcomed by the connoisseur. There are, however, many more candidates for public favour, as C. nobilis, with dense spikes of yellow flowers (fig. 132, p. 308); C. thalictrifolia, recently introduced (see fig. on p. 309); and C. angustifolia (see fig. on p. 306), the plant called by Marschall von Bieberstein, Fumaria angustifolia. It is a native of the Caucasus; it has a tuberous root, biternately-divided leaves, the segments of which are linear; the flowers are three-quarters of an inch long, and flesh-coloured, with a spur that is curved downwards. It is said to differ from C. solida in its narrower leaf-segments, and especially in its longer capsule (1 inch long). The most recent description is in Boissier's Flora Orientalis, vol. i. (1867), p. 130. The specimen figured on p. 307 was kindly sent by Mr. C. G. Van Tubergen, of Haarlem.

Mr. Hoog obliges us with the following remarks on this species: "It appears never to have been in cultivation, and apparently is now a very rare plant even in its native habitat. The Messrs. Van Tubergen, of Haarlem, obtained a single tuber of it six or seven years ago from a ladybotanist who spent some time botanising in the country between Tiflis and Batum; and, as it ripens seeds in abundance, they have now succeeded in raising a stock from it. This species is a very hardy plant, coming into bloom with the very first spring flowers, in that respect even beating our native C. bulbosa (solida); and it also ripens its seeds very early, at least three weeks in advance of any other hardy plant. The seeds (which are small, black, and very shiny), if sown at once, will yield flowering plants in about

The flowers are [racemose, deep yellow keeled with green. In drawing the specimen received from Messrs. Jas. Veitch & Sons, Mr. Worthington Smith noticed that the tip of the spur had in almost every instance been eaten by some insects in quest of the nectar deposited in the spur. As the construction of the flower is apparently such as to necessitate fertilisation by insects, this felonious way of obtaining the nectar without labour on the part of the insect can only be characterised as a reprehensible proceeding.

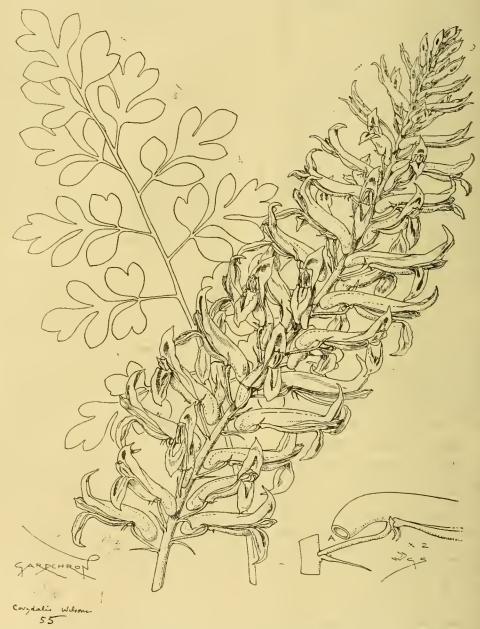


FIG. 130.—CORYDALIS WILSONI: COLOUR OF FLOWERS YELLOW KEELED WITH GREEN; A, SHOWING TIP OF SPUR EATEN AWAY BY AN INSECT.

three years. The tuber of this species is solid, about the size of a filbert; and the flowers, which are coloured pure white, are produced in several long spikes. Altogether it is a very pretty species, and quite worthy of a place among the gems that give colour and brightness to our gardens in early spring."

CORYDALIS WILSONI (FIG. 130)

is a Chinese species introduced to the Veitchian nurseries by Wilson, and described by Mr. N. E. Brown, Gardeners' Chronicle, 1903, ii., p. 123. The plant is glabrous, with glaucous tufted leaves, bipinnate, with stalked and lobulate subdivisions.

Another really splendid species of this genus was shown by Messrs. Van Tubergen at a recent meeting of the Royal Horticultural Society. No name was attached to it, so that it is probably undescribed. It had the appearance of C. Ledebouri, but the flowers were nearly double the size of those in that species. The flowers were pinkish-cream coloured, the extremity of the long spur deep purple. We extremity of the long spur deep purple. shall probably soon hear more of this very remarkable species, which in the confusion that reigned at the exhibition in question did not get the attention it deserved. We are all looking forward to the new Hall to rectify the inconvenience



Fig. 131.—corydalis angustifolia: flowers flesh-colour. (see p. 306.)

of overcrowding; but unless the Fellows prove more liberal in their contributions than they have hitherto been, they must not expect the inconveniences of which they complain to be much ameliorated even in the new building.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM NEVADENSE.

This pretty Odontoglossum has always been rare in gardens, and the few plants which have flowered exhibit great variation in the markings of the flowers. Flowers of a very good form have been received from Mr. John Cowan, Gateacre Nurseries, near Liverpool. Each flower is about two and a half inches across. The lanceolate acuminate sepals and petals are wax-like in substance and have a smooth shining surface; the reverse of the sepals are greenishyellow, the colour appearing with but a slight shade of green on the face, the greater part of which is taken up by broad chestnut brown bands. The petals are similar in colour but have more yellow at the bases. The labellum, which is very peculiar in shape, has the middle lobe hastate acuminate, and is fringed white changing to straw colour; the erect side lobes are white, with distinct red-purple lines, the bilamellate crest, white; the column whitish streaked with purple.

ODONTOGLOSSUM CIRROSUM GEMMATUM.

After many years another plant of this distinct and finely coloured variety has appeared in the collection of C. H. Feiling, Esq., at Southgate House, Southgate. The original was described by the late Professor Reichenbach in the Gardeners' Chronicle, from a specimen in the Downside collection. The flowers are like those of a good typical O. cirrosum, with the parts of the segments nearest the column somewhat enlarged, and the broader portion of the petals bear showy clusters of bright rosy-mauve spots. The sepals also show spotting of a similar colour but in less degree. The general body of the flower is white with the usual chocolate spots, the hase of the lip yellow with reddish lines on the upper part. J. O'B.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

The March issue of the work gives illustrations by M. Goossens, and descriptions by M. Alfred Cogniaux of thirteen subjects.

CATTLEYA × MASSILIENSIS (TRIANÆ × DOWIANA AUREA).—Flowers bearing a great resemblance to those of C. Trianæ, but with a bright yellow base to the lip

Cypripedium \times nitens Hyeanum. — The plant usually called $C.\times$ Sallieri Hyeanum io gardens.

CYPRIPEDIUM × MADIOTI (VILLOSUM × CHAMBER-LAINIANUM).—Flowers greenish with purple lines on the dorsal sepal, the petals and lip heing tinged and veined with dull rose.

CYPRIPEDIUM × ROMULUS (NITENS HYEANUM × INSIGNE CHANTINI). — A fine hybrid raised by M. Jules Hye de Crom, and resembling a very richly coloured C. × nitens, the upper sepal having very large purple hlotches, the apical third being white.

GEODORUM CITRINUM AND VAR. AUGUSTI.—A preity interesting species and variety from the East Indies, figured from the collection of Sir Trevor Lawrence, Barl. The species is pale yellow, with orange markings on the lip; the variety Augustl, white with similar markings.

LELIO-CATTLEYA × BINOTI.—A natural hybrid, probably between L. pumula and C. bicolor, the latter, as in all hybrids in which it is used, predominating. Flowers bright rose; column white.

LHELO-CATTLEYAX CLIVE (L PRESTANS X C. DOWIANA).
—Originally raised by Norman C. Cookson, Esq.
Flowers bright rosy-lilac; lip purple, with golden base.

LæLio-Cattleya × Truffautiana var. Fournieri (L. Tenebrosa × C. Dowiana Marmorata) – Ralsed in the collection of M. Louis Fournier, Marseilles. Sepals and petals reddish orange; lip purple.

MAXILLARIA VARIABILIS, AND VAR. CROCEA. - Two forms of a rather despised little species which is often

seen in collections, the flowers varying from yellow to dark chocolate. Those figured are yellow and red.

MORMODES IGNEUM, TWO VARIETIES .- Flowers in the typical form reddish yellow spotted with brown; in the variety white spotted with rose. Flowered by M. Théodore Pauwels, Meirelbecke, Gand.

Onontoglossum × Duvivierianum, var. Burfordiensis,—A beautiful natural hybrid which flowered with Sir Trevor Lawrence, Bart., and probably between O. cordatum and O. apterum (nebulosum). Sepals

BOOK NOTICE.

SCHLICH'S MANUAL OF FORESTRY.

Vol. II., SYLVICULTURE.

The appearance of the third edition of Dr. Schlich's volume on Sylviculture indicates the esteem in which this standard work on Forestry is held. To the British landowner and forester,

Chapter II. treats of the development of forest trees grown on sylvicultural principles. Diagrams illustrating the height, diameter, and volume growth of Spruce, Beech, Silver Fir, and Scots Pine per acre up to an age of 120 years are given, and also the number of trees per acre of these species at different ages. The author gives the species producing the greatest average increment, calculated for a prolonged



Fig. 132.—corydalis nobilis: flowers yellow, with a black spot. Pollen grains magn. (see p. 306.)

greenish-white barred with reddish-rose, the petals similarly marked on the lower halves, and with white tips. Lip white spotted with red.

STANHOPEA WARDII VAR. FROEBELIANA. — Flowers yellow except the column and middle and front portions of the lip, which are white. Flowered by M. Otto Froebel, Zurich.

ZYGOPETALUM MAXILLARE VAR. GAUTIERI.—Sepals and petals green heavily marked with purple. Lip purple at the base changing to rose towards the front. Flowered by M. Eugène Boullet, Corbie (Somme), France.

WOODBRIDGE (SUFFOLK) SHOW will be held on July 14, at The Grange, the residence of Major Howey.

the volume now being reviewed is probably the most important one of the manual, as it deals with a branch of forestry with which everyone is more or less familiar, and for which experience and observation are particularly essential if success is to be obtained.

The book is divided into four parts. Part I., entitled "The Foundations of Sylviculture, contains four chapters. Chapter I. deals with the climate and soil, and their effect upon tree growth in general, while the behaviour of different European species under varying degrees of heat, light, and moisture are described.

space of time, in the following order:-Douglas Fir, Silver Fir, Spruce, Weymouth Pine and Larch, Beech, Scots Pine, Oak, Ash, Birch. In this list the liability of Larch to give out at any stage is evidently not allowed for, and only fullydeveloped crops are referred to. Chapter III, on the character and composition of wood, is probably the most important to practical foresters in this Part. The author is evidently in favour of judicious mixtures rather than pure woods, as they "admit of a more complete utilisation of the factors of the locality, and consequently they produce a larger quantity of wood."

remarkable that practically all the most valuable species grown in this country are light-demanders, and therefore more or less unfitted for growing pure. Proper mixtures are therefore of the greatest importance, although their presence in British woods is more often the exception than the rule, and the directions for mixing given by the author are well worthy of study. Chapter IV. describes the various sylvicultural systems, including those connected with both natural and artificial methods of regeneration. Unfortunately the British forester is practically tied to clear cutting and replanting, on account of game, and has few opportunities of practising the more economical if more complicated methods adopted

root-system referred to. With small plants, not more than four years of age, this evil can be greatly remedied by proper planting, but with larger and older trees the effects of it are more or less permanent. The author has evidently the latter case in mind when he condemns notch or slit-planting. On suitable soil and with careful workmen this system of planting is as productive of good results, and is vastly cheaper than any, but is very liable to abuse when careless or inexperienced men are employed.

The chapter devoted to the natural regeneration of woods might well be studied by many estate owners, especially those in Oak, Ash, and Beech districts. The success of this system depends almost entirely upon method and the

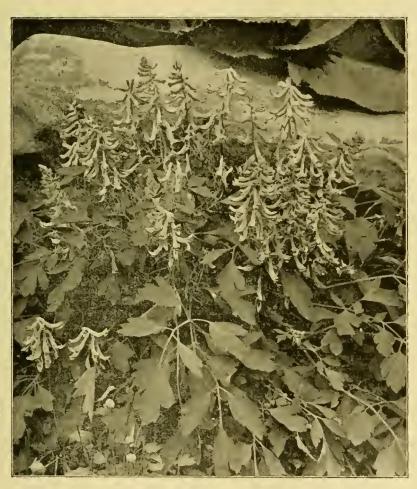


Fig. 133.—corydalis thalictrifolia as grown on the rockery, royal gardens, kew: flowers white. (see p. 306.)

PART II., FORMATION AND REGENERATION OF WOODS,

handles a branch of forestry in which British foresters who have had a thoroughly practical training are probably as well skilled as any in Europe. With the single exception perhaps of natural regeneration, such work as fencing, draining, and planting is probably as well done in Great Britain as anywhere; but the formation of woods by sowing is rarely adopted, although in the case of one or two species it might be done with advantage. In describing a fence adapted for nurseries, wire-netting of 1½-inch mesh is mentioned. It may be pointed out that this mesh is not small enough to exclude young rabbits, and enormous quantities of young hardwoods have been lost through the use of this or a larger mesh being used round plantations. The numerous operations connected with planting are fully described, and the bad effects of a one-sided exclusion of ground game, although the regularity peculiar to successful planting may not be possible. The rapid development of public nurseries and the cool and moist nature of our climate have probably had much to do with the popularity of planting, to which may be added the general ignorance of any other method which prevails.

PART III., "TENDING OF WOODS,"

deals with thinning and pruning. The various objects in view when growing timber are discussed, and their influence upon the degree and nature of the thinning. Although the conflicting ideas which prevail on this subject are not mentioned, the directions given for the production of the greatest quantity would rather appear to favour the free thinnings so long carried out in this country, rather than the retention of a crowded condition until late in life, as is more or

less followed abroad. The following paragraph from p. 295 will illustrate this:—"In summing up, it may be said that, where the object is to produce quantity, the thinnings should commence early, be heavy, and frequently repeated during the first half of the life of a wood, and be more moderate and repeated at longer intervals during the second half.

Such a statement coming from the leading authority on the subject in the country will be welcomed by a large number of British foresters into whose ears the so-called German system of thinning has been dinned during the last few years. Of course everything depends upon the way in which such a statement is interpreted, and we do not suppose that the author is an advocate of thinning to the extent of producing rough and unsaleable timber, as is often the case. quality is aimed at, it is directed that the wood should be thinned lightly until the principal height growth is nearly finished, and thinnings afterwards increased by taking out inferior and diseased trees. But it is difficult to lay down precise directions for correct thinning, still more difficult to follow them unless the thinner has a sound practical as well as a theoretical knowledge of the subject.

PART IV., BRITISH FOREST TREES.

The concluding Part consists of sylvicultural notes on British forest trees. Each species is described as regards, a, utility; b, distribution; c, locality; d, shape and development; e, reproductive power; f, character and composition of woods; g, sylvicultural systems; h, formation of woods; and i, tending. It is apparent that everything that requires to be known about the cultivation of ordinary timber-trees is included in this Part. We notice one omission, which perhaps may have special application to Great Britain. This is the almost valueless character of Sweet Chestnut as a timber-tree after seventy or eighty years of age, owing to the shaky character of the timber. This is so pronounced that Sweet Chestnut of large size can hardly be given away in many districts, while its value as firewood is small.

The general impression left on the mind of the reader of this book is that it is thoroughly reliable, comprehensive, and characterised by facts rather than theories. It contains all that the most advanced forester ought to know or the most ardent student ought to learn. From a purely British point of view it suffers somewhat in value by being written as a text-book, and from being general rather than special in its application to forestry practice; but this may possibly be regarded as a merit rather than a fault. A. C. F.

NURSERY NOTES.

SPRING FLOWERS IN DEVON.

In many places in this neighbourhood the Primrose, up to the time of writing (April 30), dominates the surrounding vegetation almost to the exclusion of the grass itself. The lesser and greater Periwinkles are also very abundant, clambering high in the hedges, which they brighten with their purplish-blue flowers; and to these are rapidly being added the star-like flowers of the various forms of Stellaria. With these constantly changing productions of wild nature, together with the numerous old-fashioned garden plants still happily to be seen in many cottage gardens, there would seem to be little need to look for horticultural displays or for novelties in nursery-grounds; but there are times when one must change a country ramble for a visit to a city or large town, and it is well that such establishments exist as those of our principal nurserymen and florists, where half an hour can be more pleasantly spent than in waiting at

a busy railway-station for the next train to carry one home. Such a period I have just spent in the principal nursery of Messrs. Robert Veitch & Son, in the New North Road, Exeter, where many early-flowering trees and shrubs are making the open-air vegetation quite gay with their bright blossoms, to say nothing of those under glass. Thinking that a mere reference to the names of some of these charming outdoor plants may have some interest to the readers of the Gardeners' Chronicle, I jotted the following down in the course of my hurried visit. Among early-flowering plants one would expect to find many members of the Rosaceæ represented at this time of the year, and perhaps none was more striking than the well-known Prunus triloba, which is equally beautiful whether as a standard or treated as a wall plant. The weeping Cherry (Cerasus pseudocerasus, alba pendula) was also in splendid form, as were the varieties James H. Veitch and rosea flore-plene. Prunus persica var. Clara Meyer, Pyrus Malus var. floribunda, and P. M. var. Parckmanni, were also strongly in evidence, throwing brightness and touches of colour to the surrounding shrub and tree growth, and suggesting their suitability for various situations, either singly or in groups. The snowy Mespilus (Mespilus canadensis) was flowering profusely.
I noticed fine plants of Cytisus supinus, Sambucus racemosus var. plumosa aurea, and Acer californicum var. aurea. Here was also a fine tree of some 12 feet high and as much in diameter of Solanum crispum, absolutely covered with its Potato-like flowers, also a large bush of Daphniphyllum glaucescens; and amongst surrounding plants of smaller growth, though prominent on account of their brilliant colouring, may be mentioned the bright yellow of Genista præcox and the glowing pink of a mass of Amygdalus nana. Rhododendrons were making a fine show in the distance, but time did not allow a closer examination; Rhododendron yunnanense, however, was amongst those in flower under glass, where also I saw the brilliant Azalea amoena var. Hexe, one mass of flowers-a most attractive plant which has proved hardy in Cornwall. Attracted by the fragrance of its highly-scented brownish flowers, I found Magnolia fuscata close to it, as well as Boronia heterophylla, which, however, though of more striking floral character than its ally B. megastigma, is much less powerful in its odour. It may be said that Magnelia fuscata does well as a wall plant at Bicton. J. R.

ALPINE GARDEN.

GEUM REPTANS.

This little mountain Avens is one of the best and freest of alpines, and quite a distinct type of plant from the coarser border species. The leaves are in tufted rosettes or deeply cleft on both sides of the midrib, normally of a deep-green colour, but changing to a ruddy bronze when fully ripe in autumn. The flowers are numerous, almost round in shape, and of a clear golden yellow colour. They are effective for several months from the end of May onwards. In cold clay-seil the plant often damps at the collar in winter, and wilts somewhat when the soil becomes caked by drought in summer, but I have seen it thrive wonderfully well in a loose, moist soil on a rockery slope. The plant likes a loose root-run, and where its roots can penetrate a foot deep, and the surface-soil is rarely sodden, it increases fast, yielding many off-sets every year.

Geum Roylei, from the Himalayas, similarly treated, thrives well. Geum Rossi, from North America, is a plant closely resembling G. reptans.

ORNITHOGALUM OLIGOPHYLLUM.

I have just flowered a few dozen bulbs of this little plant, a native of Cilicia. Although it is

distinct in many ways from the familiar Star of Bethlehem, the flowers are not dissimilar, being white with greenish reverse; but the petals are much broader and more fleshy, whilst the spikes are neater, and are raised 4 inches above the surface of the soil. The hulbs are round, of a whitish colour, and are Scilla-like in appearance. The leaves are 9 inches long, glaucous, erect, deeply channelled or rolled to form tubes. It is superior to O. Hausknechtii and other species flowering at the same season, but not so fine as O. narbonense and its variety pyramidalis. It would be valuable as an early-flowering rock plant, and should be grown in clusters. G. B. M.

SAXIFRAGA BOYDII ALBA.

In his interesting notes upon the alpine plants at Comely Bank, Edinburgh, Mr. Arnott says he cannot consider this plant (see p. 285) "a white replica of the type," and I fully agree with the remark, as also with what follows concerning this good kind. I do not know who is responsible for the name, but the plant is sufficiently distinct from S. Boydii and from all other white-flowered Saxifragas that it may well rank as a species. Yet I think it is of garden origin. An analogous case is S. arctioides alba, which is as widely removed from the species as it is possible; indeed, when well grown, this latter white kind has blossoms fully as large as those of the subject of this note. 'S. Boydii alba is so good and free in growth that an ordinary nursery plant will make a tuft a foot across in two or three seasons, and gives one the impression of having S. coriophylla or S. marginata in its parentage.

ANDROSACE PYRENAICA.

This is one of the most minute of evergreen alpines. In close dense tufts of somewhat hairy leaves, the rosettes are not more than a quarter of an inch across, and little more than this above the soil, and the plant is among the more hardy and enduring so far as British gardens are concerned. The starry white blossoms, flushed with pink and yellow-eyed, are in the same pigmy category as the tuft, rising only a half-inch above the same. Just now the cushion-like tufts are studded with blossoms and pinkish buds. A compost of loam and sand in equal parts, with bits of saudstone near the tuft, appears to suit this little species quite well. E. J.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Peach and Nectarine trees.—There having been little or no frost in this locality during the time the trees have been in flower, most of the trees are now studded well with small fruits. The exceptions are some younger trees which grew strongly and did not mature their shoots perfectly owing to the lack of sunshine. The trees will now grow rapidly, and should be examined every few days or so in order to reduce the shoots to keep a balance between the fruit and wood. Do not let the shoots become too long and too crowded hefore commencing to dishud, nor perform the work so severely as to expose the tiny fruits to the weather. Disbudding should be carried out gradually until only sufficient growths are left for making good any gaps there are, for evering wall space, and for fruiting next year. Syringe the trees with tepid water during dry, warm weather, mixing with the water a little Quassia - extract as a preventive of aphis, &c. Syringe early in the afternoon, so that leaf and fruit may become dry before night. The protective material should be raised each day when blinds, &c., are used, but do not remove it entirely until all danger of frost has disappeared. Remove any of the leaves which are blistered by the fungus Exoascus deformans, and burn them.

Raspberry-beds. — Notwithstanding the frosts experienced from March 11 to 18, which injured a number of the buds of Raspberry-canes at Wrotham, the growth now being made is strong, and promises to bear a fair crop of fruit, Superlative being the principal variety grown here. Examine the beds, and pull out any of the weak suckers that will not be wanted for fruiting next year and any that are springing up between the rows. If new plantations are required, the young suckers may be carefully lifted and transplanted, and they will make capital fruiting canes next season. They will require, however, to be watered well in dry weather uutil they have become rooted in the fresh soil. Support them by wires or stakes as they increase in size to prevent injury from winds. A mulch along the side of the rows with short manure will he very helpful to the young canes. If the fruiting canes have not been mulched let this he done before the soil gets too dry, especially if the soil is light and shallow. The young canes of autumn - fruiting varieties should be secured neatly to supports as necessity arises.

THE ORCHID HOUSES.

By W. H. WHITE. Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking. Phalænopsis.—Such plants as P. Schilleriana,

Phakenopsis.—Such plants as P. Schilferiana, P. Aphrodite, P. amabilis, P. leucorrhoda, P. Luddemanniana, P. Rimestadiana, P. Mariæ, P. Sanderiana, P. speciosa, P. Stuartiana, P. Kunstlerii, &c., having passed out of flower, will commence to make new leaves, and numerous young roots are pushing out all around the baskets. The present is a good time to afford more rooting space to those that require it, or more rooting space to those that require it, or fresh surface material to others. The plants may be cultivated in baskets, shallow pans, or teak - wood cylinders. The largest plants at Burford, some of which have from ten to sixteen large leaves, are grown in shallow teak baskets. If any are in too small receptacles and young roots are plentiful, do not disturb them, as every root has now its share of work to do, and they are easily injured by the slightest touch. Plants in baskets should have all the old material removed and be put just as they are into larger ones, filling up the space between the two baskets, and in the centre with clean crocks, then surface the whole with about 2 inches of cleansurface the whole with about 2 inches of clear-picked sphagnum-moss, mixing with it a little coarse silver-sand. When re-potting I generally scatter a moderate quantity of broken crocks in with the compost, which greatly assists in keeping the whole mass in a fresh, healthy condition. For the first few weeks after being re-basketed the surface-moss should be very lightly sprinkled with water each time it becomes in the least dry, and it is advisable to damp round the sides of the baskets occasionally, which will induce the new roots quickly to establish themselves on the new When these roots become abundant and the young leaves have increased in size and thickness, the amount of water should be gradually increased. When the plants are growing, they require a hot, moist atmosphere, plenty of light, but not direct sunshine, and as much fresh air as can be afforded without chilling the plants arr as can be allorated without chilling the plants or unduly reducing the temperature of the house. At Burford the plants are suspended on the north side of a span-roof house, and therefore it is necessary to use the shadings only for a few hours each day. Where space is of little consequence it is more convenient to grow the plants of the side translating them wall. the plants on the side stage, elevating them well up to the roof-glass, placing the baskets upon suitable stands, or on pots stood in shallow pans filled with water. Growers who have failed to grow Phalænopsis satisfactorily under similar conditions as recommended above I would strongly advise them to adopt the treatment I will now describe, if only as an experiment. About 12 months ago I had a considerable number of Phalænopsis of various species and varieties whose leaves had become spotted and diseased, caused without doubt by being chilled, and the plants were rapidly deteriorating. During the month of May last these plants were taken out of their old baskets, all dead roots removed, and each plant thoroughly cleaned. Afterwards they were placed n small shallow pans and potted in a mixture

of peat, leaf-soil, and sphagnum moss in equal parts, adding a little coarse sand and a few crocks during the process of repotting. All through the summer months the surface of the compost was kept just moist with an occasional sprinkling from a fine rose watering-can, the compost underneath being kept quite dry. The plants, after being repotted in the new compost, soon commenced to make roots freely and to send up new leaf-growths, continuing to do so all through the growing season. At the present time nearly all these plants have from three to six fine, healthy leaves, and several have produced spikes with from twelve to twenty flowers on each. I may add that it has been necessary to repot the majority of the plants again this season, many of them being placed in 8-inch pans, and all of them again promise to make strong vigorous growths.

THE FLOWER GARDEN.

By A. B. Wadns, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Roses.—Many of the plants will be growing fast, and should be disbudded in degree varying according to the strength of the variety. use of the hoe after rain, before the ground gets too hard; this will make the surface soil finer after digging, and prevent undue evaporation. Roses are looking well, and some are already showing for bloom. Now is the time to take measures against the many insects injurious to the plants. Spraying should be commenced as soon as the young shoots are ready to unfold their leaves, the Knapsack-sprayer being the most useful and economical for this purpose. Green-fly is perhaps the first pest to put in an appearance, but a mixture of Quassia-extract and tobacco juice sprayed frequently will keep this in check; other preparations are sometimes used, but the above insecticide is safe and effective. One of the worst enemies to the foliage is the Rose-leaf Roller (Tortrix Bergmanniana), and for this pest spraying must be done vigorously, and in addition to this examine the plants each day and squeeze the grubs between the finger and thumb. amount of damage done in one day by the insect is enormous. As soon as mildew appears apply dry sulphur. The best time to do this is when the dew is on the leaves either at night or morning, or they may be sprayed with water and the sulphur applied, but when sulphur is sprayed in a liquid form it appears unsightly, and ruins the Roses, and is no more effective than if applied dry. Some varieties of Roses are more subject to mildew than others, especially when planted on a cold subsoil. A bed of the variety Margaret Dickson in these gardens always suffers from mildew, although the bed is raised 12 inches. An insect friend of the Roseis the Ladybird (Coccinella septem punctata), which lives on aphides, and does not seem to injure the Roses in any way.

Pæonies.—Herbaceous and Moutan Pæonies will both require attention in the matter of staking, and will need to be afforded protection from frost. Thanks to the seasonable weather, which has kept the Moutan varieties back, we may expect a good show of flower. The herbaceous varieties should be mulched as soon as the flower-buds can be seen, and they may need water if the weather becomes dry.

Bamboos should be mulched with cow-manure if growing in light soil. If possible these should be allowed to a certain extent to grow naturally; they will then afford a cool retreat in summer. If they have grown too thickly the plants may be thinned out and other beds formed, for which purpose the ground should be trenched and manured well, and be mulched after planting.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Bougainvillea glabra.— These should be repotted when the young shoots are an inch or two in length, using pots sufficiently large to afford the plants a good shift. The size of the old bulbs may be somewhat reduced. A suitable compost consists of three-parts loam and one-part leaf-soil, with the addition of some silver-sand. After being repotted, the plants should be placed

in a house having a temperature of about 60°, with a moist atmosphere, until they have made sufficient growth, when they should be removed to a cooler and more airy house. Allow plenty of light to the plants, except in the case of those newly potted, which should be shaded lightly for a week or so. Overcrowding of the growths should be prevented by the early removal of the weaker shoots.

Cytisus racemosus.—As these plants go out of flower, cut them back and place them in a warm, moist house. When the new growth has started they should be repotted, using a compost of loam, leaf-soil, and sand. As growth progresses the amount of ventilation should be increased, and upon the completion of the growth the plants may be stood out-of-doors until the autumn.

Thyrsacanthus rutilans. — Insert cuttings of these singly in small pots filled with sandy soil, and plunge them in the propagating-frame. Directly they are sufficiently rooted place them in 5-inch pots, using a compost of two parts loam, one part leaf-soil, and a little well-rotted manure, together with some silver-sand. Grow the plants in the stove until they are well established, when they may be removed to a house having an intermediate temperature.

Begonia Gloire de Lorraine and B. Turnford Halt.—The earliest-struck plants should now be in 5-inch pots, and their future treatment will chiefly depend on the required size of the plants. Well-flowered plants, suitable for conservatory or house decoration, can be grown in an intermediate temperature in pots of the abovementioned size, or even in smaller ones. But for growing specimens of these plants of the largest size, heat, atmospheric moisture, and shade are essential. It is also necessary to select plants for growing in this way, choosing those which exhibit a tendency to produce lateral shoots at each joint of the central stem. The shoots should not be pinched, as they branch freely naturally, and will grow into bushy plants with a central leader, which should be supported as soon as necessary by a neat stake. In due course the side shoots should be loosely slung to this stake, in order to secure the pyramidal habit of growth to which these plants so readily lend themselves. Take off all flowerbuds once a week until about three weeks before the plants are required for flowering. them once or twice according as it is necessary, finally using pots 7 or 8 inches in diameter, which are sufficient for the largest plants. Specimen plants, if afforded good culture, may be expected to approach 3 feet in height and 21 feet in diameter. A suitable compost consists of loam, leafsoil, and peat in equal proportions, together with a liberal supply of coarse silver-sand.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq. Ashwicke Hall, Marshfield, Chippenham.

Lettuce.—Tie up the most forward plants in order that the leaves may become blanched well. They will then be crisp and tender when sent in for table. A quarter of an hour spent occasionally on such work will often prevent cause for fault-finding. Thin and prick out successional crops as required. Make a small sowing of seeds every fortnight, and let the quantity be regulated by the demand.

Turnips.—Do not neglect to thin early crops on the open border, for if the plants are allowed to become drawn, the roots will be inferior. Make another sowing of the varieties Early Red or Early White Milan. Early Snowball and Orange Jelly are also good varieties. Orange Jelly is sometimes in great demand here owing to the yellow colour being necessary for certain dishes. The roots have also an excellent flavour. If space is not limited, sow a pinch of seeds of a few noted varieties, and test them in regard to the soil and in regard to flavour.

Rhubarb.—Clear away all pots that have been used for forcing, and if manure has been used, spread sufficient of it to form a good mulching amongst the crowns. If any remain over, have it taken to a spot where it will be required for digging-in. Remove flowering stems from the

Rhubarb as they appear. Never pull the crop too severely, but allow sufficient leaves on each plant to keep it in health and the roots active.

Seakale that has been forced in the bed out-ofdoors requires similar treatment to that given the Rhubarb. Flowers are showing on the most forward crowns, and must be pinched out, but retain every leaf possible.

General work.—Clear away any useless crops, and get the ground manured well and turned over, that it may have as long exposure to the action of the atmosphere as possible. Work of this kind must not be neglected, if rotation cropping is to be carried out successfully. Do not allow weeds to overgrow the crops. Keep the hoe at work on all favourable occasions, but when the ground is dry and the sun shining is the best time to kill weeds. On loamy soil, where the Dutch-hoe may be worked easily, a workman can go over a considerable area in the course of a day, but we find the work on stony clay very hard and slow. We have to hack them up with the draw-hoe, and every weed comes up with a ball sufficient to keep it growing unless there is a scorching sun.

Potatos.—Draw a little soil over the growths of Potatos coming through the ground. New varieties which have been propagated in pots and boxes may be planted out on sheltered borders in the best soil procurable, so as to encourage a good crop of tubers.

Maize.—Sow a few seeds of the variety Early Sweet Carey or Early Yellow in small pots in heat, and when the seedlings are up, harden them off for planting out when all danger of frost is past.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockings Park, Wantage.

Peaches and Nectarines.—Fruits that will ripen in June have now passed the "stoning" stage. The shoots have hitherto been allowed to retain their natural position, but we have now commenced to tie them in. If these are at all crowded, thin them out; and one fruit to every square foot of trellis covered with foliage means about one fruit to every shoot of last year. Vigorous growing shoots may be allowed to carry two fruits, which will assist in maintaining an evenness of growth over the trees. Expose the fruits well above the foliage. Keep the roots moist, and maintain a moist atmosphere. We watered the border in this house in the first week in May, being the first time since the house was started. If it is not desired to hasten the ripening, a night temperature of 60° to 65°, with 10° or 15° rise during the day, will be best to employ, but otherwise the maximum heat may be 10° higher.

Succession-houses.—Fruits commencing "stoning" should be thinned if necessary. In every instance retain the best-placed fruits, and do not allow the shoots to become crowded. Afford ventilation on every favourable opportunity. Use the syringe freely, and afford water to outside borders if necessary. On later trees the fruits are just swelling; these should be thinned freely, retaining those that are most promising.

Melons.—When the early fruits have been gathered, make preparations for replanting by thoroughly cleansing the house. The same compost may be made to produce a second crop of fruits if a portion of the surface be removed, and the remainder well saturated with stable drainings, adding fresh loam on the surface for planting, as advised for earlier crops. At the same time maiden loam is preferable for each crop. It is sometimes the practice to take a second crop from the same plants, but better results may be obtained from young plants. Give close attention to fruits now setting, that they may swell regularly on the plant. Keep lateral growths stopped and thinned, and provide a warm circulation of drier air when the plants are in bloom.

Sow seeds for succession singly in 3-inch pots. At this season from the time of sowing the seeds until the fruits will be ripe may be about twelve weeks.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants addressed to naming, should be 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be pr nted, but kept as a guarantee of good faith.

Special Notice to Correspondents.-The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss ar injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending the the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists,

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, MAY 17 Royal Horticultural Society's Committees Meet, and Na-tional Tulip Society's Show combined.

Annual Festival Dinver of Royal Gardevers' Orphan Fund at Hotel Cecil.

Bath and West and Southern Countles Society's Exhibition at Swansea (five days). Brighton Horticultural Society Meet. THURSDAY, MAY 19

FRIDAY, MAY 20-Royal Botanic Society, Lecture. SATURDAY, MAY 21-German Gardeners' Club Meet.

SALES FOR THE WEEK.

TUESDAY NEXT, MAY 17— Library, including books on Botany and Horli-culture, at Stevens' Roome, at 12 30.

culture, at Stevens' Rooms, at 12 30.

WEDNESDAY NEXT, MAY 18—
Palms, Begonias. Perennials and Border Plants,
Liliums, Ferns, Geraniums, &c. at 67 & 68. Cheapside. E.C.. by Protheroe & Morris, at 12.—Third
Annual Sals of Bedding and Greenhouse Plants at
The Park Nursery, Stammer, by order of Mr. J.
Lion, by Protheroe & Morris, at 12.

FRIDAY NEXT, MAY 20—
Established and Imported Orebids, at 67 & 68,
Cheapside, E.C.. by Protheroe & Morris, at 12.30.

For further continuous sea our Advantagement sellment.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick - 54'5 .

ACTUAL TEMPERATURES :-

TOAL TEMPERATURES:

LONDON,—May 11 (6 P.M.): Max. 56°; Min. 43°.

May 12, Gardeners' Chronicle Office, 41, Wellinglon Street, Covent Garden (10 A.M.): Temp.,

55°; Bar. 30 2 Weather dull.

PROVINCES.—May 11 (6 P.M.): Max. 56°, South of

England; Min. 44°, North-east of Scotland.

The Codlin Moth, &c.

OUR French friends are as much concerned with this pest as ourselves, and they

adopt various means of preventing the attack-amongst others, by enclosing the fruits (Apples or Pears) in little paper bags. The bags are slipped over the young fruit at about the middle of May and the beginning of June, just as similar bags are placed over the ripening fruits to protect them from wasps. The moth pierces the rind, and deposits her eggs in the fruit soon after the latter date; but if she can be prevented doing this, the fruit does not become "wormy."

M. Loiseau,* in a little treatise he has just published, is very emphatic in his recommendations, the increased crop and better quality of the fruit obtained more than balancing the extra cost of time and labour. Of course this method can only be adopted in certain cases. The bags remain

on till the fruit is nearly ripe in autumn. If rich colour is required, the bags can be removed a little earlier. The advantages claimed are these:-

1. Protection against the codlin-moth.

2. Prevention of the cracking of the fruit caused by the fungus Fusieladium, the spores of which are prevented from settling on the fruit.

3. Shelter from hail.

4. Increased delicacy of texture of the rind and of the flesh.

5. Enhancement of the colour in autumn.

6. Protection against sunstroke.

7. Increased facility of cultivating certain varieties of Apples and Pears in bad aspects, or even when grown as standards.

8. Increase in the size of the fruit.

9. Preservation against slugs, snails, earwigs, moths, &c.

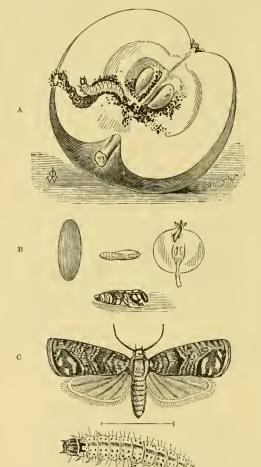


FIG. 134.-THE CODLIN MOTH. A—The calerpillar in an Apple, natural size.

B—The chrysalis stage.

C—The periect moth, magnified. Beneath, the caterpillar magnified.

Each of these statements is supported by evidence in the text of the little book before us, wherein full details are given as to the methods to be employed to ensure satisfactory results.

Directions are also given for the production of designs or letters by means of stencilplates, or letters in relief made of card, and affixed to the growing fruit, so that when ripe the letters appear dark or light, as the case may be, on the surface of the fruit.

The likenesses of celebrities or armorial devices may also be imprinted on the rind of the fruit by means of photographic films. The Paris shops have afforded many

illustrations of this process, the Russian arms being very common. The price asked for such Apples is a fancy one. Whether it be good taste to do this is doubtful, but it serves to amuse people; and if the fruit-grower can make a little extra profit by such means he is fairly entitled to his reward.

HARDY PALMS (see Supplementary Illustration) .- A good many of us have even now not got over the idea of strangeness when seeing Palms flourishing in the open-air. Nevertheless, there are specimens at Kew which show that the London climate is not wholly prejudicial to the Chamærops excelsa. In the Isle of Wight we have seen scores of self-sown seedlings nestling beneath the parent Palm. At Swanage and, of course, in Devonshire the Palm flourishes. Even in Gloucestershire it thrives in Canon Ella-COMBE's garden, the secret, as he tells us, consisting in shelter. The specimen figured in our Supplementary Illustration has an historic interest. It was for long in the possession of the late N. B. WARD, of Fern-case fame, and formed one of his many treasures at Clapham, where that very lovable botanist was wont to show it with pride to his many friends. After his death two of his daughters took the treasure with them to their retreat at Penmaenmawr, where it still thrives and flowers every year, having the advantage, as at Bitton, of shelter. It is a fitting memorial to one of the kindesthearted and simplest-minded of men.

THE DUSSELDORF EXHIBITION .- Although Odontoglossums were shown very finely at the recent exhibition by M. VUYLSTEKE, Loochristi, Ghent, and others, quite as much importance was attached to the excellent exhibit of Lælio-Cattleyas shown by M. CHAS. MARON, Brunoy, France. Consequently the awards of 700 marks and a Gold Medal made to each of these two collections were equal in value.

THE TEMPLE FLOWER SHOW, MAY 31, JUNE 1 AND 2.-A letter from the Secretary states that every year the desire of growers to exhibit increases, and the officials of the Society have a very anxious task in endeavouring to do justice to those who regularly support the fortnightly shows of the Society, and yet at the same time to encourage others to come forward. The space is absolutely limited by order of the Temple authorities, no more or larger tents can be erected, hence every new exhibit which is accepted means curtailment of the space allotted to previous supporters. The Judges will meet at the Secretary's tent at 10 30 A.M. on May 31, at which hour punctually the tent will be cleared of all exhibitors and their assistants. The Fruit, Floral, and Orchid Committees will assemble at the Secretary's tent at 11 Am. sharp, and the show will be opened at 1230. All plants for Certificate must be entered on or before Thursday, May 26. Address, Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W.

ORCHID BOUQUETS AT BRADFORD.-Messrs. CHARLESWORTH & Co. forward us two photographs representing, the one the bouquet pre sented by the granddaughter of the MAYOR OF BRADFORD to H.R H. the Princess of Wales, on the occasion of her recent visit to Bradford; the other, the basket placed on the table in the railway saloon carriage occupied by Her Royal Highness. The Orchids were, as might have been anticipated, of the choicest character. Those in the bouquet included, among others, Lælio-Cattleya Hyeana, L.-C. Myra, Cattleya Schroderæ Oncidium Marshallianum, Odontoglossum Edwardi, and specially fine forms of the white and spotted variations of Odontoglossum crispum. In the basket placed by Messrs. Charlesworth

^{*} L. LOISEAU. De l'Ensachage des Fruits. Parls: 81bis. Ruc de Grenelle.

in the saloon carriage were many rare and choice varieties, such as Brasso-Cattleya Digbyana var. Schroderæ, Lælio-Cattleya Wellsiana alba, L.-C. Lawrenceana, Trichopilia suavis, and magnificent spikes of Odontoglossum crispum. The luncheon tables in St. George's Hall were also decorated with Orchida by Messrs. Charles-warth & Co.

ROYAL BOTANIC SOCIETY OF LONDON.—We are informed that Lord REDESDALE has consented to become President of the Horticultural section of the Exhibition to take place under the auspices of this Society in their gardens, Regent's Park, from June 6 to 11.

EARLY PANSY.—Messrs. Cooper, Taber, & Co., write—"We send herewith a few flowers of the charming French Pansy Mme. Perret. This is a break from the Trimardeau Pansy, having a great range of colours, all the flowers being tinged with red wine colour. We may say that these flowers are picked from plants that have stood on our Witham farms all through the winter, and were raised from seeds sown in the open ground in June last. Comparing it with other strains of Pansy we find this to be the earliest large-flowering variety now in culture." The flowers were not only large in size, being 2} inches across, but also delightfully sweet.

SCHEDULES RECEIVED.—DUDLEY HORTICUL-TURAL SOCIETY'S EXHIBITION AND FETE, to be held in Buffery Park, Dudley, on Tuesday, Wednesday and Thursday, August 2, 3 and 4, 1904.

RAMSEY HORTICULTURAL SOCIETY'S show of dowers, fruit and vegetables, to be held in the Abbey Grounds on Monday, August 1, 1904.

POTTERS BAR AND NORTHAW COTTAGE HORTICULTURAL SOCIETY'S, and POTTERS BAR AMATEUR ROSE SOCIETY'S combined Show, on Thursday, July 14, 1904, at Little Heath Wood.

INTERNATIONAL PRINTING EXHIBITION.—
The International Printing and Allied Trades Exhibition was opened on Saturday, April 30, at the Agricultural Hall, Islington, N. It is the most representative exhibition since the great Caxton Centenary of 1877 at South Kensington. Since that date the photo-engraved half-tone block and the three-colour print have caused a complete revolution in the methods, machinery, and processes of the printing trade. This exhibition was originated and promoted by Mr. F. W. Bridges, the proprietor of The Caxton Magazine and various other trade journals, and is the first important exhibition in these trades for the last seven years. The exhibition will remain open until May 17.

WARNING!—Gardeners and others are cantioned against a man who has, we are told, been very busy lately in the county of Surrey. He tells a pitful tale in a plausible manner and obtains loans, to be repaid at the end of the first week after entering his new place. The chief mischief is that, after having been deceived in this manner, a deaf ear is turned to really deserving cases.

RHODODENDRON DUCHESS OF PORTLAND.— Flowers of this beautiful variety are sent us by Messrs. Fisher, Son & Sibray, Handsworth Nurseries, Sheffield. The trusses have fifteen flowers or more each, pure white, campanulate in form, and very attractive.

THE EDINBURGH SEED TRADE ASSISTANTS.—The first spring outing of the Edinburgh Seed Trades Assistants took place on the 30th ult., the drive being to see Mr. C. W. Cowan's grand collection of Daffodils at Dalhousie Castle. A party numbering thirty-one, and representing twelve trade firms, left the city by special char-à-banc at 2-15 p.m., arriving at Dalhousie Castle at 4 o'clock. In addition to the wonderful collection out-of-doors, which is arranged in sections and

contains many of the best novelties, a collection of cut blooms in vases was displayed indoors, all distinctly named and classed in order of merit, which proved interesting and instructive. The company returned to the city at 9.30 P.M., all feeling that they had spent a most profitable and enjoyable afternoon.

STOCK-TAKING: APRIL.-The Budget very naturally interferes with the even flow of commerce, and Tea and Tobacco are the imports interfered with this year. Everybody knows all about this, and many are beginning to feel the effects of enhanced prices. Day by day also war and Cotton interest the world. As to the latter, it is interesting to read of the number of new areas for Cotton growing, and this lessens the area of disturbance in the market. By-the-way, we are now told that the Cotton boll worm destroyed £10,000,000 worth of crops last year. The value of last month's imports is placed at £45,181,763, as against £43,802,327 for March, 1903, an increase of £1,379,436. The main divisions of the imports are shown in the subjoined table :-

IMPOSTS.	1903.	1904.	Difference.
Articles of food	£	£	£
and drink—duty free	8,911,286	9,089 535	+178,249
Articles of food & drink—dutiable	7,765,536	8 917,415	+1,151 879
All other Imports	27,125,505	27,174,813	+49,308

The most general of readers will have noticed that, as with Cotton, so the area devoted to Tea appear likely to be extended, and it is affirmed that Tea grown in the West Indies could compete successfully with that grown anywhere else; so that between fruit, Cotton, and Tea, Jamaica and other "islands" ought to pay for nursing by capitalists. There is a falling off in the import of "wood and timber," as compared with April in last year, and the same is to be noted in the matter of wood-pulp. How about literature! However much most of us may be interested in "articles of food and drink dutiable," we are all interested in "fruits, roots, and vegetables," wherever they may be grown and whatever their name. Here are the import figures for April:—

IMPORTS.	1903.	1904.	Difference.
Fruits, raw-	Cwt.	Cwt.	Cwt.
Apples	177,421	231,579	+54,158
Apricots and Peaches	21	11	-10
Bananas bunches	216,885	240 233	+23,347
Gooseberries	68	1	-67
Grapes	1,782	1 289	-493
Lemons	81,037	59,467	-21,570
Nuts-Almonds	5,008	6 219	+1,211
Others used as fruit	46,037	31,872	-14,165
Oranges	719,269	706,912	-12,357
Pears	2,686	1,260	-1,426
Plums	15		-15
Strawberries	2	1	-1
Unenumerated	3,923	6,271	+2,348
Vegetables, raw-			
Onlonsbush.	644 375	721,143	+76,768
Potatos ewt.	421,489	1 463,641	+1 042,152
Tomatos ,,	104,353	81,166	-23,187
Vegetables, raw, un- enumeratedvalue	£47 ,349	£ 75,566	+£28,217

From the traffic manager of the Orient Steamship Company we learn that 127,500 represents the number of cases of Apples arrived during the past month or now nearing the port of "Dump." The figures from the Castle Union managers record a supply of 2,495 cases, of which one was of Pineapples! It seems as if more could be done in that commodity. The greater part of the importation

was of Grapes. The figures for the four months' imports are £184,071,560, against £177,385,167 for the same period last year — an increase of £6,686,393. Arrived at

EXPORTS,

the figures for the past month are put at £23,484,834, against £23,136,373 for March, 1903—an increase of £348,461; the four months' total is £95,714,808, compared with £95,923,639 for the same term last year—a decrease amounting to £208,831, which, considering all things, is a satisfactory return.

ODONTOGLOSSUM CRISPUM "GRACE RUBY."
—With regard to this fine spotted variety of Odontoglossum mentioned in the note on Messrs. J. & A. A. McBean's plants in our last issue (p. 294), it should be stated that, although the plant originated with Messrs. McBean, none of it is now in their possession, as the stock passed into the hands of Norman C. Cookson, Esq., Oakwood, Wylam, some time ago. Two plants will be included in the sale of Oakwood duplicates of Odontoglossums at Messrs. Protheroe & Morris' Rooms, Cheapside, on May 31. Never before has such a lot of fine Odontoglossums been offered, and the sale should be a record one.

THE LECTURE AGENCY DATE-BOOK.—This is a little Date-Book issued by the Lecture Agency, Ltd, the Outer Temple, Strand, London, W.C., and is useful for lecturers, public speakers, &c., who find it necessary to make engagements a long time in advance. It contains space for every day to June, 1906, and a table up to December, 1910, showing on what date Easter and the other Feast-days and holidays, &c., occur.

MR. A. C. COOK.—We learn that Mr. Cook, who painted the pictures described on p. 289 of our last issue, is not a son of Dr. M. C. Cooke; although Dr. Cooke's son is the author and occasional exhibitor of works of a very similar character.

BELVOIR CASTLE.—Mr. DIVERS has compiled and published a list of the plants growing in the grounds of Belvoir Castle. The list is chiefly confined to hardy plants and is very full, containing indications of the names, Natural Order, native country, habit, date of introduction, and other particulars relating to the plants enumerated. Such a list would be valuable not only for itself, but for comparison with other lists in different localities. A brief note indicating the general nature of the soil and climate would have been useful.

POSTPONED LECTURE AT CHELSEA.—The fifth lecture by Professor J. REYNOLDS GREEN, F.R. S., at the Physic Gardens, Chelsea, will be delivered on Wednesday, May 25, upon the following subjects:—Absorption of nitrogen from the air. Absorption of nitrogenous compounds of the soil. Nature of such compounds. Compounds of ammonium. Nitrates and nitrites. Course after absorption. Construction of proteids. Characters of proteids. Classification. Relation of the different classes to each other. Chemical changes involved in the construction of proteids. Hypothesis of Bach. Work of Treub on Paragium. Relation of carbohydrates to proteids. Source of the energy used in construction. Radiant energy. Work of Laurent and others.

PLEA FOR A GARDENERS' ASSOCIATION.—We have received copies of a little pamphlet setting forth the desirability of forming an association of gardeners, as was recommended at a meeting held at the Hotel Windsor, on February 23, and fully reported at the time in these pages. The excellent arguments then put forward by Mr. Watson are reproduced in this pamphlet, together with suggestions for forming a programme

cf work that could be done by such a society. We have not space to reproduce the "Plea," but we are informed that copies have been distributed widely, and any one interested can obtain copies on application to the Secretary, Mr. W. WATSON, Kew Road, Kew. The pamphlet also contains a notice of the public meeting upon the subject to be held at the Essex Hall, Essex Street, Strand, W.C., on June 1, at 6 p.m.

PUBLICATIONS RECEIVED. — Jahresbericht der Bayerischen Gartenbau-Gesellschaft (Report of the Bayarian Horticultural Society), 1903 — From the U.S. Department of Agriculture: The Culture of the Mulberry Silkworm. by Henrletta Aiken Kelly; from the New York Experiment Station: Bulletin No. 213, Spray Mixtures and Spray Machinery, by S. A. Bezch, V. A. Clark, and O. M. Taylor; No. 216, An Experiment in Shading Strawberries, by O. M. Taylor and V. A. Clark; and No. 217, The Lime-Sulphur-Soda Wash for Orchard Treatment, by P. Y. Parrott, S. A. Beach, and H. O. Woodworth.

KEW NOTES.

LOBELIA NICOTIANÆFOLIA. - A fine batch of this species (see illustration in the Gardeners' Chronicle, March 26) is now in flower in the Temperate-house. The plants are all in 6-inch pots, and are well furnished with foliage almost down to the pots. They vary in height from 6 feet to 7 feet 6 inches, and will probably all add at least a foot to their present height when the inflorescences have fully developed. Numerous axillary inflorescences are produced below the large terminal one, and these will prolong the flowering period over several months. Many suckers are produced from the hase of the parent stems, in a similar manner to those of L. cardinalis. These furnish the quickest and best means of propagating the plant, as seedlings require to be two years old before they flower.

NEVIUSIA ALABAMENSIS

(See fig. in Gardeners' Chronicle, April 9, 1904).

This is one of the rarest plants in North America, being only found in one locality in Alabama. It is now some twenty-two years ago since it was received at Kew from Prof. Sargent. It is readily propagated from cuttings or by division, and is closely allied to the genus Kerria, being one of the best plants I know for forcing purposes. A large bush some 6 feet in height and the same in diameter has recently flowered in the Temperate-house. Together with several others it was lifted from the open border last autumn, before the leaves had begun to fall, and placed in a large pot. This was stood in a shady place till the plants became established, and afterwards slight heat was applied to bring them into flower. By-the-way this is an excellent method to adopt where shrubs are required for forcing purposes, as it does away with the necessity of keeping them in pots all the summer in order to get them established for forcing. Shrubs lifted in autumn with good balls will make sufficient new roots before the fall of the leaves, and may then be forced quite as easily as old established plants. C. P. Rafill.

AMHERSTIA NOBILIS, Wall.

(See fig. in Gardeners' Chronicle, p. 215, 1850).

This rare and magnificent Leguminous plant is now flowering profusely in the Aroid-house (No. 1); its long, pendulous racemes of brilliantly-coloured flowers make a display unsurpassed by any member of this great order. It is a stove evergreen, with large pinnate leaves, having five to eight pairs of large leaflets, which in the young state are of a dark glossy brown colour, and pendant, gradually becoming horizontal as they mature. Large specimen plants are necessary to obtain flower. The specimen at Kew has a stem of about 12 feet, with spreading branches measuring 30 feet across. The racemes are axillary, measuring from

18 inches to 2 feet in length, and sometimes even exceeding that. There are fifty-seven of these fine inflorescences on the plant now in flower, some of which carry as many as twenty-eight flowers, though there are not usually more than four to six open at one time on one raceme; the flowers have a diameter of about 5 inches, and are of a brilliant vermilion colour with blotches of bright yellow. The species was figured in the Botanical Magazine, t. 4453, and according to that authority was first discovered by Dr. Wallich, in 1827, in the garden of a monastery in the province of Marteban, India. It is named in honour of Countess Amherst, and was first

times the size of those of C. Lowiana, the scape is also much stouter than in that species, and carries six or eight fine flowers, being of a deeper mauve colour than, and twice the size of those of C. Lowiana. W. H.

TWO NEW DAFFODILS.

Among exhibitors of new Daffodils this season, none has been more successful than Miss Ellen Willmott, of Great Warley, Essex. One of the finest acquisitions this season is the variety Great Warley, for which Miss Willmott obtained a First-class Certificate at the Drill Hall on April 19,



FIG. 135.—NARCISSUS FÜRSTIN MARIE OETTINGEN.

flowered in this country by Mrs. Lawrence, at Ealing Park, in April, 1849, the plant being 11 feet high.

CYNORCHIS KEWENSIS.

This pretty and interesting hybrid now flowering in the Orchid-house is a cross between C. Lowiana, female, and C. purpurascens, male; the cross was effected in 1901, and the seedling first flowered in 1903, showing how quickly seedlings of this genus reach their flowering stage. Although it is certainly a good hybrid, there is scarcely as much evidence of C. purpurascens as could be desired, though other plants may show more influence from that parent when they flower. The plant now flowering has leaves three

and which was illustrated on p. 275. We now present in figs. 135 and 136 two additional varieties from Miss Willmott's collection, which have been granted Awards of Merit.

The variety Fürstin Marie Oettingen, shown in fig. 135, belongs to the Johnstoni group. It is a bicoloured flower with white perianth and paleyellow trumpet. An Award of Merit was recommended to this variety by the Midland Daffodil Society in Birmingham Botanic Garden on April 26.

The variety White Ensign (fig. 136, p. 315) is a. flower of the Leedsii group, having pure white segments and a rich yellow-coloured, well-expanded crown. It gained an Award of Merit at a meeting of the Royal Horticultural Society on May 3.

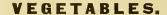
RAISING PLANTS FOR SPRING BEDDING.

May is the month in which to sow seeds and livide many plants for replenishing the beds in arly autumn, when the summer-flowering species re past their best. Polyanthus and Wallflowers couire a long season of growth; to prepare them of flower well next spring, and seeds should be own early in May. We generally raise Polyanhus under glass, using "cutting" boxes. These refilled with sandy soil, which is made quite level and moist before the seed is scattered sparsely in the surface. When the seed has been thinly overed with soil, the boxes are placed in a frame,

named under glass in boxes, as the slugs soon devour them if left to take care of themselves in the open. All the plants enumerated require to be pricked out 6 to 9 inches apart when ready, and in the case of Stocks and Wallflowers, excepting the double varieties, any that are inclined to run up without branching should have their points pinched out early in the season, which will cause them to branch.

When lifting old plants of Polyanthus, Daisies, and variegated Arabis, the most flourishing may be divided and planted on a shady border, as in the case of seedlings, affording frequent waterings during dry weather. Should red spider attack

in colour. All who practise spring-bedding or rock-work should grow A. Leichtlini, a beautiful deep rose-coloured flower, and the plant is very robust, though A. deltoidea is more common. Arabis alpina, the Rock-cress, makes a good display in spring, and is effective for rock-work, but flowers much in advance of the plants enumerated above, heing scarcely suitable for spring gardening. Nemophila insignis makes a pretty spring-flowering plant, and may be sown with the Silene, &c, giving the plants plenty of space when pricking out so as to grow them as hardy as possible. J. Mayne, Bicton Gardens, Devonshire.



MULCHING.

Rows of Peas and Beans will be considerably benefited by having a dressing 4 inches thick of half-decayed manure as a means of conserving the moisture at the roots, as well as stimulating growth. The mulching should be applied as soon as the rows of Peas and Beans are earthed up, and the former staked; in the event of the weather being dry at the time, a good watering should be given.

Fruit-trees, such as Apricots, Peaches, Cherries, Plums, and Figs, growing against walls, will also yield better crops of finer fruit by having a few inches thick of manure laid on the surface of the soil immediately over the roots, say to the extent of 4 or 5 feet from the base of the trees, the soil having been previously loosened to a depth of 2 or 3 inches with a digging-fork. The whole should be well watered several times during the period of active growth, that is, during April and the five following months. H. W. W.

DOVER HOUSE, ROEHAMPTON.

THE Palm-house in the well-kept gardens of Mr. J. Pierpont Morgan has been rearranged in a manner that is not common, and the new effect obtained is as good as it is novel. The house is built against two walls, one end being against a wall with a south aspect, and the back against a wall facing the east. After the house was built the centre was filled with Palms in pots, many beautiful specimens being included; and on a shelf around the front and south end were placed handsome stove plants with coloured or green foliage. But as in many similar structures it was found that, owing partly to the presence of the tall Palms in the centre, the task of maintaining the wall at the back in an attractive and interesting condition was not an easy one. Accordingly both of the walls have been covered with imitation rockwork, and being provided with pockets and other suitable positions for plants, the effect of the walls has been much improved. A greater degree of light being needed than formerly existed, the group of Palms in the centre of the house was removed. In place of these, six vase-like structures have been made with the same kind of rockwork as was used on the walls, and in each of these receptacles, standing several feet from the ground, Mr. J. F. McLeod has placed a pot containing a specimen Palm-one at each corner, and two others. The spaces between these Palms is filled with a selection of Ferns, dwarf Palms, and other species of decorative plants. The effect of this centre grouping may be best described as similar to some of the groups of miscellaneous plants exhibited at Shrewsbury and other provincial shows. It is a great change, and the new arrangement affords very much more variety than did the group of Palms, the effect of which varied little from time to time. An abundance of light reaches to the walls, and the wall plants have therefore an opportunity to thrive.



Fig. 136.- narcissus white ensign. (see p. 314.)

which is kept dark until germination has taken place, when they are given exposure to all the dight possible. As soon as large enough to conveniently handle, we prick the seedings out on a north border, first getting the soil into a fine tilth. The plants are placed 6 inches asunder each way so that a small flat hoe may be worked between them. Aubrietiss should be treated similarly, and nothing makes a better show during April and May, the colouring being very rich.

Wallflowers, Myosotis, and Alyssum saxatile may be sown in shallow drills 6 inches apart in the open, and if the soil is very dry it repays to soak the drill before sowing the seed. Intermediate Stocks, Pansies, and Silene pendula need not be sown until the end of July or the first week in August, sowing seeds of the first-

the Polyanthus, as it sometimes will during a hot summer, afford the plants a dusting with flowersof sulphur or soot while the foliage is wet, working it well on to the under side of the leaves. Myosotis dissitiflora can be easily increased by cuttings put in during early August, and if a cold frame or pit can be devoted to them, where they may be kept fairly moist and shaded from bright sunshine, few will fail to make roots; these cuttings will make better plants than the seedlings. I have been fairly successful with Iberis sempervirens by rooting cuttings quite early in the spring and planting them out in a sunny aspect so that growth may be ripened by planting-time in October; Aubrietias may also be increased by this method, and probably it is the best way to maintain true stocks, as seedlings generally vary The Peaches and Nectarines indoors again promise to produce a heavy crop of fruits, the only trees bearing lighter crops than usual being those forced earliest, the wood of which, owing to the weather last season, was not so perfectly matured as usnal. There is an abundant crop of Figs; and forced Strawberries have never succeeded better than they have this season. Melons are ripening, and the earliest crop has been very successful. Pot-Vines are ripening heavy crops of fruit, and the Vines generally are up to the average, with the exception of one house of canes it is intended to remove.

The new plant-houses contain a very effective lot of plants, and a week or so ago the display of Dendrobiums and Cattleyas was excellent. The show of forced plants, in the house generally devoted to a floral display, contained specimens of almost every species of plant suitable for this purpose. The Codiæums and Caladiums are amongst the most important features in the houses. In the stove we noticed one of the very finest varieties of Anthurium Scherzerianum we have seen, and there were others of unusually good quality. The Souvenir de la Malmaison Carnations are as attractive as usual, the plants being perfect specimens, and yielding great numbers of flowers of high quality.

The flowering trees and shrubs that were planted two or three years ago in the remodelled borders of the pleasure garden are flowering profusely, and the flower-beds in front of the house, which this season have been planted almost exclusively with Tulips, have afforded a change from previous years, and have looked very pretty.

A feature we have never remarked previously in these gardens shows the effect of the Potato "boom" even in private establishments. A large quantity of plants of the varieties Discovery, Eldorado, and Northern Star were in various stages of growth in pots, having been propagated by cuttings, &c., for raising stock for planting-out during the present month. Indoors and out-of-doors the excellent condition in which these gardens are always maintained was observable as usual.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

QARDENERS' ROYAL BENEVOLENT INSTITUTION.—Surely it is possible for, say, 1,000 gardeners to get on an average £1 each during the next two months. I know that subscriptions generally are difficult to get in large sums. While particularly thankful for all that has been done and is being done by the wealthy classes, I would say, Come down a bit, and appeal to that more numerous class who may give smaller sums. Eight half-crowns make a pound. Let me beg of gardeners to try their best, and I am sure they will succeed. The writer, who has no more influence than hundreds of other gardeners, has already paid in over £10. An Old Subscriber.

RHODODENDRON ODORATUM. — I never remember to have seen or heard of this plant being forced. We have at present half-a-dozen plants flowering in 10-inch pots. They were part of a consignment bought for planting in the grounds. These were potted in February at the same time as Kalmia latifolia, and placed in a greenhouse temperature. They are now in full beauty, each plant bearing on an average forty trusses of exquisitely-scented white flowers tinged with the most delicate mauve. We intend to grow them in pots, similar to Azaleas and Himalayan Rhododendrons. F. Street, Ardwell, May 5. [Some delicately-scented, pale mauve-coloured flowers accompanied this communication. It is one of the many varieties of R. ponticum. Ed.]

SULPHURIC ACID IN SULPHUR.—We find on examination that many grades of sulphur now being sold contain sulphuric acid, sometimes in

quantity sufficient to injure delicate foliage. It therefore behoves all users of sulphur for horticultural purposes to stipulate, when buying, for the very best flowers-of-sulphur, which, when shaken up with cold water, will not appreciably affect neutral litmus. We hope you will be able to publish this warning, as many of your readers are now using sulphur both for dusting and vaporising in our patent apparatus, and for either of these purposes acid sulphur will not do. Exors. R. Campbell.

PHYLLOCACTUS.—We have here on the back wall of a late vinery a brilliant scarlet Phyllocactus, which commences to flower in March, and continues to do so for nearly two months. The continues to do so for nearly two months. plants are of large size, and form a complete hedge over 40 feet in length and from 4 to 5 feet in height. For table decoration these flowers have a most brilliant effect if arranged with suitable greenery in shallow glass baskets or in finger-bowls. We send the flowers to London during the season, and I believe they always Our Vines extend within 2 feet of travel well. the top of the house, so that the Phyllocactus obtains very little direct light during the greater part of the year. The plants are subject to attacks of mealy-bug, and this is a disadvantage in vineries, as they are difficult subjects to clean. F. Street, Ardwell, May 5. [Our correspondent sent some flowers with this communication. know several such instances. Ep.]

DR. BONAVIA ON THE AURICULA. — If Dr. Bonavia will carefully look through the schedule of prizes of the National Auricula and Primula Society, he will find that almost every form of the genus Primula in bloom at the spring season of the year is invited, and all types of the Auricula. In the class for "Fancy Auriculas," anything double or single can be shown—anything, indeed, that cannot be placed with the show and alpine varieties, provided it is good enough to be given a place on the exhibition table. What are all the fine show and alpine Auriculas recently seen in the Drill Hall but departures from those cultivated by Parkinson and others in the past? And it is quite open to Dr. Bonavia to strike out in any direction he pleases from the popular varieties of the present day. If he can produce something which is an improvement upon them, I can promise it a hearty welcome. But why should the Auricula cultivator of the present day should set aside his show and alpine varieties because Dr. Bonavia thinks them characterised by too much sameness? If he grew a collection of green, grey, white-edged and self show varieties, and also of the gold-centred and white-centred alpines, he would not only come to understand what a great amount of diversity can be found among them, but he would learn also something of the fascination they exercise over cultivators. Even the Daffodil, with all its manifold forms, has to be subject to classification, and the various sections may be crossed with the certainty that some change will be forthcoming. Our forefathers classified the Auriculas upon an intelligible basis, and if Dr. Bonavia will set about the work of haphazard crossing of the show and alpine varieties he will not be enamoured with the results. Even in the case of the systematic crossing of green-edges with green-edges, or greyedges with grey-edges, the raiser finds frequently intermediate forms, some of which may be good enough to be shown as "fancies," but which I correctly termed "eccentricities." But who troubles to grow them for exhibition purposes? Mr. Douglas is now the sole exhibitor of the fancy varieties. I have been astonished at the great growth of interest in Auricula culture during the past two years; but the predilection is for the show and alpine varieties. Even the brilliant yellow selfs, which I greatly admire with the double varieties, do not suit the taste of the Auricula-loving public; but that does not deter me from seeking to improve the doubles in every possible way. Dr. Bonavia should set about changing the character of the Auricula in any direction he thinks best. There is ample room in the world for the show and alpine Auriculas, neither of which have been developed to anything like the extent of their possibilities, and also for Dr. Bonavia and his particular work.

FORCING STRAWBERRIES. — "An Interested Reader" (see p. 266) did wrong when he stirred the surface of the soil in his Strawberry pots, for some of the roots must have been damaged thereby. Neither was it wise to apply guano at such an early stage of growth, as that would have a tendency to stimulate leaf-growth at the expense of the flower-trusses. I do not think the failure was due to unripened crowns, for out of our first batch of about 100 plants, which ripened March 25, there were only three failures, and not 1 per cent. since. We grow Royal Sovereign-only. We have usually stood our pots during the summer season on boards on a sloping border facing south, but these boards having decayed, I had to look about for some other arrangement, and was fortunate in getting some disused sparred flooring. The pots were placed on these at 6 to 12 inches from the ground, which allowed the water to pass away freely. Rains afforded water to pass away freely. Rains afforded sufficient water without artificial application on more than half-a-dozen occasions. Like those of "An Interested Reader," our plants are forced in vineries, and are often placed on the staging under the Vines until the flowers show, when they are removed to shelves, some 6 feet and others 2 feet from the glass. What little feeding ours get is afforded as soon as the fruits are setting. W. P. Roberts, Cuerden Hall Gardens, Preston.

CASE OF GRAFTING HAVING NO EFFECT ON GROWTH.—About nine years since two trees of the variety Pott's Seedling Apple were planted in a loamy soil a few yards from each other under equal conditions. Four years since one of them made some shoots below the graft. Having a favourable appearance and starting growth very late they were allowed to stand. These growths now form the largest part of the tree, being about 9 feet high. The grafted portion is now in flower, and is, I think, a little earlier than the one close by, but the root-bearing portion has not started into growth, showing that grafting has not altered the natural course of either. With the view of hastening the fruiting of the stock, a portion was grafted on to a bush of Manx Codlin Apple, the graft being put in the central part of the tree. The Manx Codlin is now in flower, but the graft has not shown any sign of growth yet, so in this case also grafting has not altered the natural course. The stock has not fruited yet. Robt. Daws, Gunnersbury.

WINTER SPINACH (see p. 284)—I should certainly not sow Prickly Spinach for winter and spring use, but the New Zealand or Spinach Beet is very hardy. This variety should besown about the middle of July, thinly, and be thinned out afterwards to 6 or 8 inches between the plants. It is grown extensively for the London markets. Prickly Spinach damps off during wet periods in the autumn, and is also attacked by wireworm. Summer or Round Spinach sown in July is most invaluable for autumn use, but will not stand more than 12° or 14° of frost. Wm. Fulford, Castle Eden Gardens, Durham.

The CLASSIFICATION OF THE DAFFODIL.—
The grouping of the new forms of N. triandrus hybrids now being introduced by Miss Willmott, and also of the wide-mouthed cupped varieties of the poeticus type produced by the Rev. G. H. Engleheart, was one of the topics discussed at the close of the dinner given by Messrs. John Pope and R. Sydenham on the evening of the first day of the Midland Daffodil Society's show at Edgbaston a short time ago. Following a stirring day and a convivial dinner is scarcely the best time to consider fully an important matter of this kind; but a suggestion was made that the triandrus hybrids might be formed into a group to be known as Willmottii, and Mr. Engleheart's distinct seedlings as Engleheartii. No definite conclusion was come to, the matter being left for consideration. One thing is quite certain—that the medio-coronati and the parvi-coronati are nearly approaching each other; also that the triandrus group form a distinct type of the trumpet section. The matter came up for consideration at the last meeting of the Narcissus Committee, when a motion was duly made and seconded to the effect. "That a sub-committee be appointed to enquire as to the placing under the present system of

classification of the new forms of Daffodils now being raised." This was carried, though not before Mr. John Pope had suzgested that the old classification should be considered with a view to a new arrangement. The following were appointed a sub committee—the Rev. G. H. Engleheart, the Rev. S. E. Bourne, with Miss Willmott, and Messrs. J. T. Bennett-Poë, F. W. Burbidge, R. Barr, and J. D. Pearson. In the event of Miss Willmott's declining, then Mr. W. F. M. Copeland to be added to the sub-committee. It is presumed the committee will meet during the summer and autumn, and prepare a report for presentation in due course. R. D.

THE PROPOSED GARDENERS' ASSOCIATION.-I think it is quite time for something to be done to improve the wages of gardeners, and the only way to effect this is for all to join in an association or union, as other trades have done. The majority of head-gardeners are so satisfied with themselves they would not care for their names to be seen as prominently in promoting such an association for fear of creating displeasure, but no doubt they would gladly ask for admittance for membership if such an association was on a fair way to success. The Temple Show will soon be with us once more. I wonder how many of the hundreds that view that magnificent show will give a thought to the labour that has been employed to produce it, and the price paid for that labour. How many of the firms represented there pay a man a fair wage? In Yorkshire there is an association which the workmen have formed, and it is working satisfactorily both to the workman and the employer. The subscription for that is only 1d. per week, so that does not amount to Now, gardeners, wake up and stir yourselves; do not take that motto, "Self first, self ' but think of your fellow-men, and by so doing you can become far stronger than you are. Remember that "unity is strength." J. P., Chelsea.

In order to obtain the opinions and solely to assist in arriving at a correct solution of this question, may I ask all gardeners, nursery and market hands who have been employed in horti-cultural work for the past ten years to send a post-card, with their full name and address, and the figure 1, 2, 3, or 4, as best corresponds with their views—viz., (1) Are you in favour of a society to include gardeners, nursery and market growers, and horticulturists generally? (2) Are you in favour of a society for private gardeners only? (3) Are you in favour of a society for market and nursery employés only? (4) Are (4) Are Will you against any association being formed? all interested kindly respond, and I will endeavour to tabulate and give the results in time for the meeting to be held on June 1? William E. Close, 28, Langthorne Street, Fulham, S.W. [The Secretary, Mr. W. Watson, Descanso House, Kew, has already heard from very many gardeners upon this question. Would it not be better if all the letters were to pass through the same channel? ED.

PROTECTING VEGETABLE CROPS FROM BIRDS. -It is unnecessary to go into any explanation with your readers in regard to the ravages of small birds in gardens in the home counties; suffice it to say that having tried to protect fruit-trees and vegetables from destruction, I have been driven to seek for reasonably priced materials that are light, and with a mesh not exceeding three questions of a price. not exceeding three quarters of an inch. Messrs. Rendall & Coombs, a firm of net makers in this country, have given me the benefit of their advice, for I wanted to try to protect a space 20 by 26 yards. This sized net in one piece was to a certain extent experimental, made with the diamond mesh, for we were not sure how it would hang when on the poles and wires. I wanted to cover low fruit-trees, and by leaving a wide passage between each row I could ensure a crop passage between each row I could ensure a crop of early vegetables, and also get protection for seeds. My experience with the old fish-netting was that the cats and dogs soon made holes through it when pursuing the birds that got in. I have therefore 4 feet of galvanised \(^3_4\)-inch wire netting all round, about 80 yards. This is fastened by staples to the posts, and keeps the whole rigid. I place props in the centre, about

6 feet high from the ground, and carry the wires over these props from the outside posts; this gives more space over the plants, and the diamond mesh cotton net being so light must be well secured, or it will blow with each change of strong wind from side to side. It is cheaper than the square-mesh net. These coverings are excellent for Lettuces and young Cabbage plants, and for protecting rows of seed, and we have not seen one bird in the enclosure. When ordering my next cotton net I shall order it half the width, with the protecting ropes all round. I went into the calculation for covering with wire-netting, hut found it too heavy, and not easily removed from one crop to the other. This white cotton net, although dearer in the first cost, is a great convenience compared with the old fish-netting. Thos. Christy, Manor House, Wallington.

BULB GARDEN.

FRITILLARIA THUNBERGI.

THIS is one of the best of the Old World Fritillarias for grass-planting known to me. It shows close alliance to F. pallidiflora, but is altogether hardier, and thrives well in any good turf. The bulbs are rounded and remarkable for their yield of offsets, many hundreds of which surround the parent plant as a result of two or three years' cultivation. The stems are slender, a foot or more high, sparsely furnished with narrow leaves, which are occasionally whorled, and have markedly acuminate tips resembling tendrils. The short racemes bear white, green netted flowers with prominent shoulders, each an inch across and more than an inch in length, contracted at the middle as in F. pallidiflora. It is an old species, but little known, yet, properly disposed in a setting of grass, it is one of tho prettiest plants for this purpose. It should be freely planted with F. Meleagris, which it precedes in time of flowering, and F. citrina, which it immediately follows. All of the round-bulbed species increase freely, both by seeds and offsets. E. B. M.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MAY 3.-Present: Dr. M. T. Masters, F.R.S. (in the chair); Messrs. Odell, Sutton, Worsdell, Saunders, Massee, Holmes, Douglas, and Chittenden; Drs. Cooke and Rendle; Revs. W. Wilks and G. Henslow (Hon.

Rockets attacked by Insects .- Mr. SAUNDERS reported upon plants sent to the last meeting by Mr. HOLMES: The Rockets are attacked by the caterpillar of a small moth, one of the Tineina, probably Plutella porrectella, which Stainton says is a quiet garden insect, always to be found amongst Hesperis matronalis. The moth measures rather more than half an ioch across the wings when they are fully expanded; the wings are whitish, streaked with brownish-yellow."

Arabis albida, proliferous. - Mr. Chittenden showed sprays illustrating this form of "doubling," in which the calyx and corolla only are repeated on an clongated axis. It was mentioned that such occurred also in Ranunculus amplexicaulis, Helianthemum sp., the "Harpur-Crewe" yellow Wallflower, Mr. Balchin's Mignonette, &c.

Capsicum without pungency .- Mr. Holmes exhibited a depressed globular form of fruit from Spain, the usual form being oblong; though possessing the scent of cayenne pepper, it has none of the pungency. It is the Pabrika of the Huogarians.

Bulbophyllum saurocephalum.-Mr. Odell showed a spike of this remarkable Orchid, as the flower-stem is very thick, fleshy and purple, carrying small sessile flowers.

Osmanthus iticifolia, dimorphic.-Dr. Masters showed a branch bearing both entire and spinescent leaves, proving that they were not different species, as some had supposed. The Holly not infrequently is similarly

CHESTER PAXTON.

Ar this Society's recent annual exhibition of spring flowers, a new departure was made by offering Medals and Certificates, with the result that the number of exhibits was nearly double that of previous years.

The President of the Society, Major MACGILLYCUDDY, J.P., staged a micellaneous group of plants and cut flowers, chiefly Daffodils, which included some well-grown specimens of Narcissus Johnston, Queen of Spain, which gained a Cultural Certificate

Dr. MULES, The Old Parsonage, Greaford, sent a unique exhibit of new and rare species of hardy Primroses, Daffodiis, and also some remarkable specimens

of Talipi Greigii, which gained a Cultural Certificate.

The collection of Narcissi sent by Mr. Hugh Aldersey, of Aldersey Hall, was exceptionally fine, the blooms heiog large and of good substance. The abovementioned exhibits were all awarded Silver Medals and other collections gained awards as follows:—

Large Bronze Medals,-Miss Humberston, Mr. Town, send Currie, and Messrs. Dicksons.

Small Bronze Medols -Mrs. A. Potts, Mrs. Tyrer, Mr. J. M. Frost, Mr. T. Gibbons Frost, Mr. E. Dixon, Countess Grosvenor, Mr. J. Whynne, Mrs. Willis Taylor, and Messrs. McHattie.

DUTCH HORTICULTURAL AND BOTANICAL.

APRIL 20 -At a meeting held on the above date the Floral Committee awarded a First-class Certificate to Odontoglossum cirrosum, Klabochorum a beautiful variety, from Mr. C. J. KIKKERT, at Haarlem, having white flowers with dark spots, very large io size. Also Certificates of Merit to the following-Odontoglossum triumphans Golden Queen, the flowers are spotted golden-yellow, and are righter in colour and larger in size than those of the type; O. Ruckeri, a very fine variety with rose-coloured flowers; O Coradinei × Mr. C. J. Kirkeer, at Haarlem. Pierls Backeri, from Mr. C. J. Kirkeer, at Haarlem. Pierls Backeri, from Mr. Jihr. D. Bat Backer, at Apeldoom. The plant grows very hushy and compact, has strong fronds and very fine crests.

A collection of Gloxinia hybrids was shown by Mr.

E. A. LEHMAN, at Amsterdam (Honourable Menticn).

UNITED HORTICULTURAL BENE-FIT AND PROVIDENT.

Ar the last meeting eleven new members were plected. The death certificate of the late Mr. James Pick, of Barkby, Leicester, was produced, and a cheque for £28 os. 6d. vas granted to his nominee, the same being the amount standing to the late member's credit in the ledger. Five members were reported on the Sick Fund, the amount paid to sick members during the month being £28 10s.

NATIONAL FRUIT GROWERS' FEDERATION.

MAY 9.-The annual general meeting was held at the Caxton Hall, Westminster, on the above date. There was a fair attendance. Col. Long, M.P., took the chair, and he was supported by Mr. F. S. W. Cornwallis, the President-Elect. Amongst those present were Messrs. W. Craze, S. Bowman, Jro. Wood, F. Smith, C. H. Hooper, E. Vinson, G. E. Champion, W. C. Plowman, H. Icney, A. H. H. Matthews, H. T. Manwaring, P. Marwaring, R. Hincks, W. Idiens, W. Horne, C. C. Moberley, W. H. Skinner, and other well-known growers.

The Chairman presented the Report of the Executive Council, and in doing so he congratulated the members on the steady growth of the Federation, which had increased in numbers by 121 since the last annual meeting. Referring to the Departmental Committee now sitting on fruit-culture, he mentioned several subjects which had already occupied its atten-tion. Amongst these were the suggestions of a small Special Department being created to watch over the interests of iruit-growers, a scheme for instructing and training gardeners, assessment of farmland planted with fruit, railway rates, and sewage vegetables. He then alluded to the recent appointment of another Departmental Committee on preferential railway raics, and urged that members of the Federation should send in any information they possess on the subject, in order that it may be brought before the Committee.

Mr. Craze seconded the adoption of the Report Mr. A. H. H. Maithews, referring to the assessment of fruit-land, said the question was affected by the Valuation Bill now before Parliament. He also dealt with the constitution of the Committee of Inquiry on Preferential Rates, and pointed out that the railway interest was unduly represented as compared to that of agriculture.

After some further discussion the Report was

adopted.

Col. Long then vacated the Chair, which was taken by Mr. Cornva'lis, who addressed the meeting on

entering upon his year of office as President. Being then compelled to leave, the Chair was resumed by Col. Long.

Mr. A. H. H. Maithews then moved that Col. Long be appointed as President-Elect for 1905-6 Mr. Vinson seconded the motion, which was carried by acclamation. Mr. A. Miskin was appointed Hon. Treasurer, and eleven members of the Council, retiring by rotation, were, with one exception, re-appointed.

A very interesting discussion took place on the importation of pulp for jam-making, and Mr. Moore, of Tasmania, in the course of an address, brought forward many important facts. In his opinion, although the soil and climate of Tasmania and some parts of Australia were well adapted to the growth of fruit, the difficulties attending the industry were such that the growers in this country need not fear their competition. He admitted that the very best jam was, after all, made from freshly-gathered fruit, and the imported pulp arrived in this country at a different time of year to that of the ripening of British crops.

Several members said they could not agree with this view, as the fruit in a pulped state was independent of the season, and could be placed on the market at any time.

Mr. Moore then presented specimen jars of jam to most of those present, which was made from Tasmanian pulp, and also exhibited tins of Black Currant and Raspberry pulp, which were pronounced excellent, and far superior to much of that imported from the Continent

ROYAL BOTANIC.

May 11.—Another very pretty exhibition of plants and flowers was held in the gardens of the Royal Botanic Society at Regent's Park on the above date. The collections of Tulips were especially fine; some large and varied exhibits of alpines, a collection of Azaleas, and a brilliant group of Cinerarias in the large conservatory comprised some of the main features. The grounds of the Society are looking well. A trial of motor lawn-mowers took place in the alternoon.

Mr. R. H. Bath, The Floral Farms, Wisbech, exhibite la fine group of Tulips, the dark background used throwing the flowers well into relief. Most of the types were represented, including some good varieties of Parrot Tulips, Cramoisie, Brilliant, and Fabiola being especially fine; Auber (very dark crimson), and Madame Krelage (rosy-pink) were both new. Pink Beauty, retroflexa (Cottage), and Picotee (very delicale) were also displayed well (Silver-gilt Medal).

Messrs. Barr & Sons, 11, 12, and 13 King Street, Covent Garden, London, displayed a large collection of Tulips, principally varieties of the Darwin and Cottage types. Arranged in the centre was a small collection of good Daffodils. Among the Tulips ithe varieties Pink Beauty, Pride of Haarlem (rich scarlet with much substance), and May Queen (salmon-rose) were all in fine condition, and received the Society's Certificate of Merit. Other good varieties included Sultan (fine dark), Tak Van Poortvliet, Rose Pompon, Lion d'Orange (orange-scarlet), Emperor of China. A few other bulbous flowers were included (Large Silver-gilt Medal).

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, brought a collection of Tulips and a few choice hardy plants, among the latter being Cypripedium parviforum and C. pubescens, the latter being very fine. Among the Tulips we noticed atrangulata, vifellina, Gold Flake, Striped Beauty, La Merveille, and Yellow Queen (Large Silver Medal).

Mr. A. Hemsley (agent for II. C. ROCHOLL, Manchester), exhibited a pretty display of flowers arranged in the Bruce flower holders.

Messra. Hogo & Ronertson, Dublin, displayed a large group of Tulip flowers in vases. The flowers were of good colour and substance, and made a fine show, notwithstanding the long journey they had undergone. Among this choice collection we noticed William Copeland, Emin Pasha (new scarlet Cottage, with fine substance), Auguste, Konigs Kroon (new), Sultan (a fine dark Darwin), Mr. F. Saunders, vitellina (large, fine-formed flowers of delicate yellow colour) (Large Silver-gilt Medal).

A collection of Daffodils and Tulips was staged by Dr. Boxall, Ingleside, Abioger Common, Surrey. A very pretty group nicely staged (Silver Medal).

Orchids were represented by a collection brought by Messrs. STANLEY, ASITON, & Co., Southgate, N. Cypripedium Schroderæ var. splendens, Odontoglossum Andersonianum, Lælio-Cattleya highburyensis, Oncidum Marshalllanum (with a fine spike), some fine Odontoglossum Pescatorei, Odontoglossum Adrianæ (fine spike with over two dezen flowers), and Odontoglossum triumphans were some of the best (Large Silver-gilt Medal).

Mesars. Thos. S. Ware, Ltd., Ware's Nurseries, Feltham, Middlesex, staged a group of alpines and hardy plants, including some striking forms of Primula Sieboldi; Veronica reptens, occupying a small pan, was crowded with flowers; Lithospermum prostrum was good, Lobelia laxifora and Canarina Campanula, were interesting (Large Silver-gilt Medal).

Messrs, J. Cheal & Sons, Crawley, exhibited trays of alpines relieved at the back with flowering sprays of Pyrus floribunda, Cerasus Sieboldi flore-pleno, and similar species (Silver Medal).

Mr. G. REUTHE, Hardy Plant Nursery, Keston, Kent, brought a collection of hardy plants—Orchids, Primulas, Saxifragas. including S. Rhei-superba, Irises and other plants of this interesting class (Silver Medal).

Messrs. J. Pfed & Son, West Norwood, London, also displayed alpines, ataging several trays of these plants. This firm had also a group of Japanese Maples and Clematis Indivisa lobata (Large Silver Medal).

Messre. Wm Cutbush & Son, Highgate. London, N., staged a very extensive group of hardy plants. Hardy Orchids were good, also Irises; I. Boissierei (beautiful rich blue), I. sofrana magnifica were noticed (Silvergilt Medal).

Quite a gorgeous display was presented in the large conservatory by Messrs. James Carter & Co.'s exhibit of Cinerarias and Schizanthus wisetonensis. The group of Cinerarias was most extensive, and included the stellata type, as well as varieties of sinensis. The colours were very rich, form of flowers good, and the whole pleasingly displayed (Gold Medal).

Mr. CHAS. TURNER, The Royal Nurseries, Slough, exhibited a very fine group of greenhouse Azaleas. This was a very striking and well-flowered collection the colours being very bright and the flowers of good size. This firm also showed a nice batch of Auriculas (liver-glt Medal).

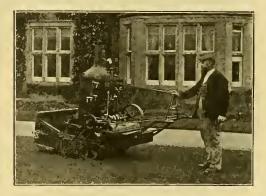


FIG. 137.-A STEAM MOTOR MOWING MACHINE

Messrs. WM. Bull & Sons, King's Road, Chelsea, staged a group of foliage plants, Codizeums (Crotons), Draczena, Aralias, &c. Blandfordia nobilis was flowering well, and B. aurea was carrying a fine spike of its bell-shaped orarge-coloured flowers (Silver Medal).

WALPOLE GREENWELL, Esq. (gr.. Mr. W. Lintott), Marden Park, Surrey, showed a well-flowered plant of Begonia Marie Bauchett (Certificate of Merlt).

Miss Adamson (gr., Mr. Kelf), South Villa, Regent's Park, exhibited a nice dish of fruits of Royal Sovereign Strawberry (Silver Medal).

GARDENERS' DEBATING SOCIETIES.

WARE AND DISTRICT HORTICULTURAL.—The monthly meeting was held on Tuesday, April 28th, Mr. H. Bates presiding. Mr. F. Heath, oi Presdales Gardens, read a paper on 'The Culture of Irises." He dealt with their introduction and the best position for growing each section. He gave a list of the different species, and described the best way to propagate and treat them so as to obtain a good display of blooms. There was a fine display of plants, flowers, and vegetables. 'At the next meeting on May 24, Mr. Noyce will read a paper on "Carnation Culture."

NEWCASTLE AND DISTRICT HORTICULTURAL.—
By permission of Norman C. Cookson, Esq., of Oakwood
Hall, Wylam-on-Tyne, about thirty members recently
visited the gardens. The Odontoglossums were especially admired. Mr. Cookson had also for Inspection
paintings of the various Orchids that have flowered at
Oakwood. The thousands of Dafiodils and Narcissus
In flower were greatly admired. The alpine plants
were also good. Leaving Oakwood Gardens the party
proceeded to Holleyn Hall, the seat of the Hon. Mr.

Parsons, and inspected the beautiful grounds of this estate. The outing was the most successful the Society has ever organised.

SHERBORNE GARDENERS' MUTUAL IMPROVEMENT.—At a recent meeting of this Society Mr. G. H. Copp gave a paper, choosing the word 'Don't" as his subject. The paper contained excellent advice to gardeners generally, and treated hoth the grievances and delights of gardening in an impartial spirit. His advice to young gardeners was especially applicable, and a word to those who had reached the top of the ladder was not without its significance. The lecturer also alluded to the relations between employers and employés, advocating a spirit of reciprocity between the two.

STEAM MOTOR MOWING MACHINE.

LAST year there was depicted in the Gardeners' Chronicle a motor mowing-machine. I enclose a photograph (see fig. 137) of a motor we have been using here for about twelve months which may be of some interest. The weather in the spring of 1903 was so wet that we could not get the horse-mower on the lawns until very late in the season, consequently much scythe work had to be done. My employer decided to try a motor. Accordingly the one represented in the photograph was purchased, and has proved very useful. Besides mowing and rolling of lawns we use it for rolling drives and walks, which are kept very firm by its use. The machine is easily worked by one man, although it weighs between 14 and 15 cwt., and is driven by steam, ordinary paraffin oil being used as fuel, of which it consumes from 4 to 6 gallons per day; on calm days the lesser quantity being used. There is neither smoke nor smell (but smell would be the greatest objection to a petrol motor). The machine can be fitted with a pump and hose at extra cost, which would be very useful for those who have much pumping to do. Such machines are expensive at first, but I think they pay in the end. J. Stocks, Fen Place Gdns., Turners Hill, Sussex

Obituary.

HUGH DICKSON .- We regret to record the death of Mr. Hugh Dickson, of the Royal Nurseries, Belmont, Ireland, which took place suddenly on Thursday, May 5. Deceased, who was seventy years of age, had been in delicate health for nearly a year past. His father, Mr. Alexander Dickeon, came from Scotland, and founded the well-known firm of Alexander Dickson & Sons at Newtownards. For a time Hugh was a partner in the Newtownards business, but nearly forty years ago he struck out for himself, and founded the Belmont Nurseries, which from the first proved to be successful. He became one of the pioneers of the new method of Rose culture in Ireland. For years he won valuable prizes for Roses at exhibitions in the North of England and South and West of Scotland. Deceased was one of the founders of the Ulster Horticultural Society, and has always taken an active interest in its welfare. He leaves a widow and six children, all grown up. Two of his sons, Alexander and Hugh, were associated with him in the nursery husiness.

HORTICULTURAL CLUB.—The lecture by Sir J. T. D. LLEWELYN, Bart., and the house dinner, which had been arranged for Tuesday next, May 17, has been postponed owing to the Festival Dinner of the Royal Gardeners' Orphan Fund taking place on the same evening.

THE NEW HALL.—Amongst the most recent donations to the Building Fund of the Royal Horticultural Society's new Hall is one for £25 from Messrs. Smith & Ebbs, Ltd., of Northumberland Alley, Fenchurch Street, stationers to the Society.

ENGLISH AS WRITTEN.—The following note has been sent us as a curiosity, and so it is; but before we indulge in adverse criticism let us remember how very few young gardeners in this country would be able to make their meaning as clear in any language but their own as the writer of this letter has done:—"Esquire,—The obdient signer has the wish to occur in your esteemed establishment as a gardener. I have an age of 20 years. I am great and violent and do not fear no any work. I visit still to the end of March the school of horticulture; before this I have learn 3 years in a many-sided horticulture near —, and I was after that employed 1 year for more largely improvement in greenhouse plants and Orchids in the Botanical Garden, —, what you can see from the copy of the certificat. Trusting of the accomplishment of his wish, Respectfully yours, —."

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticuitural Society's Gardens at Wisley, Surrey. Height above sea-level 150 feet. The following are the "mean" readings for the week ending May 7, 1904.

1904.	TEMPERATURE OF THE AIB.				JRE ON							
At9		М. А	DAY.	NIGHT.	TEMPERATURE GRASS	t deep.	t deep.	t deep.		SUNSHINE.		
MAY 7	Dry Bulb.	Wet Bulb.	Highest.	Lowest.	LOWEST	At 1-foot deep.	At 2-feet deep.	At 4-feet deep.	RAINFALL		ω	
	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	ins.	hr.	min.	
MEANS	51	46	56	43	36	51	59	49	Tot 0 36	5	26	

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending May 7, is furnished from the Meteorological Office:—

"The weather during this weck was characterized by cloudy or overcast skies generally, but by some bright intervals. Rain fell pretty frequently throughout the kingdom, and was sometimes heavy in the most western and northern districts. A thunderstorm occurred at Armagh on Sunday, while on Thursday thunderstorms were experienced in several parts of England.

thunderstorms were experienced in several parts of England.

"The temperature was below the mean over the major portion of the kingdom, but equalled it in the Channel Islands, and was 1° above it in England, E. and N.E. The highest of the maxima were recorded on the 1st at several atations, but on the 5th at many others. They ranged from 65° in England, S. and E., to 59° in Scotland, W., and to 56° in Ireland, N. The lowest of the minima were mostly recorded about the middle of the week, and ranged from 31° in the Midland Counties and 33° in England, S. to 38° in England, E. and to 43°

the week, and ranged from 31° in the Midland Counties and 32° in England, S., to 35° in England, E., and to 43° in the Channel Islands.

"The rainful exceeded the normal in all districts except the Midland Counties and England, N.W. In Ireland, Scotland, and the North-east of England the

"The bright sunshine was deficient generally, but just equalled the normal in England, N.E. The percentage of the possible duration ranged from 41 in the Channel Islands and 39 in England, N.E., to 28 in Scotland, W., and to 26 in England, S.W."

THE WEATHER IN WEST HERTS.

A Blackthorn winter.—The present apell of cold weather is the first experienced here since March. On two days during the week the temperature in the thermometer screen at no time rose to 50°, and on two consecutive nights the exposed thermometer showed respectively 4° and 5° of frost. These are all low readings for the time of year, but by no means exceptional for the first fortnight in May. Owing to the cold weather and the absence of sunshine during the last few days, the ground has become very cold. At 2 feet deep the temperature is at the present time about 3° colder, and at 1 foot deep as much as 6° colder, than is seasonable. Small quantities of rain fell on three days, but the amounts were not sufficient to affect even the bare soil percolation gauge, through which no measurable

quantity of rain-water has come for nearly a week. The early part of the week was sunny, but the last few days have been very gluomy. Taking the week as a whole, the record of clear sunshine fell abort of the average by nearly an hour a day. The winds were, as a rule, light, and came mostly from some southerly or westerly point. The mean amount of moisture in the air at 3 P M. was about seasonable. A Horse Chestnut tree growing in my garden first showed an open blossom on the 6th, which is six days in advance of its average date for the previous thirteen years, and a fortnight earlier than last year. E. M., Berkhamsted, May 10, 1904.

ANSWERS TO CORRESPONDENTS.

** * Editor and Publisher.—Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters

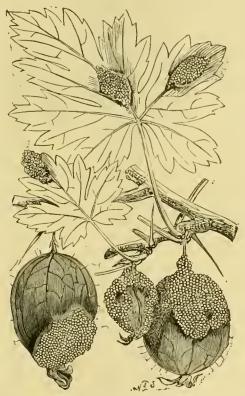


FIG. 138.—GOOSEBERRY DISEASE
(ECIDIUM GROSSULARIL).
Affected leaves and fruit. (Natural size.)

and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the EDITOR. The two departments, Publishing and Editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

ARUM LILIES (RICHARDIAS): In Doult. These may be planted-out in June on a warm border out-of-doors, or they may be kept in pots all season, in which case they will need to be repotted in June or July and placed in a position out-of-doors. The plants require very rich soil and abundant watering. If you plant them out in a rich border, you should lift them again in the middle of September, pot them up, and place them in an atmosphere that will not become colder than 40° during winter. They will not feel much check when potted.

ARUM LILY: W. H. D. Many thanks. We receive many such specimens.

Bamboo: J. M. There is no disease in the specimens; the reason must be found in some detail of cultivation.

BONEMEAL: Correspondent. We cannot undertake to offer an opinion upon quality in respect to price.

BOOKS: W. J. L.—Mushrooms for the Million, by J. Wright, published, we believe, at 12, Mitre Court Chambers, E.C., if still in print.

Carnation: H. W. There is no disease present. The specimen sent is too hard and woody to form good roots, and now that the leaves are growing there is not sufficient nourishment for them. Favouring root-growth is the only course to follow.—Anxious. Please forward us examples of the infected plants, together with a further supply of the grubs, carefully packed in a tin box with a little damp moss. The specimens you sent to us had shrivelled up during transit.

CATERPILLARS EATING LEAVES OF STRAWBERRY AND PEACH: Robt. Maher. The pretty little caterpillars you have sent to us are the larvæ of the common vapourer moth, Orgyia antiqua, and you will find that if you handle them carelessly that the parti-coloured hairs are terribly irritating. The larva feeds on almost every kind of tree or shrub, but does not usually eat the foliage of herbaceous plants. When full fed it spins a loose, web-like cocoon on walls, trunks of trees, and other open spaces, and therein changes to a hairy chrysalis. The female moth is a very remarkable creature, inasmuch as she has the barest rudiments of wings, and might easily be mistaken for a huge fat spider. When she hatches from the chrysalis she simply crawls on the cocoon, and is said never to leave it, laying her eggs all over it. The male moth is furnished with ample wings, which are of a bright chestnut-brown or orange-brown colour, with dark transverse lines and a large white spot on each of the fore wings. It may often be seen dashing about in the streets of London.

Cucumber: D. F. M. J. Your plants are affected with canker, due to excess of moisture in the soil and consequent fungus.

Daphnes: Daphne. D. Blagayana should be planted in a sunny exposed position on the rockery in light soil, such as one composed of loam, leaf-mould, and peat. The root-stocks have a tendency to push above the soil, and if these are not covered with small boulders and moss, but are left exposed to the sun, the plants will not succeed. This method is illustrated in Gardeners' Chronicle for October 25, 1902. D. cneorum and its variety major are by no means easy of cultivation. The best stock of D. c. major we ever saw was in a small nursery near Woking. The plants have large deeply-penetrating roots, and for this reason often suffer a severe check after transplantation. This species may be grown on the rockery, or as edgings or clumps in the flower-borders. Afford the plants a rich, light soil, and plant in a sunny position. D. Genkwa should be afforded a somewhat sheltered position in your district, but is generally hardy.

Dendrobium and Codlæum Leaves Spotted: J. B. The spots on the leaves are possibly due to condensed moisture during protracted dull weather. Possibly the temperature of the house has fallen at night and the moisture condensed on the plants when in a low temperature. Remove all damaged foliage, and do not syringe the plants so freely, but keep up atmospheric moisture by damping the floors, stages, &c.

FERNS: J. L. The crippled condition of the Ferns, and the very wet condition of their dead or inactive roots seem to indicate that the plants have received a check in their growth. They are probably old enough to be showy plants, but they appear to have been kept too cold (at times, if not continually) and wet. They should be shaken out and re-potted in small pots.

GOOSEBERRY DISEASE: Gooseberry. The leaves and fruit are attacked with a fungus (Æcidium grossulariæ) (fig. 138). It attacks Currants also, including at intervals the flowering Currants of our shrubberies. One stage in the life-history

of the fungus occurs on plants of the Sedge family. You may spray the plants with the Bordeaux-mixture, taking care to decrease the strength of the solution as the fruit approaches maturity, and to cease spraying altogether some time before the fruit is fully ripe. Permanganate of potash solution is also a good preparation for use as a fungicide. Dissolve crystals of potassium permanganate in water until the solution is of a pale rose colour. Apply this in a fine spray, especially on the under surfaces of the leaves.

Indian Rhododendrons or Azaleas: In Doubt. Directly these have flowered they should be repotted if the plants require additional rooting space. For the compost use one-half peat and the other half composed of fibrous loam, leaf-soil and silver-sand. Make the soil very firm between the old roots and the pots by use of a potting-stick, and keep the roots round the stem of the plants rather higher than the rest of the soil, it being important that most of the water should not filter through the soil immediately around the stem. Whether the plants are re-potted or not they must be kept in a well-ventilated greenhouse until they have finished their growth and formed the flower-buds for next season. This may be at the end of July or the beginning of August. At that time remove them to a sunny position out-of-doors, and here, as in the greenhouse, let the plants be watered as often as necessary, and syringe them well each bright day with clear water, remembering that their worst enemy is thrip. The plants must be placed upon bricks or other material to prevent worms from entering, and they should be returned to the house before autumn rains become frequent.

INSECT: F. W. D. Dytiscus marginalis, common water-beetle.

Market Gardening: C. H. Horsham should be a suitable place for market gardening, but we cannot undertake the responsibility of advising you which locality is the best. As a rule, it would be safe to commence a market-garden in a district where other such gardens have proved to be successful. Several essential points should be borne in mind, such as the following:— Terms under which the land can be obtained, suitability of soil for the crops it is intended to cultivate, provision of shelter from east and north winds, convenience of railway station, distance from a good market, water supply, &c. If you write to Messrs. Protheroe & Morris, auctioneers, 67 and 68, Cheapside, London, E.C., they will probably send you a monthly register of market gardens to be let and sold, and of land suitable for conversion into market gardens.

MELONS TO RIPEN BY AUGUST 22: G. S. By giving close attention to the details of cultivation Melons of high quality may be ripened from plants raised from seeds twelve weeks previously.

Names of Plants: Correspondents not answered in this issue are requested to be so good as to consult the following number.—T. W. R. 1 and 2, Ulmus campestris; 3, U. montana.—W. S. C. Ornithogalum nutans.—A. C. D. N. Arabis albida, double-flowered variety.—A.T. M. Sussex. Begonia Louise Closon. or one of the same set of the B. rex. hybrids.—C. B., Braintree. Cattleya intermedia. It is easily distinguished from C. Loddigesii and the variety known as C. Harrisoniana by the stalked front lobe of the lip—X. F. Z. 1, Dendrobium fimbriatum oculatum; 2 & 4, varieties of Dendrobium nobile, 4 being an exceptionally fine flower; 3, Dendrobium aureum.—J. F. A very poor variety of Rhododendron arboreum.—F. B., Croydon. Choisya ternata, a native of Mexico.—C. S. B., Oxted. Cattleya intermedia.—J. T. 1, Odontoglossum cordatum; 2 and 4, Odontoglossum triumphans, though extreme varieties; 3. Odontoglossum eirrosum; 5, Cattleya Mendeli; 6, Odontoglossum Pescatorei.—B. Cottonia macrostachya, a rare highland Indian species.—E. G. 1, Cyrtomium caryotideum; 2, Selaginella caulescens; 3, Adiantum hispidulum; 4, Davallia dissecta; 5, Blechnum polypodioides; 6, Selaginella stolonifera.—H. W. T. Zephyranthes rosea.—Fern Dale. 1,

Magnolia conspicua; 2, Acer polymorphum; 3, Asperula odorata (Woodruff); 4, Berberis Darwinii; 5, Pernettya mucronata; 6, Cotoneaster microphylla.—Cupressus. All are varieties of Cupressus Lawsoniana, except No. 7, which is C. Nootkatensis; 1, Arabis albida; 2, Forsythia suspensa; 3, Berberis stenophylla; 4, B. Darwinii; 5, Cotoneaster Simonsii.—W. J. W. Orchis mascula.

New Zealand Feens: An Old Subscriber. All the Ferns in your list may be cultivated in the greenhouse, excepting Lomaria alpina, Todea superba, and T. hymenophylloides, which are half-hardy; and the species of Polypodium and Hymenophyllum, together with Aspidium ocellatum, which require a stove temperature. The Hymenophyllums and Todeas being "Filmy" Ferns require to be kept in a moist, humid atmosphere, almost at saturation point. Shade is also essential, for the fronds are so

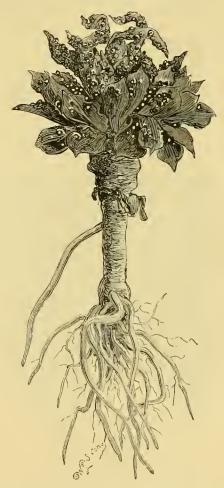


FIG. 139.—SEMPERVIVUM ATTACKED BY THE FUNGUS ENDOPHYLLUM SEMPERVIVI.

delicate that if subjected to drought or exposed to the sun for only a short time they become completely shrivelled. We do not know what is meant in No. 18 by "Paellaeci." Erinus is a hardy flowering plant, and may be planted on the rockery.

PEACH SHOOTS: Persica, and C.S. The shoots are attacked by a Botrytis, a fungus commonly attacking imperfectly-ripened wood, or young shoots that have had a chill. All diseased shoots should be cut off and burned, otherwise the disease will spread. After pruning, spray the trees with a rose-red solution of permanganate of potash dissolved in water.

RED SPIDER ON VINES: E. B. You are right in supposing that sponging of the leaves with soapy water would remove the spiders as well as thrips, but it is a slow process. Try fumigating the house with a vapourising compound, which will check or destroy both pests. If the red spider gives further trouble,

you may paint the hot-water pipes with a mixture of lime-wash and flowers-of-sulphur, such as is used to destroy mildew in vineries. Do not apply this before the sun has gone down, and see that the house is closed, the atmosphere dry, and the temperature 75° to 80°. The pipes having been made very hot, they will soon cause sulphurous fumes to arise, and these will kill the spiders. In the course of two hours or so let the fires down a little and admit a moderate amount of fresh air at the top of the house. The operation should be repeated two days afterwards.

RUST ON SEMPERVIVUM: B. & S. The fungus on Sempervivum is Endophyllum sempervivi, not at all uncommon in this country on the common House-Leek. It will be found described in Gardeners' Chronicle, May 22, 1880, p. 660.

TIMBER MEASUREMENT: C. R. Get Guide to Improved Round-Timber Cubing Rule, &c., by E. A. P. Burt, price 2s. 6d.; or English Timber and its Economical Conversion, by "Acorn," price 3s. 6d. Horton's Complete Measurer would suit your purpose if you can get a copy at a second-hand book-stall. It was published in 1874.

Tomatos: G. S. The rustiness is caused by thrips. Spraying with any of the preparations used for the extermination of these pests will answer.

These Onion: W. B. You cannot get seeds of this Onion, but you may purchase bulbs. The bulbs will produce a stem, and instead of flowers and seeds it will bear a number of small bulbils. These are useful for pickling, and by their means also, as well as by offset bulbs formed underground, the Tree-Onion is propagated. It is supposed to be a viviparous variety of the common Onion, Allium cepa.

TREE Pæonies: Denis, France. Tree Pæonies are propagated by means of grafts inserted on the fleshy roots of the herbaceous species, usually P. officinalis or P. albiflora. It is necessary to select scions in August that show no flower-buds, and when gratted on to the stock-root, put the stock-root in a pot and plunge this in soil in a frame, sufficiently deep to cover part of the scion. Keep the atmosphere of the frame rather close for a time and shade from direct sunshine. Union will soon take place, but it will be unnecessary to disturb the plants until spring. They may also be propagated by layering.

TULIPS: B. & S. The Tulips are infested with Botrytis parasitica, a fungus very destructive to these plants during certain seasons. The plants have been infected from spores present in the soil, as the bulbs are yet sound. Later in the season the fungus will pass down into the bulbs, which will then produce a diseased crop next year.

VINES: E. M. If the pest is that known as mealy-bug, you must watch the Vines very carefully, and by means of a small brush dipped into methylated spirits touch every insect that appears. This will cause instant death. The work must be done with much care, or the leaves will receive injury.

WINDOW-BOXES: In Doubt. As your boxes will be placed under windows facing to the south, there are many plants you may use successfully, including the following:—Zonal and Ivy-leaved Pelargoniums (Geraniums), Fuchsias, Marguerites (white and yellow-flowered varieties), Marigolds, Begonias, (tuberous or fibrous-rooted varieties), Helictropes, Petunias, Celosias, Calceolarias, &c. You should send to this office for the Calendar of Garden Operations, price 6d., which contains all the information you require upon the management of plants in window-boxes.

COMMUNICATIONS RECEIVED,—G. H. P.—A. E. C.—J. W.—A. D.—W. H. B.—K. N.—J. K.—T. E. T.—Cuses—F. H.—C. S.—Rev. Canon S.—J. O'B.—De Barri Crawshay—H. Kemphail—W. Miler-W. W.—Interested Keader—R. P. B.—Regent Spark—A. G.—W. C.—C. P. R.—F. M.—R. W. D.—N. E. B.—Rev. D. Williamson J. J. W.—R. L. C.—G. H. P.—S. A.—Kentish—Salop—W. H. W.—Cars—G. B.—A. H. Pearson.—F. J.



TRACHYCARPUS EXCELSUS CHAMEROPS EXCELSA: IN THE OPEN-AIR, AT PENMAENMAWR, A PLANT REMOVED FROM THE RESIDENCE OF THE LATE N. B. WARD, ESQ., AT CLAPHAM.





THE

Gardeners' Chronicle

No. 908.—SATURDAY, May 21, 1904.

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FRUIT-CULTURE IN BRITAIN.

In Indian Planting and Gardening of Jan. 30, I read that the "President of the Board of Agriculture and Fisheries has appointed a Departmental Committee to enquire into and report upon the present position of fruit-culture in Great Britain," and that the Rev. W. Wilks, M.A., is a member of that Committee. In the Gardeners' Chronicle of February 20, under the heading of "Departmental Fruit Committee," the writer says, "With the enormous increase in the consumption of fruit, it is imperative that something be done to foster fruit cultivation in this country."

In my humble opinion a most important preliminary step in this question is to have a survey made of the British Isles with regard to the adaptability of each district to the profitable growth of certain varieties of fruit-trees in the open ground, such as Apple, Pear, Plum, and Peach-trees, and also of Strawberries. Of Appletrees especially, the number of varieties is simply bewildering. In one catalogue of Apple-trees alone I find upwards of 200 varieties quoted, and new varieties are constantly advertised!

Now everyone knows that all varieties of these fruit-trees will not succeed in all districts; and everyone knows that some districts have cer-

tain characters of soil, and other districts have other characters; and that one kind of soil will not suit all the different varieties of fruittrees. Then, besides the composition and physical characters of the soil, there is the difference of climate of the north, south, east, west, seacoast, and Midland climates.

Of course, given the suitability of a certain soil to a certain variety of fruit-tree and other favourable local conditions, the management of the plants and the skill of the grower will have a great deal of influence on the resulting fruit, or the absence of it. Then, again, the season may defeat both skill and suitable conditions, and frosts or rain at the wrong time may fill the grower with despair, as occurred in the spring of 1903, when the bloom of the Pear-trees was ruined, and when on September 10 the Apple crops were blown down. The despair in the latter case is that the finer and the larger the Apples are the more readily they are blown down in a storm.

Now, supposing a person wished to plant, say an orchard of 1,000 Apple-trees how is he to know which of those innumerable varieties would suit his ground, its aspect, its situation, its climate, and so forth? Is he to order his plants as per catalogue, which gives him only the names and the qualities of fruit of each Apple-tree as grown in one particular nursery, and after some years of expense and labour to find that a large proportion of them are worthless, as far as his ground and other conditions are concerned?* No information to help the purchaser in his choice is given, as to which varieties are suited to stiff, medium, or light soils; which varieties are suited to the north or south, or east and west. There is a great deal of difference between the climates of these different points of the compass in the British Isles, as also of the Midland counties. Every variety will not suit all places.

To quote an instance in a very small way. A friend recommended as good varieties of Peartrees, Beurré Dumont, Beurré d'Anjou, Winter Nelis, and Emile d'Heyst. I purchased two of each in bush form. They were supposed to become in a fruiting condition the following season. They have been in the ground four years. The first three have proved to be quite useless; they have not given the sign of a crop. The trees of Emile d'Heyst gave a crop last year, when every other Pear-tree failed, owing to the late frosts. They were all treated in the same way, and are planted on similar ground. The latter promise as well this year.

Curiously enough, of two trees of Winter Nel's planted side by side, in a severe southwest gale, one had all its leaves blackened, and afterwards died; while the other was untouched. That gale had browned the wind side of a number of road trees, and others in private gardens, presumably owing to the salt spray blown from the Atlantic. I could not account for the destruction of only one Winter Nelis on this occasion. Possibly either one or the other may have been wrongly ticketed at the nursery from which they came. Then a Waterloo Peachtree and an Alexander Noblesse Peach-tree, both bushes, have failed to do anything; instead of progressing they dwindled, and eventually they were dug out and thrown away.

The Doyenné du Comice Pear is well known to be the hest in existence. It keeps well, is of a delicious flavour, and when just ripe is so luscious that its juice drops on the plate when the skin is removed. I have nine bushes of it, planted five years ago; they have made good growth, and when planted they were supposed to be of a fruiting age. I have not, however, got a single fruit from them yet. The year after they were planted they produced a good show of flowers, but they did not set. Three trees of the

* See p. 149 of Gardeners' Chronicle of March 5, 1901, regarding Ecklinville See Hing Apple in this connection.

same variety, planted one year before the above, have done fairly well; not, of course last year, when the Pear crop was a failure almost everywhere. I cannot account for the nine trees of this variety having failed to bear fruit; perhaps they were grafted from unfruitful branches of the mother tree, which, it is suspected, will result in more or less barren trees.

A friend of mine presented some trees of the Doyenné du Comice to some fruit-growers; after some years of trial they told him that the fruit was very good, but not good for them!—by which they meant that this variety—premier variety—does not crop well in the open ground with them.

Now with regard to Strawherry plants, there is a similar difficulty—all varieties do not suit all soils and climates. A nurseryman once told me, "Your best plan is to purchase a number of varieties and see which will suit your soil and climate best, and propagate from those." I did so, and found that a very small proportion suited my place. With Strawberry-plants the difficulty is not great, hecause in a year or two you can ascertain which varieties are suitable; but with fruit-trees the case is different. After planting, they require four or five years of careful cultivation before they show their worth, and then perhaps you discover that half the trees of your fine orchard are worthless for profit.

A person who wishes to plant an extensive orchard of fruit trees, unless he knows what varicties do well in his soil and climate, will have to exercise a great deal of patience and a great deal of perseverance, and not mind being a good deal "out of pocket." For probably, after caring for his trees and waiting some years, he may find that he will have to discard a certain proportion of them as unprofitable in that place.

The survey which I have attempted to suggest would facilitate the choice of fruit-trees suited to any particular district. But how is such an extensive survey to be brought about? By enlisting the co-operation of the nurserymen and gardeners of wealthy persons and others who may be thoroughly acquainted with the soil and the varieties of fruit-trees that thrive in their various districts and usually give a profitable return.

There may be a great number of varieties which are worthless in certain districts; but nobody appears to know anything about this peculiarity, or, at all events, no information on this subject seems obtainable. There may be, however, a certain number which might be called cosmopolitan, and this fact also would be worth knowing. Probably among the latter would be found the old-fashioned varieties which have stood the test of generations. The modern varieties, so much advertised and so much pictured, have yet to prove their worth as generally useful and profitable varieties. I believe the Government of the United States is endeavouring to bring about such a survey; but their operation would have to be a gigantic one, while that of the British Isles would be child's-play in comparison. Such a survey could only be well undertaken by either the Royal Horticultural Society, the Royal Agricultural Society, or by Government. No private person could undertake such an extensive piece

But taking everything into consideration, one might perhaps ask "Is the climate of the British Isles, with its fickleness, favourable to fruit-growing in the open?" Judging from mysmall experience, I am inclined to think that fruit growing in these Isles in the open is not likely to become a general and profitable occupation. The climate often varies in a few days, from a subtropical one to an almost arctic one. A frost or a heavy rain at the wrong time upsets all calculation and all hope of profit. The fruit season of 1903 was as disastrous as can well be imagined. Even if, on occasions, no exception could be taken to this

climate and the season, and everything went on as well as could be desired, prices run down when fruit crops are abundant and the profit is next to nothing; at other times, when one thinks that things are favourable for getting in some money, a severe gale comes and blows down the best and largest specimens of your Apples, and the ground is strewed with bruised and broken fruit only fit for jam.

Well then, it may be asked, what do those splendid specimens of various kinds of fruit mean that we see at exhibitions? Do not they indicate great progress in fruit culture? Certainly they indicate that some persons can grow those fine things, but they can hardly be said to mean that they are fair specimens of the fruit-growing industry of the British Isles.

Moreover, no information is ever given as to whether those specimens were grown in the open or under glass; they are exhibited either by the leading nurserymen or by the gardeners of wealthy persons. They certainly do not indicate that there is any progress in the general fruit cultivation of this country, in which farmers, market gardeners, owners of small holdings, and cottagers can engage. They may obtain certificates and prizes, and the trees that have borne them may be purchased by wealthy people and others who desire to make experiments; but even then it does not follow that they will do on their own land what the exhibits promise. Moreever, the exhibits are the pick of possibly a considerable crop.

In The Living Plant, on p. 100, I find the following: "A branch of an ordinary fruit-tree may be made to bear specially fine fruit simply by binding it tightly with a ring of stout wire, for by this means the downward flow of elaborated sap is checked, and the fruit gets the benefit of all the food produced by the leaves of this branch. The fact is well known to gardeners, and much of the prize fruit shown at exhibitions is produced in this way."

If this statement is accurate the question might be legitimately asked, "Can this practice be generally pursued for growing fine fruit for the market without injury to the trees, and to the prospect of their yielding a crop in subsequent seasons? Or is it merely an operation intended to produce sample fruits for show purposes, viz., the honour of gaining certificates and awards of merit, and for purposes of advertisement?"

If the latter, it cannot be an indication of progress in fruit-growing in this country. By prizes, certificates, awards of merit, and advertisements, you can stimulate effort in a wrong direction as well as in a right one that is advantageous to the community.

It is not improbable that many old-fashioned and useful varieties of fruit-trees, which may have stood the test of generations in various parts of this country for fruitfulness and general market purposes, are being gradually ousted by new ones, which are imperfectly known, but are "pushed" by prizes, advertising, and picturing.

I have seen marvellous pictures of large and beautiful Sweet Peas, but I have never succeeded in growing any to match the pictured ones, although I obtained the seeds from the picturers! Progress in fruit-growing for the benefit of the community is one thing; progress in fruit-growing for the benefit of exhibitors is another.

All the foregoing is of course written with reference to fruit-growing in this country in the open. Under glass, by the aid of heat, skill, and vigilance, the case is different. On one occasion in London, I heard a Sunday afternoon lecture by Prince Kropotkin. He assured ns that the production the soil can be made to yield has hither to been as nothing compared with what it might be made to produce in the future in fruit and vegetables. He showed us some slides of mar-

vellous horticultural products under glass, but unfortunately he never told us what the cost of this kind of horticulture comes too.

Look at the expense of it. There is the cost of buildings and heating apparatus, of fuel and establishment of plants, and upkeep. The vigilance and trouble needed to keep down insect and fungus pests are never ending, and often the battle, owing to various circumstances, ends in a defeat to the grower. I have heard of Cucumberplants filling several houses having been thrown away owing to disease.

Nevertheless, some marvellous results have been achieved under glass by skill d management and constant vigilance. In the Gardeners' Chronicle of November 21, 1903, p. 349, there is a beautiful picture of a lofty house filled with



FIG. 140.—LYSICHITUM CAMTS SHATCENSE FLOWFRING IN THE TEMPERATE-HOUSE, ROYAL GARDENS, REW.

splendidly-trained Peach-trees; but six men were photographed in that Peach-house! Of course, probably they have other work to attend to, but such an extensive Peach house will undoubtedly require a vast deal of labour and attention. Under glass, nature is only of pirtial help, it is mostly art that does it; and there seems to be a growing notion that this art is not sufficiently paid for. In this I agree; but raising salaries of skilled gardeners will not make fruit cheaper to the community. It is an art that can benefit only the wealthy.

The problem is to find out what particular varieties of fruit-trees suit particular localities, so that the general public of small and medium means may not waste their time and money in fruitless attempts to find out what varieties will suit their localities and what will not. "It is exasperating to wait year after year, to be again and again disappointed." E. Boiavia, M.D.

KEW NOTES.

LYSICHITUM CAMTSCHATCENSE (see figs. 140 and 141).—This remarkable Aroid is the only member of the genus, and has an extensive distribution, being found over a wide area in North-Eastern Asia and North-Western America. At Kew it has been grown for a number of years in a boggy portion of the rock garden, where it has barely managed to hold its own, and has never flowered. Another plant, which was placed in a similar swampy position in the Himalayan-house, has flourished, and flowered for the first time last year early in April, and has flowered again this season. Originally consisting of a single crown, it has become divided into five strong flowering growths. In all, seven spathes were produced last season; this season it has formed many more. The species is said to vary considerably, both in habit and size, in the different localities, and to always inhabit swampy places. In the Kew specimen the leaves are from 1 to $2\frac{1}{3}$ feet in length, and 5 to 10 inches in diameter, erect when young, but spreading with age, varying in shape from ovate to spatulate, acute or obtuse, bright green above, light green below. The spathes appear shortly after the leaves commence to grow in early spring, and appear in succession for a period of six or eight weeks. The peduncle is about a foot high, stout and cylindrical. The spathe is from 4 to 6 inches in length, and 3 to 5 inches in diameter, erect, broadly ovate, acuminate, and bright yellow in colour. The spadix is densely flowered, 3 to 6 inches long, and 3 to-1 inch in diameter, and dark green in colour. The flowers emit a strong fætid odour when mature, when an abundance of pale yellow pollen is produced. The January number of the Botanical Magazine contains a fine figure of this lovely plant, which was prepared from the Kew specimen in 1903. The plant is entirely deciduous, dying down in the early winter at the first signs of frosts.

RHODODENDRON RACEMOSUM.

Several batches of this distinct and handsome species were in flower recently in the open. It is perfectly hardy, but is sometimes caught by late frosts when in bloom; this, however, does not affect the plants at all, because growth commences somewhat late. The species is one of the most beautiful of all the Rhododendrons, the largest plants at Kew being about 2 feet high, of loose spreading habit, and densely covered with a mass of bright pink flowers, each of which was about an inch in dismeter, and sweetly scented. No doubt the plants will attain to much larger dimensions. The flowers not only terminate the ends of the branches, but are also disposed in dense clusters in the axils of most of the leaves of the previous year's growth, thus forming long, dense racemes of flowers. Seeds are produced in abundance, and these furnish a ready means of propagation. The seedlings usually flower freely when about three years old, by which time they are 6 to 8 inches high. Cuttings will root freely in late summer if placed in sandy peat under a bell-glass or close frame.

CEANOTHUS RIGIDUS.

This species flowers well on a wall facing east. It is an evergreen species introduced from California by Hartweg, and may be readily distinguished by its peculiarly rigid habit, dense foliage, and the arrangement of its rich blue flowers, these being disposed in short dense corymbs, and crowding the whole of the upper parts of the branches, forming long terminal racemes. Unfortunately, most of the species are too tender for culture in the open border, except in the most favoured localities in this country. They are excellent plants for covering walls in sheltered positions, and furnish a brilliant display of flowers in the spring and summer months. Chas. P. Rafill.

Gengera oratulabunda, Rchb.

A good plant of this singular epiphytal Orchid is new flowering in the Orchid-house. The plant carries six fine pendulous racemes of flowers. Although of a very much neglected genus, this species is handsome, and werthy the attention of all Orchidists. The pseudo-bulbs are stout, seme 4 inches long, eblong, and deeply groved; the leaf is very similar to that of a Stanhopea, about 10 inchea te a feet long, and 4 to 6 inches broad. The longest raceme on the plant new in flower is 20 inches, and carries fifteen flowers, the colour of which is buff-yellow very densely spetted with dull-red. It is a native of Colombia, and succeeds well in the Cattleya-house. Botanical Magazine, to 7924

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT GLEBELANDS, WOODFORD.

The cellection of Orchids formed by J. Gurney Fowler, Esq., the energetic Treasurer of the Royal Herticultural Society, has made steady progress for some years past, and is one of the best in the neighbourhood of London. Dendrebiums are specially well grown at Glebelands, and probably during the sixty-five years in which Dendrobium Devenianum has been in cultivation there has been ne such above of anything like an equal number of plants as that recently seen in one of the Orchid-houses at Glebelands. Along the entire length of the house two rows of fine specimens of

varieties of D. Wardianum, one fine plant flowering for the first time having a very handsome white flower, with the usual dark markings at the base of the orange-coloured disc. D. Wardianum Fowleri is both beautiful and curious, the flower heing finely shaped and richly coloured. The peculiarity is that the lower sepals are coloured like the labellum, and the feature has remained constant. D. crassinede, and some other Dendrobes were also in flower and on the staging beneath a good collection of Cymbidiums, C. Lewianum and its variety concoler, C. eburneum, C. × eburnee-Lewianum, and some others being in flower.

Another show of Dendrobiums was made in a house the staging of which was chiefly occupied by



Fig. 141.—LYSICHITUM CAMTSCHATCENSE GROWING IN NORTH CALIFORNIA.

COCHLIOSTEMA JACOBIANUM.

For the past menth two large specimens of Chis distinct member of the order Commelinaceæ have flowered in the Victoria Regia-house, and should continue to produce their fine inflorescences for a considerable time. This species makes a fine specimen plant; the leaves are 2 to 3 feet long, 6 to 8 inches broad, and sheathing at the base, forming a large resette, giving the plant the form of many of the Tillandsias. The scerpicid cymese inflorescence is about a feet long, produced from the axils of the basal leaves, carrying numerous beautiful large dark blue flowers; the margins of the three inner segments are cevered with leng, delicate bairs of the same celeur. It is a native of Ecuador, and should be grewn in a stove, giving it plenty of pot-room. A fine flewering specimen can be grown in twelve menths. It was figured and described in the Gardeners' Chronicle, March 14, 1868, p. 265; and in the Botanical Magazine, t. 5705. W. H., May 14.

Dendrobium Devenianum were suspended from the roof, each plant being a dense mass of white and rose flowers, the fringed labellums of which have a rich orange disc. The specimens have each from ten to twenty long flowering pseudebulbs, each bearing from fifty to over one hundred flowers—all, netwithstanding the great number borne by each plant, being ef fire size and substance. It is greatly to the credit of Mr. J. Davis, the gardener at Glebelands, that he should have so successfully cultivated and flewered these plants for so many years. Ne additional plants have been acquired for three years past, and most of them have been on the place for a much longer time. D. Devenianum and D. Falconeri have the reputation of being two of the most difficult to keep in good condition, but Mr. Davis has proved that this can be done, and that the main point is to give the plants a long rest in a cool, airy house when the growths are completed and until flowering time comes. In the house also were some specially good

pretty "table plants"—Dracenas, &c.—the Dendrobes being mostly suspended from the roef. In bloom were varieties of D. nebile, seme good D. Findlayanum, D. crassinode, D. × Apolle, two very fine D. × Venus, and some other hybrida. At one end, planted out, Epidendrum radicans and E. × O'Brienianum formed a dense screen, and would soon be in flower. On one side was a very strong specimen of Eulophiella Elisabethæ which was developing flowera, and near it a batch of Phalænopsis.

In the Lælia and Cattleya-house one side was devoted to fine hybrids and rare and albino varieties of species. Here was the plant of the still finest form of Lælia × Digbyano - purpurata "Edward VII.," which was one of the "Coronation Orchids" of which coloured illustrations were given in the Gardeners' Chronicle at the time. L.-C. × Pallas, Cattleya × Louis Chaton and a few others were in flower, and among the species three very handsome and distinct forms of Cattleya Schroderæ were prominent—the one a

white variety with yellow tube to the lip, the other two of various shades of rose-colour, the larger having the greater part of the disc and base of the lip of an apricot-tinted orange colour, a line of the same being also on the lateral sepals. In sheath were many fine things, and in flower Cattleya intermedia Fowleri, a very handsome and distinct variety; a large specimen of Dendrobium Brymerianum; and in bud a fine lot of vigorous plants of Miltonia vexillaria and M. × Bleuana.

Codontoglossums grow and flower in the most luxuriant fashion. For some time past there has been a good show of flowers in their house, and still there were spikes in all stages to continue the display. O. crispum is the principal species grown, and of it there was a large number of

H. Veitch, a vigorous plant of C. × Miss Louisa Fowler, a beautiful example of C. \times Olivia, C. \times W. R. Lee, C. × Harrisianum albens; C. Lawrenceanum Hyeanum, and the rare and handsome C. x I'Ansoni. Other remarkable plants noted were a fine lot of Vanda teres, planted at one end of a warm house, and beginning to show flower; the large specimen of Eulophiella Peetersi which flowered so heavily last season that the plant was inactive for some time, but has now taken possession of the additional raft of moss placed for its extension; some fine specimens of Dendrobium thyrsiflorum, with six or seven spikes forming; a fine strong specimen of Renanthera Storiei, a collection of Vandas, Aërides, &c.; and some stout plants of the Aloe-like African Eulophia Caffra.

had commenced their beautiful display. The Amaryllis, Eucharis, &c., were still fine, and the fruit-houses and extensive out-door garden in excellent condition.

A WATER AND BAMBOO GARDEN.

[See figs. 142, 143, and Supplementary Illustration.]

The idea of a combination of a water- with a Bamboo-garden at Bessborough, Co. Kilkenny, originated with the Viscountess Duncannon, who takes much interest in everything connected with the garden, and who about four years ago wished to have some Bamboos planted as, an experiment. The larger ones shown in fig. 142



Fig. 142.—VIEW IN VISCOUNT DUNCANNON'S GARDEN, CO. KILKENNY.

specimens which had been grown at Glebelands for some years. To these are added each year a good many freshly-imported plants, and all were alike thriving. Planted out in the cool-house was a batch of Epidendrum × Endresio-Wallisii, growing very strongly, and showing great variation in their flowers, one being yellow with a few purple marks, and very close to E. Wallisii, while some of the smaller had white and violet flowers, near to those of E. Endresii. With them Epiphronitis × Veitchii is also planted, and with similar good results. Giving bright colour in the house were Ada aurantiaca and some of the Masdevallias; Odontoglossum triumphans, O. Wilckeanum, and very free-flowered plants of the yollow-coloured Oncidium concolor.

The Cypripedium-house contained some plants in flower and many in bud, among which were remarked four very strong plants of Cypripedium callosum Sanderæ, a very fine specimen of C. × Jas.

It may be useful to note that in some of the houses it was found difficult to maintain a healthy, moist atmosphere, and frequent "damping down," as it is called, was not satisfactory. To meet the difficulty loose brick walls, built up without mortar, and having spaces left between the ends of the bricks, were put up from the ground to near the edges of the staging. These hand-built walls do not interfere with the ventilation of the houses; when once saturated they are easily kept moist, and having a considerable surface from which to give off moisture they ensure the desired amount of humidity almost without variation, except in so far as it is regulated by the temperature of the house. The Orchids at Glebelands are the most important feature, but Mr. J. Gurney Fowler does not allow them to depose any of his other favourites. The houses of Azaleas and spring flowers were showier than the Orchidhouses; the fine collection of Tea Roses in pots

were planted first, the varieties being Arundinaria japonica (Bambusa Metake), A. Simoni, Phyllostachys aurea, and P. viridi-glaucescens. What progress these have made may be judged from the photograph. As they succeeded so well many more were planted; and two years afterwards the Lily-ponds were made, and planting has been continued at intervals ever since.

When the excavations were made for the ponds, the soil was thrown up to make a high bank on the side farthest from the walk, this bank heing planted with a variety of plants, with a view of providing immediate effect, but with the idea of weeding-out any that proved to be unsuitable after trial. Only a small number of these appear in the photograph, there being Gunneramanicata throwing its gigantic leaves over the water, Bamboos in variety—as Arundinaria japonica, Phyllostachys flexuosa, P. Henonis, Arun

dinaria Simoni, Berberis stenophylla gracilis, and B. empetrifolia major. These are planted so as to hang over large stones thrown up with the soil; also Hydrangeas, Cordyline australis, Phormiums, Eulalias, Osmundas, Aralias, Spiræa japonica, and other smaller species on the water's edge. Behind the plants named above are clumps of Arundo Donax, Pampas-Grass, Eucalyptus Globulus, Leycesteria formosa and Arbutus Unedo, the whole having as a background some large evergreen Oaks.

are some good clumps of Libertia graudiflora; which in the spring afford a beautiful effect with hundreds of pure white, wax-like flowers which are reflected in the water. Higher on the slopes are belts of Daffodils in the grass; a clump of Crimson Rambler Rose, climbing at will over a large heap of roots and stones, and the white climbing Rose "Rampant," growing vigorously round an old tree-stem, sawn off about 8 feet from the ground. Lower down, right on the banks of the stream, are Ferns in



Fig. 143.—PICEA MORINDA IN VISCOUNT DUNCANNON'S GARDEN, CO. KILKENNY.

In the water different varieties of Nymphæas are growing, also a small group of Richardia africana, some plants of Cyperus longus, and Carex pendula on the edge.

The view shown in our Supplementary Illustration was taken from a rustic bridge at a little distance from the scene already described. It shows a running stream from a spring in the clump of trees seen at the back of the picture. In the course of this stream little water-falls were made, and at the highest part a small rockery was formed. This is now well furnished with rockplants, some hanging down to the water's edge; and there is a background of taller plants, such as Bamboos, Yuccas, Cordylines, and Veronicas. Lower down the stream and planted in the turf

quantity, Myosotis, Funkias, Saxifraga peltata, Polygonum Brunonis, and in a shady spot Rodgersia podophylla, which is very effective.

Other species made use of, and planted largely in clumps, are Phormiums, Cordylines, Kniphofias, Polygonums, Pampas-grass, Gunneras, Rhus typhina, Berberis Thunbergi, Lupins, both the tree and perennial varieties; Anemone japonica, Bocconia cordata, Iris, Aconitum, Montbretias, Hydrangeas, hardy Fuchsias, Hypericum, two varieties of Epilobium, Aralia Sieboldi, Spiræas, Veronicas, and the following varieties of Bamboos (some of these have not been planted long, but look very promising at present):—Arundinaria nitida, a very pretty, fast-growing variety, with small dark canes; A. anceps, A. Hindsii,

A. Hindsii var. graminea, A. spathiflora, Bambusa fastnosa, B. palmata, this is a grand variety, strong grower, with large, handsome leaves; Phyllostachys aurea, P. Boryaua, P. Castillonis, a handsome variegated plant, and a capital doer; P. flexuosa, P. Henonis, P. mitis, P. nigra, P. Quilioi, and P. violescens.

"The Wilderness" forms a connecting-link between the water-garden and the pleasure-grounds proper and the wood beyond. The plants here are principally species that will almost take care of themselves—large clumps of Kniphofias, Pampas-Grass, different varieties of Cratagus and Rhododendrons, and a few Conifers.

The main walk in the kitchen-garden is flanked with herbaceous borders over 300 yards in length, cross borders bringing up the total length to 600 yards. These borders are planted with all kinds of showy herbaceous perennials, any blanks that occur being filled in each season with annuals. They supply an immense quantity of flowers for cutting, besides making a very pleasant walk through the kitchen-garden.

At the back of the borders are fruit-trees, principally Apples; and the fruit-trees make a division between the borders and the vegetable quarters, which are thus practically hidden.

Conifere, as in many places in Ireland, succeed very well at Bessborough, Picea morinda (Smithiana), shown at fig. 143, being looked upon as a very good specimen; a second tree, though not so tall, is better furnished with branches. Other good specimen trees are Pseudotsuga Douglasii, Abies Webbiana, Pinus radiata, Cupressus macrocarpa, C. Lawsoniana, Abies Nordmanniana, A. nobilis, A. nobilis glauca, &c.

It will be remembered that Lord Duncannon presided over the gardener's dinner held at the Holborn Restaurant in September last, when his lordship's remarks upon the abilities and general good qualities of his gardener, Mr. J. G. Weston, were exceedingly appreciative.

Our illustrations have been prepared from photographs taken by Mr. E. Bowers, Silverspring, Piltown.

HIMALAYAN BAMBOOS.

(Continued from p. 306.)

ARUNDINARIA FALCATA. - Whilst the early history of A. Falconeri as a garden plant is perfectly clear, as much cannot be said of A. falcata. It grows at a much lower level in the Himalaya, from 4,500 to 7,000 feet; it is consequently less hardy and therefore less frequently grown, at any rate in this country. Mr. Bean remarks,18 indeed, that be did not see it in any of the gardens in South Cornwall which he visited in 1893. If it was introduced under its proper name it was no doubt confused with A. Falconeri, which was known so long as A. falcata, and it would be almost hopeless to trace its introduction. But as the plant is too distinct from A. Falconeri to escape notice, it occurred to me that it would in all probability have soon appeared under a new name, either in some price list or horticultural journal. This was actually the case.

In 1858, Carrière announced in the Flore des Serres1) the introduction of a Bamboo called Bambusa gracilis, adding that it so much resembled A. falcata "that several horticulturists (and I among them) have considered it for a long time as identical with it," but that it was more delicate, losing its culms completely as soon as the thermometer fell a few degrees below the freezingpoint. This Bambusa gracilis has since frequently been mentioned either as a distinct species or as a variety of A. falcata, and was described more fully by Blanchard, 20 although P. Joseph Lafosse had pointed out in 186721 that it was an Arundinaria, and ought to be called A. gracilis. Both Rivière and Munro stated that this A. gracilis was very probably identical with the true A. falcata. I myself have no doubt about it.

The descriptions, the accounts of ita behaviour under cultivation, and the specimens in the Kew Herbarium point convincingly in this direction. It is true Carrière said that it was introduced from China, a statement which has been repeated over and over again, whilst A. falcata has so far not been observed in China. Carrière also said, in 1858, in one place that it was recently introduced, and in another that it had been known to him and other horticulturists for a long time. The latter statement is no doubt correct, and the lapse of time since its introduction may have obscured its origin. Against those vague statements about the Chinese source of A. gracilis stands the definite assertion by Alphonse Denis,22 of Hyères, for many years a member of the Société d'Horticulture of Paris, that he received it about 1840 through Madame de Joncigny, who procured it for him from India ("Me faisait parvenir de l'Inde le Bambusa gracilis"). I have not been able to obtain further particulars about the Joneignys, and I give Denis's statement for what it is worth.

As it is almost certain that A. falcata was first grown from seeds, I tried if the flowering period of this species works back to somewhere near 1840. Unlike A. Falconeri, which flowers at an age of twenty-eight to thirty years, it seems to take only about twenty years to attain maturity. It flowered in the South of France in 1866 or 1867, and in 1886 at Kew and many other places. The flowering previous to that of 1866 would have taken place in 1846, provided that the "flowering period" of A. falcata can be depended upon. It actually flowered at Nyneetal in 1845, and near Mussori in 1839. These dates are, however, of little value, considering what Gamble says 13: "though, as happened in 1879, years of general seeding are of occasional occurrence, a few clumps may be found in dower in almost any year." Otto Stapf, Kew.

REFERENCES.

- Gardeners' Chronicle, 1894 i., p. 238.
 Gardeners' Chronicle, Ser. ii , voi. iii., p. 37.

- 20 Revue Hort., 1886, pp. 490, 491.
 21 Bull. Soc. d'Acclimat., 2nd Ser., iv., p. 681.
 22 Bull. Soc. a'Acclimat., 2nd Ser., vi., p. 333.
 23 "Indian Bambuseæ," in Ann. Bot. Gard. Calcutta, vii., p. 13.

(To be continued.)

PLANT NOTES.

DECAISNEA FARGESII.

This remarkable plant was recently in flower in the Himalayan-house, Royal Gardens, Kew, where it forms a small erect tree some 10 feet in height. Until a few years ago the only species known was D. insignia, a native of the Sikkim Himalaya, which is figured in the Botanical Magazine, t. 6731.

The present species is almost identical in habit, foliage, and flower, but is quite distinct in the fruiting stage, the fruit being almost straight, dull blue in colour, with black seeds, and from 25 to 3 inches long and 1 inch in diameter, those of D. insignis being curved, golden-yellow in colour, 3 to 4 inches long and 1½ inch in diameter, and the seeds are brown in colour.

D. Fargesii was discovered in the province of Szechuen, in China, by Father R. P. Farges, who sent seeds to Measrs. Vilmorin & Co., who flowered and fruited it. The plant at Kew was received from this firm in 1897, and flowered in ita present position in 1901, and has since flowered annually. It has also been collected by Dr. Henry and others in the mountains of Szechuen, Hupeh, and Yunnan, at elevations of 9,000 to 13,000 feet, so that there is little doubt of its hardiness in this country.

The flowers are disposed in terminal and axillary, loosely paniculate, pendulous racemes, 1 to 2 feet in length. They are unisexual, but the plant is monœcious, both male and female flowers being borne on the same inflorescence. The flowers are campanulate, $1\frac{1}{2}$ to 2 inches in diameter, greenish-yellow in colour, with purple green markings at the base and along the central vein of each lobe of the perianth. The segments of the perianth are lanceolate-acuminate, the petals being slightly broader than the sepals. The leaves are pinnate, 2 to 3 feet long, horizontal, petiolate; the leaflets are in six to ten pairs, shortly stalked, membranaceous, ovateacuminate, entire, dark green above, grey below. Chas. P. Raffill.

HERBACEOUS BORDER.

SOLIDAGO SHORTI.

This species is so good and flowers so freely that one feels inclined to include it among the best twenty "back row" border plants. It is a vigorous species, growing 6 feet high and bearing Spiræa - like, plumy inflorescences of a soft yellow colour. The lateral branches of this inflorescence are nearly 2 feet long, and so vigorous is it that one may cut a huge sheaf of flowers from one plant. Although I have not tried it in such places, it seems suitable for planting by watersides and amongst shruba. It is the best "Golden Rod" I have ever seen, and in comparison with it others are but weeds. It comes from Arkansaa. G. B. M.

FOREIGN CORRESPONDENCE.

SUDDEN (?) DEATH OF TREES.

I HAVE had the misfortune during the last year or two to lose some trees and plants of value by a disease which, happily, does not seem to spread from tree to tree over a given piece of ground, but attacks single specimens, and kills them apparently in a few hours, whilst other trees close by continue to flourish.

In this way I have lost a small specimen of Ficus religiosa (Peepul-tree) and two specimens of Meryta Sinclairii, a rare shrub or tree from Stewart Island. I am moved to write to you now to ask your assistance by the sudden loss last week of a fine specimen (my second and last) of Ficus religiosa (Peepul), which without any previous warning died in a few hours. One day it was green and healthy, and the next the leaves had turned black and brown and had a scorched appearance, and the young shoots, although stiff, were quite shrivelled. I had some earth cleared away from the stem, and found the roots covered with a white mould or fungus, and this I imagine must be the cause of the loss.

I am sending you by mail in a tin box a few pieces of root wrapped in damp moss, and I shall be much obliged if you will examine them and report upon the same. The tree was about 10 feet high, and stood in a shrubbery with Palms and other trees, the ground around them being grasscovered. Chas. O. L. Power, Madeira.

An inspection of the roots showed that they had been dead for a considerable time. The white mould with which they were covered was probably a consequence, not the cause of the disaster. Without knowing the local conditions of soil, drainage, &c., it is impossible to give a definite opinion. ED.]

THE ROSARY.

CAROLINE TESTOUT.

This variety is said to be one of the best varieties for culture in the vicinity of smoky

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE. Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Dendrobium Phalænopsis and its variety Schroderiana.—Apart from their merits as nseful plants for house decoration and for cutting purplants for house decoration and for cutting purposes generally, the numerous distinct varieties of this beautiful species are amongst the finest of exhibition plants, especially as the flowers remain fresh on the plants for a very long time, and also when cut. The plants of D. Phalænopsis have commenced to grow, and will soon make numerous young roots from the base of the new growths. Before these have made much progress, any plants that need more root-room should be repotted, when the roots will quickly establish themselves in the fresh compost. Where it is intended to hang the plants up to the roof, small challow pans are generally preferred; but the ordinary flowerpot with wire handles attached, may also be employed. Whichever be used plenty of drainage is necessary. I am using pans for the smallest plants, and providing only a thin layer of fibrous peat and sphagnum-moss for them to of fibrous peat and sphagnum-moss for them to root into. Larger examples are placed in pots with a compost of peat, leaf-soil, and sphagnummoss in equal parts; a little coarse silver sand and a few small crocks are added to the compost and a rew small crocks are added to the compost during the re-potting process. The pots are filled nearly to the rim with soil, and a layer of clean-picked mosa is packed firmly around the base of the plant. Those plants provided with such a compost will require very careful watering all through the growing season; it is only necessary to keep the surface moss in a fresh growing con-dition. Those plants in pans with a much smaller Those plants in pans with a much smaller amount of compost will require abundance of water until the flowering season is past. In either case very little water will be needed for several weeks after re-potting, but as the new shoots lengthen and roots become more plentiful, the supply must be gradually increased. When in full growth these Dendrobiums require an abundance of heat and atmospheric moisture, and should be put in a part of the house which is but slightly shaded.

Other species of Dendrobium.—Other species whose characteristics are similar to those of D. Phalænopsis, and which require the same kind of treatment, are D. superbiens, D. bigibbum, D. Statterianum, and D. Goldiei. Such species as D. Barson, D. Paritti D. Benson, D. Bens Bensonæ, D. Parishii, D. rhodopterygium, D. secundum, D. bursigerum, D. Johnsonæ, D. Maddonnæ, D. atro-violaceum, D. D'Albertsii, D. taurinum, D. undulatum, D. Stratiotes, and D. lineare all require the hot, moist temperature of the East Indian-house, and should be repotted, if necessary, soon after the plants recommence to

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq , Ashwicke Hall. Marshfield, Chippenham.

Pricking-out,-This work is seldom attended to with the promptness it should be now require such attention include Cauliflowers, Bruasels-Sprouts, &c., raised from seeda which were sown as advised in a previous Calendar. Seeds are often sown too thickly, and if the seedlings are left in the seed-bed until they are required for planting out permanently, much injury is done them. The pressure of work at times prevents some gardeners from doing this "pricking-out," but others do not regard it as necessary, which is a mistake, as the plants having become weakened by growing too closely together require several weeks to recover themselves after they have been planted-out. To prevent this, if space is limited, make ready as much as possible of the ground on which you intend to grow the different crops, and place the lines at the distance apart that the permanent plants are to stand, then along the lines prick out the seedlings at 4, 5, or inches apart. Some of these can atterwards be Some of these can afterwards be 6 inches apart. lifted for filling the remainder of the ground, leaving sufficient plants standing at the distance required in the lines for the crop. We have found that this method forwards the work considerably, and the plants are prevented from becoming drawn up weakly through overcrowding.

Tomatos .- Now that the weather is warmer, afford Tomato plants more air and all light possible. Where south walls out-of-doors are available for Tomatos, put a few of the most forward plants into 10 or 12 inch pots, that they may be placed or plunged at the base of the wall at the end of the present month. When the roots of out-of-doors Tomato-plants are confined in pots, and are afforded the nourishment they require, a crop of fruits can be gathered sconer than if they were planted in the ground. that will be required for planting-out should now be in cold frames for hardening off. If the "spot" fungus is feared, dust the plants with sulphur through a "puff," so that it will fall in a gentle through a "puff," so that it will fall in a gentle shower over the foliage, applying just sufficient to be seen, but not enough to disfigure the foliage.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Buans, North Mymms Park Hatfield, Hertfordshire

Moschosma riparium and Coleus thyrsoideus .-Place old plants of both these in a temperature of about 60°, that they may make growth to provide cuttings for propagation. As advised in a previous Calendar, the cuttings need not be inserted before the end of the present month, and other cuttings should be put in later for succession. Both these plants grow quickly, and when propagated too early become root-bound and lose their lower leaves, unless they are provided with large pots. When the young shoots of Coleus thyrsoideus are about 3 inches in length, let them taken off and inserted singly in small pots filled with sandy soil, and plunged in the propagating-frame. The Moschosma cuttings make roots very readily, and may be inserted to the number of seven or eight in a 5 inch pot. The earliest struck plants of both the Moschosma and the Coleus may be stopped once or twice. Later-struck plants of the Coleus may be grown on without stopping, and flowered in 5 and 6-inch pots. Such plants produce good spikes of bloom and retain their foliage well. When the young plants are well established they may be placed in a house having an intermediate temperature.

Jacobinia chrysostephana and J. coccinea. -When the young plants have made three pairs of leaves let the points of the shoots be taken out. They should be staged thinly in order to modify as much as possible the stiff, upright habit of growth which is characteristic of them. Grow them in the stove, and afford shade until towards the end of the summer, when they should be fully exposed to the sunshine that the growth may

become matured.

Justicia flavicoma .- Plants which have been resting may be cut back and placed in a temperature of 60° to 65°, and be repotted when they have started into growth. A suitable compost will consist of three-parts loam, oue-part leaf-soil, and one part peat, with the addition of some coarse silver-sand. Cuttings of this plant may still be inserted, but when taken so late as this, it is a good plan to insert them to the number of four or five in a 3-inch pot, and grow them on without dividing them or ninching out the noints of the shoots. When the cuttings are well rooted, transfer them to 5-inch pots, which size will be sufficiently large for the plants to flower in.

FRUITS UNDER GLASS. By W. FYFE, Gardener to Lady WANTAGE, Lockings Park, Wantage.

Vines.-Ripe Grapes in houses require a cool, dry atmosphere, with a minimum temperature of 55° to 60°, in order to keep the fruit properly. Do not permit the soil about the roots to become dry, as nothing spoils the fruit more quickly at ripening stage than drought. waterings are necessary, let them be made on fine days. If the consumption of the fruit is slow, and red spider makes it appearance in great numbers it will be better to cut the grapes and place the stalks in bottles of water in the fruit-room. The vinery must be thoroughly cleansed. In order to destroy the spider the best remedy will be flowersof-sulphur mixed with water to the consistency of thick paint. Heat the pipes until one is unable to bear the hand upon them, then paint the upper surfaces of the pipes with the mixture. Keep the house perfectly close for the night, but give abunance of ventilation early in the morning, and thoroughly syringe the whole house.

Black Hamburghs. - In successional houses where the bunches are showing signs of colouring, stop all shoots at short intervals so that no great amount of foliage has to be removed at one time; especially is this necessary as a precaution against shanking. At this stage no attempt must be made to hasten the ripening process by high temperatures or a moist atmosphere. Considerable time is necessary to produce the much-admired bloom, and a dry, warm, and buoyant atmosphere should be maintained. sary atmospheric moisture should be given by damping the surfaces of the house early in the morning. Give proper attention to watering at the roots, and when the colouring of the Grapes is well advanced, do not restrict the production of young leaves quite so much as formerly. Admit more air to the house and maintain less atmospheric moisture.

Muscats .- It is better not to thin the berries too freely until such time as it is quite apparent which are the seedless ones. Unevenness very considerably detracts from the appearance of the bunch, and it will be easy to cut out a few surplus berries later on, which may have been left to fill up any gaps formed by those which may not have set. Attend to the work of stopping and tying as growth proceeds; also give abundance of moisture at the roots. Close the house in the afternoon with plenty of moisture present, but admit air early in the morning before the sun shines upon the house.

Figs.-It is necessary in the houses where fruit is ripening to have constantly a free circulation of warm air, maintaining a night temperature of 65° to 70°, with 10° more during the day. of moisture, and any degree of shade during the ripening process must be guarded against. treme drought either in the atmosphere or at the roots is unfavourable to the development of the second crop, and encourages the spread of red spider, which is a troublesome enemy of the Fig, that can only be kept in check by judicious management before and after the fruit is ripe.

THE FLOWER GARDEN.

By A. B. WADDS, Gardener to Sir W. D. PEARSON, Bart., Paddockhurst, Sussex. Violets.—Hoe the ground frequently between

runners that were planted out in beds in the early part of the present month, the recent heavy rains having made the surface soil very hard. Mulch them as soon as the weather becomes hot and dry. Afford a dusting of lime and soot occasionally to keep slugs and grubs away, which are very prevalent this season. Syringe the plants with weak manure-water before red-spider appears; this will also act as a stimulant to the plants and encourage good growth. quire a good loamy soil, and a position in which the crowns will ripen up before winter.

Annuals raised from seeds sown in the open several weeks ago will require attention in the way of thinning. This should not be done too severely, for the slugs and birds will destroy a good many. Afford frequent but thin dustings of lime and soot. Some strings of black thread drawn over the beds or borders will help to keep away birds. Other annuals which have been transplanted from the seed-beds will require a little shelter, such as that afforded by boughs of evergreens, &c., on cold nights until they become established. Nasturtiums, Sunflowers, and other plants that may have become pot-hound, and cannot yet with safety be placed outside, shou d be potted-on.

Bulbs .- Some of these will now require to be lifted to make room for summer bedding. Hyacinths, Jonquils, &c, if taken up carefully, may be planted in the wild garden or elsewhere, and will furnish some flowering plants next season. In preparing the beds for the summer flowers, dust them over with a little artificial manure if necessary, then turn the soil over with the fork, and it will become pulverised in a few days.

Herbaceous Borders.—Some of the plants will require to be afforded stakes, such as Doronicums and Dielytras. Use neat, green-painted stakes, and if the plants are in beds or masses, place four or five stakes round the bed, and draw tarstring round them; this will be neat and strong; but others may be staked singly. Be careful to afford the stakes soon enough to prevent the

plants from losing an erect position. Anv new varieties recently planted should be labelled.

Climbing Plants are growing quickly, and will need tying and nailing, especially Clematis. the growths become entangled, some of them are likely to be broken when attempting to part them. Akebia quinata also requires close atten-tion. Wisterias may be given a good top-dressing of peat and loam; if growing at the top of a wall, the roots may require frequent waterings. Magnolia should be watered with manure-water from the farmyard, and may be syringed on very hot days to prevent red-spider.

General Work .- Keep the work of mowing, also the cutting of grass in corners, well in hand. not allow the mown grass to lie long enough tocause the grass beneath to become discoloured. All grass verges should be kept neatly trimmed, the walks weeded and rolled. The work of rolling is very important if the gravel is inclined.

to be loose.

THE HARDY FRUIT GARDEN. By H. MARKHAM, gr., Wrotham Park, Barnet.

Training.—Young trained trees, both on walls and wires, will now be growing fast, and the

leaders must be made secure against the effect of wind. If neglected at this period, the result may be the loss of some of the most important shoots required for extension, and the prevention of the formation of evenly-balanced trees. When nailing young, tender shoots to the walls, use soft shreds; and be careful not to injure the bark, nor to allow the shoot to come in contact with the nails. Ample room should be left in the shreds for the shoots to swell. Cordonsand espaliers trained to wires need the same amount of care and attention as the former, avoidwood of the young growths coming in contact with the wirea, it is advisable to place a piece of cloth round the wire before drawing the shoot to its required position. It frequently happens that where the leading shoots were-pruned back during the winter, several of the new growths at the top are strong and coarse, developing at the expense of other shoots lower down. Any of these top growths not required for-leaders should be pinched back, or have their-points stopped, the leaders being allowed to grow and extend to their fullest extent. Those treesthat were root pruned and replanted to induce fruitfulness should be well mulched, and if at any time the soil appears likely to become too dry afford water freely. It is not uncommon for largelate-planted trees to make little or practically noleaves for several weeks after planting, but with care and attention they will break normally, and grow freely the following season. Trees which were transplanted very late, and were almost in leaf when shifted, should be shaded during bright sunny days, and syringed well at intervals morning and afternoon, to keep the bark plump-and fresh. I have shifted large trees successfully very late in the spring, including Pears, Apples, and Plums.

Aphis, &c.-Keep a watchful eye on all kinds of fruit-trees for pests. Damson and Plum-trees often get terribly infested with green-fly, and are sadly crippled early in the seasou, requiring several weeks to outgrow the severe check thus sustained. In all cases where aphis or other insect pests are present get the spraying-engine to work, thoroughly washing all the leaves and young shoots with a solution of quassia and soft-soap, or some other well-tested and safe insecticide. Quassia-extract is very cheap, safe, and most effectual when applied early. Another good wash for fruit trees can be made from Quassia, soap-suds, and paraffin. Mix the Quassia solution with soap suds of a reasonable strength, and to every three gallons of the mixture add a wineglassful of paraffin. Commence with the insecticides early, and before the insects have time to spread; this advice cannot be too strictly enforced, both for the welfare of the trees and fruit, and for the saving of expense and labour.

Wet Weather .- Should the weather prove too wet for outside labour, there is plenty of work to be done under cover, preparing shreds, Straw-berry pegs, examining nets, and repairing them if necessary, so as to have each and all in readiness when the time arrives for their use.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. Letters for Publication, as well os specimens and plonts for naming, should be addressed to the EDITOR, for naming, should be addressed to the EUTION, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF communications should be written on one side only of the week as possible, and duly THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a gunrantee of good faith.

Special Notice to Correspondents.-The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Illustrations.—The Editor will be glod to receive and se'ect photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.-Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, MAY 21-German Gardeners' Club Meet. MAY 24 (Linnean Society (Anniversary) TUESDAY.

WEDNESDAY, MAY 25 { Royal Caledonian Horticultural Society's Show at Edirburgh (two days).

FRIDAY. MAY 27-Royal Botanie Society, Lecture.

SALES FOR THE WEEK,

SALES FOR THE WEEK.

WEDNESDAY AND THURSDAY NEXT—
Clearance sale of the whole of the Orchids and Bedding Plants at Bushey Dowo, Tooting Common, hy order of the Exors. of J. Connell, deceased, by Protheroe & Morris, at 12 30

WEDNESDAY NEXT, MAY 25—
Japanese Maples and Dwarf Plants, Orchids in flower, &c., Palms, Azileae, Bay Trees, &c., at Sievens' Roome, at 12 30.—Palms. Herbaceous Plants, Liliums, Palm Seeds, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.

FRIDAY NEXT, MAY 27—
Orchids in variety, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observatious of Forty-three Years at Chiswick - 56.3°.

ACTUAL TEMPERATURES :-

LONDON.—Moy 18 (6 P.M.): Max 63°; Min. 48°.

May 19, Gurdeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 A.M.): Temp., 62°; Bar., 30°1. Weather bright.

PROVINCES. — May 18 (6 P.M.): Max. 58°. South of Eugland; Min. 51°, North-east of Scotland.

Fumigation with hydrocyanic acid gas.

WE had recently to comment on the experiments made in the gardens of the Royal Botanic Society, Regent's Park, to ascertain

the value of the application of hydrocyanic acid gas for the destruction of injurious insects on plants. We had previously received from M. GEROME an account of similar proceedings carried out in the planthouses of the Museum or Jardin des Plantes at Paris. As far back as 1898 we published the results of experiments made in America, but with our customary indifference very little seems to have been done in this country till the Royal Botanic Society took the matter up. If we remember rightly, the authorities at Wye College had previously tried the effects of the gas on the Currant-bud mite, with indifferent success, owing to the fact that the mites are safely ensconced in the centre of the buds, beyond the reach of the gas.

The experiments made in Paris, under the direction of MM. Costantin, Gérome, and LABROY, have special value from the care with which they were carried out; on which account we give an abstract of the details furnished us by the experimenters:-

It was found better to fumigate in the evening, after ventilating the houses for some hours, when

the surface of the leaves was dry. One pan containing the cyanide was used for every 325 cubic The pans were placed on the paths of the houses, so that the ensuing varours might be evenly distributed. It was deemed prudent to remove the plants some 5 feet from each pan on each side, and to bend back the climbing plants away from the glass immediately above the pans.

After having closed all outlets and arranged a cord with which to lower the cyanide through an aperture in the roof, the crystals of the cyanide were carefully wrapped in stout paper or cloth, and the little packet tied on to the end of the Two operators worked together; one on the roof of the house held the string and let the packet of cyanide dangle through the hole in the roof 3 feet above the path. The other operator entered the house and poured into the pan, first, hoiling water; secondly, two parts of sulphuric acid. He afterwards carefully pushed the pan containing the acid underneath the suspended packet, then immediately left the house, closing the door after him. His companion on the roof then lowered the packet into the pan with the acid. If the cyanide is wrapped in stout paper it is some seconds before it is affected; it then boils up, even over the rim of the pan, and for some ten minutes only gives off vapours of prussic acid.

The quantity of cyanide of potassium may vary from 21 grammes per cubic mètre for small houses filled with delicate plants, to 31 grammes for houses of from 500 to 2000 cubic mètres wherein are stronger and less sensitive plants. The cyanide is in thin flakes of 92 to 96 per cent. in purity. It must be kept in closely - sealed bottles, as the crystals absorb water rapidly. It must never be forgotteu that the cyanide is a most dangerous poison, and must never be allowed to be used by inexperienced or careless hands.

As a rule, fumigation for one hour proves sufficient; for many plants thirty to forty-five minutes only are required. No one should be allowed to enter the house during the operation, nor afterwards, until it has been well ventilated. and a light current of air passed through it for at least half an hour, to clear off all the fumes. For a day or two the plants appear to transpire with more difficulty, and the soil is unusually damp. Hence little watering should be done, and that operation must not be repeated for some two or three days after that.

The following results have been observed :-

- 1. Plants that were dry before fumigation were not injured by the fumes, except some of the Melastomaceæ, Zebrina pendula, and the tender fleshy young shoots of some Dicotyledors. Palms, all Ferns, Orchids, Cacti, Cycads, Aroids, Bromeliads, Pandanus, Urticaceous plants, Coleus, Begonia, Pelargonium, &c., were quite unharmed as to their leaves, and even their flowers.
- 2. The different species of aphides were quite exterminated, and did not soon reappear.
- 3. Thrips and red-spider, which so infest Crotons, some Dracænas, Anthuriums, and Erythrinas, did not survive the fumigation.
- 4. Orthezia insignis, a scale insect, abundant on Acanthaceæ, Lubiatæ, Bignoniaceæ, Iresine, &c., and causing much damage, is destroyed with equal certainty.

The ordinary mealy-bug (Dactylopius Adonidum), a Coccus very abundant, and injurious to stove plants and Vines, is destroyed in its adult stage by a single fumigation. Still, to he absolutely free from this pest, it is well to repeat the operation after ten days, so as to destroy newlyhatched insects.

Chrysomphalus minor, a kind of mealy-bug similar to the San José scale, particularly affecting Pandanus and Oranges, is to be dealt with in the same manner. The process is also effectual in the case of many other of the Coccid family, such as Aleurodes sp. and Diaspis sp., that attack Bromeliads especially.

As to Lecanium and Parlatoria proteus, peculiarly affecting Vandas and Cymbidiums, these may be destroyed in the same way with equal success. Again, the scale (Mytilaspis longirostris), imported from the Gaboon into the museum-houses on the Napoleona and other plants sent by Palisot de Beauvois, seem to fall off more easily after fumigation, though it cannot be positively affirmed that the insects are absolutely destroyed. Earthworms and slugs do not survive the process; cockroaches even are partially destroyed.

The conclusions finally arrived at are, that by the use of cyanide of potassium fumigations, repeated after ten days' interval, few animal parasites are left on the plants. The results, compared with those consequent upon tobacco fumigations prove to be more satisfactory, and (1) The cyanide treatment is more speedy, simple, practical, and easy, when carried out by competent and careful persons. (2) The results are much less dangerous to plants, as nicotine fumes are apt to injure hot-house Ferns, Orchids, Coleus, and other closely-growing plants. (3) Its efficacy as regards the destruction of insects is greater, as nicotine only destroys aphides and thrips, and that often partially. [For our own part we have, however, found Richards' XL-All efficacious in the case of mealy-bug.] (4) It is economical as regards labour, doing away with the necessity of a great deal of plant washings, spongings with nicotine, and purchase of insecticides. (5) The price is lower than that of nicotine. For instance, to fumigate a house of 200 cubic mètres with nicotine would cost about seven francs, to disinfect the same area with cyanide and sulphuric acid would cost only 2 francs 40 cents (or about 6s. as opposed to 2s.).

It must be remembered that fumigation either with nicotine or with prussic - acid vapour requires to be carried out with the utmost care and forethought, so as to prevent accidents.

AT THE DRILL HALL SHOW on Tuesday last there were many very interesting novelties. The greatest attraction amongst the Orchids was a newly - introduced Cymbidium from Messrs. SANDER & SONS. C. G. VAN TUBERGEN, jun., of Holland, showed a collection of hybrid Irises that caused much admiration, and the Floral Committee recommended awards to no fewer than seven of these. Some remarkable Rhododendrons were shown from the garden of H. A. MANGLES, Esq; and the varieties of florists' Tulips, shown under the auspices of the National Tulip Society, as well as the large number of self-coloured and other Tulips shown before the Narcissus Committee, made a gorgeous and interesting feature of the display.

THE ROYAL GARDENERS' ORPHAN FUND .-It is gratifying to be able to state that the sixteenth annual festival dinner of this excellent Institution, which took place on Tuesday last, was even more successful than usual. were more supporters present than at any of the previous festivals, and the list of subscriptions, headed by Sir TREVOR LAWRENCE, Bart., President of the Royal Horticultural Society, amounted to £315, being more than has been obtained on any similar occasion since 1896. A report of the proceedings is given on p. 334.

PETER BARR, V.M.H .- Our latest communication from the wanderer is dated from Athens. after he had made a fortnight's tour in the interior of Greece north of Athens. Mr. BARR was then about to proceed to the Peloponnesus. Some new corners of the world will have to be invented for Mr. BARR, who must by this time have exhausted all the old ones.

KEW GUILD DINNER.—We are requested to remind our readers who are old Kewites that the Annual Dinner will take place at the Holborn Restaurant on May 30, at 7.30 p.m., and that the Secretary, Mr. Winn, will be glad to hear before the 23rd inst. from all who intend to be present. The Earl of Onslow, President of the Board of Agriculture, and Sir W. T. Thiselton-Dyer, Director of Kew, will take part in the proceedings.

HENRY DE VILMORIN.—A committee has, as we have already announced, been formed to erect a memorial to the late "Henry Vilmorin," who was as much respected, we may say beloved, here as by his compatriots. The French Ministers of Agriculture, past and present, with representative horticulturists, form the committee, whilst the British members comprise Sir William Thiselton Dyer, Dr. Maxwell T. Masters, Messrs. W. Robinson and Arthur Sutton. Belgium, Egypt, Germany, Italy, Russia, Sweden, and the United States of America (Prof. Sargent) are all represented on the committee.

RHODODENDRONS GROWING IN LOAM.—A good example of the success with which these popular plants may be grown in loam is afforded by the large group that has been recently planted in The Mall in front of Buckingham Palace, on the future site of the National Memorial to her late Majesty Queen VICTORIA. The plants are of the finest named varieties, and came from the Loughton nursery of Messrs. WM. PAUL & SON, of Waltham Cross, where the soil is a tenacious loam verging on clay. They vary in size from 8 to 9 feet high, and as much in diameter, down to 2 to 3 feet, and all have large healthy foliage, and are well set with flower-buds.

SCHOOL AND ALLOTMENT GARDENING .- In the Redditch district, where gardening classes for boys have been attended with considerable success, it has been decided to institute a Society for the encouragement of cottage and allotment gardening. Lord WINDSOR has been appointed President of the new Society, and Lady Mar-GESSON and Mr. A. A. Pettiorew, Hewell Grange Gardens, honorary secretaries. It is intended to follow the example of the Hagley and District Gardening Association, and examine the gardens in the months of June and July, awarding prizes for those that are found to be in the best condition. These prizes will not be given in money, but in seeds, tools, trees, &c., on the principle that they should consist of something to be put back into the land.

SCHEDULES RECEIVED.—BINGLEY AND DISTRICT CHRYSANTHEMUM AND VEOETABLE SOCIETY'S annual exhibition, on Saturday, November 19, 1904, in the Assembly Rooms, Bingley. Hon. Sec., Mr. F. Bently, Park Road, Bingley.

THE HIGHGATE AND DISTRICT CHRYSANTHEMUM Society's annual exhibition will be held at the Alexandra Palace, Muswell Hill, N., on Wednesday, Thursday, and Friday, November 2, 3, and 4, 1904.

THE CHIPPENHAM AND DISTRICT HORTICUL-TURAL SOCIETY'S exhibition, to be held in the grounds of Hardenhuish Park, on Wednesday, August 10, 1904.

ROYAL BOTANIC SOCIETY. — In connection with the horticultural exhibition to be held on Monday, June 6, to Saturday, June 11 next, in the Society's Gardens, Regent's Park, we are informed by Mr. F. G. WATERER, Secretary of the Horticultural section, that the Committee has arranged a conference on Forestry to be held on Wednesday, June 8, under the Presidency of Lord Redesdale. Professor Schlich will give an address on the subject. On Thursday, June 9, Mr. H. Somers Rivers will read a paper on Fruit Culture.

THE WISTARIA.—The beautiful and fragrant flowers of Wistaria sinensis are especially welcome this season, because last year the plants were severely injured by the inclement weather in May. They appear to be making up for this at the present time, some of the specimens we have seen being more profuse even than usual. A tree which covers the long front of the gardener's house at Cobham Park, in Surrey, is a marvellous sight.

TULIPS.—From Messrs. Wallace & Co., of Colchester, we have received a series of cut flowers of Tulips, which still retained much beauty even after a double railway journey. Of Darwin varieties there were:—

LA CANDEUR —Flowers of medium size, sub-zyllndric shape, snow-white slightly flushed with viole).

King Harold. — Flower of medium size, cylindric form, when not expanded; segments deep red, shining on the inner surface, with a blackish eye spot.

HIPPOLYTA. — Flowers of medium size, cup-shaped segments, deep lilac, shining on the inner aurface, with a black eye-apot.

"PREVOSTA EXILIS" (?).—Similar to the preceding, but the violet flowers are flushed with rose.

HECLA.—Flowers of medium size, segments broad, deep rosy-red, dull externally, shining on the inner auriace; eye-spot intornally purplish-black edged with pale lilac, and externally pale lilac—an unusually-coloured flower.

GLow.—Similar to the preceding, but amaller; eye-apot showing at the base externally, as in Hecla.

GEOAGIANA. - Flowers cylindric before expansion, rosy-like, segments deeper in colour within, with a whitish apot at the base.

GOLIATH has the same general form, but is of a deeper rose colour, with an iridescent blue eye-spot.

All the Darwin varieties sent have purple anthers.

Of "May Tulips" there were the following:-

Didieri Lutescens.—Flowers only slightly exceeding 2 inches in length, pale sulphur sellow; aegments oblong-lanceolate, acuminate; eye-spot dark greenish, anthers purple. A distinct species.

BILLIETIANA.—Flower-segments 2½ inches long, ovateoblong, acuminate, canary yellow slightly flushed at the margins with red. Eye spot not conspicuous; anthers purple.

VITELLINA. — Segments $2\frac{\pi}{4}$ inches, ovate - oblong pointed, pale sulphur-coloured, inner segments more deeply coloured; anthers yellow. Eye-apot inconspicuous.

GENNERIANA LUTEA PALLIDA.—Segments nearly 3 inches long, broadly cvate, oblong or obovate, all canary-yellow, rather darker at the base; anthera yellow.

ELEGANS MAXIMA LUTEA — Segments over 3 inches long, outer ones oblong-acute, inner broadly obovate-oblong, all rich canary-yellow, without eye-spot; anthers yellow.

MAID OF HONOUR.—Segments scarcely exceeding 2 inches, pale yellow, deeper on the inner surface, slightly feathered with rose on the margins; eye-spot deep yellow; anthera yellow.

GOLD FLAKE. — Segments 3 inches long, oblong, yellow, flaked with crimson; eye-spot not conspicuous; anthers purple.

La Meaveille.—Segments over 3 inches, oblong, acute, pinklsh-orange; inner segments broader, obtuse, deeper coloured; base yellow edged with green; anthers yellow.

ORANGE KING.—Segments less than 3 inches long, oblong, acute, orange-red; eye-apot yellow; anthers purple.

STRIPED BEAUTY. — Segments over 3 inches long, broadly ovate, oblong, acute; inner ones broader, obtuse, all Illac feathered with rose and white stripes; eye-spots bluish edged with white; anthers purple. A very showy flower.

CORONATION SCARLET. - Segments about 3 inches; outer ones oblong, acute, crimson-scarlet; inner segments broader; eye apot purple; anthers purple.

FAIRY QUEEN. — Segments 2½ inches long, outer oblong, lilac edged with yellow; yellowish-brown on the inner auriace, with a central lilac stripe; eyespot purplish-brown edged with yellow; anthers purple.

Innovation. — Segments rather less than 3 inches long, oblong, creamy-white edged and striped with carmine, inner aegments broader, obovate; eye-spot purplish-green edged with yellow; anthers purple.

THE FAWN.—Segments 2½ inches long, outer roundish or broadly oblong acute; inner, obovate roundish, all cream-coloured flushed with lilac; eye-spot yellowish; anthers greenish-yellow.

1.

IRIS TECTORUM. — Messrs. W. Cutbush & Son have obligingly sent for our inspection a plant of this Iris bearing a pure white flower, except for a little lemon-yellow colour at the base of the falls. Those who admire this distinct and beautiful species will appreciate the albino.

LILIUM PARDALINUM. - The Rev. Canon STACKHOUSE, Berkeley Vicarage, Gloucestershire, writes-"I saw in the Gardeners' Chronicle last year that it was exceedingly difficult to grow Lilium pardalinum, the Leopard Lily, for a length of time with success. I have a small, round bed full of them, and instead of going back they have improved year after year, till this season, after the long continued rains, they are throwing up great strong, sturdy stems, which are already nearly 2 feet high. Their cultivation is exceedingly simple, viz., a good mulching with rotten manure when they begin to grow in spring, and plenty of water as they continue to make their growth. I consider this Lily one of the most beautiful of all, and the bed never fails to command admiration from all who see it in the summer time. I have had them about fifteen

NATIONAL DIPLOMA IN AGRICULTURE.—At the recent examinations of the National Agricultural Examination Board appointed by the Royal Agricultural Society of England and the National Agricultural Society of Scotland, Mr. R. C. Gaut, undergraduate of the Victoria University, and at one time a gardener student in the Royal Gardens, Kew, has been successful in gaining the National Diploma in the science and practice of Agriculture.

"FLORA AND SYLVA."-The May number of this elegant publication contains criticisms of the plan of planting trees and other plants in unsuitable climatal conditions - a criticism that is just in the main, but there are often good reasons why the practice is indulged in. One of the coloured plates is devoted to the illustration of some new hybrid Irises; one, a curious cross between I. sindjarensis and I. persica; the other the result of the interbreeding of I. persica and I. purpurea. A second plate shows the curious hybrid between Rhododendron caucasicum and Azalea sinensis, raised many years ago by Mr. SMITH, of Norbiton. Similar crosses, such as that known as R. fragrans, made more recently in Belgium have been called "Azaleodendrons," to indicate their origin.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

GLADIOLUS TRISTIS VAR. SULPHUREUS. -This Gladiolus, though rarely met with in gardens, is one of the most valuable of the whole race for border decoration. It is so at least in the South-west, where even in our hardest winters it is never injured, though totally unprotected. It is the earliest of the family to bloom, coming into full flower before the close of April, many weeks before G. Colvillei, The Bride, and the rest of the so-called early section. In Mr. Nicholson's Dictionary of Gardening G. tristis is said to bear flowers minutely spotted all over with small reddish-brown dots, but I have never met with this form. In another form the three upper segments of the flower are marked with a central stripe of purplish-brown, and this is the variety that has been invariably supplied to friends whom I have recommended to procure G. tristis. It is far inferior in heauty to the form of which I now write, the flowers of which are of a pale sulphur colour throughout. At night the blossoms are deliciously fragrant, and a clump of fifty bloom-spikes that I have in the border outside my windows exhales quite a Magnolia-like perfume after dark on still nights. This Gladiolus increases rapidly, my clump having more than trebled itself in three years. The strongest flower-stems are over 3 feet in height, and bear from four to five blossoms. In

the deep loam of Mr. T. H. Archer-Hind's garden, whence I produced my corms, this Gladiolus grows fully 4 feet in height, and several large clumps are now in full beauty. G. tristis is said to be a native of Natal, but it is curiously hardy for such a habitat. Mr. Nicholson gives its height as 1 foot, so that probably his G. tristis is different from the plant to which I allude. In one collection that I know the Gladiolus of which I write is grown under the name of G. tristis concolor. S. W. Fitzhertert.

THE PROPOSED GARDENERS' ASSOCIATION.—I am greatly obliged to Pierre Roulante for his interesting information, which should greatly encourage those who are working so earnestly to found the proposed Gardeners' Association. What the Germans have done no doubt British gardeners can do, if they will combine and work with a will for the objects in view, the more so as what knowledge I possess of Germany leads me to think that any associated effort on the part of gardeners must have been more difficult to bring about there than it would he here. Gardeners all over the country are now, I hope, in possession of the Provisional Committee's pamphlet which is being distributed; and surely such a programme should have the hearty support of all gardeners at all alive to the advancement of their profession. Regent Spark.

Some correspondents have the mistaken idea that the Association will frame rules and regulations on somewhat the same lines as trades-unionism, with strikes for better wages, strike pay, mass meetings, and all their attendant herrors. But one has only to glance at the list of names on the Provisional Committee, and he at once convinced that those gentlemen are all thoroughly practical men, and have ideas entirely against that course of procedure. The registra-tion of thoroughly reliable and trustworthy gardeners has been needed for many years, and it is the imperative duty of all progressive gardeners to support the movement for their own protection as well as to bring horticulture up to a higher standard. Through registration the best man will get the appointment he is particularly suited for. Employers would soon realise that an Association man was really worth a good wage. Regarding the restriction of working hours, it could never be a hard-and-fast rule that throughout the country gardeners should work and work only a certain specified time, except in botanical gardens and nurseries; for a man in charge of glasshouses nurseries; for a man in charge of glasshouses must see to fires, ventilation, &c., according to climatic influences, which in this country are peculiarly contrary at times. The head gardener, to all intents and purposea, when engaged, enters into a contract to keep the place as it is required to be kept, with the assistance of others, and cannot always say that he has finished work and the statement of the second and the second area. cannot always say that he has finished work until he has retired for the night. Semething might be done, perhaps, but it is a very delicate question to handle, and I am of the opinion that the right to handle, and I am of the opinion that the right men are in the right place to deal with it. With regard to the wages of gardeners for work done, I consider that many are barely on a level with the navvy, who gets anything from 30s. to 40s. weekly. Contrast this with a foreman on a gentleman's estate, 20s. to 25s. weekly, with bothy. He has constant anxiety as to crops, men, and work in general, which he has to be watching sometimes seven days per wook to be watching sometimes seven days per week. That particular man has always studied and worked hard for at least eight years to get that magnificent remuneration (!), or he would not be holding the position of fereman. The date of the meeting shows forethought on the part of the Provisional Committee, coming as it does on the second day of the great Temple Show, when many gardeners make a point of being in London. J. W. Miles, gr. to A. Worsley, Esq., Isleworth.

CANARINA CAMPANULA.—I remember an old gardener who, forty years ago, used to grow this plant to great perfection in his greenhouse, in August and September. He would raise plants from cuttings in the same manner as Dahlias, rooting them early in the year in a propagating-pit, grow them on in size, and finally have them in large pots in July. He grew them in a bush form, the main stems secured to a stake, and the plants would produce fine blcoms of a lasting character. The cultivator was gardener to a

gentleman in the South of England, who took a great interest in the Canarina, and both were always proud of the fine examples when in flower. It was a pleasure to meet once more with this fine old subject after losing sight of it for thirty-five years. It is a subject well deserving of cultivation, R. D.

WINTER SPINACH.—My experience in growing winter Spinach is different from Mr. Fulford's, as mentioned on p. 316. For winter and spring use I gave up growing prickly Spinach six years ago, finding Victoria Round quite as hardy, and not liable to seed too quickly. Our elevation is 470 feet, and we have severe frosta at times. During last winter we had 21° of frost, and in some winters lately 32°, but the Spinach came through all right, and gave no cause for anxiety. We generally sow for winter use during the second week of August. J. H. Cumming, Grantully Castle Gardens, Aberfeldy, N.R.

HARDY PALMS: TRACHYCARPUS FORTUNEI.
—In the Index Kewensis this is given as a species distinct from T. excelsus (the reference for both being Hermann Wendland in Bull. Soc. Bot. Fr. viii. (1861) 429). The habitat assigned to T. excelsus is Japan—that for T. Fortunei, China. The petioles of the former, as I have met with it, are armed on the margins with sharp teeth; those of Foitunei are smooth. The armed plant is common in greenhouses and is not hardy here; the other has proved quite hardy here, its only enemy being strong winds that break the leaves. The first specimens I tried out-of-doors were of the armed form, which perished with the first frosts. I fear others may try the wrong one, and then think their climate uncongenial for a hardy Palm. E. A. B., Cheshunt.

THE ECKLINVILLE SEEDLING APPLE.—I was much interested by the remarks on p. 292 of your correspondent "E. T." regarding the Ecklinville Seedling Apple. I am surprised to see this Apple apparently commended for the market grower, as in my experience (growing it on rather heavy soil in S.W. Cambs, where, by the way, it was a fairly satisfactory cropper) the fruits fetch but a poor price in the market; and this I can only suppose to be the experience of others. The question of varieties for districts is indeed an important one, but I fear that your correspondent's own remarks tend to show its extreme complexity. Soils are so very local and variable in character that I fear the question of varieties for "districts" or "neighbourhoods" could hardly be satisfactorily entered into by the Board of Agriculture. I think, however, that there is a good deal they might do in the interest of market growers, and the publication by them of a list of what are and what are not good market varieties of Apples, &c., would be decidedly helpful. A. G.

THE BLACK CURRANT MITE.—The idea that the variety Boskoop Giant is immune from attacks of mite (see p. 304) is erroneous. I heard some time ago from a grower in Devonshire that he had a variety which was quite proof against attacks, although ether varieties in the same plantation were suffering badly; he kindly sent me a branch, which proved to he Ogden's, a variety not much grown now, as the larger-berried kinds have superseded it. I showed it to my foreman, who recognised it at once; and a day or two afterwards we found a number of trees of Ogden's in a neighbouring parish which were perfectly full of mites; these trees were probably fifteen years old, and they have carried good crops in spite of the mite for years past. From all parts of the kingdom we have had samples sent, asking if they were attacked with mite, and in every case the microscope revealed the pest in swarms. I believe that the Black Currant has yet to be raised that will resist the mite. I see in your note that you say the Hazel and Filhert are attacked by a similar mite; but cannot we be told if they are identical with the Currant mite? At present seme say they are, and others that they are not. Having asked this question, I should prebably be wise to lay down my pen, for the man who writes before he knows usually makes himself a subject for ridicule, but at the

risk of deing so I feel impelled to give my ideas upon the cure for this most serious trouble. therefore relate my experience. I heard that Boskeop Giant was a mite-resister, and consequently ordered some from Holland, which were said not only to be clean, but to come from a place where mite was not known; the latter part of the defor lack of someone to make a formal introduction of the mite to the proprietor; we found an abundance of the pest when the trees arrived. The bulk were burned and the remainder planted in a spot apart for experiment. These trees, together with some others at a distance, were sprayed at intervals of about ten days through the months of June and July, using a Vermorel's knapsack sprayer charged with quassia and soft-soap mixture (4 oz. quassia and 2 oz. soft-soap per gallon). Such, at any rate, was our intention, but the weather during last summer was of such a nature that it upset the best laid schemes. such a nature that it upset the best-laid schemes, and semetimes the rain made it impossible to spray at all, and sometimes washed off what we had put on almost as soon as the work was completed. The distance from our base of operations increased the difficulty. Notwithstanding all this the result was most encouraging, the Boskoop Giants, which were near at hand, do not show a single big bud, and the other trees have only one here and there, not a tithe of what they had last season. It seems to me that the only time that the mite is vulnerable. is during June and July, when it leaves the old buds and seeks a fresh residence; and I think that if the sprayer is used during that period as offen as the foliage will hear it, which is about once in ten days, the mite will disaptear. The remedy is simple and the cost small, and it is in the hope that others as well as myself will give it a good trial during the coming summer that I aminduced to write this. If it proves successful I shall have done so much good to fruit-growers that I think it worth while to run the risk of being laughed at if it fails. Those who try it will, at any rate, lose very little, and I hope and think they will gain much. A. H. Pearson, Lowdham, Notts.

EARLY FORCING OF STRAWBERRIES. — In reference to Mr. Mayne's remarks on p. 299, I may say that the plants showed well for flower, and a fairly good set was obtained, and for a week or two the plants looked very premising. They then appeared rather sickly and showed signs of weakness, which I think was duepartly to the plants having had so short a rest, and to having been grown on a stage underneath Vines, where there was insufficient light. The roots were all that could be desired. I cannot agree with your correspondent in regard to the spent manure from a Mushroom-bed. He appears to be under the impression I added it to enrich the soil. Instead of this, it was for the purpose of helping to keep the soil porous, the loam being of a close and retentive nature. There is very little feeding quality in spent. Mushroom-dung. I fail to see that I did any injury in stirring the surface of the soil to the small extent I practised. No more food was given after applying the guano until the fruits had set. I consider the crowns were not sufficiently ripened, and that they had insufficient rest to be forced successfully. A later batch of plants under the same treatment, except that they had a lighter positien, were as good as need be. Interested Reader.

SHORT GRASS MOWINGS AND HOW TO UTILISE. THEM.—Some years ago I was driven into a corner for the want of stable litter or ordinary farmyard manure. Having an enormous quantity of short grass, which gave us some trouble because of itsoffensive smell when laid into heaps, and the difficulty of disposing of it, it occurred to me that this grass might be used for feeding cattle, and to this end a small shed having a yard surrounding it was prepared, and by way of experiment a couple of young beasts were installed in it. The grass was carted from the lawn and tipped into this yard; the beasts ate what they required, the rest was trampled down, and there being always plenty of tree-leaves to he had, a few loads were now and then carted in and tipped over the grass, which made the manure all the better. The

cattle throve amazingly. This process of converting short grass into manure was continued successfully for many years, and the difficulty of providing manure for the garden was most effectively and satisfactorily solved. The yard was frequently cleared out, and during this operation more leaves were added, which, besides increasing enormously the nitrogenous value of the compound, served also the mechanical purpose of making the grass-mowings part more freely when being turned over preparatory to its use in the garden. During hot weather, after feeding, the beasts went into the shed, where they rested comfortably, and were not disturbed by the Warble-fly (Hypoderma bovis), which is so annoying to cattle when grazing out in the open fields. As our experience ripened, the young beasts were removed for milch-cows, which gave excellent milk, and an exhibit of their butter gained a 1st prize at a dairy show. From this experience I have often thought how economically cattle might be fed and manure manufactured. I might mention that during the whole time the cattle were fed in this yard they were provided with a large block of rock-salt. W. Miller, Berkswell.

MELONS AT IMPNEY.—Having read your remarks on p. 297 respecting the early Melon grown by Mr. Jordan at Impney Hall Gardens, near Droitwich, I may say that I saw the Melons in question growing in the span-roofed pits at Impney about five weeks ago in 12-inch pots; and that a finer lot I never saw. In each house the Melons were trained as cordons. The fruits were distributed as evenly as if they had been placed artificially, and the leaves were the picture of health. The crop was a wonderful sight so early in the season. The fruits weighed from 3½ to 4 lb. in weight. J. C.

ODONTOGLOSSUM × WALTON-IENSE ROSEFIELDIENSE.

This pretty variety (see fig. 144) was recomchemeded an Award of Merit when shown by De Barri Crawshay, Esq. (gr., Mr. Stables), at a meeting of the Royal Horticultural Society on March 22. The flowers bear better evidence of O. polyxanthum than any shown previously. They are of darge size, and canary-yellow-coloured, with white bases to the petals, which have a cluster of brown markings as in O. polyxanthum.

SOCIETIES.

ROYAL HORTICULTURAL.

MAY 17.—The Drill Hail, Buckingham Gate, Westminster, was again filled with choice collections of plants and flowers on Tueaday last, when some striking movelities were exhibited before the Committees. The Hall was uncomfortably crowded with visitors in the afternoon. On this occasion the National Tulip Society held their annual show in conjunction with the ordinary meeting of the Royai Horticultural Society's Committees, consequently Tulips were a prominent feature. Hardy and alpine plants, groups of Roses, sprays of beautiful flowering trees and shrubs, choice collections of Orchids, and a number of well-ripened bunches of Black Hamburgh Grapes were but a few of the exhibits.

The Orichid Committee recommended one Botanical Certificate, three First-class Certificates, and three Awards of Merit to novelties, of which a newly introduced Cymbidium (C. Sanderæ) attracted unusual attention

The FLORAL COMMITTEE recommended five Firstclass Certificates and aix Awards of Merit. A collection of hybrid Iriscs from Mr. Van Tunergen, Haarlem, were of extraordinary interest and value; and several varieties of Rhododendrona, exhibited by H. A. MANGLES, Esq., were of the highest quality.

The NARCISSUS COMMITTEE recommended a number of Awards to varieties of Tulips, and the FRUIT AND VEGETABLE COMMITTEE recommended an Award of Merit to a seedling Meion.

In the afternoon eighty-five new Fellows were elected to the privileges of the Society, and Mr. R. H. WALLACE gave a lecture on "The Horticultural Phase of Nature Study."

Floral Committee.

Present: W. Marshall, Esq. (Chairman), and Messra. H. B. May, Geo. Nicholson, R. Dean, J. Hudson, Juo. Jennings, W. Howe, J. W. Barr, Chas Dixon, J. A. Nix, Chas, Jeffties, R. C. Notcutt, Chas. E. Shea, F. Page Roberts, W. P. Thomson, E. H. Jenkins, W. J. James, Chas. Blick, H. J. Jones, Ed. Mawiey, Chas. T. Druery, and R. Hooper Pearson.

Messrs. John Laino & Sons, Forest Hill Nurseries, London, set up a group of stove and greenhouse ornamental foliage plants in a very tasteful manner. They were well-grown specimens, of a good colour, and included Codiæums (Crotons), Cordylines (Dracena), Pandanus, &c. Some plants of Clerodendron Balfouri

cut blooms of hardy plants, including some fine Pmony-flowers. Campanula glomerala was in good condition, and Pinguicula Stuarti was flowering freely. The interesting little Rosa Ecre (xanthina), although but 9 inches in height, was carrying six flower-buds. Some good forms of Scilla campanulata were displayed; also a fine spike of Eremurus robustus var. superba, and well-flowered plants of Aquillegia Stuarti (Silver Flora Medal).

Another large display of these plants was made by Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London. The beautiful blue colour of Pulmonaria angustifolia was striking; Geum Heldreichi auperbum was also fine. Calochortus amæna, Nymphæa Laydekeri, with its rosy-coloured blooms, Tulips in variety, Irises, and a host of similar plants contributed to a very fine display (Silver Fiora Medal).

The Misses Hopkins, Mere, Knutsford, also showed a small group of alpine plants

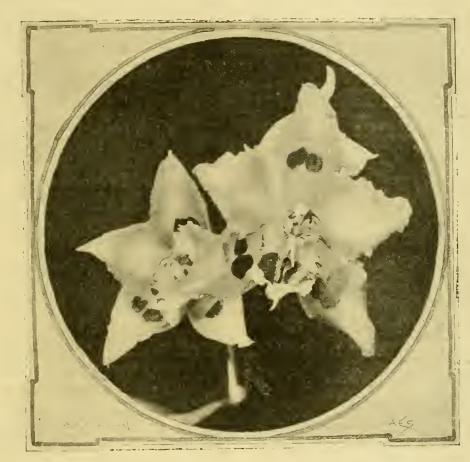


FIG. 144.—ODONTOGLOSSUM X WALTONIENSE ROSEFIELDIENSE.

were flowering very freely. An edging of Pandanus Vettehitand Anthurium Scherzerianum gave a brilliant finish to the whole. The same firm displayed Streptocarpus, including some good purple-violet coloured varieties (Bronze Flora Medal).

Another small collection of similar plants was staged by Messrs. WM. BULL & SONS, Kirg's Road, Chelsea, the plants in this collection being smaller, and of a size adaptable for table decoration.

Messrs. Hugh Low & Co., Bush Hill Patk, Enfield. brought a collection of flowering plants, such as Boronias, Dimorphotheca Ecklonia, Pimelia Hendersoni, and Gerbera Jamesoni. At the back were some well-flowered plants of Clerodendron Balfouri

Alpine plants were again numerous.

In Messrs. WM CUPBUSH & SONS' collection, from their Highgate Nurseries, London, N., was a large number of hardy Orchids, many British species being among them. A few of the best Orchids Laticed were Orchis hircina, with its long, curiously twisted lip; Cypripedium montanum, C. spectabile, and C. parviflorum (Silver Flora Medal).

Mr. M. PRITCHARD, Christchurch, Hants, set up a good collection of hardy and alpine plants in boxes, pans, &c.; vases being also requisitioned to display Mesers. George Jackman & Son, Woking Nursery, Surrey, contributed alpine plants, using as a centrogramment a new Clematis, named King Edward VII. Among the collection was noticed good plants of Ramondia pyrenaica, Cyclamen repandum (in a small pan), a good batch of Audrosace sarmentosa, Ribes Lobbi, with its pretty Fuchsia-like flowers, Conandron ramondioides, and I carvillea Delavayi.

ramondioides, and I carvillea Delavayi.

Messra. J. Cheal & Sons, Lowfield Nurseries, Crawley, furnished a long cross-table with trays of alpines, aprays of flowering shrubs and trees in vasea, and cut blooms of Rhododendrons, Spiræas, &c. We noticed the curious Arisæma proboscidium (Bronze Flora Medal).

Me.srs. PAUL & Sons, The Old Nurseries, Cheshunt, staged a group containing Roses, Azaleas, Tuitps, and alpine plants. Ribes speciosa was interesting, its dark-red flowers resembling those of a small Fuchsta. The collection of Tulips, although small, contained some good flowers.

Messrs. John Peed & Son, West Norwood, London, staged an exhibit of alpine at d herbaceous plants. Some good species were included.

Mr. A. B. UPION, The Guildford Hardy Plant Nursery, Millmead, Guildford, set up a collection of hardy

plants. We noticed Haberlea rhodopensis, with flowers of pale heliotrope colour and yellow spots on the throat; Phlox divaricata, the small Tulip T. persica, Trollius rapellifolius, Antirrhioum asarina, and Cypripedium spectabile (Silver Flora Medal).

Messrs. James Veitch & Sons, Chelsea, presented beautifully flowered sprays of species of Cerasus and Pyrus in large vasts. Cerasus pseudo-Cerasus "James H. Veitch" carried a profusion of its large rosypink flowers, while Pyrus Malus Scheldeckerii was a mass of bloom. A bate i of Watsonia Meriana Ardernii occupied the centre of this group, which also included the new Hydrangea Hortensia Veitchii-On another table was a large batch of Schizanthus wisetonensis, also Tillandsia Lindeni, with flowers of lovely blue colour; Kalanchoe felthamensis, and a well-flowered plant of Epiphyllum Gaertneri (Silver Banksian Medal).

J. A. YOUNG, Esq. (gr., Mr. G. H. Street), set up a nice batch of Gloxinias, and another of herbaceous Calceolarias. Both were deserving of cultural commendation (Bronze Banksian Medal).

Messrs. H. CANNELL & SONS, Swanley, Kent, again staged vases containing blooms of zonal and show Pelargoniums in most of the newer varieties, including at one end of the group a grand collection of herbaceous Calceolarias. Although these latter were staged too closely, they were much admired, the plants being sturdy, well grown, ahundantly flowered, and of good colours. Some nice plants of Verbena "Miss Willmott" were included in this group, and sprays of Wallflowers in vases. Of the Wallflowers, Ruby Gem was almost purple in colour, Primrose Dame clear yellow, and Blood Red a dark colour indicated by ita name.

Beautiful Roses in pots and vases were again displayed by Mr. Gec. Mount, Canterbury, Kent. Pots containing t e variety Crimson Rambler and the two Wichurian Roses, Alberic Barbier and Ruby Queen, being used as a background to the group (Silver-gilt Banksian Medal).

Messrs Thos F. Ware, Ltd., Ware's Nuraeries, Feltham, Middlesex, also set up a collection of Roses in pots and trays, using Polyanthus varieties and plants of Bambusa as a background. Baskets containing the varieties Liberty, Marécial Niel, and Mildred Grant were very effective (Bronze Flora Medal)

Mr. JOHN R. Box, West Wickham, showed a group of tuberous rooted Begonias. Some of the hest were Samuel Pope (rose-coloured, Picotee-edged flower), Miss Hennings, Mrs. J. R. Box (huge white), Thomas Lissamen (fine form, flowers salmon-pink).

Mr. Janes Douclas, Ederside, Great Bookham, staged a dozen Auriculas. A variety called The Bride was a striking alpine variety. The same exhibitor brought an interesting cross between Dianthus barbatus (Sweet William) and Uriah Pike Carnation. The plants were 18 inches to 2 feet in height, with typical Carnation foliage; the most striking feature obtained from the other parent being the long reflexed stigmas.

Messrs. Gilbert & Son, Bouine, Lincolnshire, staged Anemone flowers; the St. Brigid and King of Scarlets varieties were very handsome. Some good Tulips were also shown by this firm (Silver Flora Medal).

A group of thirty-six species and varieties of Gymrogrammas was displayed by Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, the beautiful waxy coatings of rich golden and allver colours characteristic of this genus being much admired. The same firm also showed some Verbenas, King of Scarleta and Miss Ellen Willmott (Silver-gilt Banksian Medal).

Messrs. G. STARK & SON, Great Ryburgh, Norfolk, exhibited a rich yellow-coloured Viola named Royal Sovereign, also aeveral variegated varieties of Nasturtiums, &c.

Rhododendron Mrs. E. C. Stirling was shown in pota by Messrs. JNO. WATERER & SONS, Bagshot. The flowers are rosy-lilac in colour and very pretty. The plants were flowering profusely; also a variety named Marquis of Waterford, of rich red colour.

Awards.

Iris×Charon(Onco-Regelia).—This is perhaps one of the most remarkable in this new and important race of Irises. It was obtained from crossing I. Korolkowi and I. atro-purpurea. The dominating colours are old-gold and bronze. The colour of the falls is of a mahogany shade, reticulated with gold, and having a heavy black blotch at the base. In the standards the gold feathering is very beautiful and distinct (First-class Certificate).

I.× Artemus(Onco-Regelia).—This handsome hybrid has more distinctly drooping falls as compared with those of an arching character, and these are of a rich, deep

violet tone, with an ample blotch of a dark tone at the base. The erect standards are of rich vinous purple (First-class Certificate).

I. × Iphigenia (Onco Regelia).—A very handsome and beautiful flower. The falls are of dark reddish-purple colour, heavily velned with gold at the base, and having a dark blotch; the standards have a satiny lustre, rich purple in shade. A bold flower (First-class Certificate).

I. × antigone (Onco Regelia).—This is a flower of distinctly erect type, very beautiful in the greyish hue that with clear lilac tone pervades the entire flower. The dellcate tracery of the veins is also a feature in this beautiful hybrid (Award of Merit).

I. × Peyche (Onco Regelia).—In this handsome variety there is a pronounced white ground, over which the abundant brownlsh vetos are aeen, and as viewed in the side-light a semi-transparent character is set up. The falls are of old-gold colour, much veined with brownlsh-crimson, and having a large dark blotch at the base (Award of Merit).

I. × Isis (Onco-Regelia).—The falls of this variety are purplish-red with a silvery tone interspersed. The bold standards fold inward, and give the appearance of solidity. They are of a clear Justrous sating-red. (Award of Merit).

I. × Eos. (Onco-Regetia).—A very handsome hytrid, the falls of which are of brownish-crimson, much reticulated with old-gold at the base; the standards are of clear claret-purple, very warm in tone, with a satin-like sheen over all (Award of Merit).

This collection of new Irises was raised by C. G. VAN TUBERGEN, Jun., Haarlem, Holland, and exhibited by him in perfect condition, in company with other new hybrid varieties. The Committee also recommended the award of a Silver-gilt Flora Medal.

Rhododendron Beauty of Littleworth.—A magnificent white Rhododendron with purple spotting upon the upper petal. The flower is nearly 5 inches across, and the trusses are large and exceedingly bold. Evidently a variety partaking of the characteristics of R. Griffithanum. From H. A. Mangles, Esq., Seale, Farnham (First-class Certificate).

R. Dawn.—This is a megnificent variety with flowers of very large size and beautiful pink colour, reminding one of the well-known handsome variety Pink Pearl, illustrated in Gardeners' Chronicle, but having no spots it is evidently of Aucklandi parentage. From H. A. MANGLES, Esq (First-class Certificate).

R. Gertrude Jekyl.—A very attractive variety of brightred colour and silvery-white. The exterior of the flower is of reddish colour, and the margins of the patals on the interior. The centre of the flower is silvery-white, prettily veiced. From H. A. MANGLES, Esq. (Award of Merit).

Pleris cretica capitatum.—This is a really hard-looking variety of Pteris cretica, in which the crests are quite at the end of the pinne, and in form are something like that of a Cockscomb. The fronds are very erect, and the plant may be as it was described at the meeting, "nearly hardy." Shown by Mr. H. B. MAY (Award of Merit),

Narcissus Committee.

Messrs. R. Wallace & Co., Colchester, staged an extensive group of Cottage, Darwin, and other types of Tulips, gaining awards for two new varieties. Inglescomb Pink was a bold flower 10 inches across, colour rosy-pink suffused with old-gold colour and primrose.

Massrs, James Veitch & Sons also staged a fine collection, including Golden Crown, maxima lutea, Victoria (a handsome Darwin variety), Clara Buit, The Fawn, Heela (flowers very dark), and the still darker Fra Angelica, which was almost black (Silver Banksian Medal).

Another grand collection of Tulips was set up by Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech. The flowers in this group were as good as any collection we have seen this season. A few of the best included Glow, Parlsienne, La Candeur (very delicate), Mr. Moon, Mrs. Farncombe Sanders, and T. Gesneriana major (Silver glit Medal).

Another collection of Tulips was set up by Mrs. Benson, Buckhurst, Sussex. This group, although containing some good blooms, suffered from the manner of staging, those responsible notallowing for the crushing in the Hall, in consequence of which several vases were overturned and others disarranged. We noticed Summer Beauty, Zulu, Cordelia (a fine Darwin variety), and Loveliness (Silver Bankslan Medal).

Messra, BARR & Sons, King Street, Covent Garden, had a collection arranged in their usual first-class

style. The exhibit contained over 160 distinct varieties, and embraced most of the types of this flower (Silver Flora Medal).

Ireland was represented by two good groups brought respectively by Messrs. Hogo & Robertson, of Dublin, and by Messrs. A. Dickson & Son, of Belfast and Dublin. Both groups were awarded the Silver Flora Medal.

Awards.

Tulip Scarlet Emperor.—A large and striking latevariety of a rich and bright scarlet colour, with yellow base; extra fine. Mr. W. T. WABE(First-class Certificate).

- T. Suzon. A beautiful Darwin variety, pale pinksalmon, feathered with white on the exterior; the interior of the flower was rose colour halfway up the petal. Mr. W. T. WARE (Award of Merit).
- T. Tubergeniana. A species from Bokhara, colour orange-red, long pointed petals with a dark base. M-VAN TUBERGEN (Award of Merit).
- T. Flame.—Orange-crimson, alightly feathered with orange; a large hold flower, striking in colour (Award of Merit).
- T. Kathleen.—Pale sulphur yellow, with long petals; a very pleasing and attractive variety (Award of Merit).

 The two foregoing were from Messrs, R. WALLACE & Co.
- T. Clara Butt.—One of the most attractive of the Darwin group; soft pink colour flamed with pale rose (Award of Merit).
- T. Margaret.—Blush colour, with slight feathering of delicate pink and a firme of tender rose; of fine shape (Award of Merit).
- T. Cygnet.—A small white self-coloured flower of the finest shape (Award of Merit).
- T. Mrs. Fancombe Saunders.—A large, brilliant crimson Tulip of fine build, the flowers borne on stout stems and having a white base (Award of Merit).

The foregoing four varieties were from Messrs. BARE & Sons.

- T. globosa grandiflora.—Of the maculata type; a fine deep flower of a bright dark crimson colour; dark base (Award of Merit). Exception was taken to the name of this variety, but as it has been so catalogued, the name was passed.
- T. John Ruskin.—A novel and beautiful form, the basal colour rose and salmon, flamed with rose and bordered with yellow (Award of Merit).

Both from Mr. W. B. HARTLAND, Cork.

Orchid Committee.

Present: Harry J. Veitch, Esq. (In the Chair); and Messrs. Jas. O'Brien (Hon. Sec.), de P. Crawshay, W. A. Bliney. H. J. Chapman, A. A. McBean, F. W. Ashton, W. H. White, T. W. Bond, H. Ballantine, J. W. Odell, H. M. Pollett, W. Boxall, H. A. Tracy, W. H. Young, F. A. Rehder, J. Douglas, H. Little, W. Bolton, F. Welfesley. J. Colman, G. F. Moore, H. T. Pitt, R. G. Thwaltes, and H. G. Morria.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman), showed four very remarkable forms of Odontoglossum crispum, one of which, the beautiful O. c. Harold, secured a First-class Certificate (see Awards). The others were O. c. Grairlanum, which had already received a First-class Certificate, and had greatly improved, the greater part of its large flowers being of a peculiar yellowish rose tint. Also shown were O. c. Ashworthianum and O. c. Raymond Crawshay, both of which had received the highest honours.

Messrs. JAS. VEITCH & Sons, Chelsea, obtained a Silver Flora Medal for an excellent group of good. things, including fine varieties of Cattleya Mossiæ, C. Mendeli, C. citrina, Lælia purpurata, and other species. At different points the group was brighter ed by selections of Masdevallla ignea and M. Veitchiana, the yellow Oncidium Marshallianum, clumps of good Dendrobium Bensonæ, D. thyraiflorum, and other Dendrobes: and among the hybrida were the new and massive Cypripedium × Ajax (× Germinyanum × Chamberlainianum), a fine flower, still retaining the features of C. × Germinyanum; Epidendrum × O'Brienianum aurcibum, E. × elegantulum, Lælio-Cattleya × Wellsiana, in several fine examples; L.-C × Ascania, L.-C. × Dapline, L.-C. × Hyeana, I.-C. × Zaphyra, &c.

H. G. GOODSON, Esq., Fairlawn, West Hill, Pulney (gr., Mr. Geo. Day), a rapidly advancing Orchid amateur, secured a well-merited Silver Flora Medal for a fine group of remarkably well grown and profusely nowered Orchids, in which both species and hybrids were well represented. Among the forms of Cattleya

Mossiæ, one very large, broad-petalled, finely coloured form attracted attention; and amorg the Cypripediums was a rather showy kind, with resemblance to C. × Calypso, and some indication of C. Drutit. A very large-flowered form of C. × Alfred Hollington, two very fine and dissimilar varieties of Phaius × Norman, a good selection of Odontoglossum crispum, O. × Andersonianum, and other Odontoglossums; several fine I celia × Latona, L.-C. × highburyensis, and other hybrids, were noted in this fresh-looking group.

Messrs. Hugh Low & Co., Bush Hill Park, were awarded a Silver Banksian Medal for a nice group, in which were a grand specimen of the old favourite Cattleya Skinneri with twenty heads of flower, C. intermedia with many spikes, some fine C. Mossice, including a very handsome form of C. M. Reineckiana; a good selection of excellent forms of Leilia purpurata, Dendrobium Bensoniæ, and its white and yellow variety xanthina; Lycaste sromatica, L. cochleata, and other showy Orchids.

Francis Wellesley, Esq., Westfield, Woking (gr., Mr. Hopkins), sent Cypripedium × Hopkinslanum (bellatulum × Masterslanum), a pretty flower with whitish ground colour thickly spotted and tinged with purple; Leelio-Cattleya × Vinesiæ ignescens (L. tenebrosa × L.-C. × Paœbe), resembling L. tenebrosa, but with bronzy-yellow sepals and petals, and rose purple llp; L.-C. × Baldockiana exquisita (C. Gaskelliana × L. cinnabarina), a good flower of a clear yellow colour; L.-C. × Lucia Westfield variety (C. Mendeli × L. chnabarina), yellow with purple front to the lip; a good Lælia × cinnabrosa, and the very fine Cypripedium × Cclossus.

Capt. G. L. HOLFORD, C.I F., Westonbirt (gr. Mr. Alexander), showed a finely-flowered plant of Odontoglossum × Hallio-crispum amabi'e with pale yellow flowers finely blotched with brown.

C. J. Lucas, Esq., Warnham Court (gr. Mr. Duncan), showed a cut inflorescence of his new Odontoglossum crispum warnhamense, a very distinct and pretty flower with showy purple spots evenly distributed over all the segments.

Sir TREVOR LAWRENCE, Bart., Burford (gr. Mr. W. H. White), sent Odontoglossum crispum xanthotes Burford variety, and a cut example of Sobralia Ruckeri (see Awards).

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent fine examples of Odontoglossum crispum Raymond Crawshay and O. c. Crawshayanum, both well-known and beautifully blotched forms; O. c. Angel, a fine clear white flower with a flight blush tint and a few cinnamon-brown spots; and O. c. Theodora (see Awards). Also %7gopetalum×Sedenirosefieldiense.

H. T. Pitt, Esq, Rosslyn, Stamford Hill, sent a fine specimen of Cattleys intermedia Lowrysna, white with a blue front lobe to the llp.

C. A. MORRIS FIELD, Esq., Sevennaks (gr., Mr. R. Edwards), sent a finely-flowered Dendroblum Devonianum.

Awards.

FIRST CLASS CERTIFICATES.

Odontoglossum crispum Harold, from Norman C. Cookson, Esq (gr., Mr. H. I. Chapmar)—A remarkably beautiful variety, of fine size and substance, and moreover singular in that the lateral sepals exhibit a peloriate condition, they being marked with a rudimentary yellow crest, around which are bright red brown blotches as seen on the labellum. All the segments are very broad and finely fringed, the sepals as well as the petals, which is a very uncommon occurrence. The upper sepal also bears a cluster of red-brown spots, and the petals an occasional similar marking.

Sobralia Ruckeri, from Sir Trevor Lawrence, Bart. (gr., Mr. W. H. White). One of the most beautiful of Sobralias, with flowers of firmer texture than those of S. maccantha, and of more compact shape. Colour, deep rose-purple, with white throat to the labellum.

Cymbidium Sandera. - One of the finest Orchids imported for some years; a very hand: ome, apparently free-flowering plant, and one which will thrive best in a cool-house. In the habit of the plant and its broad leaves it is nearest to the little-known C. Parishii, Rehb. f., and so also in the form and size of its flowers. which may also be likened to those of Cymbidium eburueum. The inflorescence, which partly expanded in the case on the journey home, is, it is said, ascending, the lower part clad with lanceolate leafy bracts. The spike bore four fine flowers. Scpals and petals white, crest of the lip yellow, a yellow band being continued in front. The ample side lobes of the lip are striped with bright purple, and the front lobe is heavily blotched with confluent markings of rich ruby purple - a grand introduction.

AWARDS OF MERIT.

Odontoglo:sum crispum Theodora, from LE B. CRAWSHAY, Eq., Rosefield, Sevenoaks (gr., Mr. Stables). — A wortby member of the favourite blotched section of O. crispum. The plant, which was splendidly grown, had a strong inflorescence of well-finished flowers. Flowers white, brightly tinted with purple at the backs, each segment bearing several purplish spots, and in addition a large irregular one of a reddish-purple hue.

Odontoglossum crispum xanthotes "Snow Queen," from It. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood).—A fine, large, pure white flower with the orar geoloured markings of the original O. c. xanthotes.

Lalia purpurata, Baronshalt variety, from HENRY LITTLE, Eq., Baronshalt, Twickenham.—The finest of the white varieties, originally represented by I. p. Russellana, Wyattiana, and feliroderians. Flowers large, and with broader and better displayed sepals and petals than are usually seen in the species; pure white with a yellow tinge in the throat of the lip, ever which run some very fine purple lines; front of the lip pale rosy-lila?.

BOTANICAL CERTIFICATE.

Cypripedium californicum, from Messrs. WM. CUTBUSH & SON, Highgate Nurseries, London.—A rare and curious species, with erret leafy stems, the upper part of which bears six or seven flowers. Sepals and petals green, lip white.

Fruit and Vegetable Committee.

Present: George Bunyard, E q., Chairman; and Messrs. Jos. Cheai, J. McIndoe, S. Mortimer, Alex. Dean, H. J. Wright, Juo. Lyne, Geo Ke f Ed. Beckett, Jnc. Jaques, F. Q. Lane, H. Parr, G. Norman, Jas. H. Veitch, A. H. Pearson, H. Somers Rivers, Owen Thomas, and Geo. Reynolds.

An excellent dish of Pesches Duke of York came from LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury Park, Acton (gr., Mr. Geo. Roynolds).

Mr. JNO. HODGES, Rusper Vineries, Faygate Station (gr, Mr. T. M. le Pelley), exhibited some fine ripe Grapes of the variety Black Hamburgh (Silver Banksian Medal).

Mr. G. Horday, Havering Road, Romford, showed some stems of Rhubarb nearly 4 feet long and of great thickness and excellent colour. The variety was described as Hobday's Giant.

Awards.

Motion The Islander.—This is a green-fleshed fluit of moderate size, excellent flavour, and soft, juicy flesh. Shown by Mr. Chas. RITCHINGS, Highlands, Catel-Guernsey (Award of Merit).

The Lecture.

NATURE STUDY.

A paper on "The Horticultural Phase of Nature Study," was delivered by Mr. R. Hedger Wallace, in which he emphasised the necessity of training the power of observation among school children, and the desirability of their being taught to notice common objects by making collections, and by microscopic and other examination of the structure of plants. He also described the efforts of the school authorities in London, Dundee, and other towns, towards training the children to grow and observe plants, and pointed out the far more complete work carried out on the Continent in the same direction.

NATIONAL TULIP.

This Society's show was held in conjunction with the meeting of the Royal Horlicultural Society, on the 17th inst., but the space of tabling reserved was much too limited to enable the flowers to be seen to the best advantage, the stands being too deep and crowded. The members of the Society were delighted with the flowers exhibited, regarding the exhibition as one of the best held for years, though the date was a little too early for some exhibitors.

Great satisfaction was expressed at the advent of Miss Willmort, Warley Lodge, as a competitor, and it fell to her lot to win what is regarded as the blue ribband of the Society—the Silver Cup offered in the leading class for twelve rectified Tulips. The flowers generally were of average size and pure at the bases.

The irony of fate told against Mr. Chas. W. NEEDHAM, who had six rectified flowers in the class for that number, all finely marked; but the warm night had spoilt them, and they had to be placed aside in

consequence. The breeder Tulip vied with the rectified flowers for refinement, some of them being strikingly brilliant. The method of naming generally adopted, with one or two exceptions, is capable of great improvement, while many of the flowers in the single-bloom classes were without names. The method of exhibiting the florists' Tulips may be regarded as antiquated, but the insides of the flowers and their coulsite parity must be noted. It is estisfactory to know that the interest in this form of Tulip does not appear to be on the wane.

Rectified Tulips—The principal class was for twelve blooms of dissimilar rectified Tulips, two feathered and two flamed. Miss WILLMOTT won the 1st prize and Silver Cup with feathered bizarres Sir Joseph Paxton and Masterpiece; flamed bizarres Excelsior and San José; feathered byblic nens Guido and Bertha; flamed byblic nens Talisman and Duchess of Sutherland; feathered roses Molesty and Mrs. Lea; flamed roses Annie McGregor and Mabel. Mr. A. Chatter, Cambridge, came a good 2nd with feathered bizarres Richard Headley and Masterpiece; flamed bizarres Samuel Barlow and Sulphur; feathered byblicenens Adonis and Guido; flamed byblicenens Talisman and Chancellor; feathered roses Annie McGregor (a highly refined flower) and Mrs. Atkins; flamed roses Baroness Burdett Coutts and Sarah Heady. Mr. J. W. Bentley, Stakehill, was 3rd.

There were six competitors in the class for six rectified Tulips, one feathered and one fiamed of each class, the 1st prize falling to Mr. J. W. BENTLEY with feathered bizarre Duke of Devonshire, fiamed bizarre Lord Stanley, feathered byble nen Stockport and the same flamed, feathered rose Julla Faroese, and flamed rose Annie McGregor. Miss Willmott was a close 2od with feathered byblemen Guido, flamed byblemen unlamed, feathered byblemen Guido, flamed byblemen unlamed, leathered Rose Mabel, and the same flamed. Mr. W. Dunn, Cambridge was 3rd.

With three leathered Tulips, one of each class, Miss WILLMOTT came 13t with bizarre Lord Frederick Cavendish, by bloemen Guido, and rose Mrs. Cotton. Mr. J. W. BENTLEY was 21d with bizarre Masterpiecs, bybloemen Stockport, and rose Julia Farnese.

In the class for three-flamed Tulips, one of each class, Mr. J. W. BENTLEY was let with b'zarre Lord Statley, byh'œmen George Edward, and rose Annie McGregor Mr. W. Peters came 2nd, with bizarre Sir J. Paxton, byblæmen King of the Universe, and rose Mabel. Mr. A. CHATER was 3rd.

Brezder Tulips.—These are of course seedling Tulips, which may at any time break into some rectified form, and prove worthy of note or worthless. A breeder Tulip may be of great beauty in the sell stage, but may rectify into something worthless later, and they break into a permanent character according to no order or

With six dissimilar breeders, two of each class, Miss Willmott was again 1st, having bizarres Goldfinder and Willson's King; biblemens Adonis and Eliza Pegg; roses, Annie McGregor and Mrs. Barlow. Mr. W. Dunn was 3cd.

With three dissimilar breeders, Mr. J. W. BENTLEY came ist, with bizarre Alfred Lloyd (a brilliant flower), byb.emen A'ice Grey, and rose Queen it Eogland. Miss WILLMOTT was 2nd Mr. W. DUNN being 3rd, both the latter exhibitors with unnamed flowers.

In the classes for single blooms many of them were

In the classes for single blooms many of them were without names. Miss WILLMOTT was 1st with feathered bizarre Sir J. Paxton; and Mr. Chater was 2nd with Masterpiece. Mr. J. F. Kew, Southend, had the best feathered byblomen; and Mr. Chater came 2nd, the flowers in each case being unnamed varieties. Mr. Chater had the best feathered rose in Annie McGregor, and he was also 2nd with Industry. With flamed bizarre Mr. C. W. Needham was 1st; and Mr. J. W. Bentley 2nd. Mr. Bentley and Mr. W. Dunn were 1st and 2nd respectively with flamed byb cemen; and Miss Willmott gained 1st and 2nd prizes with flamed roses.

Breeder Tulips — The best bizarre breeder was Alfred Lloyd, a glorious bloom from Mr. A. D. HALL; Mr. BENTLEY was 2nd. With byblemen breeders Miss WILLMOTT was 1st and 2od. With rose breeders. 1st, Mr. W. DUNN, with Loveliness; and the same exhibitor 2nd with Rosebill.

The Samuel Barlow Memorial Prizes—The 1st prize for two blooms, one feathered and one flumed, was won by Mr. Bentler with feathered bizarre Sir J. Paxton, and flamed bybloenen Bessie. Mr. W. Dunn was 2nd with flumed bizarre Samuel Barlowand feathered bybloenen Adonis.

Premier Blooms.—The premier feathered Tulip was rose Annie McGregor, a beautiful bloom, also perfect in form, and of great purity, shown by Mr. A. CHATER in his 21d prize of twelve blooms. The premier flamed bizarre Sir J. Paxton came from Mr. C. W. NEEDHAM The premier breeder tizarre Alfred Llojd was exhibited by Mr. A. D. HALL.

A few classes were set apart for growers of small collections. Mr. J. T. KEW was the only exhibitor and was awarded two 1st prizes.

ROYAL GARDENERS' ORPHAN FUND.

ANNUAL MEETING.

MAY 17 .- The sixteenth Annual Festival Dinner of the Royal Gardeners' Orphan Fund took place at the Hotel Cecil on Tuesday evening last, and was one of the most successful events the Institution has experienced. The popular President of the Royal Hordcultural Society, Sir J. J. Trevor Lawrence, Bart., presided, and he was supported by a company of about 45. On the right hand of the Chairman was Sir J. T. D. Liewelyn, Bart, and on his left hand Jeremiah Colman, Esq. Most of those present were gentlemen well known in horticultural circles, among whom were Messrs. H. J. Veitch, W. Marshali, F. G. Lloyd, Leonard Sutton, H. B. May, P. R. Barr, G. Barr, W Y. Baker, G. J. Ingram, W. J. Cutbush, J. F. McLcod, Geo. Reynolds, T. W. Sanders, James Douglas, Geo. Monro, E. Sherwood, W. Bnil, G. Cuthbert, P. Kay, &c.

The room and tables were heautifully decorated with plants and flowers, kindly supplied by various nursery firms, including Messrs. James Veitch & Sons, H. B. May, J. Walker, Rochford & Sons, Beckwith & Son, Sanders & Sons, Barr & Sons, A. F. Dutton, Ware & Co., and The Stone Orchid Company. A programme of music, given under the direction of M. Turle Lee, was much appreciated.

Immediately after the observance of the Royal toasts, Sir TREVOR LAWRENCE proposed the toast of "The Royal Gardeners' Orphan Fund." After making fome interesting remarks upon horticulture, including the subject of "women" gardeners, Sir Trevor, passing to the consideration of the Institution. deplored the fact that there has been some failing off in the amount received from annual subscriptions, and very rightly pointed out that it is not best for such a Fund to be dependent in the measure it is upon chance gifts that can be obtained at the annual dinner. The Fund had been established fifteen years. and had spent upon the sustenance of orphans the sum of £12,000. Sir Trevor thought more might have been done had the Fund been better recognised, and more liberally supported by gardeners and those employing He drew attention to the qualities they gardenere. expected in gardeners, and to the great responsibilities gardeners were obliged to undertake, which to the Chairman's mind seemed most onerous when the charge consisted of a very valuable collection of Orchids. fad, said Sir Trevor, better iruits and fluwers in Britsin than there were elsewhere, and this was due to the care, intelligence, and skill exercised by gardeners. Should we therefore, he asked, permit their children to beg their bread in cases where gardeners were stricken down by death whilst their children are still small? He was pleased to think that the subscription list that night would be a good one, but he (Sir TREVOR LAW-RENCE) would have been able to do more had he not been engaged recently in helping to rate a sum of half a million sterling for St. Bartholomew's Hospital, for which institution he holds the office of Treasurer He was convinced that the e was no fund they could more honourably, legimately or honestly support than that whose interests they had met to advance.

Mr. LEONARD SULTON (Trustee) made a suitable reply, and said that an effort should be made to broaden the basis of support. He inought it would be a good pian to institute a "children's fund." Evoly one might give a shilling a year for each of his children as a thankoffering that they were not orphans.

The next toast was that of the Royal Horizontural Society, proposed by Sir Jso. T. D. LLEWELYN, Bart, who referred to the great work the Society has done, and to the circumstances existing in this, the Society's centenary year. He spoke of the new Hall, the new garden at Wisley, and the excellent Journal issued by the Society, and described all these as circumstances for which they should be very grateful.

Sir TREVOR LAWSENCE in reply stated that the extraordinary success of the Society in recent years has been due to the Courcil having devoted itself exclusively to the proposion of Horliculture and all that belongs thereto. He gave his hearers some interesting particulars in resp. ct to the progress that is being made with the new Hall, and said that it was hoped it would be ready for a formal opening in the middle of July-possibly by his Majesty the King, but this was not certain.

At this point the energetic sccretary, Mr. P. Wynne, read the list of subscriptions and donatious, which amounted to £815. Among the contributors were the following :- Sir Trevor Lawrence, Bt., £50; Lord Mount Stephen, £50; Jeremiah Colman, 50 gs; Leonard

futton, £50; N. N. Rothschild & Sone, 25 ge.; N. N. Sher ood, £25; Jas. Veitch & Sons, Ltd., 20 gs.; Leopold de Rothschild, £10; J. Newton Mappin, 10 gs.; T. Smith, Daisy Hill Nursery, Newry, £30; Sir J. T. D. Liewelyn, 10 ge.; Herbert J. Adams, 10 gs.; Chislehurst Gardeners' Association, £9 10s.; Thames Bank Iron Co., 7 gs.; W. Sberwood, £5; Ed. Sherwood, £5; F. G. Lloyd, 5 gs.; H. J. Veitch, 5 gs.; Dicksons, Ltd. (Chester), £5; Abraham Dixon, 5 gs.; J. Douglas, £6; The Gardeners' Chronicle, Ltd., 5 gs., C. E. Keyser, 5 gs.; Chas. Heidseick, 5 gs.; A. Wa erer, 5 gs.; H. B. May, 5 gs.; Protheroe & Morris, 5 gs.; Mrs. W. G. Head, £5; Stuart H. Low, 5 gs.; J. T. Henderson & Sons, Ltd., 5 ge.; and Barr & Sone, 5 gs. The Covent Garden list, presented by Mr. Asshee, amounted to £152 5s. 6d., and included 5 gs. each from Messrs. Jas. Sweet, Ed. Rechford, E. Parsons, C. P Kinnell & Co., J. W. Dennis, Alderman Coleman, and Jos. Rochford; also 6 gs. from Mr. John Rochford. The Steward's lists included the fo lowing: -Geo. Reynolds, £42178, 6d.; George Caselton, £11 48. 6d.; T. W. Saunders, 10 gs.; W. P. Thompson, £10; Geo. Cuthbert, £18 7s. 6d.; J. F. McLeod, 10 gs.; J. Whitpaine Nutting, £10 4s. 6d.; R. Hooper Pearson, £9; W. Howe, £5; and others for smaller amounts, making a total of £815.

Other toasts included "The Visitors," proposed by Mr. Assbee, and responded to by Dr. Bengafield; "The Chairman," proposed by Mr. H. B. May; and "The Press," proposed by Mr. Rudolph Barr, and responded to by Mr. T. W. Saunders.

HORTO-AGRICOLE OF PIEMONT.

INTERNATIONAL EXHIBITION AT TURIN.

THE International Exhibition organised by this Society as a Jubilee Celebration was opened with great pomp by the Duke of Genoa, accompanied by the Duchess of Aosta, on May 10, under most favourable conditions. It is satisfactory to note that notwithstanding the holding of international exhibitions at the same time at Düsseldorf and at St. Louis, that at Turin was remarkably well attended, and was a thorough success.

Its international character was borne out by the acceptation of many French, German, and Belgian exhibitors, as well as by the presence among the jury of many notable persons of various nationalities. Foremost among these were Mesers. Fischer Von Waldheim, Max Kolb, Ed. André, H. Correvon, Aug. Dufour, Dr. J. Chifflot, Léon Duval, J. Moser, A. Truffaut, A. Chatenay, O. Ballif, P. Riffaud, L. Leroy, C. Jacquier, P. Rivoire, J. Soupert, and P. de Vilmerin. English horticulture was represented on the jury by Sir Thos. Hanbury and Messrs. T. Bevan, C. H. Payne, and G. Schneider.

Altogether the exhibition was all that could be desired, and certainly much above the general expecta-tions. The native element naturally predominated, and the medals of hooour which were awarded to Italian exhibitors showed the interest taken in horticulture in that country. The one which fell to the lot exhibited by the School of Pomology and Horticulture of Forence was richly deserved, as this was a very extensive and particularly interesting exhibit, comprising an important group of hybrid Anthuriums of the Audreanum × Ferrierense type, in which the spathes were very remarkable for their dimensions and colouring, some of them measuring fully 10 by sinches, and resembling good-sized Caladium leaves, as their colouriog, instead of being uniform as usual, was mostly rosy or red in the centre with a border of various tints of green. Very remarkable also from the same exhibitor were some beautiful Marantas so seldom seen now a-

days in exhibitions.

A Special Prize of Honour was also awarded to Mons. Jules van den Daele, Director of the Gardens at Monte Carlo, for his splendid exhibits, consisting of a unique collection of Pandanus, comprising grand specimens of species with which the present generation of amateurs and gardeners is unfortunately very little acquainted. His splendid exhibit of exotic Ferns in excellent condition showed unmistakably that these plants can be grown with as much success in the 'Suony South," with a naturally dry atmosphere, as in this country. A magnificent specimen of Anthorium errestalling or Cochilicators. thurium crystallinum, one of Cochliostema Jacobiana, several marvellous specimens of Platycerium grande and others; and Crotons of huge dimensious and in great variety were included; Pandanus Veitchi was grown for decoration in a novel way, which we may illustrate in these columns when a photograph is obtainable, and added another feature to this interesting

French exhibitors also obtained many honours, one Prize of Honour falling to Mons. J. Mosen, who exhibited as usual some faultless Rhododendrons

Ghent and Molle Azaleas, a collection of Aucubas, and hardy Ferns.
Another Prize of Honour was awarded to Mesers. DE

Another Prize of Honour was awarded to Messra. De Vilmorin, whose exhibits, as usual, were very attractive and interesting. Messrs. L Leroy, Molin, Rivoire, J. De Cock. Van Houtte Père Société, and others, were also well rewarded for their exhibits, all of which were very interesting and well presented. Mons. Léon Duval showed a grand lot of Anthurium Scherzerians and one of Percentics all his combride. and one of Bromelias, all his own bybrids. Roses from the well-known firms of SOUPERT & NOTTING and Mesers. PERNET; Pæonies from Messrs. MOLIN, and also RIVOIRE, were among the chief attractions.

Messrs. Innocenzo Radaelli. Enrico Rovelli, and others deserve great credit for their labours on behalf of the exhibition, in which one of the most interesting subjects was an Italian flower-garden designed and planted by the very sympathetic Signor CAVALLERI ALESSANDRA SCALARANDIS, Director of the Royal Gar-dens, at steepinige. This was greatly admired, and deservedly so, as it was a truthful representation of an Italian garden of years gone by, being a faithful reproduction of the garden of a century and half ago, but planted with plants in favour in our days, such as Gnaphalium, Phlox canadensis, zoual Pelargoniums, with coloured for age, Ageratum, all plants which were unknown when the original was planted. Certainly, this is very different from our present notions of gardening, and appears very quaint; but it is none the less interesting and instructive for its originality, and Signor SCALAHANDIS may justly feel gratified at

having produced such a presentation.

Many more exhibits might be enumerated here if space would allow, but the above will give an idea of the importance of what was shown on this occasion, and the effect produced will, it is to be hoped, be beneficial in every respect to the Halian Society, from which the members of the jury received a very cordial recenthe members of the jury received a very cordial recep-tion, and of which all visitors will keep a pleasing and

lasting recollection.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

On the first Thursday in May, by the renewed kindness of the President of the Worcester Auxiliary, Earl-Beauchamp, K.C.M.G., the beautiful gardens of Mad resfield Court were placed at the services of the Committee, in aid of the funds of the Institution. A small charge was made, and upwards of £21 was taken at the gates for admission. The weather was cold and threatening at times, which doubtiess deterred many visitore.

The gardens were, as usual, very attractive, visitors much admired the bulbs and other s flowers naturalized in the grass. The groups of hardy-flowering shrubs in large irregular masses caused expressions of astonishment from those unacquainted

with this system of gardening.

The bitchen-gardens, hot-houses, and hardy fruit orchards were also open. The skilfully cultivated fruit-trees were full of flowers and very promising for

good crops of fruit.

It is to be wished that more noblemen and gentlemen will do likewise in other parts of the country, and thue help the Society, now so badly needing funds Corr.

GARDENERS' DEBATING SOCIETIES.

SUTTON AND DISTRICT HORTICULTURAL.—A meeting of this Society was held on May 10, when an interesting paper was read by Mr. F. James on "The Flower Garden: Its Summer Embelliahment." The lecturer deprecated the practice of purchasing plants for bedding when in full bloom, rather than those that were making some growth. A selection of halfhardy annuals suitable for the two-fold purpose of cutting and outdoor effect was given, and information afforded as to the methods generally adopted in their culture Subtropical effect and the outdoor arrangement of many plauts were also desit with in a practical manner. Cultural hiots concerning Canuss. Celosias. SUTTON AND DISTRICT HORTICULTURAL .- A manner. Cuitural hiots concerning Cannas, Celosias, Dahlias, Gladioli, aud many other plants were fur-nished. In conclusion, Mr James said the planting of red or scarlet flowers in proximity to a newly-erected red brick house was to be concemned, while, on the other hand, a display of light-coloured flowers and foliage was out of place in a cool and shady garden.

ENQUIRY.

CYCAS REVOLUTA.—It is desired to place female cones of this species alongside of the nearest fossil representatives at an important forthcoming meeting of scientific societies. grower who can oblige by contributing such a specimen should communicate at once with Prof. F. W. Oliver, F.R.S., University College, Gower Street, London.

GARDEN NOTES.

BUSH APPLE TREES.

A few days since, when in the gardens at Gunnersbury House, Mr. Jas. Hudson took me to a portion of the grounds where, planted on grass-land, are a large number of strong bush or dwarf Apple-trees. Around each tree the turf was removed in a circle 4 feet in diameter, the was removed in a circle 4 feet in diameter, the rest of the orchard having grass growing most luxuriantly on it, though not at any time manured, but possibly fertilised by the decayed leaves which fall from the trees each autumn. It was impossible for the trees, some ten to twelve years planted, to look healthier, more carefully pruned and trained, or in richer bloom. The trees are planted about 12 feet apart, all being grafted on the Paradise stock. This I regarded as the very ideal of a market orchard, that is, an grated on the Paradise stock. This I regarded as the very ideal of a market orchard, that is, an orchard, no matter how large, planted expressly to produce marketable fruit. On the journey to Gunnersbury I passed considerable areas of fruit orchards, such as, perhaps, many growers of the ordinary market type would regard as excellent. Yet not only the trees, but also their pruning and Yet not only the trees, but also their pruning and attention generally, placed them a ver long way indeed below the high-class appearance of the Gunnersbury trees. Mr. Hudson stated that he obtained from his bush-trees very fine fruits. I can well imagine such to be the case. Not a branch is beyond reaching distance from the ground. All are rigid, and the fruits do not suffer from winds. They can be gathered with the greatest ease and care, and be packed on the spot as rapidly as gathered. Not only must the the greatest esse and care, and be packed on the spot as rapidly as gathered. Not only must the produce in good seasons be relatively heavy per acre, but the price obtained for such fruits, carefully assorted and marketed, would probably be some 30 to 40 per cent. higher than the market growers lower down the county can obtain for their samples from old and lofty can obtain for their samples from old and lofty trees, which have their roots literally out of the reach of manuring. I do not approve of grass under fruit-trees, because it both excludes air from the soil and is very absorbent of moisture; still, at Gunnersbury, contrary to the experience at Woburn, no barm seems to be done to the trees by it. If a large area of land were planted exactly as this orchard is planted, and the trees pruned and treated as those at Gunnersbury, on freely worked soil, there would be ample room for but hereits or grow between the trees bury, on freely worked soil, there would be ample room for bush-fruits to grow between the trees for some ten or twelve years; and Strawberries could occupy the rows between the busbes for three years. After twenty years had elapsed the orchard might be grubbed, having previously planted fresh breadths every two or three years to ensure continuity. A. D.

THE APIARY.

Sections .- The time for putting on sections or shallow frames is fast approaching; but to the less experienced bee-keeper a word of warning will not be out of place in reference to sections. Do not put them on too soon, as the temperature of the hive cannot be maintained so well with extra space given them. Stocks containing plenty of stores should have one or two frames uncapped, as this saves expense in feeding.

Sections and Shallow Frames.-The bee-keeper must now turn his attention to the honey market, for on this should depend the raising of sections or shallow frames. The one or the other easiest dis-posed of should be raised. In purchasing sections, the best are the cheapest in every way; those of second quality should be avoided. Ask your dealer for this year's goods, as old sections, being very dry, are more apt to break in making up. In purchasing foundation, whether in brood comb or super, the same remarks apply. Should you have any comb by you, and it is brittle, place it in the sun for a short time, turning each side to the sun in its turn; this will prevent breaking. Should shallow frames be used, the wider ones are the best for extracting. Each frame should be wired, as in extracting the combs are likely to break down under the weight of honey. The narrow frames do not hold sufficient honey for extracting.

Apiaries near the road or public highways should

cause the owner to think what the consequences would be should any accident occur through his Each stock may be insured for the small sum of 1d. each or thereabouts.

Queenless Stocks.-If any stocks are found to be without a queen and have plenty of bees, send without delay to a first-class dealer for a young queen; but should there only be a few bees it would not pay to requeen the colony. Expert.

MARKETS.

COVENT GARDEN, May 18.

COVENT GAR	DEN, May 18.
OUT FLOWERS, &O. AVER	
Anemones, per	Marguerlies, yel-
doz. bunches 0 9-1 6	low, doz bunch 1 0 - 2 0
Arums, per doz. 10-40 Azaleamollis, per	- white doz. bun 3 0-4 0 Narclesus, p. dcz.
bunch 0.6-1.0	bunches 1 0- 2 0
Azaleas, per doz. 20-40	- Pheasant Eye,
Bouvardiae, bun. 0 4-0 6 Camellias, box 1 0-2 0	per doz 1 6- 3 0 Orchids: Odonto-
Carnations, Mal-	glossums, per
maison 12 hlms. 6 0-12 0 — per bunch 1 0-4 0	dozen bloema 2 0- 4 0 — Cattleya, doz. 10 0-12 0
Crotonleaves.bun. 0 6- 1 0	- Cattleya, doz. 10 0-12 0 - various, doz. 2 0-6 0
Eucharis, per dez. 20-30	Preouies, per dez.
Euphorbia, bun. 10-30 Ferns, Asparagus,	bunches 30-60 Petargeniums,
per bunch 0 6-20	zonal, dozen
- French, per doz. bunches 0 3-0 4	bunches 3 0- 6 0 - white, dozen
- Maidenhair,	bunches 4 0- 6 0
dez bunches 60-60	- double scarlet,
Forget-Me Nots, p. doz. bunches 1 6-3 0	p. doz. bunehes 3 0-4 0 Roses, Mermet,
Gardenias, box 1 0- 2 0	per bunch 20-40
Gypsophila, doz.	- white, bunch 1 0- 3 0 - pink, bunch 1 6- 3 0
buuches 4 0- 6 0 Gladiolus, Blush-	- red. bunch 1 6- 4 0
Gladiolus, Blushing Bride, per doz bunches 4 0-60	— Safranos, bch. 1 0- 2 0
doz bunches 4 0- 6 0 — white, bunch 0 6- 1 6	- French, bunch 1 0- 2 0 Smllax, doz. trails 1 6- 2 0
Twig dog burn 10-60	Spirmas, bunch 0 4-09
Ixia, per doz bun. 3 0- 3 6 Lilac. dez buo 3 0- 4 0	Stocks, per doz 20-26 Tuberoses on
Ixia, per doz bun. 3 0- 3 6 Lilac dez buc 3 0- 4 0 — (French) buc. 1 6- 2 0	stem, bunch . 0 9- 1 0 - short, p. doz. 0 3- 0 4 Tulips, Red, bun. 0 4- 0 6 - various, bun. 0 6- 1 0
	- short, p. doz. 0 3-0 4
per buuch 2 0- 4 0 — longiflorum,	Tulips, Red. bun. 0 4- 0 6 - various, bun. 0 6- 1 0
bunch 16.30	
— lancifolium 16-26 Llly of the Valley,	doz. bunch 40-60 Wallflowers, doz.
p. doz. bunches 6 0-12 0	bunches 10-30
_	E WHOLESALE PRICES.
s.d. s.d.	S.d. ad
Artichokes, Globe, per dozen 2 0- 2 6	Onions, per bag 6 6- 7 0 — picklers, sieve 4 0 —
- Jerusalem, p.	Parsley, doz bnn. 16-20
sieve 1 0-1 3	- sieve 10 -
bundle 1 0- 3 0	Peas, per lb 0 6- 0 9 Petates, per ton 80 0-140 0
- Foreign 0 1- 1 6	- frame, lb 0 3½- 0 5 - New Teneriffe,
— Giant 4 0- 5 0 Beans, Broad, flat 5 6 —	per cwt 10 0-12 0
- dwarf, per lb. 0 8- 0 9	Radishes, per
Beetroots, bushel 26-30 Cabbages, p. doz. 09-10	dozen bunches 0 2- 0 6 Rhubarb, Yorks,
Cabbages, p. doz. 0 9-1 0 Carrots, doz. bun. 2 0-2 6 - per bag 3 0-4 0	per dozen 0 9-10
- per bag 3 0- 4 0 Cauliflowers, doz. 0 9- 1 6	- Natural, doz. 16-20
Cauliflowers, doz. 0 9-1 6 Celery, per dozen	nets, per doz 0 9 —
bunches 60-90	Seakale, doz. pun. 8 0-10 0
Cress, doz. pun. 0 9 — Cucumbers, doz. 1 6- 2 9	Shallots, lb 0 2-0 3 Spinach, p. bnsh. 1 6-2 0 Tomatos, Canary
Endive, per doz. 13-16	Tomatos, Canary
Garlic, per lb 03 - Horseradish, fo-	Deeps 2 6- 3 6 - Channel Ields.,
reign, p. bunch 10-13	per lb 0 6-0 7
Leeks, doz bun 1 0- 1 6 Lettuces, Cabbage,	- English, doz. 5 C- 8 0 Turnips, doz bun. 2 0 -
per dezen 0 3-1 0	— per bag 20 —
Mint. doz 16-20	— per bag 20 — — ne w, dozen 60-80
Mushrooms(house) per lb 0 4- 0 6	Vegetable Mar- rows, per dez. 40-70
Onions, green,	Wateroress, per
doz bunches 1 6- 2 0	dozen bunches 0 3-0 6
PLANTS IN POTS, &O.: AVI	ERAGE WHOLESALE PRICES.
Acadas, per doz. 12 0-50 0	Geraniums, white 40-60
Adlantmanday 4 ft. 8 ft.	Hellotropes, doz. 50-60 Herbaceous plants
Aralias, per dez. 4 0- 8 0 Arbor Viiæ, dez. 9 0-18 0 Aspidistras, dez. 18 0-36 0	and perennials,
Aspidistras, doz. 18 0-36 0	per box 10-20
Ancubas, per doz. 4 0-8 0 Azalea mollis, pot 1 6-3 0	lvy Geraniums, per dez 60-80
A 7aleag each 1 6→ 3 0	Li ac-trees, each. 30-40
Begonia, per doz. 4 0-8 0 Crotons, per doz. 12 0-24 0 Cyperus, per doz. 3 0-4 0	Lycopodiums,per dozen 30-40
Cyperus, per doz. 3 0- 4 0	Marguerites, doz. 6 0-8 0
Dielytra specia-	Miguenette doz 40-80 Musk, per dozen 30-60
bilis, per dozen 12 0 18 0 Dracænas, variety,	Orange-trees, each 3 6-10 6
dezen 12 0-48 0	Palms, var., each 3 0-20 0
Ericas, per dozen 6 0-24 0 Euonymus, vars.,	Pelargoniums,
per dozen 40-60	per dozen 6 0-10 0
Ferns in var., per dozen 4 0-30 0	— double scarlet, per doz 4 0-8 0
Floua elastica, per	Petunias in hoxes 1 3- 2 0
dozen 9 0-24 0 Fuchsias, p. doz. 6 0-9 0	Primulas, perdoz. 4 0- 6 0 Pteris tremula 12 4 0- 8 0
Geranlums, dbl.	- Wimsetti, doz. 4 0-8 0
scarlet, per	- major, dozen 40-60 Spiræa, per doz 50-80
dozen 4 0- 8 0 - pink 4 0- 8 0	Spiræa, per doz 5 C- 8 0 Stocks, per dozen 6 C- 8 0

FRUIT: AVERAGE WHOLESALE PRICES

	s.d. s.d.		8.d. 8.a
Apples, Austra-		Grapes, Gros	
lian, in cases	7 0-10 0	Maroc, per lb.	1 9- 2 6
- Tasmanian		- Muscat. A, p. lb.	
Cases	6 0- 9 0	B. p. lb.	30-43
Bananas, bunch	7 0-12 0	Lemons, per case	
- loose, dozen	10-16	Melens, eath	1 3-2 (
Figs, per doz	40-80	Oranges, per case	9 0~10 (
Gooseberries, per		Peaches, A, rer	
peck	2 C- 2 6	dez	15 0-74 (
— sieve	1 0- 4 6	– B	
Grapes, Hambro'		Pines, each	
A per lb	2 0- 3 0	Strawberries, A.,	
B. per lb	1 3-1 9		3 0- 4 (
- Almeria 12 lb.	7 0- 9 0	_ B, per lb	1 0- 1

REMARKS. - Seakale is nearly over. Gooseberries are KEMARKS.—Seakale is nearly over. Gooseberries are coming in fast—pecks. 2s. to 2s. 6£.; sieves or half-bushels, 4s. to 4s. 6d. Cabbage Lettuce is now good, In biskets of 48 at 2s. 6d per basket. Radishes from 2d. to 6£. per dozen bunches. Cucumbers are plentiful, thousands of flats arrive daily, containing well-grown fruit. French Cherries, 5s. to 6s. per sieve; boxes, 1s. to 2s. each. Algerian Potatos, 13s. to 15s. per cwt.; Lisbone, at 5s. 6d. a box.

POTATOS.

Home-grown, 80s. to 100s. per ton; foreign, 70s. to 10fs. do.; Dunbars, 130s. to 140s. do. John Bath, 32 & 34 Weilington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

Growers are having a very busy time at present, especially in pot plants. Some plants may not sell quite so well as may be desired, yet generally trade is good. On Saturday last many growers were cleared out quite early. Window-box and hedding plants are now in jull demand, and the trace for good diverging plants is also much better, prices is good. On Saturday last many growers were cleared out quite early. Window-box and hedding plants are now in full demand, and the trace for good flowering plants is also much better, prices generally being in favour of the grower. At some stands the spring Ericas are still plentiful. Intermediate Stocks are very good. Verbena, King of Scarlets, in dwarf well - flowered plants make 98, per dozen. Yellow Calceolarias in flower were very good, and made about 88, to 108, per dozen. Well-grown plants of Saxifraga pyramidalis averaged from 128, to 158, per dozen. Yellow Marguerites with not many flowers open, although good, bushy plants, were selling for 188, per dozen. There are very few growers wno grow this as well as Mr. Sweet. Useful plants of White Marguerites are not quite so plentiful just now, most of the samples seen being rather drawn. Ivy-leaved Pelargonlums, well-flowered plants, are now very abundant; the three leading sorts are Madame Crousse, Chas. Turner, and Gaillec. Some of the latter variety were very fine, the plants being a mass of bright pink bloom. There are also a 1ew La France with mauve - coloured flowers. Leopard, the large spetted variety, and other sorts are now obtainable. Mr. H. B. May still grows herbaceous Calceolarias, and has some good plants; they are also seen on other stands, but there is little demand for them. Crimson Rambler Roses in flower Irom several growers were very fine, those on Messre. T. Rochford & Sons'stands making a fine show. There are few other good pot Roses in the market just now. Well-flowered plants of Rhododendrons, Azalea mollis, also a few good Indian Azaleas were seen last Saturday. "Good show Pelargoniums are more plentiful, and zonals of the varieties referred to last week are very abundant, there being now a good trade in them. Fuchsias, Heliotropes, Harrison's Musk, Mignonette, and Rhodanthe are all plentiful. Tuberous Begonias in flower are already in these market; there is at present little trade for those in 60's for bedding, still some are being boxes are very much overdone.

CUT FLOWERS.

The double white Narcissus and Pheasant's Eye are The double white Narcissus and Pheasant's Eye are abundant, but o her sorts of Narcissus are now past. The St. Brigid Anemones were very good. Tho hright red lais, mostly from the Scilly Islands, were very pretty and last well. Spanish Iries are good, and there are some very pretty shades of colour among them. Roses continue plentiful, the pink varieties La France and Mrs. J. Laing were especially fine; Bridesmaid and The Bride were also good. Call as were plentiful, but there was very little trade for them. In Lilium maid and The Bride were also good. Cal as were plentiful, but there was very little trade for them In Lilium longiforum the supply much exceeded the demand and prices are very low; L. auvatum and L. tigrinum are also plentiful, Gladiolus The Bride and the pink variety both sell well. White Sweet Peas are now abundant, and prices are low; but pink varieties are scarcer and make better prices. Lily of the Val.cy was lower in price; Stephenotis and Gardenias were numerous. Carnations were more plentiful; the variety Duchess of Friels still a favourite pink; some

good pluk Malmatsons make good prices. Orchid bloom good pluk Maimaisons make good price?. Orchid bloom continuesplentiful, Cattleyas are not making quite such good prices. The supply of cutfoliage was good, the long trails of Asparagus and Smilax and best Maidenhair Ferns obtained fair prices. Asparagus Sprer gari aells fairly well, and the short fronds of A. plumosus nanus are now much used; those who grow it well must find it a profitable erop. it a profitable crop.

FRUITS AND VEGETABLES.

FRUITS AND VEGETABLES.

GLASGOW, May 18. — The following are the averages of the prices during the past week: — Apples, Tasmanian 9s. to 12s. per case; Australian, 12s. to 14s do.; Oranges, Valencia. 420's, 11s. to 13s. per box; large, do., 16s. to 20s.; 714's, 12s. to 15s.; Jaffas, 10s. to 12s.; Lemons, 4s. to 6s. per box, and 6s. to 12s. ner case; Grapes, 2s. to 3s. 6d per lb.; do. Belgian, 1s. 6d. to 18 9d. do.; Tomatos, Teneriffe, 3s. to 6s. per box; do., English, 10d to 1s. 3d. per 1b; do., berrisey, 9d to 1s. 3d. do; Mushrnome, 1s. to 1s. 3d. per lb; Onions, Fgyptian, 6s. to 7s. per bag; Potatos, Cansry, 13s. to 1ss. per cwt.; Melons, 3s. to 3s. 6d. each.

Liverpool, May 1s. — Wholesale Vegetable Market (North Hay). — The following are the averages of the current prices during the past week — prices varying according to aupply: — Potatos, per cwt., Main Crop, 5s. to 5s. 6d.; British Queen, 4s. 4d. to 4s. 10d.; Bruce, 4s. 6d. to 5s.; Turnips, 6d. to 9d per dozen bunches; Swedes, 1s. 9d. 1o 2s. per cwt.; Carrots, 5s. to 5s. 6d. do.; Parsley, 8d. to 10d. per dozen bunches; Swedes, 1s. 9d. 1o 2s. per cwt.; Carrots, 5s. to 5s. 6d. to 3s. per dozen; Cauliflowers, 1s. to 2s. 6d. do.; Cabbages, 8d. to 1s. 9d. do. Fruit. Oranges, 1sft., 4s. to 9s. 6d. per box; do., Valencia, 6s. to 9s. 6d. per case; superior, 8. 6d. to 1s. 9d. do. Fruit. Oranges, 1sft., 4s. to 9s. 6d. to 6s. 6d. per box; Apples, American, 12s. 6d. to 2s. per barrel — St. Johns: Potatos, 1s. to 1s. 2d. per peck; do., new, 2d. to 6d. per lbx; Asparagus, 3s. to 5s. per 100; Cucumbers, 4d. to 8d. each; Grapes, English, 5s. per lb.; do, foreign, 8d. aod 1s. do.; Plnes, foreign, 3s. 6d. to 6s. each; Mushrooms, 1s. to 1s. 6d. per lb.; -Birkenheod: Potstos, 1s. to 1s. 4d. per peck; ew. do., 13d. and 4d per lb.; Asparagus, 8d. to 2s. 6d. per box; do., foreign, 3s. 6d. to 3s. do., foreign, 8d. aod 1s. do.; Plnes, foreign, 3s. 6d. to 5d. each; Mushrooms French, 1s. to 1s. 4d. do.; Pines, foreigo, 2s. 6d. to 3s. 6d. each.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending May 11, 1904, and for the corresponding period of 1903, together with the difference in the quotations. These figures are based on the Official Weekly Return:

De	script	tion.		1903,		3, 1904.			Difference.		
Wheat	•••	***	***	8. 27	d .	8. 27	d. 1	_	8. 0	d. 8	
Barley	***	***	***	22	5	19	10	_	2	7	
Oats	***	***	•••	18	1	16	6	-	1	10	

ANSWERS TO CORRESPONDENTS.

ABIES NORDMANNIANA INJURED BY INSECTS: W. H. Bewlay. The eggs are apparently those of the Larch aphis (Chermes laricis), now generally regarded as an alternate form of C. abietis, the Spruce gall aphis. If allowed to remain on the trees without some kind of check they will ultimately produce gouty swellings on the branches. As a means of prevention isolate the trees from Larch and Spruce as much as possible. With regard to treatment the ordinary paraffin emulsion has given the best results for infested Larch Larch given the best results for infested Larch trees, and it will no doubt be equally efficacious on Abies Nordmanniana. Try the emulsion on a few branches first, and if you should find that the young leaves are injured spray them with tobacco-water. You will find the eggs more difficult to destroy than the lice, but the latter will all hatch out in the course of a week or so.

CARNATION: Jas. K. The leaves are punctured by thrips or aphides. Use Tobacco-water.

CARNATIONS: Cars. The superficial appearances are those of eelworm in the leaves. If so there is no remedy but to burn the plants, and pot the others in sterilised soil—that is, bake the soil before using it.

CUCUMBERS: S. C., Crowborough. The Cucumbers are affected with "gumming," which is caused by excess of food-supply and imperfect adjustment of other conditions. Some varieties are much more susceptible than others. There is no fungus disease present.

GRAPES: A. D. The skin of the berries has been injured by some cause such as careless handling during the process of thinning, or by the presence of something hurtful in the atmosphere of the house. The sulphur which has sphere of the house. The sulphur which has been on the hot-water pipes so long would not be likely to cause injury now; but whether sulphur could reach the house from the chimney you mention can only be determined by someone on the spot.

GRUB: F. E. T. Yes, it is the Cockchafer grub,
Melolontha vulgaris. These insects are very
injurious to the roots of grasses, in some cases
completely destroying the turf. They do not
confine themselves to grass roots, but eat many
of the underground crops, the Potato often suffering terribly from them.

INSECTS ATTACKING ROSES: Oakfield. The injury to your Roses has been caused by Weevils. A bud or graft is sure to be attacked if there are any weevils of this sort present. They feed by night. By day they hide away in the earth or underneath small clods round the stems of the trees. A "sticky band" round the trees would be a good preventive, as the weevile, being wingless, must travel on foot. This band be made of cheap cart or axle grease. best method of destroying them is based on the habit the insects have of dropping from the bushes on the least disturbance when feeding at night, or if a light is flashed on them. Spread a white cloth under the standard trees to catch them as they drop.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good swered in this issue are requested to be so good as to consult the following number.—No Name, Wooden Box. 1, Arnebia echioides; 2, Pyrus japonica; 3, Saxifrsga crassifolia; 4, Pyrus japonica; 5, Forsythia viridissima; 6, Polemonium cœruleum; the labels were in some cases detached, so that we are not quite sure to what plants they applied.—Salop. 1, Berberis Darwini; 2, Centranthus rubra.—S. A. 1 and 2, Pelargonium zonale; 3, Panicum plicatum; 4, Strobilantbes Dyerianus; 5, Cyperus longus; 4, 4, Strobilanthes Dyerianus; 5, Cyperus longus; 6, Pteris hastata macrophylla; 7, Sempervivum tabulæforme. — Kentisk. 1, Sambucus canadensis; 2, Amelanchier canadensis; 3, Nuttalia cerasiformis; 4, Exochorda grandiflora; 5, Ribes aureum; 6, Rubus speciosus—Constant Reader. Leucoium æstivum, the Summer Snow-flake.—J. W. Vaccinium ovatum.—G. H. P. 1, Sempervivum species; 2, Nepota Glechoma variegata; 3, Cydonia japonica.—A. D. 1, Cytisus purpureus; 2, Coronilla emerus; 3, Epimedium alpinum.—H. S. S., Bridgwater. The flower is that of Dendrobium moniliforme, Sw., native of China and Japan, and generally called D. japonicum in gardens. The plant you are confusing it with is Dendrobium Linawianum, Rehb. f., which is often mistaken for Dendrobium moniliforme, Lindl., in gardens. It is quite a different plant, more nearly like Dendrobium nobile.—S. T. Probably Trichopilia crispa. The labellum, which would be mainly reliable in distinguishing it from the closely-allied Trichopilia coccinea, is entirely withered. Trichopilia coccinea has long, thin, withered. Trichopina coccines has long, thin, bright green pseudo-bulbs. If possible, send a fresh flower and old pseudo-bulb if you cannot determine —G. G. 1, Dendrohium undulatum; 2, Sophronitis grandiflora rosea.—G. Cooper. 1, 2, 3, 4, Various forms of Cupressus Lawsoniana; 5, Pyrus Malus floribunda.—G. T. 1, Cratægus punctata; 2, Acer pictum; 3, Pyrus salicifolia; 4, Acer platanoides; 5, Acer pictum; 6, Pyrus 4. Acer piatanoides; 5. Acer pictum; 5. Fyrus elwagrifolia; 7. Cratægus coccinea.—Batrick. 1, send when in flower; 2. Trollius europæus; 3. Skimmia japonica; 4. Lithospermum prostratum; 5. probably Spiræa filipendula; 6. send in flower; 7. Saxifraga crassifolia.—J. G. L. Esbogarie hybrida; 2. Sampagrigum tortu. 1, Echeveria hybrida; 2, Sempervivum tortu-osum variegatum; 3, Mesembryanthemum sp.; 4, Geum coccineum; 5, Euonymus radicans variegated var.; 6, Centranthus ruber.—Claremont. Phyllocactus crenatus.—J. M. 1, Adiantum decorum; 2, Phyllocactus speciosus; 3, Begonia argentea; 4, Begonia Madame Bruant; 5, Begonia Nebula, or garden varieties near to those named; 6, next week.—J. M., Nolts. Prunus Padus (Bird Cherry).—W. W. Pyrus Malus flori-bunda.—J. C. Mackaya hella, fig. in the Botanical

Mogazine, t. 5797.—H. H. Tiarella cordifolia.— W. H. S. Magnolia conspicua.—J. K. Cattleya amethystoglossa, sometimes called Cattleya guttata Prinzii, so far as we can judge by the flower sent. The colour had faded out of the sepals and petals, but the labellum and general form of the flower answers tolerably well.

Palm: F. H. The injury appears to have been caused by sunshine. Probably there is a faulty place in the glass that serves to focus the sun's rays.—Jas. K. The spots on the Palm-leaf are caused by minute drops of water remaining on the leaf atter the temperature has fallen at on the leaf after the temperature has fallen at night. Give more ventilation.

RASPBERRIES: A. O. W. The Raspberry roots are teeming with the mycelium of some fungus, which is evidently the cause of the mischief; but without fruit it is impossible to determine the particular species.

SILVER-LEAF DISEASE: B. A. G. The cause of the disease known as "silver-leaf" is not per-fectly understood. It has, however, been found that an application of a solution of iron sulphate applied to the roots, in the proportion of $\frac{1}{2}$ (z. of sulphate to 2 gallons of water, is beneficial.

SWELLINGS ON BEAN-ROOTS: J. H. M. The excrescences on the roots of your Beans are caused by a bacterium. They are common on the roots of plants belonging to the order Leguminoseæ. These organisms are capable of fixing the free nitrogen present in the atmosphere, and ren-dering it useful to the plant. You may cer-tainly use the old soil for any purposes you require it.

SWOLLEN CURRANT BUDS: W. C. S. and W. H. W. The enlarged appearance of the buds is caused by the Currant-bud mite. The test way is to cut off and hurn all the affected shoots, and scrape away and burn the old soil from around the base of the buds. the base of the bushes. On p. 304 of the Gardeners' Chronicle for May 7 will be found an illustration of shoots similarly affected. See also note on p. 330.

Tomato Disease: A. E. C. The Tomato fruit is attacked by a fungus, Cladosporium lycopersici. The spores of the fungus are supposed to gain an entrance to the fruit through minute cracks or punctures in the skin, therefore the use of green stable-manure, and of anything likely to induce cracking in the fruits should be avoided. Over-watering has this effect. As a preventive, ventilate the house freely, exercise vigilance, and spray the plants at frequent intervals with potassium sulphide, prepared as follows: dissolve 1 oz. of potassium sulphide (liver-of-sulphur) in a quart of hot water, then make up to 2½ gallons with cold water. Feed the plants with manure-water.

TULIPS FAILING TO FLOWER: L. W. The peculiarity exhibited by your bulbs is due to what is known as "dropping." The old hulb mostly decays, but one or more of its scales or leaves remain with an axillary bud, which forms the new bulb. Then the scale or leaf grows downwards into the soil, carrying the bulb with it, so that at length there is a tubular portion with the bulb at the bottom. We have never heard of such a large proportion as 95 per cent. behaving in this manner before.

VARIEOATED PARSLEY: Constant Reader. We have frequently seen variegated varieties of the Parsley, and do not think yours possesses any exceptional value.

VINES: J. Kerr. We do not discover any disease-Maintain more moisture in the atmosphere, for the appearance of the leaves indicates injury from dry heat.

WEEVILS: C. S. & Co. See answer to "Oakfield."

COMMUNICATIONS RECEIVED.—Metbuen & Co.—E. T. C.
—Dr. Bonavia—S. D. & Co.—W. W.—R. H.—F. Bedford
—J W. (Fungus), rext week.—G. S.—F. J. C.—J. W.—
E. G.—J. A. W.—Subscriber.—H. W. C.—P. S.—H. &
Son.—H. L.—J. M.—W. C. S.—G. R.—H. P.—J. M.—
J. S. T.—A. L.—W. F.—T. G. H.—Comfrey.—W. P.
Hiern.—A. Gaut.—Board of Agriculture and Fisherles.
—W. G. S.—J. G.—Hurst & Son.—J. D.—R. S.—H.
Havart —G. M. M.—G. S.—Tomato.—A. B.—A. H.—
R. L. C.—J. R. J.—E. H. J.—R. D.—T. H. C.—C. S. &
Co., Lid.—J. J. W.—T. H.—W. H.
PHOTOGRAPHS RECEIVED FOR CONSIDERATION.—A. D. R.
—W. Tarr.

(For Weather see p. x)

Supplement to the "Gardeners' Chronicle."

VIEW IN LORD DUNCANNON'S GARDEN AT BESSBOROUGH PARK, PILTOWN, CO. KILKENNY.



THE

Gardeners' Chronicle

No. 909.—SATURDAY, May 28, 1904.

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(Supplementary Illustration)				

EARTH-WORMS OF THE GARDEN AND LAWN.

SEVERAL of the species of British worms which are found in our gardens and turf are either beneficial or, if injurious, are easily dislodged. I have, however, now to treat of a species which is exceedingly tenacious of life, and one which has proved a great pest when once it has become firmly established. There is no English name for this worm, and although much has been written about it, there is still a good deal of confusion in the descriptions afforded by different writers. Perhaps its oldest name is caliginosa, which means something misty, confused, and uncertain; and it would seem as if the writer who named it, so long ago as 1826, had his doubts about its character. Assuming then that we have before us the Enterion caliginosum of Savigny, now known as Allolobophora caliginosa, let us look into its character and history.

Dr. Rosa, who is one of the foremost authorities, tells us that this is one of the most widely distributed of Annelids. It has been found not only in almost every country of Europe, but is reported as occurring in all the other continents as well, from China to New South Wales, from Canada to the Argentine Republic, from Tunis to the Cape of Good Hope. Many years ago I affirmed that two distinct species, or at least two

well-marked sub-species, were included under this one name, and I am more than ever convinced that we ought to distinguish the two forms by different names. Rosa has adopted this idea, and places this Annelid urder two sub-species, naming the first A. trapezoides, and the second A. turgida.

I am at present specially concerned with the former, because it has been submitted to the Gardeners' Chronicle with a view of obtaining expert evidence. Mr. Whitton wrote to the Editor from Glasgow, on March 28, as follows: -"I have been consulted by a bowling-club in the city as to the condition of the greens, which are in a bad state through worms. They have sent me sample worms and turf, which I herewith send you. They have tried fresh Irish lime on the grass, lime-water made from fresh lime, also from gas-lime, corrosive sublimate, arseniate of copper, and salt. Solutions from these have been made very strong-in some cases strong enough to burn the grass-but all without avail, as the worms are as lively as ever.

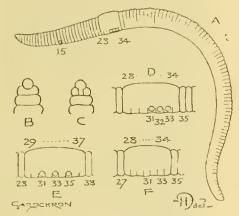


FIG. 145.-THE TRAPFZE-WORM.

- A-Trapeze worm (Allolobophora caliginosa; sub-species trapezoides); Male pores on 15, girdle
- B-Head of Trapeze-worm, dorsal view. C-Head of Lumbricus, corsal view.
- D—Girdle of Trapeze-worm, represented as extending over segments 28 to 34 with tubercula puberlatis on segments 31, 32, 23.
- E-Girdle of Green-worm (Allolobophora chlorotica', extending over segments 29 to 37, with tubercula on 31, 23, 35.
- on 31, 33, 35.

 F-Girdle of Turgid-worm (A. caliginosa, sub-species turgida), extending over segments 28 to 34, with tubercula on 31, 83

 A-Natural size; B to F enlarged.

We will first describe the worm and show how it may be identified; we shall then be in a better position to consider the evil and its remedy. The Trapeze-worm, as I have been in the habit of calling it for want of a popular English name, is very variable, even if we eliminate the sub-species turgida entirely from consideration. It is usually about 3 or 4 inches long, and the tail is never flattened out as it is in the case of several other earth-worms. In colour it varies greatly, being sometimes grey or brown, at others flesh-coloured, yellowish, or even approaching black, though it is never purple like the true Lumbricus. The girdle ranges in colour from a yellow fleshcolour to brick-red, brown and sienna. In some species of earth-worm the girdle occupies a definite number of segments, but in the Trapeze-worm the number, like the colour, varies. Sometimes we find it extending from the twenty-eighth to the thirty-fourth segments; at other times it begins on the twenty-seventh cr include

the thirty-fifth. But however much the girdle may vary, there is no alteration in the number of the segments which carry the special and characteristic organs known as the male pores and the tubercula pubertatis. The former of these organs (the male pores) are to be easily discovered on the sides of segment 15 from the head. Under the girdle, on the three segments 31, 32, 33, are the prominences known as tubercula pubertatis, and these form one of the most reliable external means of identification.

It has been found convenient to represent the girdle-segments and the special glands which they carry by a fraction. The figures above the line show the former, while those under the line represent the tubercula pubertatis. The fraction for the Trapeze-worm will therefore be $\frac{27, 29-31, 35}{31:32:33}$. The Greenworm, which is nearly allied to the Trapeze, has the formula $\frac{28,29-57}{31:33:35}$, where the glands or tubercula are on alternate segments, and similarly in the Turgid-worm $\frac{28-34,35}{31:33}$, with two pairs of glands only. The accompanying diagram will represent the same fact in a different way. If the head of the worm is examined with a pocket lens, and compared with the head of a purple-worm or true Lumbricus, a characteristic difference will at once be detected. In the case of Lumbricus the head and first segment form a kind of mortise and tenon, while in the Trapeze-worm the head only cuts into the first half of the ring, as shown in the diagram.

Earth-worms are egg-bearers. The capsule or cocoon which bears the egg-matter is composed of a chitinous substance produced from the girdle. This substance is not easily acted upon by solutions or chemicals applied to the soil. There is good reason for supposing that the cocoon will resist a considerable immersion in seawater, in which case the application of saline mixtures to the soil will not affect the egg, even when it kills the worm. The eggs of worms are deposited in moist places, by streams, ponds, and ditches, among compost, decaying vegetable matter, under old rags and rotten sacks, and in manure in every condition of decay. Where any of these exist, worm-eggs are almost certain to be found. Consequently if a lawn is laid on decaying matter, worms are certain to find their way there, and prove injurious by casting up the mould on which they have

It appears that in the case of the bowlinggreen in question, when the turf was laid a layer of soil and rotten manure was spread over the bed of sand as a rooting medium for the turf. This rotten manure would be certain to contain a number of cocoons of the Trapeze-worm. Consequently about a year after the turf was laid the worms began to appear, and despite all efforts to check them the evil has grown.

The Trapeze-worm is in itself one of the hardiest species to be found in our Islands. It is like a Wireworm for toughness, and even if the adult worm could readily be dealt with, the eggs cannot be touched. In such a case there is nothing for it but to destroy the nesting-place-that is, the turf must be removed, and the whole of the layer of mould beneath it burned or carried away. It may possibly be found that very

little of the material yet remains, in which case another season or two might put an end to the breeding, but so long as decayed matter continues under the turf, and forms a suitable breeding-place for the worms, so long will the trouble continue. Hilderic Friend.

SOME FLORAL COMBINATIONS.

In these days, when flower gardening is confined to no set style uor to any particular plants, so long as they fulfil the purpose that induced their selection, it is, I think, not unworthy one's attention to know of any really satisfactory subjects that may be depended on to give pleasure to the senses. Some years I noted how the beauty of Montbretias planted in mixture was enhanced beyond that afforded by any single variety planted by itself en bloc. The past year gave us the prettiest arrangement of this nature I have ever had. It was a mass composed very largely of M. sulphurea, itself a very levely variety, with M. Pettsii grandiflora mixed with it to the extent of about one of the latter to ten of the former. M. sulphurea is the taller, and the effect of the ruddy tips of the other glancing here and there under the chastened yellow spikelets of the first-named was charming in the extreme. In association with this was a group of Celsia cretica, the true species, that grows over 4 feet in height, with large blooms set on bold spikes. The plants were raised in heat in spring, and treated thus produce one of our best autumn subjects. Another group of the same planted in conjunction with dwarf yellow Antirrhinums, presents a very striking feature in a border of mixed flowers. What is commonly called C. cretica, but which is C. Arcturus, is altogether diverse from the above. It also is raised in heat in spring, and continues in flower for months. Last year the best arrangement in which this plant appears was one mixed with Cuphea strigillosa. The general effect was light, and the colour effect soft and pleasing. The last-named was one of the most useful plants; whether arranged among tuberous Begonias, or Fuchsias, or dwarf Chrysanthemums of the M. Gustave Grunewald section, it is equally satisfactory.

Speaking of the latter, it is a great surprise to me that so few people have discovered its value as a garden plant. It is now not alone, there being sports in cultivation of different colours, but of these the one that is by far the best, excelling indeed the type, is the rosy-salmon Henri Yvon. These two in conjunction, planted rather widely apart, with a groundwork of Sutton's Pink Swan River Daisy, and Madame Crousse Ivy-Geranium, and a portion with Sutton's Crimson Gem Begonia, produce a most pleasing corner. The last-named belongs to the fibreus-rooted section, and is a plant that ought to have a future, the metallic dark bronzy-crimson foliage alone marking it as invaluable. Unfortunately seedlings raised in spring do not in our cold climate yield the results one would expect, but I have preserved all the plants, and hope to have it in first-rate form this summer.

Carnations as—shall I say bedding plants? can be arranged so as to meet the tastes of the most fastidious as to the covering of Mother Earth. The plants must, however, be well selected and carefully prepared. Colours must be good, the plants floriferous and carrying the flowers upright, or only slightly inclined to droop. One of the best is undoubtedly Asphodel, a very bright rose, and in other respects first-rate. This with a rough carpeting of purple Verbenas, with here and there a scarlet or a white intermixed, produces a very nice effect. Of whites we have Trojan and Hildegarde, both first-rate out-of-doors. I have tried to have white effects solely

hy planting the dwarf form of Alyssum maritimum between the Carnations, but this is not nearly so effective as those arranged with white Verbenas. These are indeed more fitted to use along with Carnations than any other plant I am acquainted with. Violas, so often used, are, I think, most unsuitable. Mephisto, Comet, Henry Falkland, Sir R. Waldie Griffiths, are a few more first-rate Erigeron mucronatus, with its varied coloured Daisy-like flowers, goes well with any of these. Where Gazania splendens will succeed, it, with Carnation Mephisto, forms a most brilliant group. It is needful to add that it is necessary to plant none but extra strong plants of any of these Carnations. They must be prepared to start into growth as seen as they are planted-out, and to produce strong flowering shoots healthy (not necessarily extra vigorous) layers should be potted-up in the autumn, either singly or not

not confine oneself to small-growing subjects; as, for example, I find single Hollyhocks grouped with orange African Marigolds, and red Gladiolus with Verbenas form striking masses, the old Verbena venosa rendering good service. R. P. Brotherston.

NEW OR NOTEWORTHY PLANTS.

CYMBIDIUM PARISHII VAR. SANDERÆ.

The re-appearance of a lost species is always interesting, and especially so if it happens to be a handsome garden plant, as is the one now under notice. At the Royal Horticultural Society's meeting, held on May 17, a handsome Cymbidium was exhibited by Messrs. Sander & Sons, St. Albans, under the name of Cymbidium Sanderæ, n. sp., to which the Orchid Committee



Fig. 146.—Cymbidium parishii var. sanderæ.

more than two into a 5-inch pot, keeping them cold and dry through the winter months, and planting as soon as convenient in spring. Such plants are certain to give satisfaction.

The mention of Erigeron mucronatus, which may be more familiar to some people as Vittadenia triloba, reminds me of a nice mass of Tradescantia virginica, which I dare say not many have elevated to the position of a "bedder," the Erigeron plentifully set out between. The Tradescantia in question is a dwarf blue seedling, growing about 9 inches high, and the starry flowers of the other plant peeping up among the blue draw the attention of everybody to its quiet, unassuming heauty. I might mention a very dark-coloured Heliotrope with Gazauia splendens; Salvia patens with scarlet Verbena; Madame Crousse Pelargonium as tall plants with Maid of Moray Lobelia and the yellow-leaved Anthericum, and various other not common methods of associating various plants; but these must suffice. It may be added, however, that one need

unanimously awarded a First-class Certificate. But when on the following day it was submitted to Kew for confirmation, I instantly recognised the very rare Cymbidium Parishii, Rchb. f.—so rare indeed that I only remember to have seen it alive on one occasion, namely, in May, 1890, when a flower and leaf from some unknown source were submitted to Kew for identification by Mr. Lewis Castle. The species has a very interesting history. It was discovered by the Rev. C. S. Parish about the year 1859, and described in 1874,* and it flowered for the first time in cultivation in 1878.† At this time a very interesting account of its discovery was given from the pen of Mr. Parish, as follows:—

"This was one of my carliest discoveries, having been found by me during my long journey in the distant jungles in 1859. On the same occasion I discovered Dendrobium crassinode and

^{*} Rchb. f. in Transactions of the Linnean Society, XXX., p. 144; Gardeners' Chronicle, 1874, i., p. 338.

[†] Gardeners' Chronicle, 1878, 11., p. 74.

several other good things, but I was so bewildered then at the number of novelties of all kinds that I did not know what to choose, as I could not carry everything. I gathered then a fair quantity of Cymbidium Parishii and of D. crassinode; I sent them, with many other valuable things, to Mr. Low, the father, with one box meant for Kew; but all (six large cases full!) were sunk in the Ganges. It was a cruel disappointment, as it was my first collection, a most valuable one; many of the plants I have never met with again. The single plants kept by me to grow died. Hence I lost sight of these two plants for many years." Other plants of the Cymbidium, however, appear to have been afterwards

last in flower, and for the first time in Europe. I bought the plant of Messrs. Hugh Low & Co. in May, 1870, being part of the private collection made in Burmah by the Rev. Mr. Parish. He said it was a fine thing, superior even to C. eburneum, which as regards the colours of the lip it certainly is. The plant has been strong enough to flower for three or four years, and I have been disappointed every spring until now; but it is worth waiting for." Mr. Day's plant is said to have been purchased by Mr. B. S. Williams for 100 guineas, and when it flowered again was figured in the Orchid Album, ii., t. 25.

Messrs. Sander's specimen is from a new and quite distinct locality, and considering how com-

distinct. It is very interesting to find this handsome plant again in cultivation, and we hope it will not now be lost sight of. The accompanying figure (fig. 146) is taken from the certificated plant. R. A. Rolfe.

KEW NOTES.

POMADERRIS .- This genus contains upwards of twenty species, all of which are natives of Australia, New Zealand, and Tasmania. Most of the species are of little horticultural value, and are seldom seen except in botanical gardens. There have, however, lately been two species in flower in the Temperate-house at Kew which possess merits greatly in advance of the majority of the genus, namely, P. vacciniifolia and P. elliptica. The first-named forms a neat, free-branching shrub 31 feet high, and is covered with its small pale yellow flowers borne in terminal and axillary paniculate cymes 1 to 2 inches in length. The leaves are ovate, 1 to 1 inch in length, obtuse, dark-green above, grey below. It is a native of Australia. Although introduced in 1869, it does not appear to have been grown much in gardens, for I am unable to find any figure of the plant.



FIG 148.—FLOWERING SPRAY OF POMADERRIS ELLIPTICA ad FROM A PLANT IN THE TEMPERATE-ROUSE, KEW.

The second-named species (P. elliptica) is the Kumahu of the New Zealanders. It is a much stronger - growing plant than the preceding species. Although not so free-flowering, the flowers are larger, and of a bright yellow colour. The inflorescence is 3 to 4 inches in diameter, and densely flowered. The leaves are elliptic, 2 to 4 inches long, ½ to 1 inch broad, dark-green above, grey below. It is figured in the Botanical Magazine, t. 1510. Both of the above species succeed well in pots in a mixture of peat and loam. Chas. P. Rafill.

CHIRITA HAMOSA, R. Br.

Several plants of this charming little Indian species are now flowering in the stove, and will continue to do so for many weeks, for it is almost as floriferous as a Streptocarpus. It grows to a height of from 12 to 15 inches; the leaves are opposite, ovate-acute, 3 to 6 inches long, and 2 to 3 inches broad; they are rather fleshy, and of a fresh pale green colour; the peduncles of the flower are connate and adnate to the petioles, and produce a succession of exceedingly pretty bellshaped flowers of a pale blue colour, about 1 inch long, with a yellow blotch in the throat. Plants may be propagated by either seeds or cuttings; if by the latter method the cuttings should be taken from the old stock plants in the spring and rooted in a close frame with plenty of bottom-heat. The young plants should be grown on in a stove temperature, in a very light, sandy compost, and when well rooted in a 41-inch pot, should be fed



Fig. 147.—POMADERRIS VACCINIIFOLIA FLOWERING IN THE TEMPERATE HOUSE, KEW.

obtained, for there is a dried specimen at Kew, and on the ticket is written—"Flowered in my garden in 1867 or 8," and also a note that plants were sent to Kew and to Mr. Low. In June, 1878, it flowered in Europe for the first time, in the collections of W. Leech, Esq., Fallowfield, Manchester; J. Day, Esq, of Tottenham; and with Mr. B. S. Williams, when Reichenbach wrote an interesting note about it. The Fallowfield plant, according to Mr. Swan, produced two spikes, and he added: "I may say that it is a most beautiful thing, fully answering to the description I had with it; and that it succeeds well in the Cattleya-house, giving it in the growing season very copious supplies of water." Mr. Day made an excellent painting of it, and wrote as follows:—"This lovely Cymbidium is at

pletely the original plant has since been lost sight of it is not surprising that it should have been considered a distinct species; but a careful comparison shows that it can only be considered as a richly coloured variety. The plant bore a four-flowered inflorescence. The sepals and petals are ivory-white, and the front lobe of the lip heavily blotched with crimson-purple, some of the blotches being partially confluent. The two crests are orange-yellow, and in front of them occurs a deep yellow area, which colour also extends down the median line to the base of the lip. The column is striped with purple, and has some yellow at the base. It is nearly allied to C. eburneum, indeed Messrs. Veitch make it a variety of that species (Man. Orch., ix., p. 15), with which, however, we cannot agree, as its characters are much too

with some kind of manure. Under such conditions a well-flowered little specimen is obtained in about three months. W. H.

RHODODENDRON BOOTHII.

Several plants of this distinct and handsome species are at present in flower in a cold frame at Kew. It was discovered about fifty years ago in the Bhotan Himalayas by Mr. Booth, who was sent by his uncle, Mr. Nuttall, to collect seeds of Rhododendrons and other plants in those regions. He succeeded in finding twenty-two species, and of these about a dozen were new. The present species was amongst these latter, and was named in compliment to its discoverer by Mr. Nuttall, who published a description of it in Hooker's Journal of Botany for the year 1853. It is described as "a straggling bush 5 to 6 feet high, growing as an epiphyte on Oak - trees at an elevation of 5,000 feet.

The flowers are bright yellow, disposed in many-flowered corymbs. The calyx is unusually developed for a Rhododendron, being quite 1/2-inch long, greenish-yellow in colour, with oval, glabrous segments. The corolla is campanulate, 1 to 11 inch in diameter, with slightly reflexed, entire lobes, rounded at the apex; pedicels an inch long, reddish-brown, with lepidote tomentum. Stamens short, with large reddish-brown anthers, the latter being very conspicuous against the yellow background of the corolla. The leaves are thickly coriaceous, rigid, ovate-acuminate, 2 to 5 inches long, 1 to 2 inches broad, dark glossy green above, scaly beneath. The young leaves and stems are dull red and densely ciliate; the hairs, however, almost entirely disappear in the adult stage.

The plant thrives in a compost of peat and sand, and should be given the protection of a cool house or frame. It is figured in the Botanical Magazine, t. 7149. Chas. P. Roffill.

ORCHIS HIRCINA, L., THE "LIZARD ORCHIS,"

A small pan of this rare British plant is now flowering in the Odontoglossum - house. Its natural haunts are in copses in East Suffolk and in Kent; according to Hooker's Students' Flora it is becoming almost extinct. The plants now in flower have been grown in a cool frame, and have made quite a vigorous growth; the flower-spike is about 18 inches high, and is carrying about forty flowers rather densely arranged on the inflorescence. The sepals and petals are of dull green, forming a hood over the column. It has a remarkable three lobed lip, the mid-lobe is linear, about 1kth of an inch broad, white near the base and spotted with red, light brown towards the end, and fully 2 inches long, slightly curled, as also are the lateral lobes, which are of the same brown colour, and about 1 inch long. The odour is not one that would recommend it. Besides growing wild in England, it is also found in Belgium and southwards to N. Africa. It was exhibited at the Drill Hall on May 17 by Messrs. Cutbush & Sons, of Highgate.

· VANILLA POMPONA, Schilde (V. lutescens, Mrq).

Rarely does this species flower in this country, though it is extensively grown in the West Indies, the large fruits being sold as Vanillons, and used for the same economic purposes as the pods of V. planifolia, though in less quantity. V. pompona is now flowering in the Victoria-house, and is by far the largest of the twelve species in cultivation at Kew, both in the growth and in the size of the flowers; the plant is growing in a border, and trained up the end of the house and along the roof, the large succulent stem being quite 20 feet long, having large, broad, fleshy leaves 6 to 8 inches in length; the inflorescence is axillary, containing about a dozen large flowers, in shape and size very closely resembling the flowers of Cattleya citrina; the sepals and petals are greenish-yellow, the lip being lemon colour. It is a native of tropical America. W. H.

HIMALAYAN BAMBOOS.

(Continued from p. 326.)

STRUCTURAL DIFFERENCES BETWEEN THE TWO Species .- There is no difficulty in distinguishing A. falcata from A. Falconeri when in flower, even if there are only detached spikelets at hand. A. falcata has solitary or sometimes clustered spikelets, often on long slender pedicels, consisting of 3-4 florets, of which the lowest 1-2 are fertile, whilst the spikelets of A. Falconeri are gathered in small racemes, supported by 2-4 bracts, and containing each only one fertile floret, with a bristle-like continuation of the rhachilla, the raceme imitating a simple 5-7-flowered spikelet. The leaf-bearing culms of the two species differ sufficiently, and if once seen side by side, they should afterwards not be easily mistaken one for the other. The young shoots as they appear above the ground offer unmistakably distinct marks in their sheaths. Those of A. falcata taper gradually from the middle or below it, and are usually (particularly the upper) produced into a distinct acumen. Their edges are fringed with fine-spreading cilia, about $\frac{1}{2} - \frac{3}{4}$ lin. long, whilst their face or inner side is more or less delicately silky pubescent towards the tips. Otherwise they are glabrous, with the exception of the lowest, which are more or less hairy without. The transverse veinlets are generally so few and delicate that they escape notice; but sometimes they may be seen distinctly on the inner side near the edges of the acumen. When thrown off the sheaths of A. falcata remain flat. Their ligules are also very characteristic. Those of the upper sheaths are much produced, and more or less broken up into fine fibres or fringed, attaining sometimes i inch in length. On the other hand, the culm sheaths of A. Falconeri are shortly narrowed towards the apex with convex margins, quite minutely ciliolate along the edges, otherwise perfectly glabrous, and their transverse veins are more or less raised, and always distinctly visible on the inner side from the middle upwards, whilst the ligules are very short and truncate. I may also add that the sheaths of A. Falconeri are firmer than those of A. falcata, inclined to roll in from the edges when shed, and generally of a rich purplish colour; whilst those of A. falcata are pale or slightly suffused with pink or purple. The culms themselves are not less distinct. Those of A. falcata are pure green, with a glaucous, often abundant, waxy covering which gradually wears off. It is longest preserved below the lower or sheath node-rims (the persistent bases of the leaf-sheaths), which project much, and are, at least the lower and middle ones, finely pubescent to velvety tomentose. The pale-brown or gold-brown tomentum gradually rubs more or less off, but not enough to disappear altogether. These lower node-rims vary a great deal in their thickness and hairiness. but where they are well developed they form a conspicuous character. The upper node - rim, corresponding to the zone where the intercalary growth of the internodes ceases last, appears in A. falcata in the growing culm as a bright green ring, in consequence of the absence of the whitish bloom in that zone. On the mature culm it projects, as a rule, slightly but distinctly. The culms of A. Falconeri are olive-green or yellowish-brown, usually with an infusion of purple, particularly when young, and towards the base of the internodes, and never glaucous. They are whitish just below the nodes when quite young and wrapped in their sheaths; but this is not due to a covering of wax, but to the presence of extremely delicate and fugitive silky hairs. The lower node-rims of A. Falconeri are less prominent than those of A. falcata, leather-brown and quite glabrous, whilst the upper are quite obscure. The shape and size of the perfect blades vary considerably in A. falcata,

not only in different clumps, but also on the same culm; their colour, too, is subject to variation, partly according to age, partly independent of it, the shades of green passing from light green to bright green on the upper surface, which shows, in the living plant, a peculiar whitish sheen along a narrow strip on each side of the midrib; the lower surface is always paler, and usually faintly glaucous. The leaves of seedlings, however, are more or less glaucous all over. The nervation is very close; transverse veinlets are generally present in the larger leaves, but they are very delicate, and more easily seen in the dry state. Hairs occur only on the lower side of the midrib, towards the base, often placed laterally. leaf-blades of A. Falconeri, compared with those of A. falcata, are brighter green, and show, seen sideways, a delicate glaucous lustre, which in sunshine adds to their beauty; whilst the tinge of purple, which infuses, as already mentioned, a certain warmth into the colouring of the culms, extends up through the branchlets to the petioles and the margins of the blades, which are edged with purple. The midrib seems to be always quite glabrous; the lateral nerves are as in A. falcata, but the transverse veinlets are still scarcer and more difficult to detect.

The general habit of both is very graceful, but there is little doubt that A. Falconeri exceeds A. falcata in beauty and size, where it finds a congenial climate, as for instance, in Devonshire and Cornwall. Gamble states24 that A. falcataattains a height of 6 to 10 feet, and A. Falconeri of 12 to 15 feet, but the tallest specimen of A. falcata in the temperate-house at Kew measures over 15 feet, and A. Falconeri grows to more than 25 feet in Cornwall. Grown in the open air, A. falcata forms at Kew very dense clumps about 3 feet high, from which spring here and there slender culms up to 8 feet, a habit very different from that of the plants in the Temperate-house. A. Falconeri has been recently figured in Botanical Magazine, t. 7947. Otto Stapf, Kew.

(To be concluded.)

BOOK NOTICE.

THE FRUIT GARDEN. By George Bunyard, V.M.H., and Owen Thomas, V.M.H. Published at the Office of Country Life, Tavistock St., W.C.

An important and valuable addition to pomological literature has been contributed by the well - known cultivators, Messrs. Bunyard and Thomas, in this handsome volume. Its scope is wide, for it deals with all the principal fruits grown out-of-doors and under glass in this country. It is practical and thorough in execution, as the essentials of successful cultivation are detailed in most cases exhaustively; and the publishers have aided the authors' efforts liberally in providing abundant excellent illustrations, as well as in rendering the type, printing, and paper worthy of the work.

In a composite work of this character it is always an advantage to know who is responsible for each section, and the commendable plan is adopted in The Fruit Garden of prefixing the name of the writer to each chapter. Thus we find that while Mr. Bunyard contributes the greater part of the chapters upon hardy fruits, Mr. Thomas deals with fruits grown under glass; but the majority of the descriptive lists of varieties appear to have come from the former. Each writer gives a select list of varieties (names only) after the cultural directions, and following these are descriptive lists of "the best" varieties. This has caused a slight inconsistency, which has escaped notice in the revision of the book as a

^{24 &}quot;Indian Bambuseæ," in Ann. Bot. Gard. Calcuttes,

whole, for in several cases names of varieties appear in the select lists which are not in the descriptive lists. In the chapters on Peaches and Nectarines this defect is very marked, and must cause confusion to the reader, who will search in vain for the descriptions of several varieties recommended.

The descriptions are admirably condensed and accurate, but are framed in quite a different way from that usually adopted. For example, with Apples and Pears, the characters are taken in this order: "skin," "colour," "flesh," "stalk," "flavour," "season," and "growth." Nothing is

The majority of these sketches are clear and accurate, but outlines of such fruits as Strawberries must always be in some degree unsatisfactory. Nearly all are of the full natural average size; but with Gooseberries some are of full size and some reduced, and even though the reduction is stated it conveys a rather misleading impression.

The book comprises 507 pages, and it may be therefore judged that cultural details are dealt with fully. Still there has been no undue extension, for the majority of the chapters are both clear and concise. Some differences of



Fig. 149.—Dendrobium williamsoni.

said about general "form" or the characters afforded by the "eye." Here also another small inconsistency occurs, for in the excellent chapter on "Fruit-growing in France," by M. Alfred Nomblot, several of the same varieties occur that are in the preceding lists, and they are described in a totally different manner. It should, however, be remarked that nearly 100 pages at the end of the hook are devoted to outline sketches and sections of the principal fruits, which are intended to supplement the descriptions as a means of identification. It is a pity that these were not numbered, as with corresponding numbers to the descriptions they could then have been easily found for reference.

opinion must always prevail respecting certain methods, but the authors may be congratulated upon having in nearly all cases stated their reasons for each practice fairly and satisfactorily. In regard to planting fruit-trees, Mr. Bunyard says, "Trees planted later than January should not be pruned until after the first summer's growth." But he does not give the experience of others, which favours the pruning immediately after planting, nor does he refer to well-known instances where the evidence is at least as much in favour of that system as of the one he recommends.

Many readers will regret that the chapter upon "The Injurious Insects and Diseases affecting

Fruit-trees," has not been extended to greater length. It bears the evidence of having been unduly condensed, though the subject is of great and increasing importance to all cultivators. For instance, "Canker," we are told, "is caused by bad drainage," and that is all we can find about it. No reference is made to the scab-fungus, which causes so much loss and trouble. For the Current-bud mite an application is recommended of a diluted mixture of 2 lb. of sulphur and 2 lb. of lime boiled in 3 gallons of water, but similar and stronger preparations have proved to be useless in many cases. Phylloxera is disposed of in five or six lines; and many other examples could be given to show that an otherwise excellent chapter has been greatly reduced in utility by excessive condensation.

Special chapters have been contributed by several experienced growers and writers, such as Fruit-trees in Pots and Alpine Strawberries, by Mr. J. Hudson; Strawberries under Glass, by Mr. H. H. Thomas; Tropical Fruits, by Mr. W. Watson; Fruit-trees as Flowering Trees, by Mr. W. Crump, and others. An interesting feature is a'so constituted by the sections dealing with fruit culture in America, in France, and in the Channel Islands, which contain a good deal of valuable information. Whole-fruit preservation is described by Mr. S. Ponder, and Mr. D. Mackenzie gives useful details on the construction of fruit-houses. Altogether the book contains a variety of fruit-lore that cannot fail to be of value both to amateur and professional cultivators of all classes.

DENDROBIUM WILLIAMSONI.

This distinct and beautiful species is seldom met with in cultivation, probably owing to the fact that it is a somewhat difficult plant to establish. Specimens were first sent home from Assam by W. J. Williamson, Esq, and the plant was named in compliment to its discoverer by Reichenbach, who published a full description in the Gardeners' Chronicle in 1869, p. 78. It is figured in the Annals of the Royal Botanic Gardens, Calcutta, vol. v., t. 9, from a plantcollected in the Khasia Hills, and which flowered in those gardens in 1879. The drawing, however, is very inaccurate, the lip being represented as divided into several segments, whereas it is distinctly bilobed. It is closely allied to the well-known D. formosum. At Kew the plant is afforded a high temperature during the growing season, with an abundance of moisture both in the atmosphere and at the roots. Then follows a season of rest; the temperature of the house is reduced, and only just enough water is given to prevent the pseudo-bulbs from shrivelling. The flowers appear in early March and last in perfection about six weeks. Chas. Roffill.

TREES AND SHRUBS.

BERBERIS DARWINII.

This beautiful shrub, of which we have scores of specimens in the grounds and by the sides of woodland walks, has given a warmth of tone with its clusters of orange flowers for several months, and the flowers are now only commencing to fall. The bushes are mostly from 12 to 15 feet in height, and are literally covered with bloom, giving them a decidedly pendulous habit. They do well amongst other evergreens wherever they can get sufficient light overhead. We find the flowers to last well when cut in long branches of a yard or more in length, and placed in glasses or jars. Berberis aquifolia (Mahonia) does not thrive here at all. F. Street, Ardwell, N.B.

SUITABLE FOLIAGE FOR EXHIBITION GROUPS.

In most exhibits of cut flowers, and in groups of flowering plants, the use of ornamental foliage plants or of sprays of the same is allowed. There is usually no restriction made in regard to the foliage being only such as might be expected to grow under similar conditions of atmosphere as the flowers, therefore exhibitors frequently use material without any regard to natural association. While there are some judges who pay little attention to this point, there are others more exacting, and who consider it quite out of place to arrange tropical Palms with hardy herbaceous plants. In a mixed group of stove and greenhouse plants much latitude may be given; but it is certainly more interesting and instructive to ordinary visitors when only hardy foliage plants are used with hardy flowering plants.

There is no reason why the hardy Ferns should not be used much more extensively, especially to form an undergrowth for the tall plants or large bunches of flowers from the hardy herbaceous border. For tall plants, the hardy Bamboos are equally elegant, and more suitable than Palms. There are also many grasses, of which the Eulalias are perhaps the most serviceable. E japonica, the ordinary green form, may be raised from seeds. Everyone knows what a useful plant the variegated variety is; and though it may be grown in pots in warmth, it is perfectly at home in the herbaceous border. When once established there it makes a fine plant, and assumes quite a different character to those grown in pots, which, being divided frequently, make more slender growth. E. japonica zebrina under any conditions grows rather stronger but is equally useful; and E. univittata gracillima is another equally ornamental grass. For shorter plants, Carex japonica and its variegated variety may be recommended. In order to have these in good condition they must be divided periodically, and should be grown fully exposed to the light. There are other hardy or semi-hardy grasses which are useful. For an edging Dactylis glomerata variegata may be recommended; grown in pots with a slight protection, the variegation becomes very clear. Equally pretty is the tender stove grass, Oplismenus Burmanni (Panicum variegatum). Another useful variegated grass is Stenotaphrum americanum variegatum; and last season I noted some pretty plants of Arrhenatherum bulbosum variegatum of medium height with slender leaves striped with clear white.

The variegated Maple (Acer Negundo variegatum) is a most useful plant if potted in the autumn, and only requires to be put under glass in a cool-house to make a most effective plant for forming a background to brightly-coloured flowers.

Some of the Japanese Maples, especially the dark-leaved varieties, are very effective for relieving flowers of light colours. There are many other beautiful hardy plants which provide good foliage. Thalictrum minus adiantifolium, grown in pots with a slight protection, is almost as beautiful as the hest Adiantum cuneatum, and much more suitable for associating with hardy flowers. The Funkias grown in pots with a little protection make fine, broad foliage, and those with variegated leaves are particularly useful. It only requires a little forethought to have plenty of good foliage for associating with hardy flowers, and this would be more interesting and should prove more profitable to the exhibitors than if plants from the stove were used among hardy flowers.

In the arrangement of stove plants suitable foliage is very plentiful, and it is hardly necessary to say that the use of hardy grasses or other species not properly belonging to the

tropical department should be avoided. The above remarks are suggested from some enquiries I have received in regard to suitable foliage plants to be used in exhibition groups of hardy plants and flowers. A. Hemsley.

FOREIGN CORRESPONDENCE.

ERITRICHIUM NANUM AND ITS CULTI-VATION.

For the last three years we have succeeded in acclimatising Eritrichium nanum in Geneva, and have even been able to increase it by means of cuttings. Eritrichium nanum grows in dwarf, dense, regular and flat tufts, the leaves short and small, very hairy, arranged in rosettes packed closely together. This surface of rather greyish foliage is, with us, covered in July and August with such a profusion of flowers that the leaves are concealed by them. The flowers are sessile, relatively large, and so intensely blue that they are perhaps the bluest of all blossoms.

Lovers of alpines have long wished to acclimatise this plant, sometimes called the Alpine King, as it grows among the rocks on the high mountains at altitudes of between 5,500 and 7,500 feet. Hitherto their efforts have been unsuccessful. In England, Mr. Burroughs, of Stamford, a lady at Lymington, and, I believe, also Mr. Farrer, cf Ingleborough, have been the only successful growers. Mr. Burroughs bloomed the plant for several years, and for some time it seeded on his rockery. However, it has now disappeared.

Here, at Floraire, we are better situated than we were at Plainpalais, and we are more open. We have for two years (it is now the third year of their cultivation) hundreds of Eritrichium plants, which, at the time of writing, are covered with bloom, and in the same manner as when growing on the mountains, the flowers are quite sessile and so abundant as to hide the foliage.

We find it necessary in our dry climate to grow the plants in well-drained sand, with a very little sphagnum added to maintain moisture round the roots. In England small broken pebbles may replace the sphagnum, and about a quarter part of peat should be added. The plant should be placed in full sunshine and kept very dry, and in winter should be kept absolutely free from damp, with air playing freely round it. Placed vertically in a wall or chink in the rock it succeeds well. Henry Correvon, Floraire, Geneva.

The Week's Work.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Allamandas. — Plants in pots which have hitherto been kept dry at the roots and rested in an intermediate temperature with a view to having them in flower in the late autumn must now be started into growth. As a matter of fact, it will be found a difficult matter to keep the plants at rest after this date without incurring the danger of causing them injury. Let the plants be pruned sufficiently to remove all immature wood, if this has not already been done. Place them in a house having an atmospheric temperature of from 60° to 65°, and afford them a thorough watering. As soon as growths half an inch long have been made the plants should be repotted. Reduce the size of the old balls considerably, and either place them in pots of the same size, or if larger plants are required, shift them into others a size larger. A suitable compost may consist of three-parts loam, and one-part leaf-soil, adding some silver-sand and crushed charcoal, or burnt ballast, and a 6-inch potful of bone-meal to a barrow-load of compost. As soon

as the plants are in active growth they should be placed in full sunlight.

Celosias.—These may be kept in small pots until the plumes begin to appear, when they should be potted into 5-inch or 6-inch pots. Afford them a rich and porous compost, which may consist of three-parts loam, and one-half-part each of old hot-bed manure and leaf-soil, adding plenty of sand. The plants should be kept near to the roof-glass, and afforded a temperature of about 60°. Use the syringe freely among them to prevent redspider. When the plumes are at their best the plants may be hardened off somewhat, and may then be placed in the conservatory or greenhouse.

Ceropegia Woodii.—This pretty plant, introduced by Mr. W. Bull, and originally described in the Gardeners' Chronicle, is very effective when grewn in small pots and the long, trailing growths allowed to hang down over the edges of the stages in the stove or warm intermediate-house. Propagation is readily effected by means of cuttings, and the small tubers which are produced upon the mature growth. The plants require but very little root-room, and halfa-dozen cuttings, or the like number of tubers, inserted in small 60-sized pots filled with a sandy soil, will make good plants by the end of the summer.

THE FLOWER GARDEN.

By A. F. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Summer Bedding.—This work will now claim much attention, and Pelargoniums having been hardened off they may be planted in the beds. Where there are designs to be studied, the mixing of colours must be carefully thought out. For small designs, quiet soft colours are preferable (one variety in a bed), such as pink, white, grey, or violet. A few dot-plants may be used, such as Grevillea rebusta, Acacia lopantha, Abutilons, or Dracæna australis. These should be staked neatly. Other colours are more suitable for large beds, such as scarlet, yellow, and blue; such may form the centre for large beds. Or the colours may be graded up from white on the margins to scarlet in the centre. If the beds are very large they may be raised, that the effect may be greater.

Humea elegans.—These will require applications of liquid-manure, and careful hardening off; they should be placed in a sheltered position, and be secured to stakes.

Cannas.—Old roots may now be planted out. Being gross feeders they should be planted in rich soil, which has been previously manured. Young plants will be ready for planting out after a few weeks.

Wallflowers have been perfect this season, and will last some time longer. The double German varieties are a show in themselves. Place some string round the beds of Wallflowers to keep the plants from hanging over the grass.

Tulips.—If the beds containing Tulips have to be planted with summer-flowering plants, lift the Tulip-bulbs and plant them immediately in another position. If such beds will be required for Begonias, afford them a light dressing of peat or leaf-mould and a sprinkling of soot. Dig the beds a few days before planting.

Bedding Begonias (Tuberous and Fibrous-rooted varieties).—Remove the lights on the frames on every favourable occasion, to harden the plants sufficiently for planting out in a few weeks' time. Damp the surfaces in the frames with water from the syringe.

Flower Beds.—If any of the beds contain ornamental shrubs that were planted for effect in winter, take the plants up carefully, and replant them in good soil that is not very rich. Keep the plants a good shape, pinching those that may require this treatment. Attention should be paid to watering and syringing shrubs, especially Tree Ivies; they will require syringing with quassia-water or some other insecticide to destroy red-spider.

Flowering Shrubs.—As the different species come into flower, take a note of those it will be desirable to plant next autumn. Where there

chould be twelve or eighteen trees of one variety there are generally two or three only. Flowering trees and shrubs should be planted in large masses. Such species as Ribes rubrum may be easily increased by inserting ripened shoots in the autumn in the open ground. Clethra alnifolia requires a mixture of peat, and a position that possesses a moderate degree of shelter. Hydrangeas, with standard plants of H. paniculata grandiflora, make a good bed. Prunus sinensis flore-pleno and P. triloba, Staphyleas, Berberis atenophylla, Viburnum, and Choisya ternata are very useful when cut for furnishing tall vases in the dwelling-house.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Vines. — Late Vines of the varieties Lady Downes and Gros Colmar being in the flowering stage, we are affording them a slightly increased temperature, to 70° to 75° at night and a corresponding rise during the day. Unless a constant circulation of air be maintained, thick-skinned varieties do not as a rule set well. Do not stop the shoots or laterals until the Vines have passed out of flower. As soon as the properly-fertilized berries can be distinguished from others by their greater size, thin the berries freely. It is presumed the borders have been well mulched, and now, by affording moderate but frequent waterings, the roots will not suffer from drought. If the weather be hot and bright during the stoning period, the foliage thin, and ventilation ineffective, the berries of the variety Lady Downes' will be subject to scalding. To avoid this, afford abundance of ventilation in the morning before the sun shines upon the house, and defer closing the house until the sun has ceased to shine upon it in the afternoon. This should be done until the berries commence to colour, when all danger will be past. I do not practise or recommend the use of shading.

Cherries.—To preserve ripe fruits that are not screened by the foliage, some shading will be necessary so that the fruits may be perfectly protected from hot sunshine. Admit air freely to the house and maintain a free circulation of air. In hot weather spray the border and other surfaces in the house liberally with water. Under the conditions described few fruits will keep so long as Cherries and retain their fresh appearance and flavour.

Cucumbers.—As the nights become a little warmer, gradually decrease the amount of fireheat used and the atmospheric moisture of the houses. Afford light and frequent top-dressings to plants that have already produced ripe fruits. Such top-dressings should be composed of loam, half-decayed leaves, and stable-droppings. Cut away old wood to make room for young shoots. Ventilate the house freely during the day. Cut fruits intended for use before they attain a large size, and remove deformed fruits as soon as they appear. Guard against mildew by preventing an excess of moisture or too low temperatures. Plants which may have become weakened by heavy cropping should be cropped lightly for a time, to encourage them to make young shoots. No difficulty will now be experienced in growing Cucumbers in frames from which early Potatos, &c., have been removed.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir Theyon LAWRENCE, Bart., Burford, Dorking.

Cymbidiums.—Such species as C. eburneum, C. Tracyanum, C. Lowianum, C. L. concolor, C. giganteum, C. Hookerianum, and the distinct hybrids C. eburneo-Lowianum, C. Lowio-eburneum, C. Ballianum, C. Winnianum, and the new C. eburneo-Lowianum concolor, should be included in every collection, as the plants are suitable for exhibition purposes, and the flowers are useful when they have been cut. C. Lowianum is especially serviceable, for its long, handsome spikes of flowers will last for several months in good condition. At the present time the majority of these plants have passed their flowering stage, and if they require more rooting space may safely

be re-potted, but it is not advisable to disturb them oftener than is really necessary. Therefore when re-potting the plants, afford them sufficient space for several seasons' growth. Cymbidiums being deeply-rooting plants should be grown in pans rather than pots. Make the pots about onequarter full with drainage materials, and for the potting compost use good yellow turfy loam and rough fibrous peat in equal parts with chopped sphagnum-moss. Add a few broken crocks and a moderate quantity of coarse silver-sand. Mix the whole together thoroughly. A few months ago several Cymbidiums that had flowered earlier than usual were re-potted as an experiment, using, in addition to the above ingredients, leafsoil in the same proportion with the loam and peat, and the surface of the compost was mossed over in the usual manner to about 1 inch in depth. Up to the present time these plants have grown as well as we could wish. In repotting Cymbidiums make the compost moderately firm, and leave sufficient space below the rim of the pot to contain a quantity of water, for the plants will require abundant supplies after they have become re-established. Place them in a cool, shady position in the intermediate bouse, and until new roots are plentiful, afford water with much care. If large quantities are given during this period the old quantities are given during this period the old roots will be sure to decay prematurely, the new growths may damp off, and the foliage become spotted. Syringe well between the pots several times each day during the summer months. Other Cymbidiums which grow well under similar treatment are C. cyperifolium, C. longifolium, C. ensifolium, C. aloifolium, C. chloranthum, C. pendulum, and C. madidum. Cyperorchis (Cymbidulum, and C. madidum. Cyperorchis (Cymbidium) affine, C. Mastersii, and C. elegans may dium) affine, C. Mastersii, and C. elegans may also be included; C. Devonianum also requires an intermediate temperature; it has pendulous flower racemes, but it is immaterial whether baskets or pots are used. I prefer the ordinary flower-pot. C. tigrinum is of dwarf habit; it is a very pretty species, and its drooping spikes of flowers are always greatly admired. During the flowers are always greatly admired. During the summer the cool-house is the most suitable place for the plant; but in winter it should be removed to an intermediate temperature.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Mulching. — Fruit-trees growing on light or shallow soils which have set a heavy crop of fruit will require a thick mulch of manure over the roots. If the surface of borders in which wall fruit-trees are planted has become somewhat hard, as the result of trampling during wet weather, loosen it by means of a fork before applying the mulch, to allow the water to pass more freely through the soil. Trees in heavier and wetter soils need not be mulched so early, the pricking up of the surface will suffice for the present time. This also applies to any young fruit-trees which have a tendency to grow too strongly.

Strawberry-beds.—The plants are throwing up an abundance of strong flowers, and promise a heavy crop of fruit. Beds which have not been mulched and littered down already should be attended to before the flowers are too forward, otherwise some amount of damage may be done to the tiny fruits when carrying out the work. Straw or litter from the stable will be found to be the best material to use to protect the fruits from grit, &c. Short grass, although used by some, is not to be recommended. Those plants which were layered early last July to supply early fruits should have the flower-trusses thinned if extra large Strawberries are required. Remove some of the weaker trusses as well as the smaller flowers where they are too numerous. Give the soil about the plants a good dressing of soot and lime previous to bedding down, as a safeguard against slugs. Young plants put out this spring should not be allowed to fruit this season. They should have their flowers and runners pinched off for one season, so as to give the plants an opportunity of making strong crowns by the end of the summer. Plants that were put out for the express purpose of producing early runners for layering should also have their flower-trusses removed early. A good applica-

tion of manure-water will prove helpful to large plants bearing heavy crops. This should be applied as soon as the fruits have set, taking great care not to disfigure the berries with the liquid.

Gooseberries.—Keep a sharp look-out for caterpillars on the bushes, and should they appear, dust the affected parts with Hellebore powder. It should be applied when the bushes are wet; and after the caterpillars are destroyed, syringe the bushes thoroughly with clean water, to wash off the powder, which is very poisonous. If the bushes have been limed early, the caterpillars will not be very numerous, and fresh lime dusted over the affected parts now will also destroy this troublesome pest; but the work should be taken in hand early, and before the bushes have been partly stripped of the leaves.

THE KITCHEN GARDEN.

By John Pentiand, Gardener to C. H. B. Fieth, Esq , Ashwicke Hall, Marshfield, Chippenham.

Capsicums.—Those for growing indoors should be potted on as required until they are in 6 or 7-inch pots, which are large enough to produce good plants. Keep a buoyant atmosphere, for if this is allowed to be stagnant and overcharged with moisture the plants will soon become unhealthy. In the Southern counties, if warm, well-sheltered horders with a south aspect are available, Capsicums may be grown successfully out-of-doors. Plants for this purpose should now be removed into a cool frame to be gradually hardened off for planting out about the middle of June.

Cardoons that were raised in heat and have been hardened off should now be planted out in well-manured trenches, similar to those prepared for Celery. Let the trenches be 4 feet apart, and the plants 18 inches apart in the trenches. If another sowing be required, the seeds may be sown directly into the trench, making a drill inch deep along the bottom. When the seedlings are through the ground, thin them out to the proper distances before they become drawn.

Celery.—The earliest plants which were pricked out in good time, and have been carefully attended to are now ready for planting in the trenches. If these trenches were prepared as previously advised, they should be afforded a thorough coating of soot or lime early in the morning before planting the Celery. If the ground is dry so much the better. Work the hoe along the bottom of the trench and well mix the surfacesoil and dressing together. Select strong plants of uniform height, and take them up with good balls of soil attached. Plant them one foot apartin the trench. If the weather is showery and the soil can he worked easily, all the better; but if it be dry at the time of planting afford the plants a good watering, and shade them from hot sunshine for a few days until they become established. Afford the plants waterings with weak liquid-manure during the growing season. If watering be not attended to on dry soils the Celery will be "stringy" and unsatisfactory.

Cucumters.—"Ridge" varieties raised in heat should be hardened off in a cold frame for planting-out about the second week in June on ridges, where they should be afforded the protection of handlights until they are established and the weather favourable for exposing them. Attend to Cucumbers in frames, and make another sowing if required.

Seed-sowing for Succession.—Further sowings should be made of the following vegetables and salads according to the requirements:—Peas, Dwarf French Beans, Turnips, Spinach, Radishes, Chervil, Borage, Parsley, Lettuce, Endive, Kohl Rabi, Rampion, Mustard, Cress, and a sowing of Cauliflower.

RAILWAY RATES.—The President of the Board of Agriculture and Fisheries has appointed Mr. George Lambert, M.P., to be an additional member of the Departmental Committee on Preferential Railway Rates.

APPOINTMENTS FOR THE ENSUING WEEK.

May 30 Annual Meeting and Dinner of Kew Guild at the Holboro Restaurant, at 7 P.M.

May 31 Royal Horticultural Society's Show in the Temple Gardens, Thames Embankment (three days). MONDAY. TUESDAY, days).

"General Meeting of Gardeners
to consider Proposed Gardeners' Association at Essex
Hall. Essex Street, Strand,
at 6 P M. WEDNESDAY, JUNE 1 Linnean Society meet.
Devon County Agricultural Society's Show at Totaes (two days). THURSDAY, JUNE 2 JUNE 3-Royal Botanic Society Lecture. FRIDAY.

BALES FOR THE WEEK.

SALES FOR THE WEEK.

MONDAY NEXT, MAY 33—
Special sale of Orchids in flower, at 67 & 68, Cheapside, E.C., by Printheroe & Morris, at 12 30.

JUESDAY NEXT, MAY 31—
Sale of duplicate plants from the Oakwood collection, by order of N. C. Cookson, Esq., by Protheroe & Morris, at 67 & 68 Cheapside, at 3—Sixth aonual sale of Bedding and Greenhou e Plants at Mile Ash Nurseries, Duffield Road, Derby, by order of Mr. F. Lewis, by Protheroe & Morris, at 12.

THURSDAY NEXT, JUNE 2—
Sale of valuable duplicate plants from several collections, by Protheroe & Morris, at 67 & 68, Cheapside, E.C., at 12.30.

FRIDAY NEXT, JUNE 3—

side, E.C., at 12.30.

FRIDAY NEXT, JUNE 3—
10,000 imported Odontoglossum crispum, 400 Cattleya Mendelli, consignments of Cattleya gigas and aurea (mixed), and C. Schrodere, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.50. (For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from ohservations of Forty-three Years at Chiswick - 58 4

ACTUAL TEMPERATURES :-LONDON.—May 25 (6 P.M.): Max 69°; Mln. 52°.

May 26, Gardeners' Chronicle Office, 41, Wellington Street, Coveat Garden (10 A.M.): Temp., 66°; Bar., 29°9. Weather dull, but warm.

PROVINCES. — May 25 (6 P.M.): Max. 67°, Guildford; Min. 50°, North-east of Scotland.

Centenary of It is interesting to recall the fact that on May 20, 1804, seeds of Dahlias were the Dahlia.

received in London, from which plants were raised and flowered the same year, and that ever since the Dahlia has been uninterruptedly cultivated in British gardens. Latterly it has been assumed that, like earlier importations, these plants and their progeny were lost, and a new stock had to be imported from the Continent to furnish gardens. Recorded facts, as we shall see, do not bear out that assumption. A good account of Lady Holland's Dahlias is appended to vol. ii. of MacDonald's Gardeners' Dictionary (1805-7), written in 1806 by Mr. Buonianti, librarian at Kensington House, to whom the seeds were consigned. Plants were raised and flowered the same year, the remainder of the seeds being sown under more favourable conditions in 1805, and seeds gathered from some of the plants. In 1806 Mr. Salisbury secured seeds of these, and, as it would appear, also Lee and Kennedy, of Hammersmith, who distributed plants in 1807. The great height of the plants exercised a deterrent effect on their cultivation, and after their novelty had worn off, they do not seem to have made much if any progression in popular esteem. Sabine relates how visitors to the Continent in 1814 were surprised to discover the beauties of the Dahlia, with the result that tubers were imported thence the following winter, and a fresh impetus in consequence given to their cultivation; but he does not indicate that Eoglish sorts had been lost.

Another erroneous assumption regarding Continental varieties relates to the doubling of the flowers, which is said not to have occurred till 1814 - 15. Fortunately we possess fairly full accounts of the first

double flowers. The first English-raised double appeared in Kensington Gardens in the year 1805, the colour being "exceedingly pale." This and all the other seedlings were perpetuated. On the Continent there are records of double flowers even earlier, but the best account is of the Dahlias of Count LETSEIR, the French Director of Gardens at St. Cloud, who in 1808 possessed three double varieties, in colour respectively purple, rose, and buff. In the same year he had single varieties with striped and with shaded flowers. In Germany a Mr. Otto raised a double variety in 1809, the produce of a semi-double the previous year.

In A Horticultural Tour, written to commemorate observations made on the Continent in 1817 by a committee of the Caledonian Horticultural Society, some fresh evidence of the evolution of the Dahlia appears, and at the same time the continuity of the English strain is incidentally verified. This occurs in the description of a garden at Bruges, Belgium, where the Dahlias are stated to have borne flowers "nearly double the size to which they usually attain in Scotland." The finest collection of Dahlias they met with was in a Mr. Smetz's garden in Antwerp. These originated from plants imported from Paris in 1809, the first seen in Antwerp, and from these improved forms had resulted, so that at the time of their visit Mr. DONCKELAAR, the gardener, possessed "no fewer than twenty different sorts with double flowers and varying in colour; besides these he has ten varieties with semi-double flowers." Mr. Donckelaar sold his twenty doubles at £4 3s. 4d. the set in young plants, or £8 6s. 8d. old roots; and his sales appear to have extended beyond Holland. From about the year 1827 a great impetus was given to their cultivation; but the flowers at this time, with the exception of single varieties, had little in common with the flower as we now know it. They were called globe-flowered, Asterflowered, and some with broad guard petals and quilled centres, Anemone - flowered. Then came a flat-petalled section, which shortly gave place to the show Dahlia, of which "Springfield Rival," which was sold for ten guineas, was the forerunner. The Metropolitan and other florist societies, were founded solely to exhibit Dahlias. By 1840 the excitement of Dahlia culture had died away; but, according to the author of a little book on Fopular Flowers (1843), while it lasted it almost rivalled that in Holland in the seventeenth century over the Tulip.

LINNEAN SOCIETY OF LONDON. - Evening Meeting, Thursday, June 2, 1904, at 8 P.M. when the following Papers will be read:-1, "The Species of Impatiens in the Wallichian Herbarium," by Sir Jos. D. HOOKER, G.C.S.I., F.R.S., &c; 2, "Biscayan Plankton, Part III., Chaetognathia," by Dr. G. H. Fowler, F.L.S., &c.; 3, "The Flow of Fluids in Plant-Stems," by Prof. R. J. Anderson, M.D., F.L.S., &c.

ROYAL BOTANIC SOCIETY .- The Right Hon. the Earl of Aberdeen has consented to be present at the Conference of the Education Section, of which Sir WILLIAM COLLINS is President. The following addresses will be given on June 7:-11 A.M. Address on "Nature Study and its Cognate Educational Subjects," by Sir George W. KEKEWICH, K.C.B., D.C.L., President of the School Nature Study Union. 2 P.M. (1) A paper

on "Horticultural Teaching among Adults," by Mr. J. WEATHERS, F.R H.S., Instructor in Horticulture, Middlesex County Council; (2) A paper on "School Gardens and Horticultural Teaching in Schools," by Mr. E. Cæsar, Hale Council Schools, Farnham; (3) A paper on "Nature Study in Schools," by Miss V. James, Heidelberg College, Ealing.

TEMPLE FLOWER SHOW.—The seventeenth great flower show held by the Royal Horticultural Society in the Inner Temple Gardens will commence on Tuesday, May 31, and continue open on the two following days. Having regard to this being the centennial year of the Society, the show bids fair to eclipse all its predecessors in point both of numbers and of excellence. As on previous occasions, the prizes will include silver cups and medals, which will be awarded according to merit. Among them may be mentioned three special prizes for the exercise of good taste in the arrangement of exhibits, without reference to the quantity or quality of the exhibit. A cup costing 55 guineas, presented to the Society by Messrs. JAMES VEITCH & Sons, Ltd., to celebrate the jubilee of the establishment of that firm in London, will be awarded to the best individual exhibit at the Show. The Show will be divided into the following classes, each of which will have a separate set of judges-viz, Orchids, Roses, Fruit and Vegetables, groups staged in the open air, hardy herbaccous plants, alpines and rock gardens, foliage plants, either alone or mixed with flowers; and any flowering and other plants that cannot be included under these headings. The increased demand for space for plants, and the impossibility of obtaining permission to erect more tents, compel the Council to exclude all vases of arranged flowers, table decorations, bouquets, sprays, and such like.

ROYAL VISIT TO DROPMORE.—Their Majesties the King and Queen and Princess Victoria visited Dropmore, the residence of J. B. FORTESCUE, Esq, on Wednesday last. The famous Rhododendrons and Azaleas in these gardens are now at their best.

THE FRUIT CROPS .- The Apple-orchards in Devon and Cornwall have furnished a grand sight lately. The trees were simply one mass of blossom, and there is every prospect of a rich harvest this year, provided the remaining days of the month keep free from frost. Heavy winds and rain would also have a bad effect. But even these would be preferred to frost, as less damage would result from them.

SURVEYORS' INSTITUTION, -A conversazione will be held at the Natural History Museum South Kensington (by permission of the Trustees), on Thursday, June 16, from 9 to 12 p.m. The annual general meeting of the Institution, to receive the report of the Council and the announcement of the result of the election of officers for the ensuing year, will be held in the Lecture Hall on Monday, May 30, 1904, at 3 o'clock. The prizes awarded to successful candidates, in connection with the recent preliminary and professional examinations will be presented by the President at the annual general

THE BRITISH GARDENERS' ASSOCIATION .-Mr. W. WATSON, Honorary Secretary of the Provisional Committee, writes to us as follows :-"Will you kindly allow me to inform your readers who are interested in the proposal to form an Association of Professional Gardeners, to include all sections of horticulture, that the Provisional Committee will submit a definite scheme for its immediate formation at the meeting to be held in the Essex Hall, Essex Street, Strand, at 6 P.M. on June 1. The Committee have had assurances of support from many gardeners of all classes, including nurserymen, seedsmen, park-superintendents, &c., and there is now every prospect that the Association will be a success. There is seating accommodation for 600 only in the Essex Hall, and as it is hoped that the proceedings will begin at 6 o'clock, those who desire to get a seat should be in time. W. Watson."

DEAN HOLE.—We are glad to learn that the DEAN OF ROCHESTER is reported to be somewhat better. The prayers of the congregation at Rochester Cathedral were asked on his behalf on Sunday last, and his condition has given cause for grave anxiety to his friends.

THE LINNEAN SOCIETY OPEN TO LADIES.—The annual meeting of the Linnean Society was held at Burlington House, Piccadilly, on Tuesday last, under the chairmanship of Mr. Sydney Vines, Professor of Botany at Oxford, the retiring President. The supplemental charter was laid before the Fellows, an interesting point in which is that it gives power to elect women to membership. The Gold Medal was awarded to Dr. Günther, F.R.S. Prof. W. A. HERDMAN, F.R.S., was elected President.

BOTANY AT THE SOIRÉE OF THE ROYAL SOCIETY, MAY 13 .- The Director of the Royal Botanic Gardens, Kew, had some highly interesting exhibits, first among them being a series of drawings by Miss M. SMITH and Miss H. LASKER, illustrating the researches of Messrs. W. B. HEMSLEY and J. N. Rose into the organogeny, and those of Herr F. E. FRITSCH into the anatomy of a small group of Mexican and Peruvian trees, which the botanists first named intend publishing as illustrations of a new natural order, called the Amphipterygiaceæ. Its affinities are stated as being with the Cupuliforæ, Juglandaceæ, and Anacardiaceæ. These trees have alternate pinnate leaves; male flowers like those of an Oak; female flowers three or four in a closed receptacle, similar to those of the Beech; a composite, indehiscent fruit, and exalbuminous seeds. Next came a series of drawings by Dr. O. Stapf of the fruit and seed of the Bamboo named Melocanna bambusoides, which has exalbuminous, viviparous seeds. The grain of this grass is of the shape and size of a medium-sized Pear, the bulk of it consisting of a fleshy pericarp, which, in the absence of albumen, serves to nourish the germinating embryo through the agency of a very large scutellum. The other exhibits from Kew were living plants of Hydnophytum longifolium and Dischidia Rafflesiana, the former remarkable for its short, thickened, galleried root-stock, usually inhabited by ants; and the latter for its singularly modified leaves, which serve as traps for insects concerned in the nourishment of the plant. A third plant, Aspidium anomalum, a native of Ceylon, presented the peculiarity of the spore-clusters being developed exclusively on the upper surface of the frond. Mr. A. W. Hill had a most instructive exhibition of the characteristic plants forming the vegetation of the Andes around Lake Titicaca, at altitudes of 13,000 to 16,000 feet. They reminded one very much of those shown by Mr. Hemsley at the Linnean Society about two years ago, to illustrate his paper on the "Flora of High Tibet." Professor H. MARSHALL WARD showed microscopic preparations illustrating the parasitism of the rust fungi or Uredineæ; and Mr. V. H. BLACKMAN had preparations showing the fertilisation and alternation of generations in the same group of fungi.

ABRONIA.— Some winged fruits found in a fossil condition in tertiary beds in France, and attributed to Ulmus Zygophyllum, have been carefully examined by M. L. LAURENT, who finds by strict comparison that they are the fruits of Abronia, a genus now existing in a living state in North-western America. Taxodium and Sequoia, from the same country, are, as is well known, represented in a fossil condition in beds of the same age.

NEW LILACS.—We have received from MM. Lemoine et fils, of Nancy, some cut specimens of Lilacs, which we can only describe as truly extraordinary. Some of the varieties are new, but all, new or old, are marvellous examples of cultivation. Some are doubled by repetition of the tubular corolla (hose-in-hose), others by multiplication of isolated petals. Among them are:—

PRESIDENT LOUNET.—The inflorescence before us is branche J, and measures 28 cent (11 inches) in length by 15 cent. (say 6 inches) in width, very densely crowded; individual flowers 25 mill. (1\frac{1}{2} inch) across, doubled by duplication of the corolla (hose-in-hose), of a deep purplish-lllac colour.

PRESIDENT VIGER.—Inflorescence branched, branches apreading, compact, 28 cent. (11 inches long), extreme width also 28 cent.; individual flowera, 22 mill (over 4-inch) in diameter, doubled by multiplication of the petals; bluish lilac.

DR. MASTERS.—Inflorescerce branched, cylindric, conic, 34 cent. long (13 inches); extreme breadth, 19 cent. (7½ inches); branches ascending, densely flowered, individual flowers 18 mill. broad (neariy ¼-inch), doubled by duplication of the corolla; pale plac, whitish in the centre.

Miss Willmott.—Inflorescence branched, 22 cent. (9 inches long); extreme breadth, 16 cent. (63 inches); individual flowers, 2 cent. (over 3-inch); snow-white, doubled by multiplication of the petals, petals rounded.

"LAND AND WATER."-This journal, devoted to sports and country pursuits generally, not omitting gardening, celebrates the publication of its two thousandth number by the publication of a number of illustrations, on art paper, of Sandringham and other subjects. A novel supplement is supplied in the shape of a variety of photographic reproductions, which can be cut out and used as stereoscopic illustrations. It is, we think unfortunate that what seem to be merely advertisements should be inseparably intermixed with the editorial matter; both are essential, but readers, in our experience, prefer to have them separate, and certainly attach greater importance to the advertisements when kept in their proper place. Great improvements have been made in the appearance of this popular

AN EDINBURGH INDUSTRY.—Under the title of "The Industries of Edinburgh," there appears, in the Edinburgh Evening Dispatch for May 16, a description of the extensive works of Messrs. Mackenzie & Moncur, the well-known firm of horticultural builders and engineers. Illustrations are given of the works and offices, and of some important plant-houses built by this firm, including one of the wings to the Temperate-house, Royal Gardens, Kew, a conservatory at Copped Hall, Essex, and the winter garden at Sefton Park, Liverpool.

LECTURES AT THE CHELSEA PHYSIC GAR-DENS .- The sixth lecture by Prof. REYNOLDS GREEN, Sc.D, F.R.S., on "Advanced Botany." will be given on Wednesday next, June 1, at 4.30 p.m., on the following subjects: Intermittent character of the constructive processes. Fate of the food. Consumption. Translocation and storage, and their appropriate forms of carbohydrates and proteids. Methods of transport in the plant. Diffusion. Influence of concentration. Action of the protoplasm in the processes of translocation. Deposit of surplus food in reservoirs. Mode of such deposit. Secretion and its nature. Manufacture of the storage from the travelling forms by the protoplasm in the place of storage. Carbohydrates, proteids, fats, in relation to such storage. Transitory and permanent

FRUIT CULTIVATION. — The Departmental Committee appointed by Lord Onslow to enquire into and report upon the Fruit Industry of Great Britain held sittings on the 17th, 18th, and 19th inst. The following members were present: Mr. A. S. T. GRIFFITH-BOSCAWEN, M.P. (Chairman), Col. Lono, M.P., Mr. C. W. RADCLIFFB-COOKE, Mr. Hodge, Mr. Monro, Mr. Vinson, Dr.

SOMERVILLE, Mr. P. SPENCER PICKERINO, M.A., F.R.S., The Rev. W. Wilks, and Mr. Erneat Garnsey (Secretary). The following witnesses gave evidence: Mr. Hodge, of Blairgowrie, Scotland, a member of the Committee; Mr. Clark, K.C., the legal adviser to the Board of Agriculture and Fisheries; Mr. Bell, the superintending inspector of taxes at Somerset House; Mr. Sams, of Worthing; Mr. Rochfort, of Cheshunt; Mr. A. J. F. Gibbons, of Guernsey; Mr. Russell, of Glasgow; Mr. George Bunyard, of Maidstone.

MISREPRESENTATION OF SEEDS. - In the House of Commons, on May 17, Mr. Speak asked Mr. Fellowes, as representing the President of the Board of Agriculture, what recent cases of adulteration or misrepresentation in the sale of farm seeds had been brought to his notice; and whether he had considered the advisability of some amendment in or addition to the law as it now stood for the better protection of agriculturists and honest seed merchants? The following reply has been received from Mr. Fellowes: "A case in which certain foreign seed was sold as English Clover was recently brought under the notice of the Board. Proceedings were instituted under the Merchandise Marks Act, and the vendor was fined £10, with 6s. court fees and £21 towards the cost of the prosecution. This result goes to confirm the conclusion arrived at by the Departmental Committee of 1900, who expressed the opinion that there was no practical difficulty under the existing law in the way of obtaining thoroughly good and reliable seeds by those who know how to set about it; but we shall be very happy to give full consideration to any representations or suggestions which may be made to us on the subject.

A NEW PARK AT SALTLEY .- A new park, fifty-four acres in extent, to be known as Ward End Park, about three miles from the centre of Birmingham, was opened by the Lord Mayor of Birmingham on the 14th inst., in the presence of about 20,000 persons. At present the public will only be admitted to about twenty acres; the remainder, consisting of pasture and arable land, will be devoted to the public use in due time. The estate contains a substantial residence and two glasshouses, is well timbered, has many natural beauties, and enjoys a good water supply. The whole has been purchased by the Corporation at a cost of £21,600, and will prove a boon to dwellers in East Birmingham, who are badly in need of additional breathing spaces. It is also intended to use it as a feeding-ground for the smaller parks, and Mr. W. H. MORTER, the superintendent, has already had a quantity of frames erected in which to raise and harden off softwooded plants. Exclusive of Rednal and Bilberry Hills, the Birmingham Corporation has under its control eleven parks and seven recreation grounds, having a total area of 463 acres, the whole being maintained at an annual expenditure of about £11.000.

"DIE SCHÖNSTEN BLÜTEN STRAUCHER FÜR GARTEN AUSSCHMÜCKUNG UND TREIBEREI .-We beg our readers not to be deterred by this appalling title. Anglicised, it is the name of a publication devoted to the most beautiful flowering shrubs for garden and conservatory decoration. It is edited by Herr Max Hesdörffer, and is published by Paul Parey, of Berlin (Williams & Norgate, London). The plants depicted in coloured illustrations in the part before us are Æsculus rubicunda var. Brioti, Æ. arguta, Magnolia stellata, Soulangeana, and Lenneana, Rubus deliciosus, Kerria japonica, Lonicera bella, L. muscaviensis, Calycanthus floridus, and several varieties of Diervilla (Weigela). Many persons interested in shrubs will be glad to possess this publication for the illustrations, whether coloured or uncoloured, appeal to gardeners of all nationalities. The price of each part is one shilling.

BROWNING OF THE VINE. - The causes of this mysterious affection seem to elude investigation. It has been attributed to various reasons, and no sooner do we settle down to the helief that the cause has been found when some fresh investigator starts up to discredit the work of his predecessors. M. RAVAZ, in a recent number of the Comptes Rendus, attributes the appearances to a general impoverishment of the Vine from overproduction. The remedies then seem to be to diminish the crop or to increase the amount of potassic manure. Those of us who remember the late R. D. BLACKMORE's paper read at Chiswick, can easily conjure up the sly, good-humoured satire with which he would in all probability have received the "latest intelligence."

FLOWERING SHRUBS.—From Messes. J. VEITCH & Sons we have received a large consignment of cut specimens of beautiful and interesting shrubs, to some of which, at the risk of writing a catalogue, we may here refer. As they are so many and so diverse we adopt an alphahetical arrangement, as it is impossible by words only to convey any adequate idea of their beauty and value as decorative shrubs. When there is so much to choose from it is astonishing that our shrubberies should continue to be filled with common-place subjects.

ABELIA SERRATA, -A loosely-branched shrub with rather more than an inch long. The flowers are laxly scattered, each with a five-lobed leafy or coloured calyx, much shorte: than the irregularly five-lobed, funnel-shaped pinkish corolla, which measures about 3-inch in leogth.

ACER CAMPESTRE VARIEGATUM.—A form with leaves mottled with pale yellow, owing to the partial absence of chlorophyll. It would afford variety in a plantation.

ADENOCARPUS DECORTICANS.—A Cytisus-like shrub, with densely-set pinnately-lobed foliage, the lobes linear, blackish-green. The yellow papilionaceous flowers are in terminal heads.

BERBERIS CONGESTIFLORA HAREOIDES. show, free-flowering species, with small, rounded spirescent leaves and terminal spikes, crowded with pale orange-coloured flowers. Figured in Gardeners.

Chronicle, May 11, 1901, p 295.

BERBERIS KNIGHTH. — A distinct-looking species, with tufted, coriaceous, lanceolateleaves, ahout 2 inches long, and tuits of globose, clear yellow flowers, each the size of a small Pea, intermixed with the leaves.

CALPINUS CORDATA .- A very handsome Hop Horn beam, with cordate-oblong, acuminate leaves, about 5 inches long, on short petioles; the flowers are borne in stalked pendulous catkins 2½ inches long, the large ovate distended bracts of which greatly resemble those of the Hop. A tree of striking appearance.

CEANOTHUS VEITCEIANUS.—A form with small oblong-obtuse, seirate leaves, and terminal apikes of densely crowded corulean blue flowers.

CITRUS TRIFOLIATA. - A loosely branched, fiercely spiny species with large white flowers. As it is nearly or quite hardy, it has been recommended as a stock whereon to graft the more tender Oranges.

CLEMATIS (ATRAGENE) ALPINA - An old friend, but a very beautiful one, with its elegantly cutfoliage and longstalked, pendulous, bell-shaped, slaty-blue flowers.

CLEMATIS MONTANA RUBENS.—C. montana is beau-tiful enough, but if this pale-lilac form is equally free-flowering, it must indeed be an acquisition. C. montana in East Kent is now very luxurian', covering the walls as with a tapestry of stars.

CORNUS FLORIDA PENDULA.—A Cornel, the Inflorescence of which is provided with four large, white, spreading bracts, each about 13 inch long, serving the purpose of a sign-post to the insects in search of honey

CORNUS BRACHYPODA VARIEGATA. — A showy form with broadly lanceolate leaves edged with white.

COTONEASTER HORIZONTALIS.—Just the plant for the base of the rockery, for which its procumbent habit and closely-set spreading branches eminently fit it; the follage is minute, and the flowers rosy pink, follawed by red bergies. followed by red berries.

CYTISUS PROCUMBENS. — A wiry shrub with small, three-lobed leaves, and very numerous yellow flowers crowded along the ends of the branches.

CYTISUS SCOPARIUS GRANDIFLORUS, -A large-flowered form of the common Broom.

CYTISUS PURPUREUS.—A well-known apecies with humerous roay lilac flowers crowded along the sides of the branches. It is one of the parents of the curlous C. Adaml ×.

Cyrisus kewensis \times .— A Broom with erect, wiry branches, small palmately 3-lobed leaves, with linearoblong segments; flowers papilionaceous whitish or pale sulphur-coloured, arranged along the ends of the shoots. It is a hybrid between C. Ardoini and C. albus, and was raised at Kew.

and was raised at Kew.

DEUTZIA DISCOLOR PURPURASCENS. — A charming flowering shrub, with small, oblong-acute, shortly stalked leaves, and many flowered cymes on erect stalks, which, as seen under a slightly magnifying glass, are atudded with pretty stellate scales. Each flower is about \(\frac{1}{2}\) inch in diameter, with five rounded lobes, white, flushed with rosyllac. The petaloid filaments are 2-lobed at the apex, the yellow anther

being situate in the intervening notch. A most desirable inmate for the shrubbery.

Englanthus campanulatus. — A Vaccinium-like shrub with atalked, oblong leaves about an inch long, tapering to a pink petiole somewhat shorter than the blade. Flowers numerous in one sided, leafless recemes. blade. Flowers numerous in one-sided, leafless racemes blade. Flowers numerous none-sided, leaness facemes about $1\frac{1}{2}$ inch long; pedicels turned to one side, hairy; flowers about $\frac{1}{4}$ inch long with 5 lanceolate segments much shorter than the bell-shaped corollas which are rose-red with 5 rounded lobes. A charming shrub. EUGENIA UGNI VARIEGATA.—A form with a yellow

border to the leaves, interesting for the sake of its colour. It would be hardy only in very sheltered positions.

OLEARIA GUNNII - Attractive for its starlike, white flower-heads scattered amid its small linear toothed leaves. Each flower-head is about \(^3\) inch across. This New Zealand shrub does well in town gardens.

PYRUS (CYDONIA) SIMONIS — Allied to P. MAULEI, but with more elongate leaves and larger flowers with a long cylindric calyx-tube and deep red petals.

RHODONENDRON YUNNANENSE.—A newly-introduced species like an Azalea in hatit, with white or pale lilac flowers in terminal tufts; pedicels glabrous, shorter than the flower, calyx minute, saucer shaped, with five shallow, acute lobes covered, especially at the margins, with circular, scaly glands; corolla funnel-shaped $1\frac{1}{4}$ inch across, upper central lobe spotted near the base with yellow spots; atamens ten, of unequal lengths, ovary covered with flat glandular orbicular

Runus neliciosus.-Well known for its elegant, palmately-lobed, rounded leaves, and large white flowers (see fig. in Gard, Chron., April 23, 1881, p. 537).

SOLANUM CRISPUM.—A climber; leaves ovate; flowers

in terminal clusters, bluish-lilac, set off with yellow antbers.

TROCHODENDRON ARALIOIDES. - A very striking Araliad, figured and described in our columns on

VIRHENUM TOMENTOSUM VAR. MARIESL-A haudsome

VIBURNUM TOMENTOSUM VAR. MARIESI.—A haudsome variety, the barren, star-like flowers scattered amid the flowers proper, and producing a charming effect.

VINURNUM MACROCEPHALUM.— In this form the fertile flowers are almost absent, their place being taken by the barren flowers, which form large, globose heads, which if of little utility are very handsome.

"PARKINSON'S PARADISUS."-Lovers of this book, originally published when Charles I. was King, will be glad to learn of the issue, by Messrs. Methuen, of a facsimile reprint of this delightful work, with copies of all the illustrations. Good examples of the original edition are scarce and costly, so that Messrs. Methuen's reprint will be the more acceptable. We hope shortly to advert to the new edition at greater length.

THE NATIONAL POTATO SOCIETY. - Sir J. T. D. LLEWELYN, Bart., has consented to become President.

PUBLICATIONS RECEIVED.—The Classification of Flowering Plants, by A. B. Kendle, D.Sc. (Cambridge University Press)—Journal of the R. H. N.—The Book of the Carnation, by R. P. Brotherston.—Wayside and Woodland Trees, by G. Step.—Forestry in the United Kingdom, by W. Schilch, Ph.D. (Bradbury, Agnew & Co.).—Hand-List of Orchids, 2nd Edition (Royal Gardens, Kew).

Schilen, Ph.D. (Bragoury, Agnew & Co.).—Hande List of Orchids, 2nd Edition (Royal Gardens, Kew).

Colonial Publications Received.—The Agricultural Gazette of New South Wals, March, contains the usual agricultural notes, and Nos. 87 and 88 of Useful Australian Plants, by J. H. Madden.—Jaurnal of the Department of Agriculture of Western Australia, March, Contents: Experimental Wheat growing, Insect Pests, A Grain of Wheat: its Structure and Properties, Garden Notes, &c.—The Queensland Agricultural Journal, March, includes the usual notes on various branches of agriculture.—Report on the Trivandrum Museum and Public Gardens tells of progress in every department.—Sugar-Cane Experiments in the Leeward Islands. Report on experiments conducted at Antigua and St. Kitts in the season 1902-3. Part II. Experiments with varieties of Sugar-Cane. Part II. Manurial Experiments. from the Commissioner of Agriculture for the West Indics (Sir D. Morris).—From the Botavic Gardens, Georgetown, British Guiana: List of Seeds Available for Exchange, A. W. Bartlett, Superinendent.—Twenty-ninth Annual Report of the Onlard Agricultural College and Experimental Farm, 1903. A good beginning has been made in arranging herbarium specimena, and the outdoor and indoor teaching has made satisfactory progress.

WALL GARDENING.

[See Supplementary Illustration.]

Nor least among the many interesting phases of gardening is that having for its object the beautifying of garden walls, in whatever position these perchance may be found, and whether the aspect be one of sun or shade there is the choice of an ample supply of suitable plants. The ideaof clothing such walls with vegetation is not new by any means; indeed, nearly thirty years agothe present writer had charge of several hundred yards of such walls, some of which, having been purposely erected for plant - growing, were furnished with plants on both sides. Other walls traversing woodland and similar scenery were well suited to shade-loving plants, such as Ferns, &c.; and others in varying positions were planted with species best suited to the circumstances. The Supplementary Illustration in this issue of the Gardeners' Chronicle shows a garden wall at Hook House, near Winchfield, and it is of a somewhat distinct type, though, judging by the abundant ample openings for plants, there should be little or no trouble in getting the plants well established.

Among the different types of walls that may be employed the two-faced wall referred to above is excellent where it is possible. Purposely built with bad mortar, or such as contains little lime, a goodly portion of the upper part is hollow, to admit of the space being filled with soil. Not only may plants growing in such a wall be readily watered from the top, but the wall affords means for cultivating them perfectly. The retaining wall is of another type, and whether built of brick burrs or stone, of which the latter is by far the more picturesque and suitable for plant growing, arrangements should be made so that the top of the wall leans towards the body of soil retained by it. In addition to this, and especially in the brick wall, the courses should be set back in such a way that the moisture is retained on the ledge and conveyed to the roots of the plant. Large joints or special openings for the plants are necessary. Where possible, in stone walls, the planting should be done with the building. of the wall, and in this way it is quite easy to form colonies, and to make a creditable display in one season. The moisture-laden portion of the year, October to February, is the best season for planting, and small plants as, e.g., seedlings or rooted cuttings, are those that should be chosen in most cases. The list of suitable plants is a formidable one, and may embrace the Foxglove or the Mullein and the great host between these and the minute Erinus. alpinus. Everything depends upon circumstances. What is especially obvious in this phase of gardening is that many plants assume a more pigmy stature than usual, and this adds greatly to their attractiveness. Some silvery-leaved plants, as Achilleas and certain of the Saxifrages, are more pronounced in tone owing to the influenceof the prevailing dryness than when planted in the border. For providing masses of colour, yellow Alyssum, the Aubrietias, Saponaria ocymoides, Candytuft, Aralias, and Achilleas are very useful. E. H. Jenkins, Hampton Hill.

This is a form of gardening which appears to be obtaining popular favour, and deservedly so, for it affords an attractive method of cultivating a variety of charming rock-plants. The writer has under notice a wall which was constructed for the purpose of plant growing during the autumn of 1902, and which at the present time is very gay with flowers. The wall is built in the form of a curve, on the inner side of which, extending for a few yards at the centre, is a turf seat built in the wall. This latter is a very oldfashioned idea; turf seats, or benches as they were called, were a feature of mediæval gardens.

The wall itself is about 5 feet high, and is 6 feet through at its base, narrowing to about 3 feet at the top, the inner part being filled in with soil. This gives plenty of root-room for the subjects growing on it. Among the plants recently flowering were large groups of Wallflowers, ranging in colours from bright yellow to deep purple; and the double Wall Cress (Arabis albida flore-pleno), with its masses of snow-white flowers. The sloping sides of a wall such as this appear to afford an ideal position for the latter plant, where it can be allowed plenty of room to develop, for the flowers show themselves to perfection. The single Arabis also finds a place on the wall, coming into bloom earlier than the double one, but its flowers are somewhat eclipsed by its more imposing relative.

Aubrietia deltoidea succeeds well, also Anemone blanda and A. appenina at the top of the wall. Linaria balearica is a small-growing creeping plant, attaching itself to the stones and running into the fissures; studded with little white, starlike flowers, it presents a very chaste appearance. Phlox lilacina is another beautiful plant in flower. Of the Saxifrages, S. balcana, a dwarf species with pink flowers, and S. pedatifida, white, are in bloom; and S. Camposii, syn. Wallacei, which forms large clumps, will delight the eye with their wealth of flowers. The same may also be said of Cerastium tomentosum.

In addition to the plants enumerated above there are many others which, either by their foliage or flowers, or both combined, contribute their share towards the adornment of the wall, thus making it "a thing of beauty" for the greater part of the year. R. W. Dean, Wainsford, Hants.

[In journeying in various directions through East Kent lately, we were repeatedly struck by the fact that where the chalk banks of the railway cuttings were nearly vertical, there the Wallflower and the red Valerian luxuriated; but where the chalky banks had a considerable slope, there the plants in question were not nearly so numerous or so vigorous. Perhaps the inclined banks do not afford so many crannies and such good root-hold as those more vertically placed. Ep.]

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

THE NEW HORTICULTURAL HALL.—Fellows of the Royal Horticultural Society who have seen the new Hall, so far as it is finished, have in many cases expressed disappointment as to its dimensions. They have jumped to the conclusion that the Hall is very little larger than is the Drill Hall. Mere appearances are in such cases as these very unreliable, and I have told friends that the best test is found in floor measurement. As evidence of the increased area furnished by the new Hall compared with the Drill Hall, it is but needful to quote from the latest issue of the Society's terribly bulky Journal the official statement, previously made and here renewed, that whilst the Drill Hall has an area of but 7,000 superficial feet, the new Hall, with its large annexes, will have 13,000 superficial feet. Assuming these figures to be correct, it is evident that the space available for shows in the new Hall will be almost double that of the Drill Hall. But in reality it should be quite double, as there will be in the new Hall no darge area (nearly one-fourth of the whole) retained for the Committees and lectures. Thus, it must be apparent to every one taking the official figures to be exact that the area at the new Hall available for shows and visitors should be more than needful even for the largest gatherings. It is greatly to be hoped that the tabling arrangements will be such as to allow some 3 to 4 feet more width between each row of tables than is now the case. All the extra epace must not be given up to exhibitors. The visitors must have a share in the additional

elbow-room. Very probably even in the new Hall all possible space for exhibits will soon be filled, but visitors may well pray the Council all the same to be somewhat severe censors, and spare them repetitions of the commonplace or mere advertising collections. Of late many of the exhibits have taken on a Covent Garden aspect. That sort of thing adds no dignity to horticulture, and is not worthy the meetings of the Royal Horticultural Society. How much the change from the Drill Hall to Vincent Square is needed was fully evidenced on Tuesday of last week, when Mr. Hedger Wallace gave his lecture to some twenty persons, amidst a noise that was distressing to both speaker and auditors. What wonder if under such conditions few visitors attend the lectures! When in the new offices these lectures are given in quiet in the large room upstairs, they may be heard with comfort and will be greatly enjoyed. Another reason, though happily an unusual one, presented at the last meeting also, was the enforced closing of the exhibition at 4.30 instead of at 5 p.m. This was so because the Volunteer authorities wanted the Hall. Late comers were therefore greatly disappointed. At the new Hall, summer meetings may well be open till 6 p.m. A. D.

FRUIT PROSPECTS IN ESSEX.—Never have I witnessed such a prospect of a bountiful fruit harvest as that which presents itself in every fruit plantation and on every individual Apple, Pear, and Plum-tree. The hope and promise of the fruit crop for the year 1904 being an immense one will in all likelihood be realised, the individual blooms forming the immense trusses with which the trees are heavily laden being large and strong. In all probability the crops of Apples, &c., if not somewhat thinned by nature, will require to be thinned pretty severely where large, fine fruits are desired. It is true the trees are in good condition, and well able to develop heavy crops of fruit after the rest which they unfortunately had last year. The orchards round here, including some immense Apple-trees alongside and in front of my house, are a grand and hopeful sight, trees of all sizes being literally smothered with floral trusses of pink-and-white. H. W. Ward, Lime House, Rayleigh.

—— There is the prospect of a magnificent fruit season before us, and I earnestly hope that British enterprise will really show enterprise, dry its surplus produce as it is done abroad, and not allow it to rot on the ground. Already I have heard members of the trade remark, "Yes, a fine fruit year, but too much of it!" R. G. Fletcher, Mount Harry. Withdean, Brighton, May 21, 1904.

CLIANTHUS PUNICEUS. — With reference to Mr. W. H. Clarke's note on p. 251, and the editorial comments on this plant, it may be of interest to state that we have the species flowering outdoors here on a south wall in a sheltered place. The plant was put out the summer before last from a 60-sized pot, and has not received any protection. It has several flowering shoots, the largest having had recently some fifty or more flowers. R. W. Dean, Wainsford, Lymington, Hunts

BLACK WALNUT IN DEVON.—Referring to the note in this journal, December 4, 1886, relating to a specimen of Juglans nigra, L., it may be worth recording that its growth has been as follows:—The seed from which it sprung was obtained in Kew Gardens about 1874, and the young plant was placed in the open ground on the lawn at the Castle, Barnstaple, in the autumn of 1877. Towards the close of 1886 it measured 9 feet in height, with its stem 2 inches in diameter at its base, 1½ inch in diameter at 3 feet above the ground, and 1 inch at 4 feet. In the spring of 1889 the tree was 12 feet high. At the present time it is found to be about 45 feet high; with its trunk 1 foot in diameter near the base, about 9 inches in diameter and 2 feet 7 inches in circumference at 3 feet above the ground, the same dimensions at 4 feet, and about 8½ inches in diameter and 2 feet 5½ inches in circumference at 5 feet. It has borne fruit during recent years. W. P. Hiern, The Castle, Barnstaple.

columns last year, which was quoted by the Rev. Canon Stackhouse in his interesting note on p. 329 of the Gardeners' Chronicle for May 21, 1904, that this species was exceedingly difficult to grow for a length of time with success, is not in accordance with my experience here, which is in agreement with that of Canon Stackhouse. It is to be feared, however, that failure with the Panther Lily is frequent, and one is inclined to attribute the cause of this to want of moisture, especially when the plants are making growth. In my dry soil I can grow it successfully by the margin of a little tank for Water Lilies, so arranged that there is a moist space round the margin for water-loving plants. Some of my bulbs have not more than 6 inches of soil, the bottom being concrete. In this part they flower better and are more vigorous than when they have a deeper soil. I have had them in this position for several years, and the bulbs have increased, and I have had plants almost 6 feet high. I am confident that plenty of moisture is what they require. S. Arnott, Carsethorn by Dumfries, N.B.

WINTER SPINACH.—We have here a quantity of Prickly Spinach, sown on August 17, 1903, one-half of which is growing on a south border, the other on a west border. From the south border we had almost daily gatherings from October to Christmas, those on the west border not succeeding so well. On both quarters the Spinach followed the second early Peas. The ground was given a dressing of garden refuse, but no farmyard manure, hecause a moderate dressing of this had been given for the Peas. The Spinach was thinned early to 6 inches apart, and the plants are now only running to seed; 98 per cent. of the plants remain. Another quarter of Spinach in the open garden, sown on September 4, 1903, one - half of which is the Victoria and the other half the ordinary Prickly, is now producing quantities of large succulent leaves, and there appears no difference in the yield of the two varieties, as the rows contain hardly a blank space. This lot followed autumn and spring-sown Onione, which were given liberal dressings of farmyard-dung and soot; but the Spinach had merely an application of decayed garden refuse dug in. The Victoria Spinach was thinned to 9 inches apart. Our soil is light, overlying gravel, and we are close to the sea. The climate is mild and humid. I am inclined to think that applications of animal manure have often caused the failure of winter Spinach. F. Street, Ardwell, N.B.

INCARVILLEA DELAVAYI.—Supposing that some readers of the Gardeners' Chronicte may be unaware of the behaviour of this plant after it has flowered abundantly in any one year, it may be well to observe that a large number of the plants so flowering fail to grow in the next year. Cases have occurred in the writer's experience in Kent, Middlesex, the Isle of Wight, and other places. In one instance, all the plants that flowered one season remained dormant the whole of the next year, and the gardener concluded they were dead. I informed him in all probability the plants would restart the next year, and so it turned out. In my own case, one plant that decided to rest for a year now starts into growth a few weeks later than its fellows in a small group. It is somewhat remarkable that a dozen or more plants in different parts of a garden should refuse to grow after flowering well, and I mention the peculiarity to prevent damage occurring to the crowns from the somewhat natural conclusion that the plants were dead. E. H. Jenkins.

FORCED STRAWBERRIES.—The further correspondence from "Interested Reader" adds another mystery to the subject. It rarely happens that fruits having set fail to finish. Surely the after-treatment must have been at fault somewhere. The great difficulty usually experienced with early-forced Strawberries is that of the fertilisation of the flowers, especially during sunless days. I read your "Interested Reader's" remarks in the light he wished us to do respecting the spent Mushroom-manure; but any kind of decayed manure, if added to a retentive soil, especially for potting purposes, tends to make it heavier rather than lighter, and Strawberry

plants in pots should be kept moist at the roots from the time they are first layered until twenty-four hours before gathering the fruits. J. Mayne, Bicton Gardens, Devonshire.

ecklinville Seedling apple.—This is one of our surest croppers here, either as a standard, bush, or trained tree, and I should regret to discard it, although Lord Suffield and Lord Grosvenor are both ready about the same time. The two latter varieties retain their plumpness longer than Ecklinville, which may be due to our rather sandy soil; but I should have thought Ecklinville would have been a good market variety, the fruits being of large size, attractive appearance, and splendid cooking quality. It would be interesting to have the opinion of Messrs. Veitch, Bunyard, Rivers, and other large growers of Apples upon the merits of this Apple. James Mayne, Bicton Gardens, Devonshire.

PROPOSED GARDENERS' ASSOCIATION.—Mr. J. Miles, on p. 330, has struck the right note regarding the idea prevalent in the minds of many gardeners as to the means to be employed should the formation of a Gardeners' Association become an accomplished fact. It cannot be too plainly stated that "Defence not Defiance" is the motto. In the pamphlet issued by the Provisional Committee, they are most emphatic on that point, viz.:—"Whatever may have been the mistakes made by other combinations of workers, it is not the intention of the promoters of the National Gardeners' Association to attempt anything inconsistent with the rights either of employer or employed." It has been the problem for many years to frame a scheme embodying on the one hand the protection and encouragement of all bond-fide gardeners, and the various other points attaching thereto, without in any way interfering with individual rights. From an employer's point of view, I am firmly of opinion it will be readily acknowledged; the moment its true aims and objects are known and properly understood. The vast majority of employers being men of business ability and methods will rather welcome than otherwise the advantage of a bureau to furnish the information they require as to the gardeners they wish to engage. A solution to the problem, it is believed, will be found in the scheme to be unfolded at the meeting on Wednesday next. It is most important that all gardeners having the true interest of their profession at heart should attend that meeting and endeavour to launch the association successfully. D. R. S.

— A more unreasonable letter than that published on p. 249, from a correspondent, it would be difficult to imagine. Can it be that the writer is one of the "more fortunate," whom we can scarcely expect to assist at the "confidence-trick-game," as he chooses to name the proposed Gardeners' Association? He seems to have a dislike to anything savouring of "Trades-unionism" entering into the rules of the Association, and fails to see what good such an association would be likely to effect. I am a strong believer in Trade-unionism, and would ask our friends to make a note of the enormous benefits such unions have bestowed on the "worker," and the tremendous difficulties overcome in their formation. With those facts before us, we as gardeners should feel encouraged, and give our utmost support to the Committee which is now formulating this excellent scheme. "Union is strength," and if gardeners will keep this motto to the fore, the imaginary difficulties raised by the writer of the letter alluded to will pass away like so much smoke. He also asks, "Is it possible that head gardeners with comfortable situations will join an organisation that intends to be a law unto itself, to impose terms and conditions on both gardeners and their employers?" In answer to this question (1) I feel confident that the number of head gardeners taking up such a selfish attitude in regard to a movement which will benefit themselves as much as the journeymen would be small; (2) I firmly believe that if employers are approached on the matter they will, with perhaps a few exceptions, heartily support the movement. This is where the "more fortunate" head gardener fails in his duties. He refuses to represent his men when the question of hours or wages wants settling, because, as the writer of the letter very

plainly put it, "they believe it will make mischief between them and their employers." What a lot of jelly-fish creatures to be sure! At this

profession (young gardeners will have the most power) to unite with one accord in supporting the movement by every means possible. If we

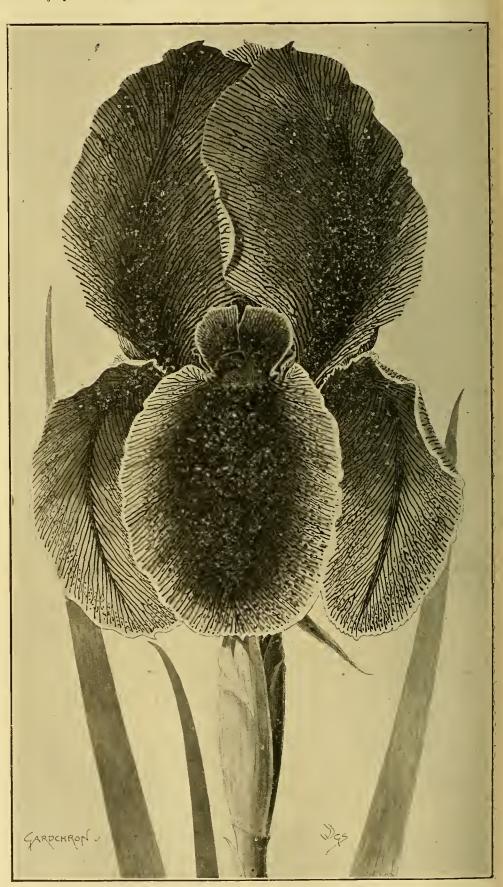


Fig. 150.—IRIS \times CHARON. Prevailing colours old-gold and bronze. (See p. 349.)

juncture, when an effort is being made to organise the proposed British Gardeners' Association, it behaves all gardeners who love their

do this we can afford to ignore the few who are too ready to throw cold water on this worthy and much-needed scheme. T. M.

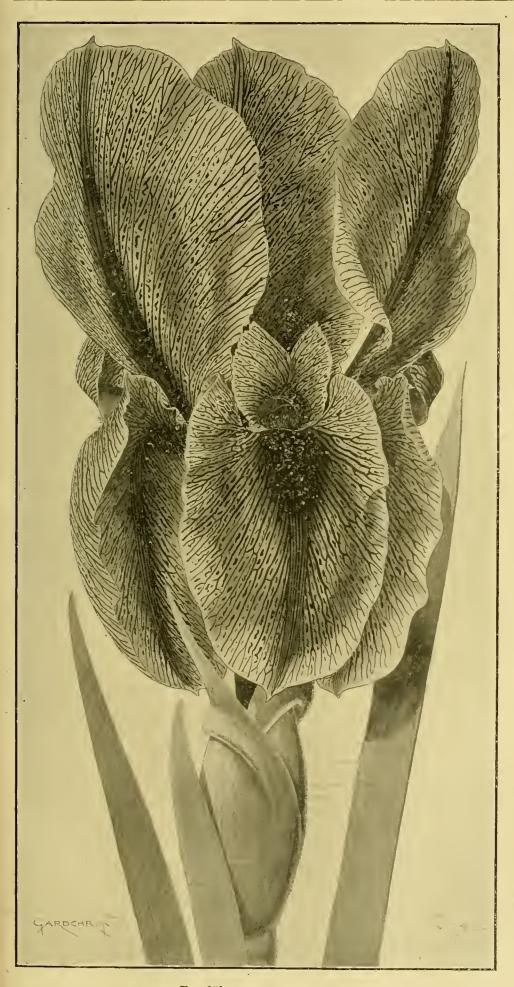


Fig. 151.—IRIS \times ARTEMIS. Colour rich purple and violet, beautifully netted with darker veins and spots.

TWO NEW HYBRID IRISES.

One of the most interesting features at the meeting of the Royal Horticultural Society on May 17 was a collection of new Irises, shown by C. G. Van Tubergen, junr., Haarlem, Holland. Seven varieties were given awards by the Floral Committee, and of these we illustrate two on pp. 348, 349 that obtained First class Certificates. They all belonged to the Onco-Regelia group. "Charon," shown in fig. 150, is said to be from a cross between I. Korolkowi and I. atro-purpurea. It is one of the most distinct and beautiful Irises we have seen. The dominating colours are oldgold and bronze. The colour of the falls, excepting the nearly white margin, is of a mahogany shade reticulated with gold, and having a heavy black blotch at the lase. The standards are much the same as the falls, but suffused nearly all over with purple.

"Artemis" (fig. 151) is remarkable for the very large size of the standards, which are rich vinous-purple in colour, netted all over with darker veins and small spots. The falls are more distinctly drooping than those in most of the other flowers. They are of rich violet colour, with an ample blotch of a dark tone at the base.

ON THE CONFINES OF SUMMER.

Amono the greatest beauties of the garden at this season are the flowering trees, several of which, owing to adverse atmcspheric influences and the prevailing cold condition of the soil, are a fortnight later than usual this year. The carliest Apples, such for example as the Irish Peach and the Beauty of Waltham, are flowering contemporanecusly with the Cherry and the Plum, a fact which clearly indicates that the latter are considerably behind their time. There is every prospect of an abundance of blossom, my one solitary exception being the capricious Almond-tree, which for the last two seasons has not had sufficient sunlight to ripen its flowering wood. Of Oriental origin, it is somewhat exacting in this respect. On the other hand, that exquisitely beautiful Japanese tree, Pyrus Malus floribunds, which last year had not a single flower, is at present a picture of loveliness most inspiring to behold. Very fascinating are also such Plums as the Czar, Victoria, and Denniston's superb Green Gage (a most valuable and, even in Scotland, reliable variety, of American extraction); and such ornamental Cherries as Early Rivers, which seldom fruits well in this northern clime, though it blossoms superbly; Black Eagle and May Duke, soon to be followed by the Morello, which I prize most of all. Apples and Pears are also full of promise, and there is an abundance of blossom, which we trust may ere long successfully develop into fruit. Last season, at the trying period of transition, late frosts, most destructive in their influence, supervened, and while almost every species of fruittree experienced the bitter consequences of this atmospheric visitation, the Green Gages and Damsons assuredly suffered most, though many of the finest Apriles were also hors de combat; and the Pears visible in autumn on such precious varieties as Pitmaston Duchess and Doyenné du Comice were, like Thomas Campbell's angels' visits, "few and far between."

Hardly less attractive at this loveliest of all seasons than the flowering trees, of which one of the most artistically effective has been Prunus Pissardi, the graceful Persian Plum, are the later forms of the fragrant Narcissus; and especially the richly-coloured N. poeticus poetarum. Many of the finest bicolors are still very conspicuous by their splendid effect, Empress, grandis, and the somewhat unobtrusive variety of Haworth being distinguishable among these. Barri conspicuous is also a lasting treasure, and a hybrid of great beauty that has not yet been surpassed.

I may perhaps be permitted to mention incidentally that Messrs. Barr, of Covent Garden, have recently done me the honour of naming after myself one of their latest and loveliest seedlings. I may be prejudiced in its favour, but it appears to me a distinct advance, alike in rare colour and impressive formation, on Emperor, maximus, or Golden Spur. Its raisers are naturally always getting more exacting with their own introductions, especially in the direction of what may be termed colourative characteristics, and they are satisfied if they obtain one hybrid such as this, with a golden hue akin to that of the Allamanda, out of five hundred seedlings. "'Tis not in mortals to command success," but some of our modern hybridists deserve it.

At this period of the year it is extremely interesting, also educative, to watch the development of those Roses which are growing for the first time in our gardens, having been recently introduced. Certain varieties, it will be evident to the earnest cultivator, such as Mildred Grant and Alice Lindsell, are of very moderate growth, thereby proving that, however large and lustrous in their beauty may be their individual flowers, they can only be regarded as "exhibition' Roses; while others, like Florence Pemberton, Ards Pillar, Ulster, Field Marshal, Corona, Blush Rambler and Mr. Ben Cant, are of greater growing capability, and therefore of higher value for garden cultivation. Yet it must be admitted that even one grand flower of such a phenomenally distinctive variety as Mildred Grant or Souvenir de Pierre Notting ministers to and satisfies our natural instinct for beauty in a marvellous degree. What is lost extensively or numerical'y is gained intensively. Not seldom it happens that the finest hybrid creations are also the most rare. Notable exceptions are such Roses as Clio and Margaret Dickson, which, while of the greatest artistic beauty, grow with great vigour and flower most luxuriantly, the latter superb Rose attaining in New Zealand to a height of 15 feet.

This is the season of the garden Hyacinth, the odorous Auricula, and the radiant Tulip, which have seldom appeared with richer effect. Of more retiring character, yet not less worthy of our admiration, are the floral pictures created at green intervals on the herbaceous borders by the beautiful Myosotis alpestris Victoria, one of the sweetest and purest of early summer flowers. David R. Williamson, Wigtonshire.

NURSERY NOTES.

MESSRS. BALCHIN & SON.

On the occasion of a recent visit to this important nursery at Hassock, near Brighton, great numbers of New Holland plants, now rarely grown in English gardens in any quantity, were seen in excellent condition. The cultivation of these old favourite species afforded is of the best, and it is assisted by the pure air of the district. There were neat examples in bush and standard forms of Boronia heterophylla and B. elatior, either in the flowering stage or with rapidly expanding buds; and a quantity of B. megastigma and B. m. aurea, the latter becoming on account of its bright yellow tint a great favourite with admirers of these plants. The fragrance is exactly that of the type species. Several examples of the lovely B. serrulata must not be omitted from our enumeration of desirable species. Plants of Tetratheca ericoides were in profuse bloom and very showy, as were likewise many nice examples of the pretty Erica propendens, once common in gardens but of late years almost lost to cultivation. The colour of its campanulate blooms is of a pleasing soft pink.

Plants of Diosma ericoides were either in full bloom or about to open their buds. Numerous plants large and small were noted of Aphelexis (Phoenocoma) prolifera Barnesii in the various houses and pits, as also of Tremandra verticillata, the flowers of a charming blue tint. The beautiful Leschenaultia biloba major is grown in the form of standards and as bushes, ranging in size from recently-potted plants to those of 3 feet in height. No one seems to grow this plant in finer form than Messrs. Balchin. Darwinia (Genetyllis) fuchsioides and D. coccinea were observed in floriferous and healthy examples. Goodly numbers of Erica hyemalis, E. perspicua, nice bushes growing in 6-inch pots; E. p. nana, and E. candidissima were accommodated in low pits; Acacia profusa, a most desirable species, and A. armata were observed in bloom in a variety of sizes. Orchids are grown in some quantity to meet the local de. mands, such as Dendrobium nobile, finely bloomed; D. thyrsiflorum just showing colour in its buds with a profusion of racemes; D. chrysotoxum, good plants in bloom; Lælia anceps of great value and usefulness late in the year as cut flowers. One house having a north aspect was filled with plants of Cypripedium insigne growing in 14-inch pots, and Cologyne cristata and others are grown in pots of larger size.

Miscellaneous plants that are grown in some quantity include the double white-flowered Primula, now gone out of flower, wonderfully healthy and vigorous; Anthurium Scherzerianum, with numerous spathes and vigorous foliage; the almost forgotten Posoqueria longiflora, a plant with large Stephanotis-like white flower-heads, and delicious fragrance; Scutellaria Mocciniana; Gesnera coccinea, a pretty flower of a bright scarlet colour and very lasting; Hæmanthus magnificus, a rare plant in gardens; and H. Catherinæ.

Several small houses were filled with Hydrangea Hortensia Thomas Hogg, all of them vigorous plants, and each surmounted with a pure white flower-head. Along with these were quantities, in various stages, of Lilium longiflorum. This species is preferred to the variety L. I. Harrisii on account of its dwarfer habit and smaller flowers. Solanum capsicastrum is grown in considerable quantity. The pretty semi-doubleflowered Pelargonium Cynthia, of the purest white, robust and free flowering, is largely grown, and plants in various stages were noted in several of the houses. Richardias of species, more especially the varieties Little Gem, Elliottiana, and Pentlandi were observed in large numbers, many of the plants showing spathes. Campanula Balchiniana, a trailer with leaves of pink, white, and green colours, and flowers of a blue tint, is being raised in quantity. The variety was distributed by the firm some years ago. Thyrsacanthus rutilans, with its drooping racemes of brilliant scarlet flowers, was observed growing along with various warmhouse plants. Primula verticillata, Balchin's variety, is an improvement on the type, the leaves being wider, of greater substance, possessing a greater degree of mealiness, and a larger truss and blossoms.

Of Carnations, of which there is a large quantity, the chief varieties grown are Winter Cheer (scarlet), and Mdlle. Thérèse Franco (pinkcoloured); Asparagus plumosus and A. Sprengeri, the latter greatly preferred for cutting, receive much attention, and are planted in beds as well as in pots. With an extensive furnishing business to provide for, such Palms as Kentias and Phœnix are largely cultivated, the firm possessing many noble examples, these being housed at the Hove branch establishment, as also at Hassocks. Hippeastrums of fine strains, Tuberoses and Cyclamens are given a large share of attention; also the hardier species of Ferns suitable for decoration indoors, as Davallias, Pteris, Maidenhair, &c.

There is a large span-roofed Rose-house filled with Tea and H.P. varieties, most of which are

going or gone out of flower after having afforded a lucrative harvest of bloom; but of the variety Niphetos a good number were in bloom and bud. On the heavy soil of this locality mildew on the plants is much to be dreaded; but attacks are prevented or quickly cured by dipping the plants in or syringing them with sulphide of potassium (liver-of-sulphur), at the rate of half an ounce dissolved in a gallon of water. This was stated by Mr. Richardson, the manager, to be the surest remedy.

There are several large and lean to houses planted with Peach-trees, whose fruits are timed to come into use in June and July, when the demand in Brighton for ripe Peaches is very considerable.

Messrs. Balchin's nursery at Hassocks has an area of 30 acres, closely planted with fruit and ornamental trees and shrubs, Roses, and general stock, of which the season is yet too early to take notice in detail. F. M.

SOCIETIES.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

MAY 13.—The annual meeting of the Society was held upon the above date, when there was a good display of plants. The past year's working of the Society showed that the membership had increased, and that there was a substantial bank balance in favour of the Society.

The day of meeting will he Thursday in future, instead of Friday, such meetings to follow those of the Royal Horticultural Society held in London on Tuesday.

Groups of Orchids were sent by E. Rogenson, Esq., Didsbury (Silver Medsl); G. W. LAW SCHOFFELD, Esq., Rawtenstall (Odontoglossums) (Bronze Medal); JAS. CYPHER & SONS, Cheltenham (Vote of Thanks); CH. VUYLSTER, Loochristi, Ghent (Odontoglossums) (Vote of Thanks); and H. Low & Co., Enfield (Vole of Thanks).

Thanks).

Awards.

Odontoglossum crispum "Raymond Crawshay"
(First-class Certificate), O. c. Harold (First-class Certificate), all from N. C. Cookson, Eq.; Cymhldium rhodocheilum (First-class Certificate), all from N. C. Cookson, Eq.; Cymhldium rhodocheilum (First-class Certificate), from Dr. Hodgkinson; Odontoglossum crispum "George W. Law" (Award of Merit), and O. Pescatorei "Frances" (Award of Merit), both from G. W. Law Schoffeld, Eq.; O. crispum "Stanley Rogerson" (Award of Merit), and Lællo-Cattleya × bletchleyensis Excelsior (Award of Merit), both from E. Rogerson." Excelsior (Award of Merit), both from E. Rogerson, E.q.; Odontoglossum crispum "The Hon. Florence Brooks" (Award of Merit), from G. W. LAW SCHOFIELD, Esq.; and O. mirificum var. spectabilis (Award of Merit), from C. VUYLSTEKE, Esq.

MANCHESTER WHITSUNTIDE SHOW.

MAY 21.-Notwithstanding many conflicting elements. the show at Manchester this Whitsuntide was one of the hest and brightest held for a number of years past. There was greater variety in the exhibits than usual, and several new features were observed. The competitive classes numbered thirty-six, most of which drew forth good entries.

The best miscellaneous collection of Orchids in flower (amateurs) was shown by E. ASHWORTH, Esq., Wilmslow; 2nd, W. A. H. BASS, Esq., Burton.
The best miscellaneous collection of Orchids in

flower (nurserymen), arranged for effect, came from Messrs. J. Cypher & Sons, Cheltenham. E. Ashworth, Esq, exhibited the best collection of

Odontoglossums.

An excellent collection of stove and greenhouse plants

in flower was shown by Messrs. J. CYPHER & SONS.

The hest group of miscellaneous plants in or out of

The nest group of miscentaneous plants in or out of flower, arranged for effect, to fill a space not less than 150 square feet (amateurs), was shown by Mr. J. Brown, Heaton Merscy; and the best group of miscellaneous plants in or out of flower, arranged for offect (nurserymen), to fill a space not less than 330 square feet, was exhibited by Messrs. R. P. Ker & Sons, Liverpool.

The best collection of hardy herbaceous and alpine plants, not fewer than filty, arranged for effect (nur-serymen), J. Robson, 1st; Caldwell & Sons, Knuts-ford, 2nd; John Dernyshire, Hale, 3rd. There were also classes for Ferns, Cinerarias, Calceo-

larias, Roses, Begonias, Pansies, &c.

NON-COMPETITIVE EXHIBITS.

Messrs. CRIPPS & SON, of Tunbridge Wells, Kent, displayed a magnificent group of Japanese Maples very beautifu'ly arranged, and constituting a striking

feature of the show. There were many varieties worthy of special mention; perhaps the novelty of the exhibit was the new Acer palmatum linearilobum purpureum var. Crippsil (!), a distinct variety with very richlycoloured leaves minutely divided. Acer palmatum
dissectum var. ornata was also a plant to be noted.
Aspecial prize of high value was awarded to this group.

Mesara. Smith & Co., Ltd., Worcester, staged a fine group of flowering shrubs and Clematis, also a nice collection of Maples (Gold Medal).

Messrs. CLIDRAN & SON, Altrineham, made a very good display of tree-flowering Carnations, and showed a good collection of Richardia Pentlandi and R. Elliottiana (Silver Medal).

Messra. WATERER & Son, Bagshot, had a magnificent display of Rhododendrons, which were much admired, R. Pink Pearl being the feature of the exhibit (Silvergilt Medal).

Messrs. ALEX. DICKSON & SONS, Newtonards, Belfast. staged a fine lot of Darwin Tulips. Many charming varieties were noticed in this collection, which con-sisted of 3,000 blooms, some of which were Paliza, of rose-claret colour; Pride of Haarlem, a dark rose with salmon scarlet centre; Melicette, a lifac colour, very fine; Laurentia, flaming red; and Clara Butt, a lovely rose-coloured variety (Gold Medal).

Mr. A. J. A. BRUCE, Choriton-cum-Hardy, is an exhibitor who is also an artist. His display consisted almost entirely of Sarracenias, Droseras, &c. His cultivation of this class of plant is unequalled; here we found all the best-known species and varieties. most striking plant was a fine specimen of Sarracenia Fildesii, a tall-growiog variety, very green in the pitchers with purple lines. Sarracenia Farnhami was another fine form, also S. Stevensi (Gold Medal).

Messrs. Dickson & Robinson, Manchester, made a ery charming display of Darwin Tulips (Silver Madal).

Collections of flowers were a new feature of this Show, and although they were all in competition, they deserve special mention. A large space was occupied by them.

ORCHIDS.

The coming Temple Show proved rather detrimental to this exhibition, many well-known names being absent on this occasion. Although appearing in the list of prizewinners, mention should be made of the fine collection of plants staged by E. Ashworth, Esq., of Wilmslow. One plant in particular in this group deserves special mention, viz., Eriopsis rutidohulbon. One does not associate with this genus any plant of particular beauty, but the specimen in question is an Orchid which is well worthy of cultivation, being capable of bearing a spike of flowers of much character. It is not unlike a pendulous Spathoglottis. It is not unlike a pendulous Spathoglottis.

W. Duckworth, Esq., of Flixton, promises to be one of the leading Lancashire Orchidists; his group was not large, but what there was showed that he can grow Orchids well. Oncidiums were the principal feature of the group, and some fine varieties of Oncidium Marshalltanum made a good show. Other good plants in this group were a lew well-flowered Odontoglossum Pescatorei (Silver Medal).

Messrs. J. Cowan & Co., Gateacre, Liverpool, had a fine general collection of Orchids, amongst which were many good varieties of Cattleya Mossiæ, Dendrobium Bensonæ in quantity, a few choice varieties of Odontoglossum crispum, and some good Cymbidium Lowianum (Gold Medal).

Mr. J. Ronson, Altrincham, was awarded a Silver Medal for a group of Orchids and Souvenir de la Malmaison Carnations.

Messrs. JAS, CYPRER & SONS, Cheltenham, slways make great display at this exhibition. A special place is allotted for their display, and it is certainly one of the features of the show. Their group of Orchida was backed by a grand collection of stove and greenhouse plants, and the effect was all that could be desired.

ROYAL CALEDONIAN.

MAY 25 .- This exhibition in the Waverley Market, Edinburgh, on Wednesday last, proved a very attractive one, there being a quantity of bright flowers staged alike by the trade and by gardeners. In some classes the competition was not very keen, as in that for a group of plants 18 feet across, in which Mr. A. Pringle, gr. to Sir W. Lawson, Bt., Brayton, Carlisle, was the only exhibitor, but to which the 1st prize was awarded.

For a table of Orchids 10 feet by 4 feet 6 inches Mr. D. Mackay, gr. to C. Dickson, Esq., Lasswade, had first prize, with an unusually good and varied lot. Mr. McIntyre, gr. to Sir C. TENNANT, Bart., The Glen, was a good 2nd; and Mr. Wood, gr. to J. BUCHANAN, Eq., Oswald House, Edinburgh, 3rd.

Mr. MACINTYRE secured 1st prizes for two and for one specimen Azalea Indica, and also for two greenhouse Rhododendrons (grand specimens), for ten plants in flower, and also for six plants in flower. In addition to other prizes for plants, Mr. MACINTYRE also secured let for six etove and greenhouse flowering plants, and for four of the same class of plants.

The chief prize for foliage plants was awarded to Mr.

KNIGHT, Braylon; Mr. McIntrue being 2nd. For four Amaryllis, Mr. McDonald, Cardrona, Innerleithen, was 1st, with fine examples.

Roses were mostly small plants. For ten sorts, Mr. Young, gr. to Mrs. FLEMINO HAMILTON, Craiglaw, was

Of alpines, Auriculas, Cinerarias, Primula species, Spiræas, there were good exhibits.

Roses were specially good, Mr. Parlane, gr. to Mrs-Dennistoun, Roselea, Row, being 1st for twenty-four flowers, with large examples; and Mr. Young 2nd. The latter was 1st for twelve varieties, and also for twelve flowers of Maréchal Niel, in fire colour.

For three vases of Souvenir de la Malmaison Carnations, Mr. Young, Hartrigge, was 1st, with fresh flowers; and also for three vases of Carnations.

For twelve bunches of Narcissi, Mr. J. Prosser, gr. to W. T. DICKSON, Esq., Laughton House, won 1st prize.

The best Tulips in six varieties were staged by Mr. Galloway, gr. to the Earl of WEMYSS, Gosford.

For twelve spikes of stove flowers Mr. Sharp, gr. to C. L. Wood, Esq., Forgandency, was 1st, showing Orchids exclusively; Mr. McIntyre was 2nd, and Mr. McMillan, Douglas Castle Gardens, 3rd.

FRUIT.

Mr. Woodcock, gr. to Mrs. N. HAMILTON OGILVY, Archerfield, won the 1st prize for Peaches and Nectarines; Mr. YOUNG, Harbriggs, for Figs, and Mr. MacKinley, gr. to Lord Cowper, Wrest Park, Bedfordshire, for Strawberries with grand fruits; Mr. KNIGRT BRAYTON, 2nd.

Vegetables were staged very sparingly; Mr. MAC-KINLEY gained 1st prize for a collection, and Mr. STEWART, Thirlstane, 2od prize.

TRADE EXHIBITS.

The trade made a wonderfully good display, perhaps better than at any previous summer exhibition. The entire west-end of the market was occupied by Mesars. R. B. LAIRO & Sons, Ltd., Pinkhill; the motive of the arrangement being a Wistaria covered Japanese summer-house with gravel walks passing between groups of Maples, Acer Negundo, Lilac, &c., and massed assortments of Ghent Azaleas, Spireas, and Rhododendrons.

Mr. JOHN DOWNIE, Beechwood, showed a large oval group of decorative plants; and in juxtaposition with the above, Messrs. A. Dickson & Co., Waterloo Place, a charmingly arranged group of foliage and flowering Of the latter, the Cineraria, Calceolaria, Pelargoniums, Roses, and Cattleyas, were particularly fine.

Mr. Fornes, Hawick, had a table of nice Phloxes, Carnations, and Alpines; Messra J. Cockea & Sons, Aberdeen, of Globe flowers mainly; Messrs. DOBHIE & Co., Rothessy, of rock plants, with some fine flowers of Marigolds, Cactus Dablias, Pansies, and Violas.

Messrs. Cunninghame, Fraser & Co., Comely Bank. had a naturally arranged rockery furnished with many good things.
From Messrs. J. Diceson & Sons, Hanover Street,

came a table of useful greenhouse material.

Messrs. J. Stormonth & Son, Kirkbride Kirkbride, Carlisle, had a very nicely-arranged rockery, in which were such good things as Ramondia Cypripeds, Haberlea

rhodopensis, Asperula athoa, &c.

Messrs, Jas. Grieve & Sons, Pilrig, staged a lot of
useful hardy stuff, including a pretty bronze-coloured

Viola.

Mr. W. SCARLETT, Edinburgh, had an interesting exhibit of new Potatos growing in pols, some of the nower kinds, as Eldorado, being in glass pots, in order to show the crop. Sim Gray, Discovery, and other varieties were staged in the same way.

Messrs. R. G. CUTHNEAT, Southgate, Middlesex, provided a group of Azaleas and foliage plants.

Messra, Laine & Mather, Kelso, had a rockery with suitable plants.

Messra. Hogg & Robertson, Dublin, staged a collection of 120 sorts of Tulips; and Messrs Ramsbottom & Co., Geashill, an equally gay display of Aldborough Anemones.

PLANS FROM YOUNG GARDENERS.

The young gardeners' plans constituted, as in former years, a very successful item, and the plans as exhibited in a part of the market show that an interest in their In a part of the marker show that an interest in their calling is being seriously taken by at least a part of the younger generation. The prizes were awarded as follows:-1, Hugh Borron, Bank House, Blackburn; 2, MANDREW DICKSON, Dalkeith Palace Gardeos: 3, DAVID SCOTT, Dysart House, Fife. Highly Commended: FRANK PHILIP, Philiphaugh. Commended: D. T. MONING, Wassel Park. MACKINLEY, Wrest Park.

The FLORAL COMMITTEE made the following awards Tulip Scarlet Emperor (First-class Certificate), T. Inglescombe Pink (First-class Certificate), T. Orange King (First-class Certificate), shown by Mesars. WARE, Feltham. Acer pseudo platanus variegatum, Mr. Downir, Pinkhill (Vote of Thanks), and a request to show again. Lobelia Waverley Blue (First-class Certificate), shown by Mr. Philips, Granton Rosd Nursery.

GOLD MEDALS were awarded to Messra. R. B. Laird & Co., Dickson & Co., Mr. Downie, and Hogg & Robert-son. Silver Gilt to Cunninghame, Fraser & Co., R. & G. Cuthbert, Dobbie & Co., and Reamsbottom & Co. Silver to Mr. Forbes, Grieve & Sons, D. Macleod for Orchids, and Stormonth & Sons. Bronze to Messrs. Cocker & Sons, J. Dickson & Sons, Gilbert & Sons for Anemones, Laing & Mather & John Philips.

Obituary.

MRS. HARTLAND.—We regret to learn of the death of Mrs. Hartland, wife of Mr. W. Baylor Hartland, of Ard Cairn, Cork. She passed away last week after an illness of some years' duration borne with fortitude and resignation.

R. MACLACHLAN, F.R.S.—It is with deep regret that we record the death of this wellknown entomologist, at the age of sixty-seven. He acted as our referee upon entomological matters from the death of Professor Westwood almost to the present time. He was one of the original members of the Scientific Committee, and his extensive knowledge and well-balanced judgment were highly valued by his colleagues. He was at one time President of the Entomological Society, Treasurer to that Society and to the Ray Society. He was fond of his garden, and a frequent attendant at the meetings of the Royal Horticultural Society, on the Council of which he at one time served. In 1855 he travelled in Australia, where he made collections of insects and of plants, in the naming of which he had the assistance of Robert Brown. He contributed the article "Insects" to the Encyclopædia Britannica. His specialty was the order Neuroptera, of which he published an important monograph. His constant desire to help his colleagues and facilitate the work of students endeared him to his colleagues, by whom he will be sadly missed.

ANSWERS TO CORRESPONDENTS.

BEGONIA FLOWER: A. L. The flower is a good example of reversion, the thick outer segments having partly reverted to leaf-form. All the of a flower are metamorphosed leaves, and they are apt to take on the leafy character Yours is a very good example.

BOOKS: R. S., Hanworth. (1) The Book of the Rose, by Rev. A. Foster-Melliar, M.A., price Gs. 4d. post free; (2) The Book of the Strawberry, by Edwin Beckett, price 2s. 9d. post free. We do not know a book upon Rose cultivation America. Rose cultivation in France you will find explained in Les Rosiers, by Cochet-Cochet and S. Mottet, published by Octave Doin, Paris. We cannot recommend you a work on Strawberry-growing in America.

CATERPILLAR ON PEACH: J. Milsom. A nearly full-fed iarva of a species of Tortrix-moth, closely allied to the Rose Tortrix. We cannot definitely fix the species without rearing the perfect insect, as the larvæ of this extensive family are so much alike.

CUCUMBER AND MELON-DISEASE: H. H. The disease is unfortunately very prevalent in many districts. It is practically impossible to destroy the resting spores; the only remedy is to remove the infected soil. Preventive measures are of the greatest service in keeping the disease in check, the most important being plenty of ventilation and not too much moisture in the atmosphere. Spraying with sulphide of potassinm ($\frac{1}{2}$ oz. to a gallon of water, to which a small amount of soft-soap is added) is beneficial; but the under surface of the leaves must be thoroughly covered with this spray to be effectual.

Fig: Brown Turkey. The fruits of an early crop frequently become yellow and drop from the trees when they are about the size of those you send, and the trouble is generally caused by the imperfect setting of the flowers within the "fruits," as the edible Figs are called. We think this has happened in your case. Continue to afford the plants abundance of heat, moisture, and a free circulation of air, and ayringe the trees twice daily until the fruits are ripening. Should the trouble continue examine the leaves, and if any appear to be diseased send them to us with more fruits and we will see if they are affected with the fungus disease Cercospora Bolleana.

Fungus: J. W. The black fungus found at the root of an Oak is Daldinia concentrica (see fig. 152). It is a sphæriaceous fungus of the Hypoxylon kind, and is now suspected of being a wound parasite. M. C. C.

GRAPES: J. S. H. Your Grapes are affected with a "spot" caused by a fungus Glæosporium.

Try spraying with liver-of-sulphur ½0z. to a gallon of water.

Melon: G. R. The fungus called Sclerotinia sclerotiorum has attacked the roots and base of the stem, causing the tissues to decay. Water the roots at intervals with a weak solution of nitrate of soda. Be careful to remove and burn all infested plants.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number. - A. W. G., Anemone stellata; the other specimen is, as far as we can tell from leaves only, Primula verticillata simensis. — J. M. Ahutilon megapotamicum.—A. M. S. Ribes speciosum, the Fuchsia-flowered Gooseberry.—J. M. We cannot name the seedling varieties of Rhododendron. -J. S. T. The pure white, fragrant flowers appear to be those of Rhododendron Veitchianum, but they were slightly damaged. In cases of such fragile flowers it would be better to send them to a nursery where you know the plants are cultivated largely, and they could therefore be compared at once with living specimens.—A. B. 1, Halesia tetraptera; 2, Tsuga canadensis; 3, Spiræahypericifolia.—J. M. No. 6, Rhamnus alaternus.—A. B. 2, Tsuga canadensis, Hemlock Spruce.—H. T., Devon. 1, Prunus japonica flore-pleno; 2, Dendrobium pulchellum, commonly called Dendrobium Dalhousieanum in gardens; 3, Sobralia macrathera, 2, Lulia cinadensia; 3, Sobralia macrathera, 3, Lulia cinadensia; 3, Sobralia rantha; 3, Lælia cinnabarina.—T. J. K., St. A. Piptanthus nepalensis.—E. G., Derby. 1, Woodwardia radicans; 2, Lastræa trichodes; 3, Didymochlæna lunulata [truncatula], probably; 4, Pteris cretica; 5, Adiantum cuneatum variety; 6, Aspidium macrophyllum. Barren fronds and pinnæ of large-growing species are not fair specimens, especially when dried up as these came.—V. M. 1, Pteris longifolia; 2, Maxillaria picta; 3, Oncidium maculatum; 4, Cheilanthes elegans.—M. R. 1, Cupressus nootkatensis; 2, Thuiopsis dolabrata; 3, Cupressus Lawsonisna; 4, Libocedrus chilensis; 5, Thuya gigantea (the true T. plicata). The Vines look in poor condition. Try watering with sulphate of iron, ½ oz. to 2 gallons of water.—Anxious. 1, Acokanthera speciabilis; 2, Ornithogalum arabicum; 3, we do not recognise the climber.—J. D. 1, Xanthorrhæa apiifelia?; 2, not recognised; 3, Cotoneaster affinis, but no flowers; C. frigida; 5, Pyrus Aria; 6, P. intermedia; 7, Quercus Cerria var.; 8, Populus sp.; 9, Quercus Cerris var., some open to doubt, as no flowers are sent. var., some open to doubt, as no flowers are sent.

—G. B. 1, Skimmia japonica; 2, Cercis siliquastrum (Judas-tree); 3, Berberis vulgaris; 4, Berberis; 5, B. Darwinii; 6, Weigela rosea var.; 7, Prunus Padus, Bird Cherry.

—R. G. H. 1, Spiræa Thunbergii; 2, Exochorda grandiflora.

—J. B. B. Prunus Padus (Bird Cherry)—Censtant Reader. Oncidium Gard-pari and Amelanchismane densis. neriand Amelanchier canadensis-J. J. E., Oxton, 1, Oncidium Wentworthianum; 2, Pentas carnea; 3, send in flower; 4, Cupressus funebris, nea; 3, send in hower; 4, cupressus funcoris, carcely hardy; 5, Dicty ogramma japonica.—R. W. B. Posoqueria macropus, illustrated in the Gardeners' Chronicle, May 9, 1896, p. 587.—Chrysoplene. Cratægus coccinea. The flowers of the little Stelis had completely faded. The leaves are of Tiarella cordifolia; the production of roung plants in the manner shown is common young plants in the manner shown is common in this plant. The Odontoglossum × Anderin this plant. The Odontoglossum × Andersonianum is pretty. Lælia flower affected with regular peloria.—G. A.R. Tulip Annie McGregor.—Nemo. 1, Prunus Padus (Bird Cherry); 2, Centranthus ruber; 3, Anthericum lineare variegatum; 4, Aloe variegata.—A. B. Y. Z. Davallia bullata and Crinum species. If you remove the offsets from the Crinum, and give the main bulb more heat, it would probably flower.— A. K. 1, Arctotis lilacina; 2, Zephyranthes carinata.—G. H. H. 1, We cannot undertake to name varieties of Roses; 2, Mertensia virginica; 3, Saxifraga hypnoides; 4, The yellow flower is Euphorbia cyparissias; the other plant tied to it is a Sedum: 5, Variegated Sycamore; 6, Athyrium fllix-fæmina cristata.—T. Williams. Muscari comocum.—L. Leucothoe axillaris; Viburnum tomentosum var. Mariesii; Escallonia Philippiana.

Orange-rust on Roses: H. W. C. This is due to a troublesome pest called Phragmidium subcorticatum. The appearance of the disease in spring depends on the presence of resting spores from the previous autumn. It is therefore necessary to collect and burn all fallen leaves in the autumn. Spraying with diluted Bordeaux-mixture or ammoniated carbonate of copper solution at intervals during summer will check the disease. The fungus also grows on wild Roses, and these may become a source of infection unless precautions are taken.

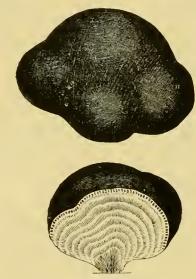


FIG. 152.—DALDINIA CONCENTRICA.

Pansies: W. F. We cannot undertake to rame varieties of Pansies. Yours is a very fine example of a "blsck" flower.

PEACHES: A. B. It is very unusual for the fruite of Peach trees to drop before they are as large in size as Peas. We suppose the trees have suffered a check, but whether this has been caused by drought at the roots, or by extremes in atmospheric temperatures we cannot say without knowing the conditions.

Peach-leaves: C. D. The leaves are attacked with the disease known as "leaf curl," the cause being due to the presence of a fungus—Exoascus deformans. Diseased leaves should be removed and burned, also any that have fallen. Mr. Massee recommends that branches having diseased leaves should be pruned back beyond the point of infection, to get rid of the perennial mycelium, which, if allowed to remain, follows the developing shoot year by year. Spraying with dilute Bordeaux-mixture just when the leaf-buds are beginning to expand, and again after an interval of three weeks, would be beneficial as a safeguard against inoculation from wind-borne spores.

PLANTS FOR SPRING BEDDING: H. F. The information you require was given in an article on p. 315 of the Gardeners' Chronicle for May 14.

PLUMS: A. G. S. The leaves are crippled from the attacks of aphis, and probably from the same fungus that produces Peach - hlister (Excascus). Spray with weak Bordeaux-mixture or quassia decoction. We fear, however, that it will be of little use this year.

PRIMULA SIEBOLDI VAR. VINCÆFLORA: Comfrey.
This is the correct name of the Primula flowers
you send, and the variety is one of many that
exist of this species. For many years these
varieties were catalogued by nurserymen as P.

cortusoides. There are probably not fewer than two or three dozen varieties in cultivation, some of which are very distinct and good. All are perfectly hardy in the open ground and should be grown in deep, rich soil, preferably in a half shady spot where abundant moisture or a rather retentive soil exists. In a rather heavy moisture-laden soil in your district we have seen some of the varieties of this Primula attain to exceptional vigour. In plauting see that the creeping rhizome is buried fully 1½ inch deep in the soil, an important but often neglected item. If the rhizomes be so planted and a light dressing of manure be afforded each year the plants will keep in good condition a long time. Well-grown established examples attain to fully 15 inches in height, and there are varieties with flowers of rose, white, pink, carmine, lilac, and other shades of colour. If you are interested in the group you should obtain some of the lists of hardy plants, from nurserymen offering plants for sale, and make a selection therefrom. The typical species is native of Japan.

typical species is native of Japan.

SEED TRADE: G. M. M. The best way to obtain a reliable knowledge of the seed trade, or any other trade, is to get into it and learn by practical experience, supplemented by intelligent observation and study. You should seek a situation in such houses as Hurst & Sons, Houndsditch; Sutton & Sons, Reading; Veitch & Sons, Chelsea; Carter & Co, Holborn; Webb & Sons, Wordsley, Staffordshire, &c.

A sons, wordsley, standrdshie, ec.

Strawberries: D. J. Certain American varieties of Strawberries are wholly pistillate, and other varieties wholly staminate. Strawberry plants in this country are hermaphrodite generally, but occasionally some plants develop male flowers only, and are termed "blind." This is not common, and you cannot regulate matters hy planting varieties in the manner you describe. A pound and a half of fruits from each plant would be a heavy crop. Do not apply muriate or kainit, but pure sulphate-of-potash in the winter season. Basic slag and sulphate of ammonia are very serviceable manures for Strawberries.

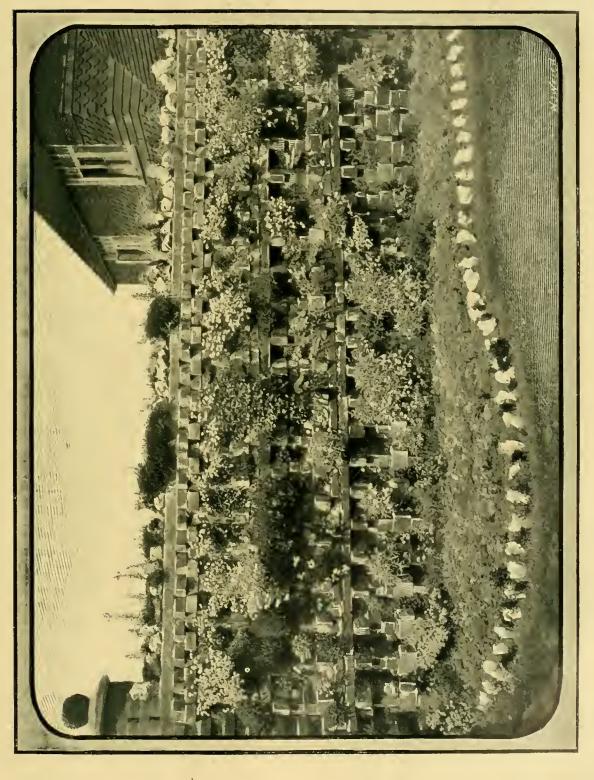
TEA PLANTATION: J. S. There are occasionally advertisements in this journal from Teaplanters requiring the services of Englishmen to superintend the work of cultivation. Scan our advertisement columns each week, and insert an advertisement in Indian Gardening, a periodical published in Calcutta.

TOMATOS: A. P. B. B. The fruits are attacked with a fungus often figured in the Gardeners' Chronicle. Try spraying the young unripe fruits and foliage with Bordeaux-mixture. Burn the affected fruits.

VINES: Subscriber. The Vines are attacked by the fungus called Botrytis cinerea. This is a sure sign that there is too much moisture in the atmosphere. More ventilation is necessary, especially early in the morning. Remove all the mouldy portions, and syringe with a rose-coloured solution of permanganate of potash once a week.—J. C. B. The shoots show indications of lack of nutrition. Either the junction with the stock is imperfect or the root action is imperfect. Stir the surface of the soil and keep it loose so as to facilitate aëration of the roots.—J. T. and P. S. The leaves are affected with "warts," probably the work of a very minute Acarus or mite. The rusty appearance of the berries is probably due to injuries received when thinning.

WALLFLOWER: H. & Son. The plants are attacked by the Crucifer rust, Peronospora parasitica. Remove and burn all infected plants at once, and spray the remainder at intervals with a solution of sulphide of potassium.

COMMUNICATIONS RECEIVED - J. R. J. - Prof. Crié, Kennes - Alwin Berger. La Morto'a - J. H. V. - J. G. J. S. - Alx les Bains. - Rushforth & Co. - W. G. G. F. B. - H. S. R. - R. A. R. - Louis Gentil - W. W. - J. W. - A. B. R. - A. A. P. - W. W. - Royal Horticultural Society - C. Pave delegram. - L. R. R. - G. J. S. - A. C. B. - J. C. J. W. - H. G. Cx. - C. J. Mee. - S. F. J. - T. S. & Sons. - G. P. - J. F. W. Rickmansworth. - Bradmin's on Magazine - W. B. H. & Sons. - Tomato. - T. R. - Fungold. - Glen. - E. B. - H. M. - J. B., Jr. - J. W. - J. T. C. Basu'oland. - J. L. - R. A. R. - Expert. - J. P. D. - A. Gaut. - J. R. J. - L. S. W. - J. N. - H. L. Braemore. - S. A.



From a Photograph by F. Mason Good. VIEW OF A GARDEN WALL AT HOOK HOUSE, NEAR WINCHFIELD.





THE

Gardeners' Chronicle

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EXPERIMENTAL CULTIVATION.

THE interest in the experimental cultivation of garden and farm plants is extending yearly, with a rapidity that can be partially measured by the numerous reports issued by public bodies or private investigators. The subjects taken up are so important, and the object of the experimenters is so obviously in the public service, that all concerned in matters of cultivation must admit their indebtedness. The work is often costly, and it always demands knowledge, experience, patience, and continued application, to secure results in any degree satisfactory. With these facts before cultivators and students, criticism becomes an invidious task; and this probably explains the circumstance that even where there may appear room for doubt as to methods, records, or deductions, there is a general reluctance to deal with the work in a severely critical manner.

Nevertheless, as so many are now engaged in experimental cultivation, and the danger resulting from inaccuracy or faulty work is becoming so much more pronounced, it is desirable that efforts should be made to ensure reliability and uniformity. A most useful and welcome recognition of this has

been afforded by the Agricultural Education Association, which some time ago submitted to the Board of Agriculture a series of carefully considered schemes for the regulation of experimental work. Though mainly directed to farm experiments, the principles are applicable to horticulture; but where some divergence is needed it can be readily effected. The admirably systematic and long-continued work at Rothamsted is open to the examination of all who wish to commence experimental cultivation on the best model; abundant examples are also available in Continental and American records. There is in consequence but little excuse for the adoption of erroneous methods, provided that before starting every care be taken to ascertain what has been already accomplished in the intended direction, and what systems have been adopted.

A large proportion of subsequent success or failure will depend upon the consideration given to the matter at starting. Experimenting upon any extensive scale is not an undertaking to be lightly regarded; it is a serious matter, as the results may be very far-reaching either for good or ill. The more imposing its design the greater the risk of evil to others, who would probably pay little regard to smaller or less elaborate schemes.

A thorough scientific training is unquestionably an important preparation for experimental work of all kinds, but even the best training will not supply natural deficiencies in aptitude for research, for keen observation, and for the study of living beings, with all the complex phenomena attendant upon vital action. This is a special study, and as such needs a particular inclination in that direction, as much as any other branch of investigation. The work must be attacked in an earnest manner and with expert knowledge; but with both these in the highest degree method on scientific principles is still essential.

It is occasionally very disappointing to find that important subjects which have been undertaken by inexperienced experimenters, and well designed up to a certain stage, have, through the neglect of apparently minor points, been so unsatisfactorily developed that the whole work has been rendered useless or misleading.

The conditions which influence results in plant cultivation are so varied and complicated that it is impossible to provide for all contingencies, but the closest attention will permit the simplification of issues, so that conclusions can be drawn with a reasonable amount of evidence in their support. Neglect in the preliminaries will, however, render that practically impossible.

The principal matters demanding consideration at the commencement of experimental cultivation may be briefly summed up in the following notes, which have reference chiefly to out-door garden and land experiments. Pot-culture systems need special treatment, and will be dealt with later.

The choice of soil and situation must be regulated to some extent by the plants which are to be grown and the subjects to be investigated, but a few suggestions of general application can be given. In the first place, while it is not desirable to have excessively rich or unduly favourable land for experimental work, the poorest should also be avoided, as

well as that which from prolonged neglect has become foul with weeds, and often also with fungoid and insect pests. There will always be sufficient adverse influences to contend with to render it quite unnecessary to court failure by such means. It frequently happens that neglected land and garden corners are set apart for experimenting, under the impression that anything will do for this work; and it leads to much after trouble. In the case of manurial experiments it is preferable to have the soil rather poor than otherwise, so that well-marked results may be secured, but in all other cases a good medium soil should be selected when possible. Three important points are: 1, the soil should be of such a physical condition that it can be readily worked; 2, it should be fairly uniform for each series of experiments, and should have had similar treatment for a year or two previously; 3, the situation should be such that the soil is not unduly exposed to extremes of drought, wet, or frost. These apply specially to all trials concerning the use of manures. But in testing varieties, different situations and soils will, if carefully studied, give instructive results.

The tenure of the land is a matter of some importance, for the value of all experiments in cultivation is greatly increased by the length of time they have been carried out on the same site. It is in this way, combined with the exceptional care devoted to the work, that the Rothamsted records have become of national consequence. Where freehold land can be purchased or acquired there is the best chance of devoting it to a prolonged period of treatment; and if the means are at command to provide by investment for annual expenses (as was so generously done by the late Sir J. Lawes), we have the ideal conditions for satisfactory work. This, however, is rarely attainable, and the majority of investigators have to work under less favourable conditions. When a lease can be obtained for a fairly long period, or if the land is held on a yearly tenancy under one of the county magnates who is interested in the work, the tenure may be quite secure. But in every case it is desirable to have some reasonable prospect that the land can be devoted to the intended purpose sufficiently long to procure comparable results that will be of permanent value.

The size of plots to be adopted is of the utmost importance, as there is no more prolific cause of error than the common method of calculating results by the acre from the produce of very small plots. When it is considered that an error of 1 ounce per square yard amounts to over 300 lb. per acre, it is easy to see that the total results may appear favourable or the reverse when judged by the acre calculation; yet the chances of magnifying such errors in plots of 10 or 12 square yards are very serious.

One mistake of experimenters employing very small plots is that of attempting to do too much, as when the land at command is limited in area this necessitates cutting it up to an undue extent, and tends to other evils as well. It would be an advantage in every way if each special attempt were restricted in scope so that more space could be devoted to the plots; the work would be more thoroughly done and the results would be more reliable.

There is a general consensus of opinion in favour of the following sizes for plots in agricultural work, and they have received official recognition by the Board of Agriculture. Rotation experiments a quarter of an acre, and Corn crops one-tenth of an acre, while for root, Potato, and hay crops onetwentieth of an acre is advised as the minimum. For many garden crops the lastnamed, i.e. 242 square yards, is a convenient size, but smaller size plots can be employed for some crops, though anything less than 100 square yards is not advisable, except under the closest supervision and with the greatest possible accuracy in recording results. It is urgently necessary that there should be a serious attempt made to standardise the work now being performed in so many directions, and one means to that end would be the adoption of uniform plots for similar crops. Royal Horticultural Society might do well to recognise this, and with such modification of the agricultural schemes as might be deemed necessary, a plan could be arranged that would be suitable either for field or garden work. The newly organised National Potato Society has set an excellent example in this respect by adopting onetwentieth of an acre for each variety trial, every plot to be divided into two. But there will be more to say on this point when considering the different crops and experiments. All that is necessary now is to emphasise the importance of avoiding extremely small plots, and then working out the results by the acrc. P. Lewis Castle.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

CATASETUM MONODON.*

A New Catasetum, in 'size and foliage quite similar to all the other species of the genus. The spike is long, and bears eight to ten greenish flowers each nearly 2 inches in diameter. The lip is rather flat, with long fringes along the whole border except the sinus of the mid-lobe. In the disc, a little in front of the apex, is a compressed incurved callus or horn, and the apex itself is protracted into a long, thin, thread-like bristle exceeding the sinus of the lip. The two processes of the column are very long and thin, and reach nearly to the horn of the disc above described. The top of the column is a rather long and thin incurved beak. The middle of the lip is furrowed, honey coloured, and seemed to me a little wet; it is perhaps a sort of nectarium. The column in

additts 3 cm. latum est.

Brazilla. Regio ignota. Misit Zimmerer, accepl ex
Horto Reg. Monacensi. F. Kränzlin.

its whole length reaches nearly the top of the odd sepal; at both sides of the anther-bed are two rather distant teeth. The characters taken together show us a plant similar to Catasetum triodon, Rehb. f., but on comparing all the species quoted by Dr. Cogniaux in the Flora Braziliensis I am quite sure that this plant does not agree exactly with any of them. The plant is undoubtedly of Brazilian origin, but at Munich, from whence I received it, nobody knows the native place of it. It was sent by Mr. Zimmerer, who did not communicate anything else. F. Krönzlin.

KALANCHOE DYERI, N. E. Brown (n. sp.).

This is one of the finest species of this genus that has yet been introduced, producing large corymboss cymes of large pure white flowers, and not being so tall as many of the species, it is suitable for decorative purposes. It is a native of

IRIS TECTORUM.

THE brilliancy of Iris Kæmpferi (lævigata) is perhaps the reason that this lovely Iris is so badly treated here in Japan, for the only place where one sees it growing is on the tops of the straw-roofs of farm-houses, where it is planted in order to make the roofs stronger, and to withstand the typhoons and high winds. For that reason the view from a hill of a small fishing village below is particularly picturesque when these blossoms are at their best, although of course these flowers growing in the stiff sunburned clay cannot be compared with the blossoms grown in our fertile fields. The stock which was used for planting came from an old farm-house which had been modernised with a tiled roof, and consequently the plants had been thrown away. Taking pity on them we brought them to Yokohama, planting them in the nurseries of



FIG. 153.—: RIS TECTORUM GROWING IN THE NURSERIES OF MESSRS. L. BOEHMER AND CO., YOKOHAMA, JAPAN.

Nyasaland, whence it was sent in 1902 to Kew, where it has recently flowered. It is allied to K, somaliensis, Baker.

Plant 2-2½ fect high, quite glabrous in all parts. Stem ½-1 loch thick at the base, terate, glaucous. Leaves large, opposite, very spreading; petiole 1½-3 ioches long. 4½-6 lines broad and nearly as thick, subterete, slightly flattened on the upper side, dilated at the base, green or purplish-tinted, speckled with white; blade 4-7½ inches long. 2½-5 inches broad, elliptic, obtuse, rounded or cuneate at the base, irregularly and coarsely toolhed, with the sides more or less incurved or flat, greeo, with a purplish tint on the midrib and principal veios above, slightly g'aucous. Leaves and bracts of the inforescence ½-2 lnches long, varying from spatulate - obevate to lanceolate, obtuse or subacute, entire. Inforescence corymbose - cymose, 9-12 inches lorg, 6-9 inches broad; branches suberect 3-8-flowered; pedicels 8-9 lines lorg, ½-1 line thick, glaucous. Sepals 3½-6 lines long, ½-2 lines broad at the base, thenca tavering to the obtuse point. Corolla-tube 1½ inch long, 3½-4 lines square at the base, pale green; limb pure white, with four very spreading, lanceolate, acutelobes linch lorg, 4½-5 lines broad. Stamens eight, the upper four just exserted from the mouth of the tube, the lower lour included; filaments ½-1 lin, long; anthers small, ½-3 lines long, filiform, more or less minutely bifid, white. Carpels ½ loch long, linear-lanceolate, somewhat 4-angled, green; etyles 11 lines long, filiform, twisted together at the base, green; stigmas capitale, white. N. E. Brown.

L. Boehmer & Co.; and how well they have repaid this care the accompanying photograph clearly shows. In addition to this I enclose a photograph [not reproduced] of the lovely Iris gracilipes, Gray, one of the prettiest plants of this genus for pot culture. Although not a new plant, it is not seen often here, and may therefore be a valuable acquisition for our home gardens. A. Unger, Yokohama. [Messrs, W. Cutbush & Sons have shown us a whiteflowering variety of this beautiful species. Ed.]

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT WESTFIELD, WOKING.

To use leaf-soil or not to use leaf-soil is still the burning question of the day in Orchidic circles, and on that point every opinion is worth consideration. In the little collection formed by Francis Wellesley, Esq, consisting especially of Cypripediums, rare Cattleyas, and Lælio-Cattleyas, the whole matter has been thoroughly tested, and judgment given most unhesitatingly against the use of leaf-soil or of decayed leaves, in the manner so strongly advocated by some cultivators.

Mr. Wellesley has been a successful florist from boyhood, and has accomplished much with

^{**} Catasetum monodon, Kranzl., n. sp.—Habitu et foliis Catasetorum solitis, bulbis oblongo-fusiformibus v. subcylindracels125cm.longis, medio 3cm. crassis, foliis oblongis lanccolatisve acutis ad 40 cm. longis, 6-7 cm. latis herbacels; racemis erectis folia superantibus cm. 10-floris; bracteis ovatis concavis ovarii † æquantibus; sepalis oblongis acutis concavis, dorsali cum petalis bene majoribus planis apise reflexis erecto, sepalis lateralibus deflexis, labello planiusculo ante medium leviter excavato (non saccato), lobis lateralibus paulum reflexis rotundatis, intermedio subquadrato antice emarginato ibique in apicem teretem filiformem quam sinus bene longiorem producto disco leviter sulcato, toto margine, excepto sinu, longe fimbriato, callo magno compresso a latere viso fere triangulo apice incurvo acuto in disco ante apicem, gynostemio sepalum dorsale iere æquante, margine androclinii utrinque bidentato, dentibus bene distactibus, rostro gynostemii elongato acuminato leviter incurvo, cirrhis longis callum v. cornu usque descendentibus.—Sepala petalaque viridia, labellum viride, medio macula lutea signatum, sepala 3 cm. longa, 1 cm. lata, petala 3 3 cm. longa, 1 cm. lata, petala 3 cm. longa, additts 3 cm. latum est.

Carnations, Auriculas, &c., and he considers that his greateat success in Carnation growing has been through ignoring the ancient formula of one-third, or one-fourth, leaf-soil in the compost, and after trial he is prepared to assert that the decayed leaf or leaf-soil prescription for Orchids has to go in the same way. It should, however, be stated that Mr. Wellesley does not grow Odontogloasums, and therefore offers no definite opinion in regard to them. This atatement at the present time has special significance, because a North-country firm who took the lead in the use of leaf material for

flowers resembling C. bellatulum album in shape with more of the small purple spotting of C. concolor, being by far the finest yellow Cypripedium of its class. C. × Ville de Paris and C. × Mrs. Wm. Mostyn are two very handsome hybrids peculiar to the Westfield collection; and a very robust specimen of C. Lawrenceanum Hyeanum, grown much cooler than is usual, conveys a lesson. All the forma of C. Lawrenceanum, including the finely-coloured C. L. hackbridgense, thrive admirably here along with C. insigne Sanderæ, C. i. Sanderianum, and other tolerably cool-house varieties. Mr. Hopkins, the gardener

L.-C. × Haroldiana, the true Lælia Gouldiana, L. anceps Schroderæ var. Theodora, for which an Award of Merit was recently awarded; and other good forma of L. anceps; Cattleya amethyatoglossa Dom Pedro, &c.

The raising of new hybrids of the best procurable parentage is also in active progress, and some promising hybrids are already assured. J. O'B.

EPIDENDRUM (DIACRIUM) BICORNUTUM.

The finely-flowered plant of this handsome Orchid, which Messrs. Jas. Cypher & Sons,

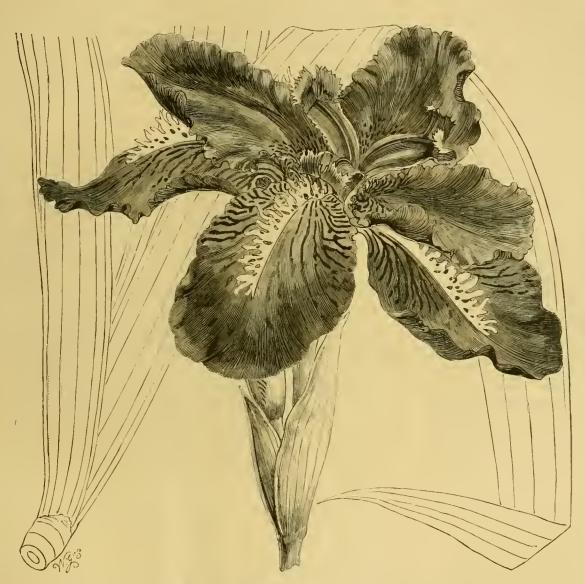


FIG. 154.—SINGLE FLOWER OF IRIS TECTORUM: COLOUR LILAC, FALLS DEEPLY PURPLE-SPOTTED WITH A WHITE-TOOTHED CREST. (SEE P. 354).

Orchids is reducing it to a vanishing-point, the proprietor excusing himself and the material by saying, "It wants properly handling. We can use it safely, but our customers cannot, and we cannot tell them how to do so. They complain that plants grown with a proportion of leaf-soil do not maintain their vigour."

Mr. Wellesley's collection is remarkable for the rare Cypripediums which it contains, and it has one of the most complete sets of hybrids, both primary and secondary, of C. Fairieanum. The species and hybrids of the C. niveum, C. concolor, and C. bellatulum sections are also specially well represented; the latest novelty, C. × Wellesleyanum, apparently a cross between C. bellatulum album and C. concolor, and with yellow

at Westfield, is a great believer in dividing the active front portion of a plant from the back bulbs which are unproductive when both are allowed to remain together; and among the rare varieties and hybrids so treated at Westfield there has not been a single failure. On the other hand, the leading portions of the plants have thriven amazingly after separation; and the back bulbs have in some cases produced plants equal to what the originals recently were. The sturdy specimens of the fine white Cattleya Mossiæ Arnoldiana, Westfield variety, cattleya × Lady Ingram Westfield variety, and othera so divided, hear striking evidence of the correctness of the method. Good things noted were Lælio-Cattleya × zephyra alba, L.-C. × Norba superba,

Cheltenham, had in the effective group of Orchids for which they were awarded a Silver Flora Medal at the Royal Horticultural Society on May 3, gave another example of a reputedly difficult plant being amenable to good cultivation. With Mr. Cypher it flowers regularly grown in the same way as the fine Dendrobiums for which the collection is noted, except that it is not kept so dry after the growths are finished, as in the case with the Dendrobes. There are several varieties of this plant, but the Trinidad form which Mr. Cypher grows is the best, as its fine spikes of large, wax-like, white flowers with a few violet spots are nearly twice the size of those borne on the South American varieties.

HIMALAYAN BAMBOOS.

(Concluded from p, 340.)

PERIOD OF FLOWERING .- Finally, it may be of interest, theoretically as well as practically, to add a few words on certain physiological peculiarities of those Bamboos, particularly the extent of flowering and their fate after seeding.

Do all the stems of a clump, or all the clumps of a mountain side, or of a still larger area flower at the same time? Do they necessarily die after having matured their seeds, or do they sometimes recover from the exhaustion caused by the profuse production of flowers or fruits? Very little is known of their behaviour in the wild state. Madden, a remarkably keen observer, says the flowering of Falconeri was very general on the upper Pindari in September, 1846, and all the fruit-bearing specimens seemed to fade away; and he reports a few years later,25 "Three years afterwards, in a second visit to the Alpine Himalaya the stems which had fallen [namely, after having seeded] and died in that season, were still perfectly sound." When the great flowering of A. Falconeri took place in Europe, all the culms were, as a rule, affected, and the plants died so generally that Rivière spoke of the annihilation of this Bamboo consequent on its fruiting. There may, however, have been exceptions. Carrière, for instance, states that a very strong clump in M. Hammond's garden at Cherbourg produced only one flowering culm; whilst another of twenty-four culms in M. Balmont's nurseries, also at Cherbourg, had five flowering stems. More remarkable is the statement that the culms of the enormous clump which flowered in M. Lalande's27 garden at Nantes in 1875, covered themselves with leaves after having flowered: but in this, as in the other two cases mentioned, nothing was heard of the ultimate fate of those specimens. A. falcata seems to behave similarly, although with less regularity. Broun28 reports that in 1886, in Jaunsar, almost every culm was loaded with flowers near Chakrata, Deota, and beyond in the Sahlra forest; but apart from those seasons of general flowering, a few clumps may be found in flower, according to Gamble, almost in any year. When it flowered in France in 1886 and 1887 the phenomenon was very general, those which escaped in 1886 flowering in 1887.29 All the clumps that flowered seem to have died, as was the case with A. Falconeri in 1876, although they may have lingered for a short time, as is reported from Cannes, where a clump flowered in 1886, was cut down in the autumn and produced fresh though feeble shoots in 1887 which also went to flower. At Kew a specimen produced leaves and flowers on the same culm in 1885, the inflorescences were comparatively poor, like those observed last year under similar circumstances. The same (?) clump produced (as a record drawn up at the time by Sir Dietrich Brandis states) flowering and foliage stems in 1886, the former bearing only flowers, the latter only leaves, and then it died. Another specimen had in the same year only flowering stems, and it too died after having matured its seeds.

It is obvious that the duration of the culms, their power of resistance to frost, the conditions of flowering and fruiting, and the effect of seeding on the life of the plants, are points of as great importance for the horticulturist as they are of general scientific interest. Unfortunately our knowledge of the conditions under which those Bamboos live in their natural habitats, and of the phases of their development is very scanty, and I would urge that altogether more attention should be

paid to the life history of the Bamboos of the temperate Himalaya by forest officers and others who are on the spot. A. falcata ranges from Chamba to Nepal, A. Falconeri from Kumaon to Sikkim. Of the fermer we know that seeds might be got almost in any year; of the latter we may be sure that the flowering does not take place simultaneously all over its large area. Would it not be advisable to import seeds gathered in different places and years, so as to have a supply of clumps of different age, which would, of course, flower and fruit in different years, and spare us the annoyance of seeing those noble plants wiped out from time to time? Otto Stapf, Kew.

ODONTOGLOSSUM NEBULOSUM "GURNEY WILSON."

AT the meeting of the Orchid Committee of the Royal Horticultural Society on May 3, Gurney Wilson, Esq., Glenthorne, Haywards

was attracted most by the beautiful and everencroaching race of Odontoglessums. He removed to Haywards Heath, where there are now several houses filled with good Odontoglossums, principally O. crispum, in excellent condition; and a fresh importation of the Pacho type is just being added to the stock.

Cattleyas are also well grown at Glenthorne, C. Mossiæ and C. Mendeli being very fine this

KEW NOTES.

CHLOREA VIRESCENS, Lindley .- This fine terrestrial Orchid has been flowering for the past three weeks in the Odentoglossum-house. The genus is one that has been very little in cultivation, notwithstanding the fact that C. virescena was grown and flowered by Mr. Cameron at the Birmingham Botanic Gardens in 1845, and was then figured in the Botanical Register. It does not appear to have been cultivated to any great

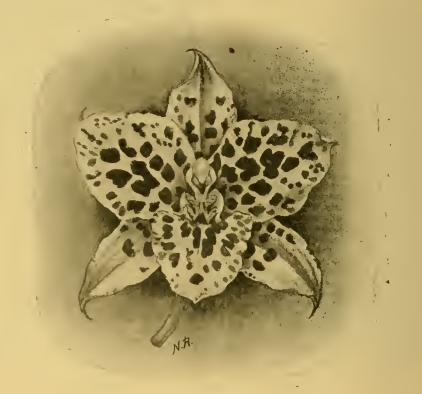


Fig. 155.—odontoglossum nebulosum "gurney wilson."

Heath, was accorded an Award of Merit for Odontoglossum nebulosum "Gurney Wilson' we here represent (fig. 155). The variety is the most beautiful of its class, from the florists' standpoint, and it is interesting botanically as affording the extreme of the broadpetalled, spotted, or pardinum section, as compared with the smaller, unspotted, or sparsely marked forms of the O. nebulosum candidulum

The flowers of O. nebulosum "Gurney Wilson" are silvery-white, slightly tinged with rose at the backs, and attractively spotted with purple, in which a slight green tint can be observed. Odenteglossoum nebulosum, Lindley, a cool-house plant, native of Mexico, has been referred by some to O. apterum, La Llave, and Lexarza, which again has been indentified with O. Rossi.

The late Professor Reichenbach, in an early note in the Gardeners' Chroniele, fully recognised O. nebulosum, Lindl., and the name has been always used in gardens. Mr. Gurney Wilson, who for some years grew Orchids at Streatham, extent since that time, until brought home by Mr. Elwes in 1903 from Chile. The erect spikes of flowers are from 9 to 15 inches high, carrying six to twelve flowers of a bright yellow colour, beautifully veined with light green.

The following cultural methods have been practised at Kew, and found to suit Chloreas admirably. After flowering the plants lose their foliage, and remain dormant until about August or September; during this resting period they should be kept in a cool frame, fully exposed tothe sun, water being withheld until the new growths begin to push, when they should be shaken out and repotted in a mixture of fibrous leam, peat, sphagnum-moss, sand, and broken sandstone, or some such material to keep the soil thoroughly porous. Water should be supplied very sparingly until the plants are well rooted. They should be grown in the coolframe until they are removed at the end of October into a greenhouse. As soon as the flower-spikes are seen afford liberal supplies of weak manure-water.

²⁵ In Ann. & Mag. Nat. Hist., 2nd Ser., xi, 1853,

p. 350.

26 Revue Hort., 1876, p. 174.

27 Lalande, in Revue Hort., 1876, p. 175.

Indian Forester, xii., p. 414.
 Carrière & Andié, in Revue Hort., 1887, pp. 291, 292,

DENDROBIUM JENKINSII, Wallich.

This charming species with its miniature pseudo-bulbs has flowered freely in the Cattleya-house. The plants grow well upon either a piece of Tree-Fern stem or on cork. When making their growth they thrive best in an intermediate temperature, but afterwards they should be removed to a cooler house. The species is a native of Assam, and was figured in the Botanical Register, 1839, t. 37. W. H.

time of writing is bearing thirty large inflorescences in full flower, there being indications of many more to follow. It is a native of the temperate regions of the Sikkim Himalaya, [and is especially abundant towards the summit of Tonglo, at an elevation of 9,000 to 10,000] feet, and is also common in the Lachen and Lachcong valleys at similar elevations, ascending to even 12,000 feet. It first flowered in Europe in 1892, in the garden of Mr. Gumbleton, Belgrove,

FIG. 156.—DENDROBIUM NOBILE "VIRGINALE" BEARING FIFTY-TWO FLOWERS.

BUDDLEIA COLVILLEI.

This species, by far the handsomest member of the genus, is at present in flower in the Himalayan wing of the Temperate-house, where it is planted-out in a border amongst Rhododendrons and other Himalayan plants. On the completion of the Himalayan-house some five years ago, the plant was removed to its present position from the Temperate-house, where it had been grown for a number of years and had never flowered. It has now grown vigorously, forming a large, spreading tree about 25 feet high, and has flowered annually since its removal. The plant commenced to bloom a fortnight ago, and at the

Queenstown, and was figured in the Gardeners' Chronicle, for August 13 of that year.

In describing this plant in his Illustrations of Himalayan Plants, Sir Joseph Hooker says, "This will probably prove perfectly hardy, as I have found it in very exposed places as well as in woods, and from the abundance of its flowers and its lasting some weeks in bloom, it will be a most desirable addition to our gardens." The plant, however, has proved to be too tender for general cultivation in this country, and it is only in the very mildest localities that it will succeed at all. I saw Mr. Gumbleton's plant last summer, and from its appearance I am convinced that even with

the mild conditions under which it exists in his garden, the winters are far too severe for it. I have also seen it tried in several places in Cornwall, but with very little success. The conditions under which the plant is grown at Kew appear to be the best, as is evinced by its healthy, vigorous condition. Chas. P. Rafill.

LONICERAS.

Lonicera affinis, a species new to cultivation, is at present in full flower in the Temperate-house. L. syringantha is also in flower in the Lonicera collection. Further reference will be made to these species on another occasion.

DENDROBIUM NOBILE "VIRGINALE."

The plant illustrated in fig. 156 was cultivated the garden of Geo. C. Wand, Esq., Ferniehurst, Baildon, Yorks (gr., Mr. W. Taylor). It is sufficient proof of good cultivation when we say that the plant bore fifty-two flowers, and had three new growths, each measuring 24 inches long. This variety of D. nobile has flowers of pure white, except for a pale lemon tint on the lip.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

THE LATE WILLIAM CARMICHAEL.—I have thought you might like to insert a filial tribute to the memory of my father, who was a regular reader of the Gardeners' Chronicle. Twenty-two years' absence from him in South Africa, with a most regular correspondence however. a most regular correspondence however, and two visits home to see him in Edinburgh, have quickened rather than otherwise my grateful love for him. He passed to his rest at 14, Pitt Street, Edinburgh, his home since 1887, on April 6, 1904 (see Gardeners' Chronicle, April 23, p. 267. Ep.]. He was born, in July, 1815, at Comrie, in Perthshire, where his ancestors for six generations had been crofters in the neigh-bourhood of the "Crappich," which guidebooks say is, perhaps, with a little alteration of letters, Mons Grampius, at Tullybanocher and Glasdale. He went to the achool at Comrie, then under Mr. Cameron, and at fourteen he walked with his father, also William Carmichael, over the hills by Callander to Buchanan Castle, Loch Lomend, and was apprenticed in the gardens of the Duke of Montrose to Mr. Montgardens of the Duke of Montrose to Mr. Montgomery, head gardener. One of his fellow gardeners here, whom he always remembered, and
after whom he named one of his Strawberries,
was Richard Gilbert, sometime head gardener
at Burghley, Stamford. After three years he
went to the Botanic Gardens in Edinburgh under Mr. McNab. A contemporary there whom he knew well afterwards in Suffolk was Mr. Peter Grieve, of Culford, Bury St. Edmunds. His next place was Archerfield, under Mr. McIntosh I think, and then, about 1840, Mr. McNab sent him to be foreman in the Duke of Norfolk's gardens at Arundel Castle, under Mr. Wilson. He went by sea to London, and took the Brighton coach. It was before railways existed, and I have often heard his story of how, when he asked Mr. McNab what he was to do in London, he was told, "Go to the Golden Cross Hotel, try and be a gentleman, tip the Boots," and take a place in the coach." He has told me how he enjoyed the new scenes and flora on the Surrey hills. After a few years Mr. Wilson recommended him to Heywood Hawkins, Esq., of Bignor Park, Petworth, who wanted a headgardener; and, although he was young, Mr. Wilson testified to his gardening powers, and he was appointed. He was fond of reading, and had at that time a small theological and gardening library, which books I knew well long London, he was told, "Go to the Golden Cross dening library, which books I knew well long afterwards. While at Bignor he went down to Comrie to be married to Mary Cossar, daughter of an overseer at Dunira. About 1845 he moved to Crowe Hall, Bath, to be gardener to George Clutterbuck Tugwell, Esq., wanted a man to grow Heaths; and my father's training under McNab, whom he used to call the "father of Heath-growing," stood him in good

stead. Here five of his children were born, and one died. He exhibited Cape Heaths at Cheltenham and elsewhere, and was grateful for Mr. Tugwell's knowledge of plants and interest in the garden, and from this gentleman he said he learned much. Then, about 1856, through Mr. Cramb, gardener to Earl Ducie at Tortworth, where some friends of Lady Dunmore were staying, he went to Dunmore Park. From here he sent out the "Stirling Castle" Peach, which he found in the Dunmore Gardens. It was originally brought there by an Earl of Dunmore, who was Govornor of Virginia. When the fruit was sent to Covent Garden it was noticed at once—I think specially by Mr. Osborn—and as it was new, the tree was sent out into the market. Here his youngest son, Charles, was born, of whom there was a short memoir in the Gardeners' Chronicle, in March, 1894. The present Earl came of age in 1862, I think, and I remember my father's trying to have good Grapes ready for a dinner in Stirling on the occasion. Sidney Herbert—later Lord Herbert of Lea-was a guardian, and frequent visitor to the estate, and my father had many recollections of him, as also of Mr. Lockhart, the factor, and Rev. Charles Hinxman, the chaplain. One of the features of Dunmore was the first specimen of Abies Nordmanniana planted in Scotland. was sent from Russia, planted in St. Andrew's churchyard, and a plate affixed to it used to tell its story. In May, 1863, Lady Dunmore sent for my father, and told him "the Prince wants you for Sandringham." This came about, I think, through Mr. Menzies, who was at Windsor in the Prince Concept's cowies. In Appet 1862 the Prince Consort's service. In August, 1863. he moved to Sandringham. His work there was several times mentioned in the Gardeners' Chronicle, and also the fact of his leaving in January, 1873. When I was with him there last year, seeing the kitchen gardens and the Golden Yews, and the Wellingtonias in front of York Cottage, which he had planted forty years before in an old pond, he kept speaking of the improve-ments, which he stated were "all for the best." It was only his age, which was over the regula-tion limit (so the Gardeners' Chronicle of the time stated), that prevented his appointment to Hampton Court. So after a few applications elsewhere he returned to Crowe Hall, Bath, to Henry Tugwell, Esq., son of his old master, who gave him his old place. But the Heaths and Camellias were no longer what they had been; still the situation of the house, and the conservatory, and the slope of the flower garden, are very beautiful, near the bottom of the richly wooded valley at the head of which stands Prior Park; and my father settled down in the happiest way again as a working gardener. Then, in 1877, his old friend Mr. D. T. Fish, of Hardwicke, Bury St. Edmunds, recommended him to Mr. T. H. Porteous Oakes, of Nowton Court, who was making a new garden, and my father went to carry this out at the end of the year. Mr. Oakes, like Mr. Tugwell, was a great lover of his trees and grounds, and the Conifera at Nowton are very fine. Here my mother died in 1882, and, with Charlie, lies buried in Nowton churchyard. Being alone after his wife's death, and having reached the age of seventy, he went back to his first place as head gardener, Bignor Park, where Mrs. Johnstone, then over eighty, asked him to live in the steward's room, and look after the place. This he did. He married again, an old friend, a cousin of Mrs. Stewart, the housekeeper at Sandringham, who had her business in Edinburgh, and he went to live there in February, 1887. He thought of retiring, but, in order that he might not "weary," his wife advised him to take a bit of ground in Inverleith Walk. This he fenced round with plants and turned it into a garden, put cordon Pears on the walls, and began to raise new Strawberries. He thought he had put "new blood into the Strawberry" when he made a successful cross between Waterloo and British Queen. my father was of a most sanguine and hopeful disposition, and always felt he had something good. When over eighty years of age, he got another bit of ground at the end of Warriston Crescent, and planted it with choice fruit-trees. Daily he used to go down to his gardens, to pack and send out his Strawberries; and he made many friends in the neighbourhood and at the Botanic Garden, where he will be

missed. The last letter I had from him, which reached me a month later (on the day of his death), told me that he had taken advantage of a few dry days to sow Peas. He died within three months of being eighty-nine years of age, and was strong to the last. J. T. Carmichael, S. Stephen's Mission, Mohales Hoek, Basutoland, April 22, 1904.

"SHADE" IN PEACH CULTIVATION.—For several years past we have had much trouble to obtain a good "set" of Peaches and Nectarines on the earliest forced trees, which I attributed to over-ripening of the wood. We tried the effect of blinds, and kept the trees totally shaded during bright days. The roofs of the houses are very sharp-pitched, and the usual roller-blinds cannot be used, but we run them on rings and wire-like curtains. The shading used is what is termed thick Orchid shading. year have good crops. I am sending samples of fruit for you to see the results. We are most surprised at their rich colour grown under these conditions. W. L. Bastin, gr. to Sir A. Henderson, Bart., M.P., Buscot Park, Faringdon, Berks. [The fruits are unusually well coloured, and excellent in quality. Does our correspondent mean that the blinds are used during bright sunshine throughout the summer and autumn? There are few localities where such measures are needed, but in this case the results have been most satisfactory. ED.]

PHENOMENAL FLOWERING OF TREES, ETC .-Probably there is not a single expert amongst horticulturists who has not been favourably surprised at the abnormally fine show of flower displayed by all hardy fruit trees this present spring of 1904, particularly after the indifferent summer of 1903, and the exceptionally heavy rains which followed. Bright sunshine of no duration is supposed to be necessary for the ripening of young wood and the formation of flower buds; but has it been so in this instance? Present experience would seem to imply that soil saturations, artificially or otherwise, during autumn or mild winter weather, would conduce to more abundant flower formation. Be that as it may, the trees have just finished a most abundant flowering season; the flowers were wondrously well developed, the pollen being abundant and One or two unusual facts have been in evidence, i.e., some trees which in midwinter showed no signs of bloom developed goodly displays subsequently, notably Apples—Bismarck, Lane's Prince Albert, &c. The strongest young shoots formed during the preceding year upon the apices of fifteen-year-old trees pruned back to one-third their lengths, upon which no signs of bloom were apparent, pushed forth bloom trusses at every joint [from the old or from the new wood? Ep.]; and this was particularly the case with the Codlin section. Aucuba mascula, it is well known, was always prone to expand exhaust its male blooms many days or weeks before the female or berry-bearing plants were in bloom, with the result that berried shrubs were comparatively rare to see. This year it was not so; the female varieties were all in bloom first, or at the same date-at least it was so in my garden, where many of each sex exist in various aspects. This suggests that there will be a better display of scarlet berries next winter. Another fact has struck me: Horse Chestnut-trees have in many instances produced solitary limbs with their extremities a mass of bloom, whilst other parts were all but bloomless. White Thorns it was said were deficient of bloom, yet now make a grand display. William Earley.

FRUIT CULTURE IN BRITAIN .- Dr. Bonavia's article on p. 321 has interested me very much, also the correspondence from week to week upon the merits and demerits of Ecklinville Seedling Apple. I think the question of what varieties to plant in certain districts is a very important one, as some varieties that succeed in one place utterly fail in Ecklinville Seedling succeeds well in another. this district; the tree is a good grower on the Crab and Paradise stocks, and fruits well. We are always able to sell the fruit at a good price; some other varieties which have a high reputation in some districts do very little good with us. Lord Suffield is of very little use with us. The tree cankers and makes little growth, by reason of which we scarcely ever get any good fruits. Bismarck, which I have

heard spoken of disparagingly in some places, does remarkably well in this district. This points very strongly to the need, as stated by several correspondents in the Gardeners' Chronicle, for some reliable lists of varieties which succeed in each county or district. What is wanted is a list of about six culinary varieties, and the same number of dessert varieties, that are good growers and free croppers. J. Basham, Jun., Fairoak Nurseries, Bassaleg, Newport, Mon.

TULIPA TUBERGENIANA.

THE subject of our Supplementary Illustration this week is that of a very handsome Tulipa, said to have been introduced from Bok-The form of the flower and size and shape of the segments are well shown in Mr. W. SMITH'S drawing; but we may call attention to the hairy character of the inside of the outer scale of the bulb, common to this section of the genus. The peculiar shape of the bud before expansion is shown in outline. The flower when at its best opens out like a fine cup or dish, and the colour is rich orange-crimson with a darkly-coloured blotch at the base of each segment. The species was recommended an Award of Merit at a meeting of the Royal Horticultural Society on May 17, when flowers were exhibited by C. G. Tubergen, of Haarlem, Holland, to whom we are indebted for the specimens from which our illustration has been prepared. prepared.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Apricots.- Large trees which have been protected by glass coping, blinds, or fish netting, and have set heavy crops of fruit, should have the fruit freely thinned by removing those which are ill-placed, and also a quantity of the smaller ones, especially where fruits have set in clusters. This early thinning is a matter of importance where Apricots of the best size and quality are expected. The quantity of fruits that should be left on the trees to mature will depend greatly on the health and strength of the tree and the size of the fruits of the variety, whether large or small. Keep a look-out on the young growths for caterpillars, pinching any that can be found between the thumb and finger, afterwards giving the trees a good syringing with water. Neatly secure all young shoots required for extension, filling up gaps, &c. Branches of the Apricot are very liable to "gum" and die, therefore it is necessary to secure plenty of young shoots for filling any spaces that may occur.

Peaches and Nectarines.—These have set a very heavy crop of fruit, as very little frost was experienced during the flowering period. Thinning should be taken in hand early, so as to give the trees an opportunity of making growth that will have ample time to mature before the end of the season. Do not thin the fruits severely at the first operation, but re-duce the number gradually, always taking away the smaller ones and those that are placed behind the wood. Keep a watchful eye on the foliage, and should mildew appear dust the affected parts with flowers-of-sulphur to arrest the disease before it has time to spread.

Frost Guards .- The material which has been employed for protecting trees from frost, &c., may now be removed and put away. In the case of blinds choose a fine bright morning, and let them down for a few hours to get them thoroughly dry previous to putting them aside in a dry, well-ventilated place. Fish-netting will be required for the protection of other fruits, and when neatly rolled-up should be labelled to indicate the size, &c., in order to avoid any confusion at the time they are wanted.

Gooseberries .- If large berries are required for dessert or exhibition purposes, and the bushes are heavily cropped, a portion of the smaller fruit may be gathered early and made use of in tarts, &c. Place a good mulching of manure under the bushes, if this has not been done already, and afford a good watering through a rose-can to wash down the manurial properties, and to cleanse the surface. This will be beneficial to the bushes, and will protect the berries from grit. Mark those bushes required for supplying fruit for dessert purposes, if such be growing amongst others; also any variety required for bottling purposes. When Gooseberries are required for making jelly, do not allow the fruits to become too old, rather have the berries young, otherwise the colour will be very unsatisfactory. There are few fruits from which a nicer jelly can be made than from the Gooseberry.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Bunns, North Mymms Park, Hatfield, Hertfordshire.

Nerines.—These autumn-flowering plants are now going to rest, and water should be entirely withheld from them as soon as the foliage has quite died down. The bulbs may then be placed in a cold frame and exposed to sunshine until the flower-spikes begin to appear, towards the end of the summer, when they should be removed to the greenhouse and afforded a watering. When repotting becomes necessary, it should be done directly the roots show signs of renewed activity, which is about the time that the flower-spikes begin to appear.

Caladiums.—If large specimens are required, the plants should be reported as soon as the roots have taken possession of the soil afforded at the previous potting. Let the compost consist of fibrous turf, peat, and leaf-soil in equal proportions, together with a little dry cow manure, which should be broken up and passed through a half-inch sieve, and some coarse silver-sand. The turf and peat should be used in as lumpy a condition as the extent of the shift will admit. A warm temperature and moist atmosphere should be maintained, and shading afforded during bright weather.

Chrysanthemums. — Where the cuttings were struck early, and the plants placed in 6-inch pots in good time, they will now need to be shifted, with as little delay as possible, into the pots in which they will flower. Make a commencement with those plants that are best rooted, and delay the potting of weaker or later plants until it is seen that the roots have taken possession of the soil afforded at the previous potting. The compost may consist of three parts good turfy loam, one part leaf-soil, and half part well-burnt refuse, adding a 6-inch potful of bone-meal to each barrowload of soil. To this may also be added a little lime-rubble and sufficient coarse sand to keep the whole porous. After being potted let the plants be stood together in a sheltered place for two or three days, and then let them be placed in their summer quarters. If the weather be bright, use the syringe freely among them; but if the potting soil is sufficiently moist when it is used, there should be no necessity to afford water to the roots during the first day or two.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Carpet Bedding.—The beds should now be put into formation for planting, always raising the soil somewhat above the level of the turf. They may be edged with Sedum or Herniaria glabra, which is one of the best plants for the purpose. If it is required to furnish the edging at once, Echeveria and Sempervivum may be used. The surface of the bed should be made smooth and level. When the designs have been marked out, planting may be commenced. A stout plank raised on blocks at each end will be necessary if the beds are large, so that there will not be the need for the planter to tread on the soil. If the surface soil is made very fine, and the marking of the design is correctly done, planting will be a simple operation. Care must be exercised, however, as the young roots are very tender, and should not be pressed too hard, but just firmly enough to keep them from flagging. The plants should be damped over in the evenings, or any time after the sun is off the beds.

Sub-Tropical Bedding.—This class of bedding is superior to the former, being stately, of cool

appearance, and productive of more natural effects. The beds should have been well prepared and manured, and thrown up above the surrounding level for the sun to warm and pulverise the soil. The position of the beds, if possible, should be somewhat sheltered, and with a slope to the south-west, or where there is a good background of shrubs or Ivy, with just sufficient turf between the beds and borders to give them a good appearance. Single specimen plants may be planted in the grass. Each bed should be planted with various species. A great many more plants are now placed outside during summer than was the case in previous years. Plunged in their pots in the turf good specimen plants of Plumbago capensis, Rondeletias, Heliotropiums, Bougainvillea Sanderi, Fuchsias, and Pelargoniums give a rich appearance, if only for three months in the year. All sub-tropical plants require copious supplies of water and mulchings during the summer. Each plant should be secured to a neat stake of sufficient strength.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Peaches and Nectarines .- It will now be neces-Peaches and Nectarines.—It will now be necessary to give daily attention to fruits that are ripening. In all cases it is better to gather fruits when they are under-ripe rather than over-ripe, especially if they have to be sent long distances. Great care is necessary to detach the fruits without causing them injury. When carefully gathered they may be kept in good condition for ten or twelve days if put in a cool, dry, airy room, placed upon perforated trays, and covered over with tissue-paper and woodwool, the wool, with all dust removed, having been previously well exposed to light and air, so that no perceptible odour may be imparted to the fruit. In packing them for travelling, the size of the boxes should be uniform, in order that all may be corded securely together; they may contain from one to three dozen fruits each. The hoxes should be well lined with wood-wool, and each Peach or Nectarine wrapped in tissue-paper, and nested securely in the wool, which is so light and elastic that the fruits will travel in the wool with the control of the fruits will travel by road or rail without receiving injury. Fill the boxes sufficiently to allow of no shrinkage through vibration, otherwise the contents will get displaced and damaged. Trees from which the fruits have been removed should not be neglected, because to all appearances their season's work has been completed. Shoots which have ripened fruit should be removed, but the foliage of the trees conserved in a clean, healthy condition as long as possible. Afford frequent and moderate waterings to the roots; the neglect of this, together with too early maturation of the wood, invariably causes "bud dropping" in the spring. If it is thought to be necessary, afford another light mulch to the borders, using for this purpose droppings from the stables. Should the trees be infested with red-spider, syringe them well, and thoroughly dust the leaves over and under with flowers of sulphur, allowing it to remain on for a few days, after which the trees should be thoroughly syringed. In place of the syringe we use the revolving sprayer or lawn sprinkler over the trees, which answers the double purpose of cleansing the trees and watering the roots. Remove all ties from young and old wood all the state of the that the wood alike, and arrange the shoots so that the sun's rays may have free access among the branches as well as upon the inside borders. Discourage the trees from making autumn growth.

THE KITCHEN GARDEN.

By John Pentlann, Gardener to C. H. B. Firth, Esq , Ashwicke Hall, Marshfield, Chippenham.

Onions.—Owing to milder temperature Onions are making good progress, and on fine days, when the surface of the ground is in a fairly dry condition, work the hoe between the lines. Should the weather become dry hand-weed between the plants in the lines and commence thinning the Onions early, pulling them out where they are thickest. Make use of the thinnings for salading. Young Onions are becoming more used for salads, and it will be well to make another sowing for supplying young plants.

Lettuce.—Owing to showery weather and working in a garden that had been neglected for years, we find it difficult to get up succession crops on ground from which winter crops have been cleared, owing to the ravages of slugs. This notwithstanding we make the ground white with a heavy dressing of lime previous to digging, and afterwards, before sowing, afford another heavy coat, which is worked in by means of the rake. The seed is covered with fine ashes, as soil fine enough for covering is not to be had; in this way, by sowing often, we manage to keep up the supply. I advise those who have similar difficulties to contend with to be on the alert, or the crop they expect may be a failure.

Potatos require hoeing and earthing-up. On heavy soils let the ground between the lines be given a good hoeing with the draw-hoe. Keep the weeds exposed on the surface of the ground, leaving them there for a few days until they are dead, before drawing the soil up to the plants. Where young Potatos are required continuously for table, plant sets at intervals to meet this demand. Should the season prove favourable satisfactory results may be expected from good sets put in even as late as the first week in July.

Centipedes.—Peas, Scarlet Runners, and French Beans are much infested with these pests. After being sown, as soon as the outer skin bursts, the centipedes enter in numbers and eat all before them. We have tried many remedies, including soot, lime, ashes, and paraffin. The three former had no effect. Wetting the seeds well with paraffin mixed with an equal quantity of water has given the most satisfactory results. Those whose crops are not coming through the ground satisfactorily should examine the seeds, and if infested make another sowing as soon as possible. The plants will grow away quickly now that the ground is getting warmer, and there will be less time for insects to destroy the seeds whilst in the ground.

Weeds are growing in all quarters of the garden. Keep the hoes and the hands going, and do not let the weeds get the mastery, or it will be a continual fight for the remainder of the season.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir Theyor LAWRENCE, Bart., Burford, Dorking.

Arundinas.—Such pretty and interesting Orchids as Arundina bambusæfolia, A. einensis, A. Philippii, and the remarkable Neobenthamia gracilis are worthy of every attention. At the present time these plants are making numerous young reed-like growths, and any repotting that is necessary should be done at once. If the plants are strong and healthy they will require pots two sizes larger than those they are in at present, which will allow the roots an inch or more of new compost all round. The pots should be well drained, using dry Fern-rhizome, and fibrous loam, peat, leaf-soil, and sphagnum-moss in equal parts, with a sprinkling of broken crocks and coarse sand. Pot them up as in the case of an ordinary stove or greenhouse plant, pressing the compost down firmly among the roots. Select the lightest position available in the warmest house, and when roots again become abundant afford liberal and frequent waterings. Syringe the leaves well all through the growing season.

Angræcums.—Many of the dwarf-growing Angræcums, as A. arcuatum, A. articulatum, A. bilobum, A. citratum, A. Ellisii, A. hyaloides, A. fastuosum, A. Kotchyii, A. Humblotii (Leonis), A. bicaudatum, A. carpophorum, A. odoratissimum, A. metallicum, and the new A. Rothschildianum are recommencing to grow, and if necessary should be repotted. Formerly these plants were grown in moss only, but I find they succeed better when potted in a mixture of peat, leaf-soil, and sphagnum-moss in equal parts, the surface of the compost being covered with clean picked moss to about ½ an inch in depth. The best position for them is the coolest end of the East Indianhouse, but if during the summer months a plant should show signs of deterioration in any way remove it at once to a warm shady part of the Cattleya-house, and when colder weather returns take it back to the warmer division. The sweetscented A. falcatum is a Japanese species, and should be suspended in the cool-house during the whole year.

The Temple Show is by the nature of things very like another Temple Show, even though it be the centenary year of the Royal Horticultural Society; but the one held this week had some remarkable features. In the tirst place, it was wet on the opening day—very wet. That however did not interfere with the display, nor did it deter the King and Queen from visiting it.

Next, the display itself was one of all-round excellence, of high quality, and devoid to a larger extent than usual of what is common-

place.

Our detailed report will indicate what was shown and who showed it, but in this place we may call special attention to what, to use the language of the exhibitor, we may call the clou of the exhibition. This was the truly extraordinary hybrid shown by M. VUYLSTEKE, of Ghent, and called by him × Odontioda Vuylstekeæ, to indicate that it was the result of a cross between Cochlioda Noezliana and Odontoglossum Pescatorei. Cochlioda and Odontoglossum are botanically not very far apart, and that may account for the success of the cross: nevertheless, the concrete result was such as to surprise the most confirmed orchidist. Our illustration is taken from a sketch made by Mr. Worthington Smith. The hybrid shows that the colour of Cochlioda is represented, while the lip is like that of Odontoglossum Pescatorei. We must trust to the illustration and to the report of our Orchid expert for a description of this very extraordinary cross. The colour of the segments is so peculiar that no two people whom we asked were in agreement about it. "Salmon-cherry"-an odd combination, truly-was as near an approximation as words would convey. The toothed crest of the lip was yellow. A cut spike bearing six flowers, each about $2\frac{1}{2}$ inches across, was all that was exhibited, but the Committee waived their usual rule of requiring a plant to be placed before them by granting the spike a First-class Certificate. A Botanical Certificate would have been much more appropriate, and would really have conferred greater honour; but unfortunately exhibitors do not attach much importance to that award, and it is one that carries little or no financial weight, so this most wonderful hybrid has to take its place amongst the multitudinous ruck of plants honoured by First-class Certificates. Since our note was originally written we have learnt with great satisfaction that a Silver-gilt Lindley Medal was also awarded to M. VUYLSTEKE, who thus becomes one of the very few recipients of an honour which is specially appropriate.

Another interesting hybrid, but of a less sensational character, was a hybrid Dianthus called Lady Dixon, shown by Mr. Douglas, and raised between an ordinary Sweet William crossed with the pollen of Uriah Pike Carnation. The plant obtained an Award of Merit in 1901, but it is still not much known. The flowers are double, of a rich cherry-red, whilst the foliage is like that of the Sweet William. It is understood that a portion of the profits arising from the sale of this variety are to be given to the fund being raised for the completion of the new Horticultural Hall. We most earnestly hope that Mr. Douglas will be able to dispose of a very large number of plants. It is evidently a good border variety, and hardy.

The cross-bred varieties of Gerbera shown by Mr. Irwin Lynch, from the Cambridge Botanical Garden, were so beautiful and varied in colour as to constitute a feature of the show.

The new Gloriosa shown by Lord Rothschild, which was figured in our columns May 23, 1903, proved that we did not exaggerate its merits.

We were pleased to find many Belgian exhibitors, such as MM. Peeters and Drap-Dom, of Brussels, M. Vuylsteke, of Ghent, and others, who exhibited Orchids and other plants.

We have no desire to recapitulate what is said elsewhere in our report, but we cannot avoid calling attention to the massive Silvergilt Cup presented by Messrs. Jas Veitch & Sons in commemoration of the fiftieth anniversary of their establishing themselves

arrives at the position of a head gardener. A skilled workman in other departments, with much less responsibility, and from whom much less is demanded, is better off than the average gardener.

Employers complain, and not without reason, of the difficulty of obtaining competent gardeners. Gardeners on their side complain of the difficulty they experience in finding suitable situations. We have only to look down the advertisement columns of the horticultural papers to see that there is truth in both these contentions. There are thousands of so-called gardeners, but the employer at present has no adequate guarantee that the men who call themselves gardeners really are so. The Association will attempt to remedy these evils.

One thing especially must be remembered—the Association aims at co-operation

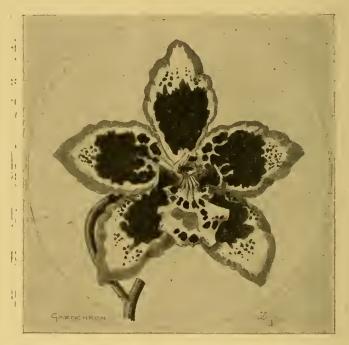


FIG. 159.—× ODONTIODA VUYLSTEKE.E EXHIBITED AT THE TEMPLE SHOW. (See col. a, p. 360, and p. ii. of Supplement)

in the metropolis. This handsome Cup, of the value of fifty-five guineas, was to be awarded to the best exhibit in the Show. The utmost latitude was given to the judges in their selection, and we learn that it was allotted by them to the collection of Roses from Messrs. W. Paul & Sons. Of course there is nothing but admiration to be bestowed on Messrs. Paul's exhibit, but whether it was the kind of exhibit to be singled out on such an occasion by such a Society for such special distinction may be well doubted.

Gardeners' Association.

The Gardeners' Association.

To which the profession of gardening is at present subjected. It must be admitted in principle that the social position and the remuneration of the gardener are, as a rule, not adequate to the length of time he has to spend in preparation for his future work, and to the foresight and insight which are demanded of him when he

and persuasion, not at coercion or dictation. Each is to help, not to hurt, the other. Each is to exercise his rights in such a way as not to thwart anyone else. The natural process of evolution is to be aided, and no artificial obstacles are to be placed in the way of any one. If he is a good, honest workman, the Association will help him; if he is not, the Association will help him; if he is not, the Association will tet him alone, do him no harm, or, if it has the chance, will try to stimulate his conscientiousness and awaken his sense of duty.

These, we take it, are the main objects of the Association, and in so far as it works on these lines it will meet with the sympathy and encouragement of all right-minded men.

The meeting, of which we give a necessarily condensed report, was attended by upwards of three hundred gardeners, including a large contingent from Kew, and many representative gardeners in various departments. The proceedings were of an enthusiastic character, and the opinions practically unanimous.

RECEPTION AT LONDON UNIVERSITY.-The nuembers of the International Association were lately the guests of the University of London at a conversazione, which was held in the University's abode in the former Imperial Institute. Lord Roseberr, as Chancellor, received the guests, who included, besides the foreign delegates and the members of the Royal Society and of the British Academy for the Pursuit of Historical and Philological Studies, who are also members of the Association, some 3,000 other guests of distinction in the spheres of science, letters, politics, and law. The reception was held in the vestibule of the Great Hall, and in other rooms of the building scientific exhibits were ranged and lectures were given. Many of the exhibits were such as already had been shown at the soirée of the Royal Society. But among others which call for special mention was the display of fossil seeds arranged by Dr. D. H. Scott, Professor F. W. OLIVER, Mr. KIDSTON, Mr. ARBER, and Miss Benson. In this exhibit an attempt was made to show in a graphic form the present state of information with regard to fossil seeds; the connection of seed-bearing plants with the plants of Fern-like habit; and the pedigree and evolution of seeds as shown in the record of the rocks. Dr. F. E. FRITSCH exhibited "plankton" of the wiver Thames and of Ceylon; Mr. A. E. SMITH and Mr. Kere their striking photo micrographs; and Professor FARMER and his colleagues his examples of heterotype division in malignant

NEW GARDEN-PLANTS OF THE YEAR 1903. -It is highly satisfactory to find that the authorities at Kew continue to publish an annual list of the "new" plants published in the various horticultural journals. The pressing claims of other matters prevent us from carrying out fully and in seasonable time the lists which we were formerly in the habit of giving. We suggest that it would be desirable to add the names of the authors of species. For instance, it might, from the list before us, be inferred that we were responsible for the name "Saxifraga Grisebachii," when, as a fact, we merely took the name from the label attached to the plant by the exhibitor. The list is indispensable to those who desire to keep their collections properly named, and to possess an authentic record of the plants introduced into cultivation.

BOTANICAL LECTURES AT CHELSEA.—Prof. J. REYNOLDS GREEN'S seventh lecture on "Advanced Botany," at the Chelsea Physic Garden, will be delivered on Wednesday next, June 8, apon the following subjects:—The forms of food stored. Carbohydrates. Starch. Formation of starch grains in green parts of plants and in more permanent reservoirs. Action of plastids. Mode of elaboration of starch by the latter. Work of the early observers. Investigations of Schimper, Meyer, Ebert, Noll, Salter. The lamination of starch grains. Other forms of storage of carbohydrate material. Cane-sugar. Cellulose. Glucosides. Inulin.

ATTRACTIONS AT KEW .- No one who has the chance should fail to visit the Royal Gardens at Kew during the next few days. The Rhododendrons are unusually brilliant and effective. The "Dell" has presented a gay picture of dowers for some time past, and is now at its very best. Numerous species and varieties contribute to this show, including R, kewense x, which has a truss of its white flowers and pink buds upon almost every shoot. The hybrid was obtained from a cross between R. Griffithianum and R. Hookeri, and the former species, also known as R. Aucklandi, in the shape of a very large bush, is flowering profusely in a position but little removed from the offspring. R. kewense is quite hardy at Kew, but it is said

to suffer in exposed localities in the same county. Visitors to the Dell are charmed with the flowers of the new variety "Pink Pearl," distributed several seasons ago by Messrs. JNO. WATERER & Co., Ltd, and illustrated in these pages. There are two small plants, and each has a prodigious corymb of flowers of larger size than those of any other variety. The rich pink colour of the flowers, with the spotting on the upper segment, is also unusually pretty, and when the variety has been cultivated sufficiently long for big bushes to adorn the Dell, we can imagine what a gorgeous effect they will produce. Varieties of Rhododendron are not confined to the Dell, but overflow in various directions. A bed near to the Palm house, planted with a bright crimson variety named Doncaster, has a very rich effect, and flowering just as profusely as this is a variety named Lord Palmerston, in a very large bed by the side of the main walk leading from the Kew Green entrance. A pleasing variation from the flowers of most of the varieties of Rhododendrons is afforded by the beautiful Sikkim species, R. cinnabarinum, a big bush of which is flowering profusely amongst Heaths and other Ericaceous plants. The flowers are a peculiar shade of colour, hence the name indicating cinnabar - red, and their form and arrangement in the corymb make this old species, which is stated to be as hardy as R. kewense x, a distinct plant, that cultivators might easily add to their collections in localities where it will thrive. The hardy Azaleas have during the past week been covered with their variously tinted flowers, and the ground beneath them was strewn with fallen petals. In the greenhouse (No. 4), in addition to groups of most known decorative plants now in flower, are some Calceolarias named" Jeffries' Hybrid," which have a free branching babit of growth, nearly 2 feet high, and bear flowers resembling those of the florists' type, except that they are much smaller in size. There is a good show of Orchid flowers, and something of interest in every house; whilst the rockery and house of alpine plants have many attractions for the large number of gardeners and others who find especial delight in these species. The Victoria Regia Lily is growing somewhat rapidly, but at present shows signs of the obscure disease that causes "spotting" in the leaves.

MAY TULIPS.—Mr. HARTLAND, of Cork, sends us a fine batch of Tulips to show how gorgeous the flowers become in the Irish climate. They were necessarily closed when we received them.

GESNERIANA LUTEA.—Flowers more than 4 inches long, wholly clear canary yellow, outer segments broadly oblong, acute, inner segments oblong, obovate, roundish, with three central ribs; anthers yellow.

LUTEA PALLIDA.—Flowers 3 inches long, very like those of Gesneriana lutes, but rather smaller and slightly paler in tint.

BISHOF'S MITRE.—Flowers nearly 3 inches long, outer segments pointed, inner obtuse, notched at the point, yellow marked with reddish streake, and with a slight greenish-purple base; anthers black, flowers variable.

IXIOIDES.—Flowers nearly 3 inches long, outer segments acute, inner rounded, three-nerved, all canary-yellow, with a well-marked greenish-purple base and purple anthers.

FULGENS LUTEA "MRS. Moon." — Flowers nearly 5 inches long, segments narrow, tapering, inner ones slightly more obtuse, clear yellow, with no eye-spot; anthers yellow.

BANNEBETTE.—Flowers nearly 4 inches deep, segments oblong, acute, inner ones rounded, yellow flaked with red, with a very small eye-spot; anthers purplish-green.

Glonosa Grandiflora. — Flowers 4 inches, deep, cylindric, not "globose" when unexpanded; outer segments pointed, inner segments rounded, rich crimson, with large blackish eye-spot edged with gold; anthers purple.

SAPPHIBE. — Flowers 3½ inches deep, segments all rounded, whitish, deeply flushed with rose pink; basal eye-spot blackish-purple; anthers purplish.

OTHELLO. — Flowers 3\(\frac{1}{2}\) inches long, segments all rounded at the apex; deep crimson, with a greenish-black eye-spot faintly edged with yellow; anthers nurole.

JOHN RUSKIN.—Flowers more than 4 inches long; both inner and outer segments oblong, rounded, pale fawn coloured flushed with pink and on the inner sur face with yellow, with a deep yellow base; anthers purplish. A very delicately coloured flower.

THE FAWN. — Flowers nearly 4 inches deep, both inner and outer segments rounded at the apex; whitish, flushed with pale pink, with a yellow eye-spot; anthers yellow.

"OAKWOOD" COLLECTION OF ORCHIDS: SALE OF DUPLICATES,-The sale of duplicate Orchids, the property of NORMAN C. COOKSON, Esq. (gr. Mr. H. J. Chapman), Oakwood, Wylamon-Tyne, at Messrs. PROTHEROE & MORRIS'S Central Sale Rooms, Cheapside, at 3 P.M. on Tuesday, May 31, proved a "red-letter" day in the history of great horticultural events, the previous aggregates of big sales being exceeded by the total realised for the few rare lots offered, and the previously recorded highest prices for a single plant being exceeded by several. Of the eighty-one lots catalogued, all but three were sold, the total for the sold lots exceeding £5,000. Odontoglossums, which formed the bulk of the sale, comprised some of the best and most beautiful known kinds, and the prices realised were solely on the merits of the plants in the estimation of the buyers, for many were without reserve, and the rest simply put at a protective reserve. Odontoglossum crispum Cooksonæ realised 640 gs., the highest price; a very small, healthy plant of O. crispum Grairianum went to Messrs. Sander for 370 gs.; O. crispum Mundyanum was purchased by Baron SCHRODER for 435 gs.; O. crispum Luciani, 250 gs. (Mr. H. Γ. PITT); two plants of O. crispum Rossendale realised 120 gs. each (Mr. J. LEEMANN); the same buyer securing several of the O. crispum Cooksonianum, which realised respectively 170 gs., 220 gs., 85 gs., 90 gs., 75 gs., and 85 gs. O. crispum Franz Masereel was briskly competed for, and was knocked down to Mr. WARBURTON at 570 gs.; O. crispum Imperatrix Regina, 180 gs. (Mr. J. LEEMANN); O. crispum Grace Ruby went to Messre. McBean for 210 gs.; O. crispum Ashworthianum, 280 gs. (Mr. H. T. PITT); O. crispum Massangeanum, 40 gs.; O. crispum Raymond Crawshay, 52 gs.; and O. crispum tesselatum, 50 gs. (all three went to Mr. W. Bolton, of Warrington); O. crispum Mariæ, 180 gs. (M. Jules Hye). Others realised relatively good prices, and the rare Cypripediums offered also sold well, Mr. FRANCIS WELLESLEY, of Westfield, Woking, and Mr. W. Bolton, being the principal buyers. There was a splendid attendance at the sale, orchidists from all parts of the country, and from the Continent, assembling in great force.

THE KEW GUILD.

On Monday evening last about 140 present and past Kew men assembled at the annual dinner of the Guild, in the Throne Room at the Holborn Restaurant. Half-an-hour previously the annual meeting had been held, at which the business was purely formal. The Committee's Report referred to the deaths that had occurred in the Guild in the past year. These were G. Budd (Chelsea), Walter Hill (Brisbane), W. Lunt (St. Kitts Nevis), and C. Patin (Columbia). The retiring members of the Committee were J. Wilke, R. Cameron, - McGregor, and G. Murray. Mr. Murray was re-elected with the following new members, Mr. Barker (Chicago), Louis Gentil (Brussels), and J. D. Halliburton. Mr. Watson will remain President; Mr. Winn, Secretary; and Mr. W. J. Bean will continue to edit the popular Journal. A greater number of copies of the Journal was issued last year than in any previous year.

The Dinner was held under the chairmanship of Mr. W. Watson, Curator of the Royal Gardens and President of the Guild. He was supported by Lord Onslow, President of the Board of Agriculture and Fisheries; Sir W. T. Thiselton-Dyer,

K.C.M.G., Director of Kew, and many other gentlemen charged with important duties in various parts of the country, also in the Colonies and abroad.

The toast of "The Kew Guild" was proposed by the Chairman. He said, metaphorically, that the Guild continued to flourish because "good seed had been sown on good soil, and grown naturally, without the aid of artificial manures." The Journal, as edited by Mr. Bean, continued to be of the greatest interest possible, each issue containing letters from Kew men from most of the Colonies. The last number contained the announcement of twenty-three appointments of Kew men to positions of responsibility. There was only one requirement for membership of the Guild, and that was by the possession of the Kew Certificate, the value of which was becoming more and more helpful to gardeners seeking to rise in their profession. That evening there were amongst those present Leslie from Trinidad, Gentil from Brussels, Proudlock from Ootocamund, Tutcher from Hong Kong, Johnson from West Africa, Foster from Lagos, and Quinton from Sierra Leone.

Sir William Dyer, in responding for the Guild, welcomed Mr. Watson as Chairman, and said that the inception of the Guild originated in Mr. Watson's brain. Of all the many services he had rendered to Kew, one of the most useful and lasting was that of the foundation of that Guild At these annual gatherings, said Sir William, Kew men met each other upon a common human platform of companionship. Sir William then gave some interesting particulars concerning the origin of Kew as a Royal residence in 1759, by the mother of King George III., and of the association of Sir Joseph Banks with King George in regard to the management of the Botanic Gardens, Sir Joseph Banks having been in a sense first Director of Kew. Sir William Dyer, referring to Imperialism, said that last year he told Mr. Chamberlain that Kew was imperial before he (Mr. Chamberlain) was. He showed Mr. Chamberlain a map of Africa, which demonstrated that Kew men already held the line of the Cape-to-Cairo Railway. In Africa there are now twenty-seven Kew men in widely separated districts. Members of the Kew Guild were actuated by "fidelity to principle, and love for their common home or alma mater, Kew." The gardeners at Kew were not "coddled," nor were they treated unkindly, but they were taught to be self-reliant, and to have self-respect.

In responding to the toast of "The Visitors," the Earl of Onslow, G.C.M.G., said, that if it was thought to be singular that the Board of Agriculture should have the responsibility of the maintenance of Kew, he begged those present not to look at the Dictionary for the meaning of the word "Agriculture," but to regard it as a noun of multitude, which includes horticultureand fisheries! His lordship said that he was an agriculturist by compulsion (he could not "let" his farms), but he was a gardener by choice, and would feel very lonely if he could not leave town each week during the season to spend the week-ends in his garden. After referring appreciatively to the Guild, his lordship said that imitation was the sincerest form of flattery. He hoped to persuade his colleagues to form a School of Forestry, on similar lines to the School of Horticulture at Kew, so that in the future there may be a Guild of Foresters of the same kind as the Guild of Kew Gardeners. The importance and value of Kew as a botanical garden, and the value of the work done by Kew men in the colonies, Earl Onslow praised highly. It is satisfactory to know that Kew is under the care of a Board whose Chairman possesses so much sympathy for Horticulture.

The toast of "The Chairman" was proposed by Mr. Louis Gentil.

SOCIETIES.

THE TEMPLE SHOW.

(See also Supplement.)
MISCELLANEOUS.

Hybrid Gerberas .- Mr. R. IRWIN LYNCH, Curator of the Botanic Gardens, Cambridge, sent a charming collection of hybrid Gerberas. The varieties were handsome, and not only the brilliant colours, but the exquisite form of the flowers were striking. Brilliant (Sir Michael × Jamesoni) is probably the finest of this handsome collection, its star-shaped flowers being of a most brilliant red colour with a pleasing centre of disc flowers, the flower extending quite 4 inches across. Sir Michael is another striking flower; this has flowers of a pleasing soft yellow colour, and its narrow ray petals are about 2 inches in length, the tips being somewhat reflexed. Evangeline carries a rosy-pink head with faint yellow centre; King Arthur (rosy-salmon), Hiawatha (small but robust flower, light scarlet), May Queen (soft pink), Emmanuel (faintly suffused with pink), Village Blacksmith (rather straggling, colour lemon-yellow), John Alden, May Queen, Kings (rosy-piok), all well-formed flowers.

In Messrs, Bull & Sons' (Chelsea) group was a grand specimen of Dracæna Victoria, also Jacaranda mimosæfolia, Microsiylis calophylla, Aralia elegantissima, Nephthytis picturata, Anthurium Harrisii pulchrum, and some of the best coloured varieties of Cordyllnes, including Jamesii, Prince Mahouk Bey, John Luther, His Majesty, Mrs. Laird, Princess May, and other bright sorts; Nepenthes, and other useful plants.

In Messrs. Sander's group were fine plants of Araucaria Rex, Cordyline Broomfieldit superba (a beautiful variety of the australis type, with recurved leaves, greyish-green, striped with white, and a clear, broad, white margin), Vriesta Forgetlana, Furcræa Watsoni, and Draccena Victoria.

In Messrs. Jas. Veitch & Sons' group was a fine specimen of Dracena Godseffians, Phyllotenium Lindent, a superb plant of Nepenthes Mastersiana with about two dozen pitchers, many of them of great size and beautifully coloured; Nepenthes Burket and N. B. excellens, the latter with broader pitchers beautifully marked: N. sanguinea, with large pitchers of a deep colour; Begonias Albert Maumené and Reine Jarry des Loges, two new varieties of the Rex type.

From M. L. J. DRAPS DOM, of Brussels, came a large specimen of Anthurium Gustavi, with immense green cordate leaves, and a large pyramidal specimen of Pandanus graminifollus, also well-grown plants of Codiæum Souvenir de Læken and Dracæna Victoria.

THE RANELAGH NURSERY COMPANY, Learnington, had a group of foliage plants, the chief feature being a number of plants of Asparagus myriccladus in various styles of growth. In some the young leaves were of a bronzy tint, while in other plants the young leaves were of a soft pale green.

Annuals in pots.—A collection of these, which had been forced into bloom, was staged by Mesera: WATKINS & SIMPSON, seed merchants, Tavistock Street, Covent Garden; among them could be seen Chrysanthemums, Collinsia bicolor, and Mignonette, all well grown; Schizanthus wisetoniensis, Alonzoa Warscewicziii, Nasturtiums, &c.

Auriculas in pots.—A small collection of these came from Messrs. Storrie & Storrie, nurserymen, Dundee, mainly of their yellow strain; it also contained some alpine varieties, and a few Polyanthus. Apparently the plants had suffered on the journey.

Cinerarias.—All the Cinerarias staged throughout the show were of C. stellata type. Messrs. Sutton & Sons had a hold group at each end of their annexe, their strain comprising small star-like blossoms, with very narrow florets. Messrs. E. Weer & Sons, Stourbridge, staged a fine group at one end of the long tent (see fig 157, on p. ii. of Supplement), which formed a conspicuous feature. Messrs. Carrer & Co. also had in their annexe a collection of pretty and attractive varieties which made a bright picture.

Zonal Pclargoniums.—Mr. H. B. May, Dysons Lane Nursery, Edmonton, staged a collection of these in pots, chief among them Prince of Orange, Mrs. H. B. May, Leopard (a good Ivy-leaf), Miss Gertrude Ashworth (large white), Princess Charles of Denmark (pink). With these was a batch of Madame de Levavasseur and White Pet Roses.

Standard Zonal Pelargoniums.—A large group of fively-grown and bloomed plants was sent by Mr. Leopold de Rothschild, Ascott, Leighton Buzzard (gr., Mr. J.

Jeunings), and they formed a very fine feature in the large tent. Mr. Jennings makes a feature of these at Ascott. They were on stems about 4 feet in height, and hore very fine trusses of bloom.

E. ASCHERSON, Esq, Pett Place, Charing, Kent (gr., Mr. J. Pitts), showed some well-flowered plants of Streptocarpus.

Hardy flowering Shrubs. — Bunches of these were shown by Messrs. PAUL & SON, Cheshunt, among them being Lonicera Hildebrandtii, with its large yellow blossoms, which attracted much attention; such fine Lilacs as Souvenir de L. Spath and Madame Lemoine; also Weigela Debois (cream with rosy reverse), Cytisus tessifolius. &c.

tessifolius, &c.
Messra. W. & J. Brown, Nurserymen, Stamford, exhibited a group of greenhouse plants. Heliotrope Lord Roberts was of gigantic proportions. Several varieties of "Cactus" zonal Pelargoniums, with flowers more or less resembling those of the variety "Fire Dragon," but in various shades of colour. The variety, R. H. Greenhill, with pink-coloured flowers, was one of the best.

Messrs. J. Laing & Sons, Forest Hill Nurseries, London, and Messrs. Sutton & Sons, Reading, staged some Streptocarpus.

A fine group of plants of Richardia Elliottiana was shown by N. L. COHEN, Esq., Round Oak, Englefield Green, Surrey.

Messrs. W. Balchin & Sons, Hassocks, Hove, and Brighton, staged a very creditable collection of greenhouse plants, the group heing very tastefully set up, and including some nice batches of colours. A batch of Leschenaultia biloba major was very striking, its beautiful blue colour heing much admired. Richardia Elliottiana was shown well; Boronlas and Heaths were also included. Scutellaria mocciniana was interesting, as was also Genetyllis fuchsioides.

Mr. WM. ICETON, Putney, staged a large batch of Lily of the Valley, with Palms, Bamboos, and other suitable members as a backing, working in a row of Borontas along the front with good effect.

Messrs. James Veitch & Sons, Ltd., Chelsea, staged a miscellaneous group of flowering plants, including some beautifully flowered plants of Rhododendrons and Azaleas. Rhododendron fastuosum flore-plenowas good, Magnolia parviflora interesting. Clematis, Hydrangeas, Pæonies, Cytisus, and similar plants were included. Lilium auratum, and spikes of Eremurus himalaicna and E. robustus Elwesianua were prominent above the group. In another tent the same firm exhibited a display of greenhouse plants, the plants being a mass of flowers. Schizanthus, Lobelia tenuior, forms of Primula obconica and of Streptocarpus hybrids, S. achimeniflorus albus, and roseus being especially worth mentioning. Kalanchoe kewensis has large rosy-pink flowers. The Phyllocactus exhibited by this firm were striking, the flowers being of the most charming shades; Isabel Watson, Epirus, Ena, Grand Monarch, and Ovisare but a few of the varieties in this collection. Corydalis thalictrifolia and Rehmannia angulata were included in Messrs. VEITCH's collections.

Mr. JANNOCH, Dersingham, near Sandringham, set up some choice flowering Lilacs, arranging a group of Lily of the Valley in a pyramidal manner, the collection forming a pleasing termination to the central table in the large tent.

Messra. Sander & Sons, St. Albans, staged a small-group of showy Anthuriums, principally varieties of A. Scherzerianum; A. Rothschildfanum var. nobilfor, was pleasing, the spathe being finely mottled with white. Also a number of plants of Nicotiana Sanderæ and N.S. alba. The plants were profusely flowered, and the flowers varied greatly in shades of colour.

Messrs. H. Cannell & Sons, Swanley, exhibited a group of Cactaceous plants which excited much curiosity among the visitors, and the clean, well-grown character of the individuals was commendable.

Mr. A. J. A. Bruce, Edge Lane Nurseries, Chorltoncum-Hardy, showed a capital collection of American "Pitcher" plants and other species; S. Wilsoni, S. Chelsoni, S. Fildesii (very tall, colour green), S. Paitersoni, the dwarf S. purpurea, Droseras, Pinguiculacsudata, Cephalotus, Darlingtonia californica, and other species. All the specimens were well cultivated.

Messrs. H. CANNELL & SONS, Swanley, exhibited agroup of beautiful Cannas, including 250 plants in eighty varieties. This is the largest group of Cannasever displayed at the Temple Show, and it was arranged on the floor at one end of the central stage in the large Orchid-tent. Among new varieties, Mme. Jean Burlat (salmon-pink colour with yellow margins), Eastern Queen (salmon-pink colour), and Magra (scarlet with



Fig. 160.—Lælia purpurata "Queen alexandra" with white flowers, exhibited at temple show by messrs, w. bull and sons. (see p. i. of supplement.)

yellow edge), were very fire amongst this large number of showy varieties.

Mias Alrce Rothschild, Aylesbury (gr., Mr. H. Waltere), exhibited some excellent flowers and leaves of Nympheas gigantea and pulcherrims, both of which have blue flowers.

Show and decorative Felargoniums were shown well by Mr. W. J. Godfrey, Exmouth.

Messrs. J. Carter & Co., High Holborn, exhibited a small collection of Japanese dwarfed trees; and Messrs. Bark & Sons, King Street, Covent Garden, London, had a structure erected by themselves, in which was displayed a very large collection of dwarfed Japanese trees, some of which were growing on Tufa, with miniature temples, &c., worked in.

Messrs. HUGH LOW & Co. exhibited a number of plants of Agapanhus umbellatus variegatus, flowering in 5-inch pots. The leaves are variegated. This firm had also some excellent plants of Schizanhus wisetonensis.

A very fine collection of specimen Streptocarpus was set up by Lord Aldenham, Aldenham House, Elstree (gr., Mr. E. Beckett). This extensive group contained many plants of merit, both as regards colour and culture, and was highly commendable. Reds, mauves, scarlets, violets, pink, and many other shades were included, and some of the plants were in 8-inch pots.

SOME CUT FLOWERS.

Sweet Peas.—A large collection of these, neatly staged in small trumpet vases, was set up by Mr. ROBERT SYDENHAM, Tenby Street. Birmingham, such leading varieties as Jeannie Gordon, Countess Spencer, Lovely, Mies Willmott, Hon. Mrs. Kenyon, King Edward VII., Sadie Burpee, &c.

Messra. Jones & Son, Nurrerymen, Shrewsbury, had a good collection also, including in the main the varieties named, and they were backed by handsome bunches of Spanial Iris. Mr. C. W. BEARDMORE also staged a small collection. Sweet Peas were also shown by Mr. H. J. Jones in good variely.

Pansies and Violas.- A very fine collection of fancy Pansies and of Violas was staged by Messre. Dobbie & Co., nurserymen, Rothesay and Mark's Tey. The former were mainly represented by four blooms of one variety of great size, stout texture, and rich colouring. Among the rovelties were Mrs. York, Mrs. A. B. Douglas, A. M. Bui nie (very fine), R. C. Dickson, Willie McKerzie, Messra. J. D. Hogg, and Coronalion. They also had burches of Violas in variety, charming hybrid Aquilegias, and splendid blooms of African Marigolds obtained from seeds sown in January, and also some fively - striped French blooms. Mr. F. HOOPER, Bath, florist, also had a number of wellcoloured blooms of fancy Pansies. Mesara. BAKERS, Wolverhampton, also had cut blooms of Pansies and Violas.

Tulips:-These were not so numerons as usual, but two very fine collections came from Ireland-one from Mesers. A. Dickson & Sons, Seedsmen, Belfast, who had a grand lot of blooms remarkable for their very fine development, and showing a great range of colour; among them Bronze King, Gesneriana lutea pallida, Darwin Plæcia (bright crimson), La Candeur (blush pink), Clara Butt, Dar. Kiogsbond (bronzy-pink, rose, and yellow), Rosalind (brilliant deep rose), Darwin May Queen, Sultan (black), Zomerschon (carmine, and white flakes), Monister Rock (rich crimson with dark base). Sophrosyre (flamed rose, and deeply edged with white), Melicetti (blush tinged lilac), Professor M. Foster (bright crimson). Messrs. Hood & Robertson, Norserymen, Dublin, had the other Irish collection. Their leading varieties were Fairy Queen, Glow, Rosalind, Mrs. Cleveland, Bridesmaid (flaked white and rose), Emanuel Sweet (pale rose), Bouton d'Or, Vitellina, &c. The Hon. A. H. T. MONTMORENCY, Carrickmines, Dublin, staged a small but interesling collection of bizarres, byb'œmena, and roses in good character. Bunches of Tulipa were also found among several of the collections of hardy flowers.

Anemones.—Messrs. REAMSBOTTOM & Co., Geashill, King's County, bad a collection of their selected Alderborough St. Brigid Anemones in fine and striking culours. Messrs. Gilbert & Sons Bourde, Lincolnshire, had a good collection of Anemones also, including their King of Scarlets and the St. Brigid type.

Rhododendrons.—A collection of cut trusses came from Mesers. W. PAUL & SON, Waltham Cross. The leading varieties were J. Marshal Brooka (rosy-crimson), Mrs. J. Standard, Michael Waterer, Lady Clermont, Sappho (finely marked on the upper segments), Old Port (dark claret), Pink Fearl, and The Queen.

PLANTS WITH ORNAMENTAL FOLIAGE. CALADIUMS.

These were, as usual, extensively shown. In Messrs. Veitch & Sons' group were some very fine specimens of beautifully-coloured varieties, the most prominent being Rose Laing, soft rosy-pick with a pale margin, the leaves being fully lieet long, and of the same width; May Archer, a most distirct variety, silvery-grey with red ribs and pale-green margin; Mrs. Charlotte Hoffmann, with transparent leaves of a pale blush with narrow green margin; Richard Hoffman, similar, but deeper in colour with a broader green margin; Golden Queen, yellow with a green shade; Madame Schmidt, crimson with green spotted margin; Orifiamme, highly coloured; Sir H. Irving, white with pick ribs and green-shaded margin; and many other distinct sorts.

Messrs. PEED & SON, South Norwood, had a large gronp of good plants—Golden King, a large-leaved yellow variety; Lillie Bourke, pale flesh; Madame André Chaber, white with slight green margin; Duke of Teck, bright red; Argentine, greyish-white; Leonard Bauss, white with pale green margio; and many other good sorts, including some unnamed seedlings.

Messrs. J. LAING & SONS, Forest Hill, London, had a group of smaller planta, but the colours were very bright; Edith Luther, red with pale blotches; Gaston Chandon, white; Mrs. Jocey, rsd with green markings; Madame Imbert Keechlin, Alexander III., Silver Cloud, and others.

Mr. L. R. Russell, of Richmond, had some fine varieties in his miscellaneous group of foliage plants—Exquisite, soft red with narrow green margin; Rio de Janeiro, a curiously distinct variety of the transparent-leaved section, of a purple-red shade, and green margin. In this group were also many others of the best known and most popular sorts.

ALOCASIAS.

In Mr. Russell's group were some fire plants of these handsome foliage plants—A. gandaversis, with medium-sized leaves, grey, with a purple shado; Sanderiana, argyrea, Mortefonlairensis, and others.

Measrs. VEITCH & SONS also had some fine plants of those varieties named above, and of others.

CODLEUMS.

There were no separate groups of these, but some good plants were seen in the groups of miscellaneous plants. In Messrs. VEITCH & FONS' were Nestor, Countess superba, Thomsoni, Sunbeam, and Mrs. Luther, a new 'variety with highly-coloured narrow leaves, a aort likely to make a useful table plant.

Messra. W. Bull & Sons had well-coloured plants of Chelsoni, Reidi, Hawkeri, elegantissima, and others.

Mr. L. R. Russell had a lot of useful plants, well coloured, and suitable for table decoration—Golden Ring, Aighurth Gem, Aighurthensis, Cupid, Russellianum, Chelsoni, Daphne, and other well-known sorts.

Measrs. FISHER, SON & SIBRAY showed Duke of Portland, having large leaves green with golden-yellow centre.

FERN

There were only two groups of Ferns.

Mr. H. B. May, of Upper Edmonton, had a beautiful collection of the most useful varieties, among the most prominent being Nephrolepis Piersoni, Nephrolepis Westoni, the new crested variety of N. ensifolia, N. Barteri, and N. Mayi, an erect form with twisted pinnæ. Polypodium Mayi was very fine. Of coloured Adlantums, A. Veitchii was prominent. Davallias were well represented, D. fijtensis robusta, D. rufa, and several othera teing very good. Pteris tricolor, P. Summersi, P. Childsi, and the beautiful little P. scaberula, Platycerium Willincki, Platyloma ternifolia, Acrostichum aureum, Gymicgramme grandiceps superba, G. Cordreyl (a variety with large ironds covered with sulphur-colonred powder), Adiantum Farleyense, Drymoglossum spathulatum, and many other pretty Ferna were included.

Messrs. Hill & SONS, of Lower Edmonton, made an imposing exhibit; in the centre was a tall plant of Alsophila armata, and under this a grand specimen of Platycerium grande; P. Veilchii and P. Hillii were also fine. Among Davallias, D assamica, D. fijensis major and D. retura were noted. The American Nephrolepis, N. Fosteri and N. Piersoni, were well shown, also Dicksonia antarctica and D. Schiedel. A heautiful plant of Polypodium pectinatum superba was submitted to the Committee, but failed to gain an award Pellea rotundifolia robusta appeared more like the true P. hastata. Several of the small spreading Polypodiums covering stems were very pretty. The tinted Ferns were not quite so prominent as usual, but Lomaria Herminieri and Adiantum tipctum were very

bright. Adiantum capillus-Veneris imbricatum on a cork stem was very pretty. Asplenium marginatum, with its soft, pale green fronds, was in striking contrast to A. inæquale, a large plant of which was densely covered with builbils. Among Pterises, several of the Doryopteris section were shown, including P. Binoti, referred to in the List of Awards. Adiantum Mooreland A. excisum in hanging baskets were effective; and a fine plant of A. asarifolium, with many other choice aorts, were included in this group.

There were few other Ferns of any note, but mention may be made of the splendid specimen of Polypodium Knightiæ seen in Messrs. SANDERS' miscellaneous group. This was even more heautiful than when itgalned a First-class Certificate last year.

In Messra, J. VEITCH & SONS' group of foliage plants was a splendid specimen of Polypodium Schneideri.

GROUPS OF PLANTS DISPLAYED OUT-OF-DOORS.

Messrs. J. Veitch & Sons, Lid., Chelsea, had a groupcomprised principally of pyramidal-trained Conifers,. Galtonia (Hyaciothus) candicans, well-flowered plantsof Eremurus, with a ground-work of Primula japonica.

Mr. L. R. Russell, Richmond, Surrey, set up a groupof ornamental foliage and flowering shruhs, working in plants of Clematis with good effect. This was a very extensive group and nicely arranged.

Mesars. W. Fromow & Sons, Chiswick, London, had a fine collection of Japanese Mapies, also a batch of Rhododendron Lord Roberts.

Messrs. Thos. Cripps & Son, Tunbridge Wells, Kent, brought very extensive groups of ornamental foliage plants, such as Maples, standard and bush plants, Sambucus, Golden Elms, Vilis apecies, &c. A fine plant of Refinespora obtusa Crippsii was noticed.

Mesers. W. Cutbush & Sons, Highgate, N., staged anumber of clipped Box and Yew trees, showing many-grotesque and interesting examples of topiary work.

An extensive collection of ornamental shrubs and flowering planta was arranged by Messra. John Laing & Sons, Forest Hill, London. Maples, Ivies, variegated forms of Euonymus, Clematis, climbing Roses, &c., were some of the main leatures. Another groupbelonging to the same firm was comprised of hardy Rhododendrons.

Messrs. PAUL & FONS, Cheshunt, had a collection of fine hardy Rhododendrons, principally composed of handsome rose-pink varieties, among which H. M. Arderne and Duchess of York were very good.

A fine batch of Araucaria excelsa glauca and A excelsa compacta robusta was set up by Messra. CARTER & Co., High Holborn, London. The plantswere admirably grown, and suitable for table plants.

Mesers. RICHARD SMITH & Co., Worcester, staged ornamental planta, dwarf Conifers, &c.

Messrs. J. Cheal & Sons, Crawley, had a very ornamental group of flowering trees and shrubs. Maples Lilscs, Rhododendrons, Wistarias, Viburnum plicatum, and similar plants, all well arranged.

Messrs. Fisheh, Son, & Sirray, Ltd., Handsworth Nurseries, Sheffield, arranged their plants in quite a natural atyle, making artificial beds by the use of moss, and arranging a border as though planted, at the back. The grouping and colour effect were good, such plants as Azaleas, Weigelas (Eva Rathke), Dimorphanthusmandshuricus argenteo-marginatus, &c., being utilised to the best advantage.

Two well-trained pyramid-shaped trees of Laurus nobilis, and a batch of Marguerite "Queen Alexandra" in which the disc flower had become petaloid, forming: a spurious double flower, were both shown by Messrs Carter & Co., High Holborn.

AWARDS BY THE FLORAL COMMITTEE.

Begonia Mr. W. H. Edwards.—This has large Camelliashaped flowers of pale salmon colour, having whiteflaking and a pronounced white margin to the petals. The flowers are 6 inches across. From Messrs. T. S. WABE, LTD. (Award of Merit).

Begonia Avalanche.—This has wavy, Hollyhock-shaped flowers of pure white. They are of large size and substance, the petals being pleasingly crenated.

Begonia Lady Curzon. — The flowers are Camelliashaped with good centre, of flery salmon colour, shape of flower round, the petals falling well from the centre (Award of Merit).

These two varieties were from Messre. BLACKMORE &

Campanula rupesiris.—A most charming rock plant, producing procumbent and rather wiry stems, from the

leaf axils of which one to three erect bluish-violetstriped flowers issue. The rounded alightly crenate leaves are soft and downy, and render the species one of the mest distinct. The plant is a profuse bleemer, and the flowers are about the size of these of Campanula muralis. From Messrs. Cuthush & Sons. Highgate (Award of Merit).

Gloriosa Rothschildiana.—This is a magnificent species of Gleriesa from the Uganda district in Tropical Africa. The flowers are of rosy-crimson colour, and the perianth segments have a slight margin of golden colour. A full-page illustration of a flower of this species was published in these pages, May 23, 1903, p. 323. Shown by the Hon. W. ROTHSCHILD, Tring Park (First-class Certificate).

Decorative Pelargonium "Lady Decies."-A variety with flesh-coleured flowers marked with scarlet en the two upper segments. The flowers are of large size, good form, and are preduced in bold-leeking trusses. From Mr. CHAS. TURNER (Award of Merit).

Dodccatheon Dame Blanche.-We take this to be a ferm of D. Meadia of a somewhat bold stature; the white segments have a dark base. The variety is obviously a good flowering kind. From Messrs. WALLACE & Co., Colchester (Award of Merit).

Lupinus polyphyllus (for the strain) .- For a strain of some excellence and variety, from Messrs. BARR & Sons, Covent Garden, an Award of Merit was granted.

Lupinus polyphyllus roseus.-A very pleasing and distinct break in the perennial Lupins; the flowers are of rosy-pink, and pale pink in the lower half. It is a welcome addition to good perennials. From Messrs. J. CHEAL & SONS, Crawley (Award of Merit).

Pteris (Doryopteris) Binoti - A distinct variety semewhat like D. palmata, but of more rebust growth, with thick leathery fronds which are irregularly divided, some of the segments being forked. It has a closegrowing caudex instead of spreading thizomes, as in several others of this group (Award of Merit).

Rhododendron x Ellen Cuthbert. - An excellent bletched variety, colour orange-yellow, with upper segment spotted with deep red colour. Shown by Messrs. R. & G. CUTRBERT (Award of Merit).

Rose Perle des Neiges. — A pure white polyantha variety, with pretty and perfectly double flowers. Shown by Messrs. W. PAUL & SON, Waltham Cross (Award of Merit).

Wahlenbergia (Edraianthus) serpyllifolia-A fine Campanulaceous plant frem Dalmatia, with procumbent stems and large violet-blue flowers of an intense shade of co'our. The leaves are narrow and about 3 inches long. Certainly one of the chetcest of rock plants, and by no means well known. In the Kew Index this plant is called Campanula serpyllifol'a. Shown by Mr. R. J. FARRER, Craven Nursery, Clapham, Lancaster (Award of Merit).

FRUIT COMMITTEE.

Present: Geo. Bunyard, Esq , Chairman; and Messrs. A. H. Pearson, W. Bates, S. Mortimer, R. Wilson Ker, John Basham, Wm. Crump, P. C. M. Veitch, W. H. Divers, J. Jaques, Wm. Pope, James Gibson, W. Fyfe, I. Coomber, Thos. Arnold, W. Balderson, F. Lane, H. Parr, G. Woodward, J. Cheal, G. Reynolds, Geo. Kelf, J. Willard, J. Lyne.

This very important section of garden produce was but indifferently represented when the area devoted to floral beauty is considered. The chief exhibitors were Messrs. T. RIVERS & SONS, Sawbridgeworth, who had one of their customary groups of Peach, Nectarine, and Plum trees in pots. There were thirty-six of these arranged in the great tent, and if less highly coloured than were other plant groups, showed evidence of culture in trees and superb quality in the fruit, such as this firm invariably display. The Peachtrees, massed in the centre, were of that new first early and richly flavoured variety Duke of York. It carries on pot-trees remarkably fine, richly-coloured fruits, and is calculated to displace any of the early American varieties. It is a product oddly enough of crossing Early Rivers Nectarine with Alexander Peach. The bulk of the rest of the trees were of the new Cardinal Nectarine. Some carried as many as from fifteen to eighteen fruits, all fine and richly coleured. The well-known variety Rivers' Early Nectarine, started at the same time as Cardinal, was yet unready; practically Cardinal precedes it by ten days. The Plum - trees were of Curlew, both pyramidal in form, and laden with medium-sized eval, purplish-blue fruit. The variety ripens immediately after Rivers' Early Prolific, is a kitchen Plum, and is reputed to be exceptionally good for boiling. Boxes of picked fruit of both Peach and Nectarine were also stage 1.

S. HEILDUT, Esq., The Ledge, Helyport, Maidenhead. had a small group of pot Vines and Cherry-trees, with Strawberries. The Vines, six in number, flat trained to trellises, and each carrying from six to eight bunches of good size, were Fester's feedling, Gradiska, apparently the ripest; and Black Hamburgh, the bunches needing yet a couple of weeks to ripen. The Cherries, moderately fruited, were Guigne d'Annenay and Early Rivers. There were also a dozen plants of Royal Severeign Strawberry in good fruit.

From the IMPERIAL COLD STORES, Tottenham, came a collection of thirty dishes, not all distinct, of Apples that had been kept in artificial cold. Generally the samples were fresh, but not better than we have seen at come previous Temple Shows, as from Maidstone, wintered in an ordinary fruit-room. The best colour was found on Baumarn's Red Reinette, and Gascoygne's Scarlet. Very good fresh samples also were Allington Pippin, Seaton House, Annie Elizabeth, Newton Wender, Wagener, Reinette de Canada, and Lord Derby. Mr. C. RITCHINGS, Câtel, Guernsey, had a group of fine

THE PERSON NAMED IN COLUMN THE VEITCHIAN CUP 1904 adicionin's 5 THE THE PROPERTY OF THE PARTY O

Fig. 161.—Awarded at temple show to messes.
W. Paul & sons for collection of boses.

Melons, inclusive of Best-of-All, Silver King, Hero of Lockinge, Goldfinder, and Paterfamilias, a rather large, smeeth eval fruit; also of Tematos very handsome and of medium - size, Prunus superlative, Winter Beauty, Helmc's Supreme, and other varieties.

Mr. T. R. CUCKNEY, Cobham House Gardens, Gravesend, put up two large boxes of richly-coloured Royal Sovereign Strawberries, the fruits being of good size.

In a Special Tent Mesers, EUTTON & SONS exhibited numerous very handsome Melons, inclusive of Best-of-All, Ringleader, Hero of Lockinge, and Royal Jubilee. Also dishes of a fine sample of pods of Tender-and-True climbing Bean.

VEGETABLES.

The finest collection of vegetables was that staged by Mr. Bastin, gr. to Sir A. HENDERSON, M.P., Buscot Park Berks. There were seventy dishes in all, the collection being effectively backed by numerous tall plants of the Red Currant Tomato trained to allow the long racemes of fruit to hang over tastefully. Also standing erect were three groups of the richly-coloured "Sutton" Rhubarb, which lent to the collection very effective colour. In the collection were good dishes of Magnum Bonum and Sutton's Purity Cauliflowers; Late Queen and Satisfaction Breccoli; Sutton's Favcurite, Early Market, and Flower-of-Spring Cabbagea; Victoria and Longstander Spinach; Matchless, Epicure, Prizewinner, and Satisfaction Cucumbers; Perfection, round green Marrow; Duke of Altany, Duchess of York, Early Giant, and May Queen Peas; Tender-and-True, Reliance and Plentiful French Peans; Whiter Beauly, Magnum Benum, Princess of Walcs, at d Perfection Tomates; Early Milan and Sucwball Turnips, Flood-red Best; Potatos May Queen, Early Athleaf, and Sharpe's Victor; Shorthern Carrots, Globe Art che kes, Asparagus Lettuce, small Salads in baskets, and Radishes. The whele cellection was set up with great taste, and was very attractive.

Mr. S. MORTIMER, Rowledge, Farnham, had no fewer than ten boxes of handsome Cucumbers, each box containing six fruits. The varieties were Sensation, Tender-and-True, Express, Sutton's Al, Improved Telegraph, Progress (very lorg), Lord Roberts, Evely Day, and a new one, Aristocrat, from Unique × Sens. tion, a most prolific variety. Also many dishes of hano some richly coloured Tomates, inclusive of Peerless, Lister's Prolific, Up-to Date, Princess of Wales, Holmes' Supreme, Eclipse, Best-of-All, Winter Beauty, Sutton's Al, Satisfaction, Red Dessert, and Golden Nugget.

From Messrs. H. Cannell & Sons, Swanley, came a mest interesting collection, the background of which was composed of heavily fruited Peas in boxes trained up to wire trellises, the tallest one being Duke of Norfolk, and the dwarfer ones British Empire, English Wender, and King Edward VII. These were from a March sewing. A box was also occupied with Ne Plus Ultra Dwarf Peans. In the front of these were some thirty heads, all of perfect form, of Cannell's Defiance Cabbage, flanked by Glant Cos I ettuces, and fronting these numerous dishes of Polatos and other products. These tubers were particularly fine for the time of year, having been grown in cleansed margarinehexes, and included of white varieties, Snow drop. Evergood, Springfield, Beauty of Hebron, Harbirger, Fyld Wonder, Supreme, Perfection, Wirdsor Castle, and Carltonian. Of coloured varicties, very heautiful were King Edward VII, Mottled Beauty, Mr. Bresee, Pirk Perfection, Edgeote Purple, Crimson Beauty, Reading Russet, and The Dran. Other dishes included F. Beckett Pea, Lorgped Feans, Asparagus, Nantes and Guerande Carrois, Tomaios, and Turnips.

Mr. Honday, Southfield, Romford, sent seme huge stems from outdoors of his Giant Rhubarb.

Asparagus in very fine form came frem Mr. A J. HARWOOD, St. Peter's Street, Celchester, who had six hundles of one hundred stems each; also from Mr. WALTER GODFBEY, of Wimpele Road, Co.chester, whose equally fine bundles had rather longer stems; but even fiver was the sample fiattith bundle of one hundred stems from Mr. R STEPHENSON, of Burwell, Cambridgeshire—most of these had 6 inches of green top a yet the scales were quite closed. An odd exhibits were the fifty plants in pots of the famous Eldorado Potato staged by Mr. J. F. GROVES, of Ham, Surrey. These did not evidence any specially robust or beavy cropping character. A small collection of vegetables came from the LADY WARWICK HORTICULTURAL COLLEGE, Studley Castle, Redditch.

AWARDS MADE BY THE COUNCIL The order in which the names are entered has no significance, but is purely accidental.

VEITCHIAN CUP

esented by Messrs. James Veilch & Sons, and awarded Messrs. W. Paul & Sons, for Roses.

GOLD MEDAL.

Messrs. James Veitch & Sons, for Stove and Green-

Messrs. James velce.
house Plants.
Messrs. Sander & Son, for Orchids.
Mr. A. J. A. Bruce, for Sarracenias.
Messrs. Fisher, Son & Sibray, for Trees and Shrubs.
Mr. Geo. Mount. for Hoses.
Messrs. Rivers & Son, for Fruit-trees.
Messrs. R. Wallace & Co., for Lilies, Iris, Tulips, &c.
Baron Schröder, for Orchids.

Sepecial Prizes for Ahrangement.

Sir Fredk. Wigan, Bart. Messrs. James Veitch & Sons. Messrs. R. Wallace & Co.

Irwin Lynch, Egg., for Hybrid Gerberas.

Messrs. Cannell & Sons, for Vegetable, Cannas. &c.
Mr. J. Russell, for Stove and Greenhouse Plants, &c.
Messrs. W. Cutbush & Sons, for Clipped Yews and
Herbaceous Plants.

Messrs. P.a. & G. Cuthrott, for Azaleas, &c.
Messrs. Hill & Sons, for Ferns.
Messrs. Jackman & Sons, for Clematis and Herbaceous Plants.

Messrs. Jackman & Sons, for Clematis and Herbaceous Plants.
Messrs. Stution & Sons, for Clematis and Herbaceous Plants.

ous Flants. Messrs. Sutton & Sons. for Circrarias, Gloxinias, &c. Messrs. Cheal & Sons, for Trees and Shrubs. Messrs. R. Smith & Co., for Clenatis and Herbaceous

Plants.
Mr. Chas. Turner, for Roses.
Sic Alex. Renderson, Bant., Faringdon, for Vegi-

8. Heilbut, Maidenhead, for Pot Vines and

Messrs. Blackmore & Langdon, Twerton-on-Avon, for

Begonias.
Messrs. Charlesworth & Co., Heaton, Bradford, for

Colman, Esq., Reigate, for Orchids. essrs. J. Backhouse & Son, York, for Alpine and J. Colman, Messrs. J. Rock Plants.

Messrs. A. Dickson & Sons, Belfast, for Tulips. Messrs. H. Low & Co., Enfield, for Figs, Carnations,

Captain George Holford, C.I.E., C.V.O., for Orchids. Messrs. Barr & Sons, for Pigmy Trees and Herbaceous

Messrs, T. Cripps, for Acers and Trees and Shrubs.

SILVER-OILT LINDIEY MEDAL.

Mons. Vuylsteke, for × Odontioda Vuylstekee, a very extraordinary hybrid Orchid.

SILVER-GILT FLORA MEDAL,

SILVER-GILT FLORA MEDAL,
Messrs. J. Laing & Sons, for Begonias and Caladiums.
Messrs. Ware, ior Roses, Begonias, &c.
Messrs. Peed & Sons, for Caladiums and Begonias.
Mr. H. B. May, for Ferns, &c.
Mr. Amos Perry, tor Herbacenus Plants.
Messrs. W. Bull & Sons, Orchids and Foliage Plants.
R. Farrer, Esq., for Rock Garden.
Messrs. Pritchard, for Herbaceous Plants.
Messrs. "Hobbies," for Roses and Carnations.
Messrs. J. Waterer & Sons, for Rhododendrons.
R. Ashworth, Esq., for Orchids.
Messrs. Cowan, for Orchids.
Messrs. Cypher for Orchids.
Messrs. J. Carter & Co., for Calcolarias, Gloxinias, &c.
Messrs. W. Fromow & Sons, Trees and Shrubs.

SILVER-GILT KNIGHTIAN MEDAL.

Mr. C. Ritchings, Guernsey, for Melons and Tomatos.

SILVER-GILT BANKSIAN MEDAL.

Messrs. Balchin & Sons, Hassneks, for Hardwooded

Plants.

Messrs. Pulham, Eisenham, for Rock Plants

Messrs. Pulham, Eisenham, for Guildford, for

Guildford Hardy Plant Co, Guildford, for Herba-ceous and Alpine Plants. Messrs. Onbbie, Rothessy, for Dablias, Violas, &c. Mr. H. J. Jones, Lewisham, for Sweet Pess, Ecgo-

nias, &c. Mr. W. J. Godfrey, Exmouth, for Peiargoniums,

Mr. W. J. Gounts, Papers, &c.
Mr. G. Reuthe, for Herbaceous Plants and Alpines.
Messrs. F. Cant & Co., for Roses.
J. Rutherford, Esq., for Orchids.
Messrs. Ladhams, for Hardy Perennials.

SILVER FLORA MEDAL.

Leopoid de Rothschild, Esq., Pelargoniums. Hon. A. H. T. Montmorercy, Tulips, &c. Lord Aidenham, Streptocarpus. Mr. R. C. Notcutt, Woodbridge, for Herbaccous

Mr. R. C. Notcutt, Woodbridge, for Helbaccous Flowers, &c. Mcssrs. Jones & Sons, Shrewsbury, for Sweet Peas,

Messrs. B. R. Cant & Sons, Colchester, for Roses in

pets. Messrs. B. S. Williams & Son, Helloway, for Rhode-

Messrs. B. S. Williams & Son, Hollows, & Gendrons, & G. Mr. A. F. Dutinn, Bexiey Heath, for Tree-Carnations. Messrs. E. Webb & Sons, Stourbridge, for Gloxinias, Calceolarias, & G. Mr. T. Jannech, Dersingham, for Lities of the Valley, Lilacs, & G. Mcsrs. B. R. Davis & Sons, Yeovil, for Begonias. Mr. John R. Box, West Wickham, for Begoniae. Mr. Robert Sydenham, Birmingham, for Sweet Peas. Messrs. Resusbottom & Co., Geashill, King's Co., for Anemones.

Anemones.
N. L. Cehen, Esq, Englefield Green, for Calla N. L. Cohen, Esq, Englefield Green, for Calla Elliottiana. Messrs. Hogg & Robinson, Dublin, for Tulips and

Mr. John Robson, Altrincham, for Orchids.
Mr. W. Iceton, Putney, for Lilies of the Valley and
Foliage Plants.

SILVER KNIGHTIAN MEDAL.

Mr. S. Mortimer, Cucumbers and Tomatos. Mr. R. Stephenson, for Asparagus.

SILVER BANKSIAN MEDAL.

Miss Crooke, for Vegetables.
Mr. J. Cuckney, Strawberries.
Mr. A. J. Harwood, Asparagus.
Mr. W. Godfrey. Asparagus.
The Ranelagh Nurseries Co., Lesmington Spa, for

The Kallelagh Kurseries Co., Lesmington Spa, for Foliage Plants.

Measrs. Storrie & Storrie, Dundee, for Auriculas and Streplocarpue.

Mr. Vincent Slade, Taunton, for Pelargoniums.

Messrs. Boyes & Co., Leicester, for Carnations.

Misses Hopkins, Knutstord, for Alpines and Rock

Pianis.

Mesers. Watkins & Simpson, Covent Garden, for collection of Annuals in pots.

Mesers. Kelway & Son, Langport, for Pyrethrums.

Mesers. Gibert & Son, Dyke, Bourne, Lines., for

Anemones.

_ Messrs. W. & J. Brown, Stamford, for Greenhouse Plants

Messrs. R. Anker, Kensington, for Cacti.
M. L. J. Draps Dom, Brussels, for Begonias and Mr. A. Ll. Gwillim, New Eltham, for Begonias.

CULTURAL COMMENDATION.

To Mr. J. Hudson, V.M. H., Gunnersbury Park Gardens, W., for Roses.

THE BRITISH GARDENERS' ASSOCIATION.

INAUGURAL MEETING AT ESSEX HALL.

A LARGE and representative meeting of gardeners took place on Wednesday evening at the Essex Hali. Essex Street, Strand, to consider proposals for the formation of the British Gardeners' Association. Dr. MASTERS presided, and was supported on the platform by Messrs. Geo. Gordon (Chairman of Committee), W. Watson (Secretary), F. Sander (St. Albans), F. F. Sander, F. Jordan (Hyde Park), W. W. Pettigrew (Superintendent of Public Parks, Cardiff), H. W. Ward (Rayleigh Nurseries, Essex), J. Weathers, W. H. Divers (Belvoir Castle Gardens), K. Drost (Richmond Nurseries, Surrey), R. Hooper Pearson, H. Burrows, &c.: In the body and gallery of the hall there were upwards of 300 gardeners, and about a dozen ladies.

Dr. MASTERS briefly stated the objects of the meeting. Mr. W. Pettigrew said he had been asked to support the proposal from the point of view of the young working gardener. He was exceedingly pleased to do Whatever critics could say or do, he thought 90. every reasonable person must confess that the conditions of life and labour under which young gardeners at present worked in many places were open to a great deal of improvement, and sooner or later those conditions must be changed. Otherwise in a generation or so gardening would be a profession or calling followed only by persons who had failed at everything else. No one interested in gardening would like to see such a state of affairs, and for that reason they should take to heart the determination to do something to bring about a remedy. Most head gardeners found year by year an increasing difficulty in getting young, intelligent, and well-educated lads to take up the profession gardening. He was very much impressed in reading in the last issue of the Royal Horticultural Society's Journal that the Council found there was generally more demand for those who had been trained at the Society's Gardens than there were students to satisfy the requirements. Surely such a statement ought to appeal to parents who wished to find a suitable occupation for their sons, and yet there were parents who would not care to put their intelligent children into an occupation followed only by everworked and underpaid gardeners. They would rather a hundred times see their childen enter some of the over-stocked professions. It was to remedy such a state of things that we felt hopeful such a Association would do great good. As one with men under him, he must confess that be, and others like him, were in many cases responsible for a good deal of the bad pay and the lorg hours of the younger men. He spoke candidly. They were so conservative that they forgot the golden rule, "Do to others as they would be done by." When any young gardener complained, the head gardener would say "that when he was young he rever had recreation and short hours." They were not sincere enough to say how they would have liked better conditions when they were young. He would say this for young journeymon -they were not afraid of hard work. What they compiained of was the long hours, the peor pay, and the infringement of their rights. Thuse things made them discontented, and it was the duty of the head gsrdener to make the conditions better. He was glad to say that head gardeners had been trying to do this and in many instances they had been very suzcessful. In one oid - established family, proper representations had secured the men better paypayment for evertime, and more time for relaxation. That was brought about by ne intimidation, ne strike, but only by reason, because it was pointed out to the employer that it would be not only to the advantage of the men but of himself. He did not wish to be unfair to the head gardeners, because they themselves were frequently the victims of the present condition of affairs. It was all very well for some critics to say that the labouring gardener was no worse off than mechanics, and that he was compensated by his surroundings. But their surroundings were not tangible assets, and would not satisfy the failors' and other bills. When he was a young journeyman in a ducai garden many miles from that spot, he had to work from 6 A.M. to 6 P M., with ne halfday on Saturday, and ne pay for In the summer season they had to bed-Sunday duty. out and thin to the Grapes in time nominally their own. He had 15s. a week, with the privilege of being huddled with four others in a miserable room. But that place was a paradise compared to one place where six were crowded together in a room intended only for three. The housing question was most important. If they did not give decent houses to the poor people, it was di fli-

cult to get people to have decent morals. Bad housing drove many young men to the public house, whereas if they had a comfortable place of their own they would be able to study the higher branches of their profession, and not act only on rule-of-thumb. All these things could be remedied by such an Association as they were proposing to form.

Mr. H. W. WARD also alluded to the many things

which were expected from the gardener. He was expected to be able to plan and superintend the erection of glasshouses, to design flower gardens, and beautify old ones, and to lay outlandscape gardens to the best advantage. He was also supposed to be a reliable weather prophet, to account for the presence of all kinds of insect pests, and for all this he got from £60 to £130 a year aithough the latter places were few and far between. His pay compared must unfavourably with that of the indoor servants, from whom less knowledge was expected, the coachman, the stud-groom, and others who received their board and lodgings, and performed in most cases purely mechanical duties. Then the proposed register would ensure that they got really first-rate ali-round gardeners—thoroughly trustworthy in everyway. From experience he could say he believed that employers were likely to listen to suggestions coming from such an Association. Their newly-acquired power must he an Association. Their newly-acquired power must be used with discretion, and employers would be bound to admit the justice of their cause, and the need for

such an Association.
Mr. Geo. Gornon, Chairman of the Provisional Committee, moved: "That the British Gardeners' Associa-tion be immediately formed on the lines indicated in the prospectus." They had, he said, ail heard of the need for a properly organised body to represent gardeners. It had always been said that gardeners were isolated, and that it was not possible for them to combine for mulual benefit, but the scheme before them would enable them to join together for the mutual advancement of their calling. It was at one time suggested that an association should be formed limited to a certain body, but it had been felt that ne organisation could be satisfactory that did not embrace all grades of their calling. They intended to establish a register of gardeners with a view of regulating and controlling the labour market. They wished to impress upon employers the necessity for paying fair wages to men well qualified to perform their duties. It was far from right that such men should get less than the men who swept the reads. should get less than the men who swept the roads. Such things could not be considered satisfactory. It would be the duty of the Association to consider the interests of both employer and employed, and it was not suggested that coercion or intimidation in any form should be used. Then as to overtime, when a man had worked a full day it was not right that he should be called upon was not right that he should be called upon to do, ssy, half of a second day's work without some additional remuneration. Funds were necessary to start the Association, and in order to make it strong they should all join at once, and not wait to see who else joined. He believed there was a brighter future in store for them.

Mr. HERBERT BURROWS seconded the motion in an

abie speech.

Mr. W. E. Close said he had received fifty-three post-card replies to his appeal. Thirty-nine were in favour of an Association for all branches of horticuiture; twelve were in favour of a Society for private gardeners only; one favoured a Society for nurserymen, and one only opposed any Association whatsoever.

Mr. WALTER WRIGHT said he thought the Provisional Committee had been a little narrow in its outlook, and had not included in the prospectus certain matters, such as the Orphan Fund mentioned in the "plea."

The SECRETARY printed out that the plea said these were matters which the Association might take up

subsequently.

Mr. WRIGHT added that everything should be done to open the Association to all, and as he would like further time to consider the scheme, he would move as an amendment, "That this meeting approves of the project for forming a Gardeners' Association, but in view of the short time allowed for considering the prespectus and the importance of the issues involved, agrees to defer the formation of the Association until the first day of the Temple Rose Show."

The amendment having been seconded, it was put to the meeting, but by an overwhelming majority it was

declared to be lost.

Mr. A. Dean then drew attention to some matters of detail in the wording of the prespectus, and asked for

information. Mr. PEARCE asked the Committee to do semething on behalf of behalf of the middle-aged gardeners with young families, who found it often so difficult to obtain a

situation after having to leave one.

Mr. GORDON said that was provided for in the prospectus

The original resolution was then carried with practical unanimity.

Mr. Warson announced subscriptions from Mesers. Sander, £20; from Mr. Robert Sydenham, £10, [offering to increase this to £20 if twelve other nurserymen contributed a like amount]; and others. He proposed that the following gentiemen be elected members of the Selection Committee, in addition to such members of the Provisional Committee as bad consented to continue in

office :- T. H. Candler. Warley Place Gardens : W. Brooks. omce; —T.H. Candier, warley Flace Gardens; W. Brooks, Haslemere; J. W. Miles, Jaleworth; W. Newberry. Si. Albans; W. Taylor, Forest Hill; W. C. Close, Fulham; T. Winier, St. John's Wond; W. Hales, Chelsea; W. Isbell, Bush Hill Park; E. Cadman, Feitham; and Mr. Bean and Mr. Stocks, both of the Royal Gardena,

J. WEATHERS seconded, and the motion was

The following aix gentlemen were then rominated by the meeting and elected to act with the above twelve:—
R. B. Leech, Dulwich; R. J. Frugbrook (?), Superintendent of the Leyton Urban District Council; J. Lawson, Hortleultural College, Swanley; J. H. Witiy, Superintendent of Highgate Cemetery; Walter P. Wright, Editor of The Gardener; and H. J. Cutbush, nurseryman, Highgate.

A hearty vote of thanks was accorded to Dr. Masters

for presiding.

LINNEAN.

(ANNIVERSARY MEETING.)

MAY 24.-Prof. S. H. Vines, F.R.S. (President), in the chair. The Treasurer, in presenting the annual statement of accounts for the financial year ending April 30, and duly audited, compared the various items of receipt and expenditure of this and the previous years.

He also laid on the table the Supplemental Charter, dated April 8, 1904, the result of the special general meeting held on January 15, 1903.

The Charter having been formally read over, the President moved a special vote of thanks to the Treasurer for the labour expended and his generous gift of the Charter to the Society, which was supported by Mr. W. Carruthers, and carried by acclamation.

The Secretaries' report of deaths, withdrawls and

The Secretaries' report of deaths, withdrawals, and elections showed that since the last anniversary fifteen Fellows have died or their deaths have been ascertained, also one Associate and two Foreign Mem-

ascertained, also one Associate and two Foreign Members; seven Fellows have resigned; two have been removed from the list by order of the Council; whilst twenty-seven Fellows (of whom twenty-four have qualified) and three Foreign Members have been elected.

The President then delivered his address. After advocating an annual report by the Council, and giving a statement of the events of the Society's year, he devoted the greater part of his address to considering the life-work of Linneus and his claim to the gratifude of later workers.

gratitude of later workers.

The President then addressed Dr. A. Giinther, and presented the Linnean Gold Mcdsl to him, which the

recipient auitably acknowledged.

Mr. Carruthers then moved a vote of thanks to the President on his quitting office at the close of his four years' tenure, which was acconded by Prof. Percy Groom, and carried by acclamation. The President having acknowledged the compliment, the meeting ended.

Obituary.

THOMAS SMITH .- The death of this wellknown horticulturist occurred at his residence, Blackpark, Stranraer, Wigtownshire, on the 18th Though he had reached a period far beyond the allotted span of life, deceased displayed almost to the last an intelligent interest in general affairs. Coming from a sturdy Scottish stock, and having been brought up amid the surroundings of an older generation, he inherited all the marked characteristics of his race. Without the aid of any fortuitous circumstances, his dogged perseverance, combined with the rare qualities of care and caution, secured for him early prominence in the career of usefulness he had chosen for himself.

Mr. Smith was born in Perth almost eightyfour years ago, and very early began to learn the nursery and seed trade in that city. After he had undergone the usual course of training there, he went to St. Martins, Perthshire, where he devoted himself to gardening. From the very first his great desire was to master completely his profession. Consequently his leisure hours were given over to attendance at classes and the study of botany. As early as 1843 he gained the 1st prize and medal for his Herbarium. On leaving St.|Martins he was appointed foreman at Whittlehury Lodge, Northamptonshire, then noted for its Italian gardens. After a short term of service there he accepted a similar position at Dalkeith Palace, at that time under the charge of the wellknown Mr. McIntosh, author of the Gardeners' Assistant. Here he remained for several years till his removal to Eglinton Castle. Two years later he was appointed head-gardener to Mr.

Garnet, Queromore Park, Lancaster. From there he removed to the Marquis of Londonderry's seat at Mount Stewart, County Down, where he re modelled the grounds of that estate in a most skilful and artistic manner.

In 1861 deceased started business for himself as nurseryman and seedsman at Stanraer, and established the now well-known firm of Thomas Smith & Sons. For a long time this firm has held a foremost place throughout the country in the cultivation of Roses and Rhododendrons. On many occasions deceased acted as judge at the Royal Caledonian Horticultural Society's shows, and at the National Rose Society's shows, besides many others. His kindly manners and strong character rendered him a most lovable man, and having an immense fund of dry humour he was a delightful companion. His ideal of life was high, and he endeavoured to live up to it. Mr. Smith took no part in public life, though often pressed to do so, and no more grateful tribute to his worth could have been found than was evinced in the large attendance at his funeral, which took place in the picturesque churchyard of Inch. Mr. Smith leaves a family of four sons and four daughters, three of the former being associated with him in business, two of them, David and Thomas, as co-partners, by whom the business will be carried on as formerly. Another son, Archibald, has for fifteen years been connected with Joseph Breck & Sons, Boston, U.S. Charles Buchanan, Penicuik.

MARKETS.

COVENT GARDEN, June 1. OUT FLOWERS, &O.: AVERAGE WHOLESALE PRICES.

	RAGE WHOLESALE PRICES.
a.d. a.d.	8.d. 8.d.
Arums, per doz. 10-40	Marguerites, yel-
Azalea moilis, per	low, doz bunch. 1 0- 2 0
bunch 06-10	- white doz. bun 3 0- 4 0
Azaleas, per doz. 20-40	Narciasus, p. doz.
Azaleas, per doz. 2 0- 4 0 Carnations, Mal-	bunches 1 0- 2 0
maison 12 blms. 4 0- 6 0	Orchids: Odonto-
- per bunch 0 6-16	glossums, per
Croton leaves.bun. 0 6- 1 0	dozen blooms 2 0- 4 0
	- Cattleya, doz. 10 0-12 0
	- Cattleya, doz. 10 0-12 0 - varioua, doz. 2 0- 8 0
Ferns, Asparagus, per bunch 0 6-2 0	Proples par dor
per butten 0 6- 2 0	Pæonles, per doz.
- French, per	bunches 20-40
doz. bunches 03-04	Pelargoniums,
- Maidenhair,	zonal, dozen
doz bunches 60-80	bunches 30-60
Forget-Me. Nots.	- white, dozea
p. doz. bunches 16-30	bunches 4 0- 6 0
Gardenlas, box 1 0- 2 0	- doublescarlet,
Gypsophila, doz.	p. doz. bunches 3 0- 4 0
bunches 40-60	Pyretbrum, per
Cladiolus Rhush-	doz. bunches 20-30
Gladiolus, Blushing Bride, per doz. bunches 20-80	Roses, Mermet,
ing Bride, per	per bunch 1 0- 2 6
doz. bunches 20-80	per bunch 1 0- 2 6 - white, bunch 1 0- 2 0
— white, bunch 0 6-1 0 Irls, doz bup 3 0-4 0	
Irls, doz bup 3 0- 4 0	- plnk, bunch 1 0- 2 0
Ixia, perdoz. bun. 20-30	- red. bunch 1 0- 2 0
Lilac, doz. bub 3 0- 4 0	- Safranos, bch. 1 0- 2 0
- (French), bun. 1 6- 2 0	Smilax, doz. trails 1 6- 2 0
Lilium auratum	Spiræas, bunch 0 4-0 6
per bunch 20-40	Stocks, per doz 20-26
- longiflorum,	Sweet Peas, per
bunch 1 0- 2 0	doz. bunches 1 6-30
- lancifolium 1 6- 2 6	Tuberosea on
Lily of the Valley,	stem, bunch. 0 9- 1 0
	- short, p. doz. 0 3- 0 4
p. doz. bunches 2 0- 6 0	
PLANTS IN POTS, &O.: AV	ERAGE WHOLESALE PRICES.
	ERAGE WHOLESALE PRICES.
s.d. s.d.	s.d. s.d.
s.d. s.d. Acacias, per doz. 12 0-50 0	s.d. s.d. Ivy Pelargoniums,
s.d. s.d. Acacias, per doz. 12 0-50 0 Adiantums, doz. 4 0-8 0	s.d. s.d. Ivy Pelargoniums, per doz 4 0-6 0
s.d. s.d. Acacias, per doz. 12 0-50 0 Adiantums, doz. 4 0-8 0 Aralias, per doz. 4 0-8 0	s.d. s.d. Ivy Pelargoniums, per doz 4 0-6 0 Linac-trees, each 3 0-4 0
s.d. s.d. Acacias, per doz. 12 0-50 0 Adiantums, doz. 4 0-8 0 Aralias, per doz. 4 0-8 0 Arbor Vitæ, doz. 9 0-18 0	s.d. s.d. Ivy Pelargoniums, per doz 4 0-6 0 Liac-trees, each 3 0-4 0 Lycopodiums,per
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FRUIT: AVERAGE WHOLESALE PRIOES,

	8.G. 8.G.	5.a. 5.a.
Apples, Austra-		Grapes, Muscat,
lian, in cases	7 0-12 0	B, per lb 26-30
— Taamanian		Lemons, per case 7 6-21 0
Cases	5 0- 8 0	Melons, each 1 0- 2 6
Bananas, bunch	7 0-10 0	Nectarines, A. doz. 15 0-21 0
- loose, dozen	10-16	- B, per doz 4 0-10 0
Figs, per doz	30-60	Oranges, per case 21 0-40 0
Gooseberries, per		Peaches, A, per
aleve	10-26	doz 13 0-18 0
Grapes, Hambro'		- B 30-80
A, per lb	2 0- 3 0	Pines, each 20-40
B, per lb	13-19	Strawberries, A.,
- Gros Maroc, lb.	20 —	per lb 20-30
- Muscat A. n. lh.	4 0- 5 0	B. ner lb 0 9-1 3

VECETAGLES: AVERAGE WHOLESALE PRICES.

	s.d. s.d.	s.d. s.d.
Artichokes, Globe,		Onions, green,
per dozen	26-40	doz bunches 16-20
Asparagus, Home,		Onions, per bag 6 0- 6 6
bundle	10-26	- picklers, slove 40 -
- Foreign	0 6- 1 6	Paraley, doz. bun, 16-20
Beans, Broad, flat	36-46	- sieve 0 9-1 0
- dwarf, per lb.	08	Peas. per lb 0 6-1 3
Beetroots, bushel	26-30	Potatos, per ton 60 0-130 0
Cabbages, p. doz.	0 9-1 0	- frame, lb 0 11-0 2
Carrots, per doz.		- New Teneriffe,
bunches	20-26	per cwt 10 0-11 0
- per bag	3 0- 4 0	Radishes, per
Cauliflowers, per		dozen bunchea 0 4-0 6
dozen	0 9- 2 0	Rhubarb, natural,
Celery, per dozen		per doz 1 0- 2 0
bnnches	60-90	Salad, small, pun-
Cress, doz. pun.	09 -	neta, per doz 0 9
Cucumbers, doz.	1 6- 2 9	Shallots, lb 0 2-0 3
Endive, per doz.	1 3- 1 6	Spinach, p. bush. 16-20
Garlie, per lb	0 3 —	Tomaios, Capary
Horaeradlah, io-		Deeps 2 3- 2 9
reign, p. bunch	1 0- 1 3	- Channel Islds
Liseks, doz. bun	1 0- 1 6	per lb 0 5-0 62
Lattuces, Cabbage,		- English, doz. 5 6-7 0
per dozen	03-06	Turnips, new. doz. 4 0- 6 0
- Cos, per acore	06-09	Vegetable Mar-
Mint. doz	16-20	rows, per doz. 6 0- 9 0
Mushrooms(house		Watercress, per
per lb	0 6-10	
E		

REMARKS.—Gooseberries are plentiful, and prices range from 2e. 6d down to 1s. per sieve or half bushel. New home-grown Turnips grown under glass are very good. French Cherries in sieves fatch from 3s. to 5s., while peeks of ditto are sold at 3s. to 6s. per peek. Dutch Cauliflowers, 2s. to 2s. 6d. per dozen; Cabbage Lettuce, bushels (36), at 1s. 6d. to fs. per basket; Lisbon Potatos, per box, 4s. 9d. to 5s.; Jerasy ditto, 10s. to 11s. per cwt.; St. Maio ditto, 9s. to 10s. per cwt.; Cherbourg ditto, 9s. per cwt.; Tencriffe ditto, 10s. to 11s. per cwt.; Mushrooms, flaps, 4d. to 6d. per lb.; Cups, 9d. to 1s. lb.; English Horseradish, is very fine in quality, per dozen, 1s. to 1s. 3d. dozen, 1s. to 1s. 3d.

POTATOS.

Home-grown, 70s. to 90s. per ton; foreign, 60s. to 100s. do.; Dunbars, 120s. to 130s. do. John Bath, 32 & 34 Weblington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

There has been a good trade in both flowering and There has been a good trade in both howering and bedding plants, and growers have had a busy time, the supplies in most instances having been equal to all demands. Zonal Pelargoniums are a great feature among pot plants, and have sold well. Ivy-leaved aorts are rather over-pientilul, though there is a good demand for them. Fuchsias are abundant, and among aorts are rather over-plentilul, though there is a good demand for them. Fuchslas are abundant, and among these Gertrude Pearson is very fine, having crimson flowers with purple corolla; Ballet Girl is the best double white coralla'd variety. Among the single light varieties, Arabella Improved and Lady Heytesbury are still favourites. Calceolarias are very good. Verbenas Miss Willmott and King of Scarlets continue good. Saxifraga (Cotyledon) pyramidalis is marketed in splendid condition. Good Roses in pots of various sorts are more plentiful. Spiræas grown without heat are now coming in, and are very good: the variety astilboides floribunda is certainly the best. Tuberous Begonias do not as yet sell very readily. Margueriles, though very plentiful, sell well and command good prices. Chrysanthemum segetum is well-flowered, but aome of the samples seen are rather tall. Hydrangea Hortensia is still good and plentiful, but the variety Thomas Hogg is not so abundant. Lobelia and Mignoneite sell readily, as does also Harrison's Musk, but the trade for the latter will not last long. There are still some good Ericas coming in, notably well-flowered plants of E-ventricosa magnifica; E. Cavendlshii also holds out well. Boronla heterophylla is still procurable in well-flowered plants. flowered plants.

wered plants.

Foliage plants are not quite so plentiful just now,

Foliage plants are not quite so plentiful just now,

La find good plants being Foliage plants are not quite as ... if find good plants still, supplies equal all demands. I find good plants of Asparagus Sprengeri in 48's sell readily, it being of Asparagus Sprengeri in a sindow-box work. Well-grown of Asparagus Sprengeri in 48's sell readily, it being extensively used for window-box work. Well-grown plants of Aralia Sieboldi are plentiful. There are still some good Aspidistras to be seen, but growers do not vary their prices much, and most of them will now keep their plants until the new leaves are developed. Among Ferns balls of the Japanese Davallia bullata are very good, while all ordinary sorts are fairly pleatiful in various sizes.

CUT FLOWERS.

The trade in the French market is now practically

Cut Flowers.

The trade in the French market is now practically finished for this season, and the new hall presents a very dull appearance, double white Narcissus and various sorts of Pænies beiog the only flowers present in quantity. Although this hall was intended for the sale of imported soft fruits, very few aslesmen avait themselves of the accommodation. The stairs are a great inconvenience to those using this hall. The space on the ground floor is now occupied by growers of spring hedding plants.

English cut flowers from the open ground are coming in very plentifully, double crimson and double pluk Pæpoles heing a great feature. Pyrethrums, especially the single crimson varieties are very showy. Sweet Peas are over plentiful, and do not make prices sufficient to satisfy the growers. The large orange-scarlet Oriental Poppies are now in, and there is also a large supply of Iceland varieties. Liliums are more plentiful than ever, and the demand being only moderate prices are low, entailing a good deal of waste. Lily of the Valley varies very much in quality; large quantities from out-of-doors are sold at very low prices, but higher prices are obtained for the best indoor grown, some of which is of fine quality. Talips are now nearly over, after having had a long season, it being nearly six months since they were first marketed. Roses continue plentiful, but there are now many smailer blooms. Early - flowering Gladioli in very pretty shades of colour, and the pure white variety are plentiful. Spanish Iris, although still obtainable, are not so abundant as formerly. The trade for choicer flowers is now rather dull. Gardenias, Tuberoses. Stephanotis, and Orchid b'oome all move slowly. There is a good supply of double Scarlet (Zonal) Pelargoniums in various colours. show Pelargoniums in various colours.

ROYAL BOTANIC SOCIETY. - We are informed that Lady JEUNE has consented to become the patroness of a stall for the sale of flowers. which will be held next week by Mrs. BRYANT Sowerry and the students of her Floral Class. The proceeds will be divided between the Gardeners' Royal Benevolent Institution [and Royal Gardeners' Orphan Fund.

THE PAST WINTER IN AMERICA.—In a letter to Mr. ANTHONY WATERER, of Knap Hill Nurseries, Woking, Prof. C. S. SARGENT writes from the Arnold Arboretum, Harvard University, as follows:—"We have had the most disastrous winter that I can remember. Deciduous-leaved shrubs and trees seem to have suffered more than evergreens this time, although practically every Rhododendron-bud in this part of the world is killed or injured; Azaleas, on the other hand, being all right. We have lost many shrubs which have been growing for twenty years at least, and have never suffered before. It will take a long time to get over the effects of such a winter."

WEATHER NOTES.

A VERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick -59.9°.

A TUAL TEMPERATURES :-

UAL TEMPERATURES;—
LONDON. June 16 P.M.]: Max 65°: Min. 50°.

June 2, Gardeners' Chronicle Office. 41, Wellington Street, Covent Garden (10 A.M.): Bar., 30'1; Temp.. 58°. Dull.

Paovinces.—June 1 (6 P.M.): Max. 62°, England, E.; Min. 51°, Shetland.



Owing to the extraordinary pressure on ou space, the publication of numerous communications and reports is inevitably delayed.

Asparagus Beds: E. B. The beds are probably exhausted through age. Next season you should sow seeds for making a new plantation, and, by manuring the old beds from the surface, stimulate the plants as much as possible for two years or so, when, the younger being capable of affording "heads," the older ones may be destroyed. Farmyard manure contains more nourishment than manure obtained from spent hot-beds, which is naturally partly exhausted. See note on Asparagus-culture on p. 16, in our issue for January 2, 1904.

ASTERS: Co. Clare. We cannot find anything the matter with your plants. Have a little patience, and watch.

CAPSICUMS: E. B. See note on p. 343 in our issue for May 28.

CATERPILLAR FEEDING ON COTONEASTER: W.R.S. The insect that you have sent to us is the larva of the common brimstone-moth, Rumia cratægata. It usually feeds on Hawthorn and Sloe, and is common and widely distributed in the British Isles. The moth has all the wings of a canary-yellow colour, and the margin of the fore-wings is adorned with red-brown spots. You could easily collect the caterpillars by beating the branches over a tray, or into an umbrella.

CUCUMBER PLANTS: W. E. W. They are attacked with the fungus called Sclerotinia sclerotiorum. See answer to "Melon: G. R." in last week's

GLOXINIAS: J. D. Have you been using some insecticide in too great strength?

GOOSEBERRY CATERPILLARS: J. W. Yes; they are those of the ordinary Gooseberry caterpillars (Abraxas grossulariata) (fig. 162). It is not

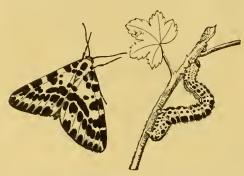


FIG. 162 - MAGPIE MOTH AND CATERPILLAR FOUND ON THE GOOSEBERRY AND CURRANT.

surprising to find them on Ribes aureum, for it attacks not only Currants and Gooseberries but also Apricots and Plums, and is frequent on Sloe and Blackthorn hedges. Hellebore powder has been found useful for destroying them.

JUDGING OF FLOWERS, VEGETABLES, &c.: Correspondent. You may obtain the Royal Horti-cultural Society's Rules for 'Judging, &c., on application to the Secretary, 117, Victoria Street, Westminster, price 1s. 1d. post free.

Lawn-weed: Fungoid. What you send is a Lichen, indicative of poverty of soil and bad drainage. Treatment accordingly.

Melons in Cool-House: E. B. Under such conditions as you describe, it is not necessary to spray the plants or "damp down" frequently, which would be very injurious. Be guided by the conditions of the weather, and on bright sunny days, when spraying is done, let it be performed early in the afternoon, that the leaves may become dry and the excess of moisture expresses from the surfaces in the moisture evaporate from the surfaces in the house before evening.

NAMES OF PLANTS: Correspondents not an-AMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number. — J. C. Leucoium vernum.—G. J. S. Xanthoceras sorbifolia; Cerasus pendula.—Quercus. 1, Quercus Cerris; 2, 3, 4, 5, Q. pedunculata; 6, Cratægus punctata.—L. R. R. Solanum aviculare (New Zealand).—W. E. Bryophyllum calycinum.— R. B. 1, Ledum latifolium; 2, Juniperus, a variety of J. virginiana; 3, Sequoia sempervirens, Red-wood; 4, Daphne pontica; 5, Gaultheria Shallon; 6, Spiræa chamædrifolia—K. & S. L. Clematis verticillaris, often known as Atragene americana.—H. A. B. Celsia cretica.—A. M. 1, Calliprora flava; 2, Heuchera

sanguinea; 3, Alonzoa Warscewiczii; 4, Justicia carnea of gardens; 5, probably Anthemis tinctoria, send in flower; 6, Gnaphalium Leontopodium (Edelweiss).—G. W. 1, Spiræa media; 2, Ribes aureum, no flowers; 3, Exochorda grandiflora; 4, Rubus deliciosus; 5, Lonicera tatarica; 6, Euonymus vulgaris; 7, Cornus sanguinea variegafa; 8 doubtful no flowers; persuinea variegafa; 9 tatarica; 6, Euonymus vulgaris; 7, Cornus sanguinea variegata; 8, doubtful, no flowers; perhaps Amelanchier vulgaris.—J. P. C. Polypodium nigrescens.—G. C. Thank you for sending such good specimens. 1, Staphylea pinnata; 2, Carpinus Betulus (Hornbeam); 3, Cratægus coccinea; 4, Valeriana Phu aurea; 5, Ahies Nordmanniana; 6, Acer eriocarpnm.—W. M. Cytisus Adami ×, supposed to have originated from grafting or budding C. purpureus on to C. Laburnum.—J. C. Prunus Padus. Lad'slove is Artemicia Abrotanum love is Artemisia Abrotanum.

NECTARINES SPLITTING: J. P. C. The fruit cracks owing to excessive growth taking place internally, and the skin, being unable to grow as fast as the central tissue, results in this splitting. This may arise from various reasons, but which we are unable to say, not knowing the conditions of culture; but we should advise you to keep the borders from becoming excessively wet, and to maintain a drier atmosphere, allowfree circulation of air among the plants.

ODONTOGLOSSUM LEAVES SPOTTED: T. R. For Odontoglossnms to be affected in the manner shown by your specimens is not uncommon, and no thoroughly satisfactory conclusion has ever been arrived at on the subject. Generally the old leaves, which in most cases, in their native habitat, would have died, are affected. When cultivated under glass they retain the leaves. Puncture by aphis in the earlier stages, it has been thought, might develop in this way.

Pears: Fruit Culture. Your Pears are attacked by a fungus (Fusicladium pirinium. Burn the affected leaves and spray with weak Bordeauxmixture.

RED-RUST ON BRIARS: H. M. This is caused by a fungus, Phragmidium subcorticatum. For particulars, see answer to "H. W. C.," p. 352 of last issue.

Roses: Q. Q. We cannot undertake to name the Roses. The large - leaved Fig is the fruiting stage of F. repens, figured in the Gardeners' Chronicle not long since.—Enquirer. We cannot undertake to name Roses. It is like Fortune's Yellow.

ROYAL HORTICULTURAL SOCIETY: Irishman. appear to have an exaggerated idea of the qualifications necessary for fellowship. The principal qualification is that you should be in a position to pay an annual subscription fee of £2 2s.; or if you elect to pay only £1 1s. per annum you must also pay an entrance fee of one guinea. Write to the Secretary, 117, Victoria Street, Westminster. No enquiry will be made as to your experience in horticultural practice.

Tomatos: Tomato. Nitrate of soda, or nitrate of potash, at the rate of 1 to 2 oz. per square yard.

TOMATO: Daisy. The leaves are affected with a fungus (Cladosporium). Burn the affected plants, and spray the others with liver-of-sulphur, ½-oz. to a gallon of water.

VINES BEARING GRAPES CHANGING COLOUR: E.B. The counsel given in the Calendar was quite right. If you have to cultivate Ferns and Palms in your vinery it may be necessary to damp them more frequently, but we do not think so. In a house containing different species of plants it is not always possible to practise the best treatment for any of them.

VINE-LEAVES: P. Y. The warts are caused probably by mites, or by excess of moisture accompanied by deficient ventilation.

COMMUNICATIONS RECEIVED.—Cooper, Taber & Co., Ltd., (letter has been forwarded).— F. Bedford (many thanks)—H. & S.—W. & Sons—W. H. C.—R. D.—J. R.—S. C.—H. N. R., Singapore—J. O'B.—W. J. B.—C. P. R. W. J. T., Port Elizabeth—E. T.

(For Weather see p. x)

THE ROYAL HORTICULTURAL

THE TEMPLE SHOW.

MAY 31, JUNE 1, 2.

(See also pp. 360 and 362).

THE seventeenth annual exhibition of the Royal Horticultural Society in the Gardens of the Juner Temple will be remembered for the disagreeable weather that marked the two opening days. Their Majesties the King and Queen visited the show on the opening day (Tuesday), at 11 o'clock in the morning, and remained a considerable time to inspect the exhibits. The receipts on each of the first two days were, in spite of the bad weather, larger than in preceding years.

The show generally was as good as usual, but afforded no new features, the introduction of which, under the circumstances existing at the "Temple," would no doubt be very difficult. Such a show as these annual exhibitions have become, impose a vast amount of extra work upon the Society's officials, and our gratitude is due to the Rev. W. Wilks, M.A., Mr. S. T. Wright, and Mr. Frank Reader for the pains that were taken to have the arrangements as perfect as possible.

Orchid Committee.

Present: Harry J. Vsitch, Esq. (In the Chair); and Messrs. Jas. O'Brien, Norman Cookson, H. J. Chapman, H. A. Tracy, W. Boxall, H. Little, J. G. Fowler, J. W. Bond, J. Colman, J. W. Odell, H. M. Pollett, M. Gleeson, F. A. Rehder, F. J. Thorne, H. Ballantine, H. B. White, W. H. White, F. W. Ashton, H. Pitt, H. G. Morris, A. A. McBean, Walter Cobb, W. H. Young, A. Hislop, M. Bilney, and E. Ashworth.

The cloudy atmosphere and wet weather suited the plants admirably, and seldom has there been a Temple Show when the flowers looked so fresh as on this occasion. It may also be said that the large classes of Orchids, such as Cattleya Mossiæ and Odontoglossum crispum, have never before been seen in such uniform excellence, with so few indifferent varieties or so many remarkable forms.

In the main tent the commencement of the grouping on the central staging was excellently well filled by the veteran orchidist Sir H. SCHBÖDER, The Dell, Egham (gr., Mr. H. Ballactine), whose splendid group contained a wealth of finely-grown and well-bloomed Odontoglessums made a prominent feature. Orchids. Among the most remarkable of the blotched forms were two good plants of the handsome O. crispum Rex. and one of O. c. Luciani, O. c. Princess Beatrice, O. c. grande-maculatum, the richly-blotched O. c. "Queen's Birthday," O. × Coradinei mirabile, and others. Among the hybrids were the fine Odontoglossum × excellens Dellense, and two other fine forms of O. × excellens, O. × ardentissimum of fine colour, O. x elegantium, and various others, as well as representatives of most of the species of the season. Among other fine things noted were Lælia × Edward VII., Lælio-Cattleya × Digbyano-Mossiæ, and other Lælio-Cattleyas; a showy selection of Masdevallias, including a very fine specimen of M. baixii; some good Cattleyas, including albinos of several species; fine varieties of Leelia purpurata, the two prettiest of the white forms being Schroderæ and Schroderiana; good Vanda-teres, Phalænopsis amabilis Rimestadiana, Epidendrum × Dellense, Cypripedium Lawrenceanum Hyeanum The Dell variety, C. callosum Sanderæ. Miltonia Warscewiczii alba, Renanthera Imschootiana, Ansellia africana, &c.

JEREMIAH COLMAN, Esq., Gatton Park (gr.. Mr. W. P. Bound), continued with a very fine group, in which the large species were arranged at the back, the elegant sprays of Oucidium phymatochilum and other Oncidiums appearing effectively among them. Odontoglossums. and especially fine forms of O. crispum, were also well represented, the showlest of the blotched forms heing O. crispum Colmanianum, a very handsome flower; O. c. Lady Roxburgh, O. c. Mrs. Causton, and O. c. Mary Colman, all good and with distinct markings. The group was brightened by batches of brilliant Masdevallia, of finely-flowered Miltonia vexillaris, excellent forms of Cattleya Mossiæ and the other showy Cattleyas, Lælla purpurata, Cypripediums, &c.; and among botanically-interesting plants was Bulbophyltum barblgerum, whose feathery, moving labellum is always an attraction to the visitors.

labellum is always an attraction to the visitors.
Sir Frederick Wigan, Bart., Clare Lawn, East
Sheen (gr., Mr. W. H. Young), staged a very fine group of

about one hundred good specimens, representing eighteen distinct genera, over thirty species, eight varieties, and seventeen hybrids; a very wide range to exhibit in the restricted limits of a show cellection, and which included nothing but showy or interesting plants of good quality. Most of the species of Odontoglossum flowering at this season were included, the favourite O. crispum having an example of O. c. marmoratum, a distinct form, white, showily marked with purple on the middles of the segments. Miltonia vexillaria had for best forms the fine M. v. Empress Victoria Augusta, and Memoria G. D. Owen, and with them were good M. x Bleuana, Cypripedium hellatulum, C, b, slbum, and several other Cypripediums. The fine forms of the showy Cattleyas embraced C. Mossise Golden Sheen, with a fine golden colouring on the labelium; C. M. Beatrice; and the six fine forms of C. Mendell had for the hest the heautiful C. M. Wigan's variety. The most remarkable of the Lælia purpurats was the white L. p. Eira, with slight rose marking on the lip. A very finely flowered C. Skinneri alha was arranged in the middle of the group, and among other good species and varieties noted were Cymbidium tigrinum, a grand specimen of C. Devouianum with six fine spikes, which secured a Cultural Commendation to the grower; Epidendrum Medusæ, Sobralia macrantha, Cochlioda Noezliana, Brassia brachists, Aërides Fieldingii, Dendrobiums, Oocidiums, &c. Among the best of the hybrids were Lælio-Catt-Baden Powell, varieties of L.-C. × Hippolyts, L.-C. Canhamiana albida, and Marguerite, L.-C. × Mrs. Joseph Chamberlain (L. Dighyana x C. chocoensis), a very pretty and seftly-tinted flower.

Captain G. L. HOLFORD, C.I.E., Westonbirt (gr., Mr. H. Alexander), exhibited in a well-arranged group a number of remarkably fine Orchids, the very handsome Læilo-Cattleya × Digbysno-Mossire, Westonbirt variety, securing a First-class Certificate (see Awards). Also very fine in thie group were Læilo-Cattleya × Fascinator var. nobilior, L.-C. × Wallaertiana, L.-C. × Iolanthe, L.-C. × Canhamiana Rex, L.-C. × Hippolyta, L.-C. × Baden-Powell, Cattleys Mossic Wagneri, with five fine white flowers; a good C. Warneri, with two spikes of four and two flowers; Lælia purpprala fastuosa, Cypripedium × callosum Sanderæ, and C. × Maudiæ.

Messrs. Sander & Sons, St. Albans, occupied the remainder of the central staging on this side with a very extensive group, replate with good things, and which was one of the finest groups ever staged at the Temple Show, the quality of every exhibit in the group being of a high order. Following their usual course at the Temple Show, none of the fine novelties were entered to go hefore the Committee for Certificates. In point of beauty and popularity, the forms of Odontoglossum crispum take front rank, and Messrs. Sanderhold that several of the new blotched forms in their group are not only among the most beautiful as at present seen in their first flowering, but that when cultivated they will prove phenomenal forms. Evidence to that effect was given by a small plant of O. crispum Fearnley C. Sander with a slender spike of three flowers of fine shape and with the blotching very heavily and distinctly displayed. Other very remarkable spotted forms were O. crispum The Mikado, O. c. Marguerite Sander. O. c. St. Amand, and there were numerous others unnamed in the group. Of showy hybrid Odontoglossums, O. x ardentissimum Queen Alexandra and O. x a. King Edward are two of the best which have yet appeared these flowers approaching closely to the best type of spotted O. crispum. Fine examples of most of the species and hybrids were in the group, which was most artistically arranged, the showy Lælio-Cattleyas and other hybrids, of which, there were a number of varieties, being disposed in groups at intervals. Thus at one end was a batch of Lælio-Cattleya × Canhamiana Rex, most of which had white petals and ruby purple labellums; further on a hatch of the deep rose-tinted type of L.-C. Canhamiana, raised at St. Albans; other hatches were of the variable L -C. × Martineti, with smaller numbers of L-C. × Haroldiana, L.-C. × bletchleyensis, and other showy Lælio. Cattleyas. In the centre was a collection of very fine forms of Miltonia vexillaria of the best large-flowered type; the Miltonia x Bleuana varieties of the old type were surpassed by the new M. × Bleuana Sander's variety, with beautiful clear white flower, having a purple mask at the hase of the lip, and rose-pink bases to the petals. The forms of Cattleya Mossiæ seemed endless, ranging from the pure white C. M. Wageneri to C. M. Reineckians, pure white with rich purple markings on the lip. Of these a very

pretty form was named C. M. Kate Brazler, the sepals and petals being white, the showy labellum orange, with some red and purple markings. The coloured C. Mossiæ, C. Mendeli, and other showy kinds were in profusion; the batch of new hybrid Phaius at one end of the group very handsome and interesting; and among other good things noted were Cypripedium × Phœbe splendens, C. × ultor, Sander's variety; C. × gigas, Coming's variety; Lælio-Cattleya "Our Queen' (Aphrodite × Mendeli), a charming flower, with rubypurple lip, having a broad white margin; Dendrobium spectabile, and showy Masdevallias. Messrs. Sander also showed for the first time the fine white Cattleya × Mrs. Myra Peeters (Gaskelliana alba × Warneri alba).

On the other side of the central staging Mr. J. CYPHEH, of Chelteoham, arranged a very fine group in his usual clever manner, the group being lightly filled in with tall-growing, slender-stemmed Oncidiums, &c., at the back, and brightened by showy Masdevallias at intervals, the favourite Odontoglossums forming the bulk of the group, together with fine Lælia purpurata, Cattleyas, &c. The Odontoglossum crispum were principally of the best white type, with a proportion of rose tinted, a few of which were lightly spotted varieties. In this group O. Pescatorei was well represented, so also O. hastilabium, O. Hallii, Phalænopsis amabilis Rimestadiana, Cælogyne Dayana, Cypripedium caudatum Wallisii, C. Masterslanum and others.

Massrs. John Cowan & Co., Gateaere Nurseries, Liverpool, had a good group of Odontoglossums, Cattleyas, Leilas, and hybrids; Miltonia vexillaria, Cœlogyne pandurata, Phalænopsis, &c. Among the good Cypripediums noted were C. × villoso-exul, with yellow ground-colour heavily spotted, and with white tip to the dorsal sepal; two forms of C. × Vipani, C. × Dowlingianum, C. × Rolfeæ, and C. callosum Sanderæ.

Møssre. W. Bull & Sons, Chelsea, staged a fine group, in which among the forms of Lælia purpurata, appeared the pure white form with but the slightest trace of colour on the lip, and certainly the bestalbino L. purpurata which has yet appeared. It was named L. p. Queen Alexaodra (see fig. 363). In the group were a great variety of forms of Cattleya Mossiæ, C. Meudell, and other showy species. Among the Odontoglossums were noted O. crispum "Fairy," a pretty spotted form; O. × Adrianæ Chelseiense, of fine substance, primrose coloured, evenly spotted; and O × ardentissimum. Among botsnical species were the singular Trigonidium latifolium, and other interesting species.

Messrs. Huoh Low & Co., Bush Hill Park, had an extensive group, in which were two very large and finely-flowered Cattleya Skinneri; and among the remarkable set of C. Mossiæ varieties one grand mass with sixteen spikes, and the white C. M. Wagneri, C. M. Reineckiana splendens, and some very richly coloured Among the Cypripediums were C. Rothschildianum Low's variety, a good dark coloured form; C. × Gowerianum magnificum Schofield's variety, very dark and richly coloured; C. callosum Sanderæ, C. Lawrenceanum Hyeanum, and the finely-tinted form of it, C-L. Gratrixianum. Odontoglossums were represented by good forms of O. crispum, a few of them spotted varieties; O. Pescatorei had O. P. virginale, a pure white form with forty-two flowers on a spike; and Lælio-Cattleya × Aphrodite and other hybrids were well shown.

Messrs. CHARLESWORTH & Co., Heaton, Bradford, had one of the best groups in the show, their hybrids largely predominating. Of these the great variety of the beautiful Lælio-Catileya × Fascinator was remarkable, their flowers being all handsome and varying much in colour. In their forms of L.-C. x Cauhamiana, the Rosslyn variety, which secured a First-class Certificate, was far the best of its class. Among the forms of Cattleya Mossice were three good white C. M. Wageneri with six, five, and three flowers respectively, and some good C. M. Reineckiana. In the group also appeared a fine plant with three flowers of the beautiful Cattleya Warnerl alba, which caused such a sensation last year and which was estimated to be worth £1 000. Effective features in Mesers. CHARLESWORTH's group were their orange-tinted hybrids of the Lælio Cattleya × Charlesworthii class, Brasso Cattleya × striata, and other hybrids; and a very fine representative collection of Odontoglossums, &c. secured First-class Certificates for the only two plants they entered (see Awards).

In the other tent Richard Ashworth, Esq., Ashlands, near Manchester (gr., Mr. Pidsley), staged a very select group, in which were Odontoglossum crispum Black Prince, of a clear white with intensely dark chocolate blotching; O. c. Princess Maud, rose with small brownish spotting; O. c. Priam, O. c. Victoria Regina,

and O. \times ardentissimum, all finely marked. In the group also were two Cypripedium Lawrenceanum Hyeanum, three C. callosum Sanderæ, Lællo-Cattleya \times Aphrodite, &c.

J. RUTHERFORD, Esq., M.P., Beardwood, Blackburn (gr., Mr. Lupton), staged a group, in which (the forms of Cattleya Mossiæ were remarkably fine. Among the Odontoglossums, O. × Queen Alexandra Luptoni was a great beauty, rich yellow, heavily barred with purplishbrown; and O. × Loochristyense, good.

Mr. JOHN ROBSON, Altrincham, staged a very fine group of Odontoglossums, principally forms of O. crispum, together with Masdevallias, &c.

The Honble. WALTER ROTHSCHILD sent Lælio-Cattleya × Digbyano Arnoldi, and the fine L.-C. Martineti, Tring Park variety (see Awards).

DARCY E. TAYLOR, Esq., The Rocks, Chippenham, sent Dendrobium crepidatum and D. c. album.

RICHARD G. THWAITES, Esq., Chessington, Streatham (gr., Mr. Black), sent Odontoglossum crispum Boltoni, a very handsomely blotched variety.

J. Hubert Grogan, Esq., Baltinglass, co. Wicklow, showed Odontoglossum crispum "Grogan's variety," a pale yellow-tinted form.

M. A. A. PEETERS sent Lælio-Cattleya × Martineti Coronation and L.-C. × Stepmanni, which latter secured an Award of Merit.

Awards.

FIRST-CLASS CERTIFICATES.

Odontioda × Vuylstekeæ (Cochlioda Nnetzliana × Odontoglossum Pescatorei).—From M. Chas. Vuylsteke, Loochristy, Gheat. The most remarkable hybrid of recent years. Flowers resembling those of O. Pescatorei in size and form, but with the thicker substance of the other parent, and much of its reddish-orange colour. Sepals and petals broad, and flatly displayed; reddish-orange on the inner two-thirds, the colour having a light irregular banding of white. Margin of sepals and petals rose coloured. Lip whitish with yellow crest; side-lobes reddish-orange; front lobe spotted with red (see fig. 159 on p. 360).

Letio-Cattleya × Digbyano-Mossix "Westonbirl variety,"

-From Captain G. L. HOLFORD (gr., Mr. Alexander).
The largest of its class, Flowers beautifully formed.
clear rosy-lilac with an emerald-green base to the lip,
changing to orange towards the centre. Lip fluely
fringed.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Wm. Howe, J. Jennings, R. W. Wallace, H. J. Cutbush, J. Hudson, C. E. Pearson, E. Molyneux, J. F. McLeod, C. Dixon, Wm. Cuthbertson, C. Jeffries, J. Green, C. T. Druery, W. G. Baker, C. J. Salter, R. C. Notentt, H. Turner, J. A. Nlx, G. Reuthe, W. J. James, H. J. Jones, W. P. Thomson, C. Blick, W. Bain, E. H. Jenkins.

FLOWERING PLANTS.

BEGONIAS.

Messrs. John Laing & Sons, Forest Hill, London, presented a collection of tuberous-rooting Begonias, including both double and single-flowering varieties. The colours were very striking, good scarlet and salmon pink varieties among others being shown well. A fine white flower, Lady Jeune, and Lady M. Currie, also white, were both prominent. Sir F. T. Barry (fine scarlet), Lord Alverston (good salmon-pink), and Lady Donaldson (rosy-pink), were all good double varieties.

Another group of Begonias adjoining the latter, set up by Mr. John R. Box, West Wickham, contained some charming flowers, the doubles being especially



FIG. 157.-MESSRS. WEBB AND SONS' GROUP OF CINERARIAS AT THE TEMPLE SHOW,

Francis Wellesley, Esq., Westfield, Woking (gr., Mr. Hopkins), showed Catlleya Mossiæ Wellesleya, very pretty; C. M. Aronddiana "Mrs. F. Wellesley," a charming white flower with bright purplish-crimson marking on the lip; C. M. Bishop Amigo, C. Mendeli W. E. Dickson, a chowy flower, and a grand specimen with many large blooms; Lælia purpurata Mrs. N. A. H. Mitchell, and the pretty hybrid Lælio-Catlleya × Captain Percy Scott.

Sir ROBT. D. MONCREIFFE, Bart., Bridge of Earn (gr., Mr. Common), sent a fluc white form of Odoatoglossum crispum.

CONTINENTAL EXHIBITS.

M. CHAS. VUYLSTEKE, Loochristy, Ghent, as usual well sustained the Continental interests, his small group of hybrid Odontoglossums being quite a study, and containing at least one of the most remarkable hybrids ever raised, and which was appropriately named Odontioda × Vuylstekeæ (see Awards). Two others will be found enumerated under Awards, and the remainder were Odontoglossum × percultum (Rolfeæ × ardentissimum), O. × instidum (Harryanocrispum × Wilckeanum), O. × insignitum (parentage not known) in two varieties.

M. JULES HYE DE CROM, Ghent (gr., Mr. Coen), showed Odontoglossum \times Japonais (crispum album \times Rolfew), a pretty white hybrid spotted cinnamon.

Latio-Callleya × Fascinator King Edward (C. Schroderæ × L. purpurata).—A beautiful blush-white flower with a finely displayed crimped lip with clear rose colour on each side. From Messrs. Charlesworth & Co., Heaton, Bradford.

Latio-Cattleya × Canhamiana Rosslyn variety. — From Messrs, Charlesworth & Co. In size, colouring, and form, one of the best Lælio-Cattleyas ever raised. Flowers of a bright purplish-rose colour, the labellum being almost entirely rich claret-crimson.

AWARD OF MERIT.

Letio-Cattleya × Martineti Tring Park variety, from the Hon. WALTER ROTHSCHILD—A very fine flower of a bright rosy crimson tint, the sepals and petals being the lightest. Raised between L. tenebrosa and C. Mossie aurea.

Lælio-Cattleya \times Stepmanni (L.-C. \times corbeilleiensis \times C. Warscewiczii).—From M. A. Peeters, Brussels. A prelty flower, with light rose-coloured sepals and petals, white throat, and crimson front lobe to the lip.

Odontoglossum × venustulum (Harryano-crispum × ardentissimum).—From M. Chas. VUYLSTEKE, Ghent. A pretty white flower, tinged with lilac and blotched with nurple.

0. × concinnum latum (Pescatorei × sceptrum). — A neatly-formed white flower, distinctly marked with brown. From M. Cras. VUYLSTEKE.

striking. Mrs. John R. Box is a fine frilled double flower (white), Midas (soft yellow), Mrs. Webster (rosy, picotee-edged), Mr. W. Harris, Miss G. McAndrew (soft salmonpink), were all shown in first-class style. Miss S. Davis is a single flower having a frilled-edgo, the colour being a beautiful rosy-pink. Altogether this collection was most creditably shown and greatly admired.

Some excellent varieties were included in the collection of Messrs. BLACKMORE & LANDOON, Twerton Hill Nursery, Bath. Here again the chades of colour were charming, the blooms of large proportion and of good shape. The soft shades of rosy-salmon are especially pleasing, and whites, scarlets, yellows, and reds are all strikingly good. Mrs. G. F. Hodder (light rosypink), Professor Lanciani (light scarlet), Right Hon. Joseph Chamberlain (dark scarlet), Lady Curzon (deep salmon), Avalanche (white), are but a few of many handsome flowers exhibited. These plants exhibited much cultural skill.

Mesers, B. R. Davis & Sons, Yeovil Nurseries, Yeovil, Somerset, also contributed to the Begonia section, bringing a small but highly creditable collection. We noticed San Toy, a well-formed flower with an unique colour, which may be described as creamy-pink. The Bride was a good white.

Messrs. T. Ware, Ltd., Feltham, Middlesex, had a fine exhibit of tuberons Begouias comprised mainly of double - flowering varieties. The plants were well grown and the colours of a wide range. Imbricata was distinct, the infusion of white in the salmon petals giving it a pronounced affect. George Weila is a fine dark scarlet; Miss Elsis Reed (a handsome,frilled light salmon), Mr. W. G. Valentine, Queen Alexandra, and Miss Mary Pope are all fine varieties.

Mr. H. J. Jones, Ryccroft Nurseries, Lewisham, Kent, staged a group of tuberous Begonias, ail unnamed seedlings. They were of good colour and form.

ROSES.

Mr. Chas. Turner, The Royal Nurseries, Slough, occupied the major portion of one end of the large marquee with a collection of Roses, the main features being standard plants and large weil-trained plants in pots. The latter were especially fine, and although the staking used gave them a somewhat stiff and formal

HORNIES, LTD., Dereham, dispiayed on a centre table a most effective group of Roses, interspersed with many other choice subjects, such as Carnations, Clematis, &c., the whole heing admirably arranged, and the colours pleasingly blended. Well-trained plants of Dorothy Perkins occupied the background, while bowis of Sweet Pea blossom formed the edge. Worked among the group were artistic Bamboo vases, which, filled with choice cut blooms, gave auitable relief. Goiden Gate, Souvenir de Pierre Notting, Bridesmaid, and White Maman Cochet all deserve mention.

Messra. Thos. WARR, Ltd., Feltham, Middlesex, faced the entrance to one of the centre tents with a pieasing exhibit of Roses, working some pretty foliage plants among the whole. A standard piant of White Maman Cochet was a prominent feature, and banks of trained Roses were used at the back. A fine, well-

Climbing Devoniensis was much admired. A few of the choicer sorts noticed were Madame de Watteville, Billiard at Barré, Frau Karl Druschki, and Madame Juiea Groiez. To this collection was awarded the Veitchian Cup for the best exhibit in the Show.

Messrs, F. Cant & Co., Braiswick Rose Gardens, Coichester, set up a collection of Roses in pota, vases, and boxes, using Crimson Rambier and similar varieties for an effective backing; Frau Karl Druschki was finely displayed in the form of standards; Brideamaid, Mme. Jean Dupuy, Perle des Jardins, and Mrs. Edward Mawley, were all noticed.

Mr. GEO. MOUNT displayed a charming group of Roses in his usual first-class style. Trays and vases of cut flowers, and trained plants were all blended together to complete a most effective display. Caroline Testout, Liberty, Mrs. John Laing and Catherine



Fig. 158.—An exhibit of rhododendrons (azaleas) by messes. R. and G. cuthbert.

appearance, the beauty and quality of the blooms more than compensated for this feature, which was necessary for displaying the blooms to the best advantage. The standard plants were also shown in perfection, and gave a pleasing relief to the pot-plants beneath. Ulrich Brunner, Juno, La France, Mrs. R. G. Sharman Crawford, and Mrs. J. Laing, are but a few of those noticed. Among this fine exhibit Souvenir de Pierre Notting and Maman Cochet were both doing weil as standards.

Messrs. Benjn. R. Cant & Sons, Colchester, staged Roses in pots, a prominent feature being the trained aingle and polyantha varieties, including the Blush Rambier and Austrian Yellow. Some dwarf-flowered hybrid perpetuals and hybrid Teas were also shown weil.

A magnificent vase containing a Rugosa hybrid Conrad Ferdinand Mayer was set up by LEOPOLD DE ROTHSCHILD, Esq., Gunnersbury House, Acton. It is a strong grower, and was carrying its beautiful rosypink blooms of large size in abundance.

trained plant of Hélène, shown well, was carrying large cinaters of its pretty single pink-flushed flowers.

A handsome group of these plants was displayed by Messre. PAUL & SON, The Old Nurseries, Cheshunt, the collection occupying one of the corners of the large marquee. This position was utilised to good advantage, and some of the trained planta at the background reminded one of shower bouquets. The groundwork was of Tea and hybrid varieties, and among them were plants carrying choice flowers. A new hybrid Tea named David Harum was very pleasing, the flowers being of delicate pink-rose.

Massrs. WM. PAUL & Son, Waltham Cross, Herts, contributed a very fine exhibit to the Rose section, staged with great skill. Standards, trained plants with heads covered with bloom, baskets of choice cut flowers, and well-flowered plants in pots were all presented in the hest possible condition. The single polyantha Rose Waltham Rambler occupied a conspicuous place in the centre, and was carrying large bunches of its pleasing single flowers. A basket of

Mermet were, together with other choice varieties displayed in large batches of specimen blooms.

CARNATIONS.

As is usual, Messrs. WM. CUTBUSH & SON. The Nurseries, Highgate, N., staged a large exhibit in the big tent, mainly composed of Carnations, with a few climbing and other Roses at the back. Souvenir de la Malmaison varieties were principally in evidence, but from the position of the plants it was extremely difficult to gather up names. Among Malmaisons were Mrs. M. R. Smith and Duchess of Westminster, a fine rosy-crimson winter-flowaring variety named G. H. Mauley. The association of climbing Roses, and aspecially of Dorothy Perkins, added largely to the effect of the group.

Messrs. Carter & Co., who staged many subjects, had also some bowls of Maimaison and other Carnations, which were effective at the eastern entrance to the long tents.

Mr. James Douglas, Great Bookham, had a hybrid

Diaothus obtained by crossing Carnation Urish Pike on to a Sweet William; the hybrid character is seen in the seedling; the flower resembles a large double dark form of Dianthus chinensis. It is named Lady Dixon.

Mr. A F. DUTTON, Bexley Heath, staged several vases of Carnations. The flowers were on long stems, and chief among the varieties were Royalty (rosypink), Mrs. T. W. Lawson, Fair Maid (a charming light variety), Moonray (white), Queen Louise (white), Harry Fenn (dark crimson), &c.

Mr. R. P. GLENDINNING, Wimbledon, had Elsie, a pale sulphur-yellow-coloured Carnation, but not sufficlently distinct.

Messrs. H. Low & Co., Bush Hill Park Nursery, Enfield, had a collection of Souvenir de la Malmaison and other Carnations in pots, backed by plants of the former type. The principal were Churchwarden, Iolanthe, Lady Grimston, Astaric, and Lady Rose; and of the winter-flowering section, H. J. Cutbush (a fine deep scarlet), Lady Hermione, Cecilia, Mrs. T. W. Lawson, Lady Stewart (yellow), and Uriah Pike.

Messrs. Boyes & Co., nurserymen, Leicester, also had a collection of Carnations in pots, including a number of new varieties, chief among them Lord Kitchener (maroon), Hon. A. Lyttleton, Lady Lonsdale, Edna Lyali (all three of pleasing tints), Alma (dark), W. L. Murdoch, &c.

CALCEOLARIAS.

A fine collection formed one of the bays in the aunexe fitted up in the Gardens by Messrs. Sutton & Sons, of Reading, and quite representative of their fine strain.

Messrs. CARTER & Co., Seedsmen, High Holborn, also had a good bank of Calcsolarias, dwarf in growth, and freely bloomed, in the annexe at the eastern end of the long tent.

Messrs. Webb & Sons, Seedsmen, Stourbridge, had also some large specimen plants, well grown, and laden with flowers.

Mr. E. ASCHERSON, Charing, Kent (gr., J. Pitts), staged some fine specimens representing an excellent strain.

GLOXINIAS.

A fine collection of an admirable strain formed one of the bays in the annexe of Mesers, Surron & Sons, Some of the varieties were characterised by novel markings, and all were of fine quality.

Mesers. Carter & Co. also filled a large portion of a table with Gloxinias at the eastern end of the long tent, which formed a fine feature. Messrs. J. LAING & Son, Forest Hill; Messrs. PEED & Son, West Norwood; and Messrs. H. CANNELL & SONS, Swanley Junction, all showed good collections.

CLEMATIS.

Two very interesting collections of Clematis were to be found in the large tent. Messrs. R. SMITH & SON, Nurserymen, Worcester, had large and finely-grown and flowered specimens of Countess of Lovelace, Fairy Queen, Lord Nevill, Mme. Van Houtte, Gloire de St. Julien, Mrs. George Jackman, Sensation, Nellie Moser (a handsomely marked variety), Beauty of Worcester, &c., backed with festoons of Roses.

Messrs. GEO. JACKMAN & SON, Nurserymen, Woking, had smaller plants, but the group comprised a larger number of varieties, among them lanuginosa candida, Jackmanni rubra, Mrs. Hope, La Ville de Lyon (the nearest approach to scarlet), alba magnifica, King Edward VII. (a mixture of mauve and pink with pale tips), Nellie Moser, &c.

RHODODENDRONS.

Messrs. J. WATERER & Sons, Nurserymen, Bagshot, had a very fine collection in the large tent, in the centre of which the variety Pink Pearl was very prominent; in addltion there were Mrs. E. C. Stirling, Lady E. Catheart, very effective; Francis Haynes, Duchess of Connaught, Doncaster (bright red), Mrs. W. Agnaw, Baroness H. Schröder, Cynthia, &c. In other collections of plants a few specimens of Rhododendrous were to he seen.

Messrs. R. & G. CUTHBERT, nurserymen, Southgate. made a prominent feature of forms of A. sinensis x mollis and also of A. rustlea. Of the former were Hugo Koster, Anthony Koster [very fine] and Ellen Cuthbert, yellow, with deep orange on the upper segments (Award of Merit); and of A. rustica, Fanny, Aida, and Pallas were among the best. The group was very effectively arranged, and was much admired.

HERBACEOUS AND ALPINE PLANTS.

We may remark at the outset that we have never hefore seen so overwhelming a mass of hardy flowers set up in any exhibition so good and so thoroughly refined in character as upon this occasion. It is probably the outcome of years of elimination and not a little of space restriction also. Thus there is a decided change for the better, coupled with a much better arrangement than formerly.

In their old-time place we observed the large exhibit from Messrs. BARR & Sons, Covent Garden, in which not merely great variety but excellent taste was ohvious. The massing of the kinds predominated, and we noted Spanish Irises galore, Pæonies, Flag Irises, rich display of Oriental Poppies, and the like. Lilium candidum was very fine, spotless in beauty, with no trace of disease. We may mention of rare things, Cypripedium montanum; a charming Iris in I. gracillipes, which would appear to be midway between I. cristata and I. tectorum, with I. nigricans and I. Susiana, of the cushion section. Many small Alpine plants were shown.

Mr. R. C. Notcutt, Ipswich, set up a large and showy lot of the bolder perennials, as Pæonies, Irises, single Pyrethrums, Lupins, a beautiful lot of the orangeflowered Cheiranthus Allionii, and many more good early flowers. Papaver orientale Lady Roscoe is an extremely fine and showy kind, with stiff erect stems and brilliant flowers.

Hardy flowers, chiefly of the alpine class, from the GUILDFORD HARDY PLANT NURSERY (Mr. A. R. UPTON, owner), were generally of merit, and embraced not a few good things. We were chiefly interested with Asperula nitida, Globularia cordifolia, very beautiful and distinct; Gentiana verna, the rosy effect of Authyllis montana, and not less the brilliant trailing or prostrate Edralanthus scrpyllifolius. Cobweb Houseleeks were interesting, too, and not less so the delightful colony of hardy Lady's Slipper Orchids.

Mr. G. REUTHE, Keston, Kent, likewise had a most beautiful lot of choice alpines, and we were as much struck with the exceeding freshness of the plants as with the heauty of the subjects; such choice Orchises as O. hircina, O. fusca in variety, were in plenty; Mortensia echioides is a gem of the first water.
Dianthus alpinus was very full of its rosy-coloured flowers of florin size. Primula sikkimensis, with pale sulphur-yellow coloured flowers, and Iris tenax major were some of the good things. Ramondias, hardy Sarracenias, the choice Chilian shrub, Crinodendron Hookeriauum, and Rhodothamnus kamehaticus were all noted in this excellent exhibit.

In the group from Mr. M. PRICHARD, Christchurch, Hants, the bolder things chiefly were seen, as Eremuri in plenty, yellow Lupins, masses of Globe Flowers, Flag Irises, Pyrethrums, single and double; Incarvillea Del vayi, &c. Of choicer things, Thalictrum pubescens is very preity, while Ajuga Brockbanki constitutes quite a good effect of blue, and is excellent for its free growth.

Messrs. R SMITH & Co., Worcester, who had two groups in this tent, had many hold masses of colour, such as Irises, St. Brigid Anemones, and some fine Lilium candidum. Tulips and early Gladioli, with Pæonies, were also shown.

Gentiana acaulis was shown in a basket by Mr. G. KERSWILL of Exeter.

Messrs. PAUL & Son, Cheshunt, contributed Irises, Lupins, Pæonies, Globe Flowers, &c., in the cut state.

Messrs. JAS. CARTER & Co, Holhorn, on a miniature rockery arranged Saxifraga pyramidalis very finely in flower with other species of the genus, in company with Sedums, Linarias, Ourisia coccinea, and a large company of small plants in pots.

Messrs. Dorbie & Co., Rothsay, staged quite an excellent assembly of Columbines, in which much colour variation was seen. The flowers too were good and most effective in the mass.

Another showy group was that from Mr. B Lanhams, Southampton. In this the Flag Irises, single and double Pyrethrums, richly-coloured Genms, with Hcu cheras, contributed to the excellent result attained.

From York Mesars. James Backhouse & brought a capital exhibit of the miniature rockwork kind. The taste displayed was obvious, the way many plants were employed to demonstrate their utility excelleut, and we saw Ramondias on rocky slopes, hardy Cypripediums in apparently moist and low positions, and so on. In the flowering plants, perhaps no plant stood out more conspicuously than Aquilegia glandulosa; and the rich tubular flowers of Ourisia coccinea, Saxifragas, Orchises, Pinguiculas, and Dianthus neglectus, were among the more notable subjects.

The exhibit of alpines from Messrs. Curbush & Sons, Highgate, contained many choice and good things; Ramondia pyrenaica alba, for example, with a dozen plants or more in a colony, and flowering profusely, gave a capital idea of its value; Haberlea rhodopensis very fine; Edraianthus serpyllifolius, with erect violetpurple bells, the Vernal Gentiao, Aquilegia Stuarti, the double crimson Primrose, and many more. Ramondia pyrenaica, Lithospermum prostratum, and L. canescens were also seen in this exhibit.

Mr. R. J. FARRER, Clapham, Lancaster, brought many choice and good plants, in which Primula farinosa was seen to perfection, just a mass of its rosy-lilac flower-heads 3 inches or so high; Oxalis enneaphylla, charming with large white flowers; Gentiana verna, many choice and good Saxifragas, as for example S. odontophyila, were in this group, which contained a capital piece of Daphne rupestris, a gem among the dwarfest rock shrubs.

Alpines were freely shown by Mr. H. C. PULHAM Eisenham; Genista pilosa, Achillea argentea, Aster aipinus rossus, and Campanula pulla being among the more choice.

The Misses Hopkins, Mere, Cheshire, contributed largely of the Daisy Alice, together with Anthyllis montana, Primula sikkimensis, a pretty array of hardy Cypripediums, Heucheras, Haberlea rhodopensis, and others. Everything in this exhibit was good.

Another rockwork exhibit was that of Messrs. J. CHEAL & Sons, Crawley, and here we noted Campaoula muralls, Primula japonica, Saxifraga leptophylia, the curious Arisæma proboscideum, some fine Houseleeks, and a pretty variety of Lupinus polyphyllus roseus, for which see Awards. Saxifraga pyramidalis was a prominent flowering plant.

The group of cut flowers from Mr. Amos PEHRY, Winchmore Hill, was in every way excellent. The arrangement, too, was of the best, as d we have nothing but praise for this highly meritorious group. Poppies. Pæonies, Eremuri. Incarvillea Delavayi, Perry's variety of Phlox canadensis, the fine blue of Ixolirion tatarlcum, a grand lot of Cypripedium acaule, around the even more delightful Water-Lilies, taking attention at oncs. The Mrs. Marsh Poppy, scarlet and white, is a most attractive flower. Heucheras, too, were extremely good and showy.

Messrs. CUTBUSH & Sons, Highgate, in a second group had Lilles and Eremuri largely with Water-Lilles. Of the first, L. Hausoni, L. glganteum, L. col-chicum, L. Brownii, were all good, and freely shown made an imposing display. Hardy Cypripediums, too, were finely done, and we have not seen the rare C. californicum in better condition. The Eremurus was a festure alone, several dozen spikes being set up.

St. Brigid Anemones from Messrs. Gilhert & Sons, Bourne, Lincs., were fine, and gave a dazzling display. Poppies from Mr. Godfrey, Exmouth, made a highly showy group, and we noted Loveliness, Harmony, and Black Prince among those shown. The two first-

named were of pink hue with dark blotch.

The Messrs, Wallace & Co., Colchester, have never before, we think, set up so five a lot of first-class things. Indeed, it was an array of the choicest material, with excellence and merit on all sides. Arranged on the block system there were groups of Eremuri at intervals, E. himalaicus and E. robustus Elwesianus chiefly, and usually a score of each. In the intervals, Ixio irion Pallasii, a good effect of blue; Flag Irises, masses of the choicer Lilies, as colchicum, rubellum. Hansoni, testaceum. &c.; hybrid Heucheras in many kinds, all graceful and pleasing; hardy Cypripediums galore. Columbines and Ixias, Cushion Iries and Calochortl are a few of the more imposing blocks in a group that displayed the wealth and the merit of hardy plants as a whole.

St. Brigid Anemones were shown by the Messrs. REAMSBOTTOM, Alderhorough Nursery, King's County, Ireland; and a selection of the more showy hardy flowers came from Messrs. Jackman & Sons, Woking. Gentiana verna was very heau iful lu this collection.

Messrs. Wake & Sons, Feltbam, had a group of showy hardy flowers, Irlses, Eremurus, Lilles, Pæonies, Ostrowskia magnifica, Sarracenia flava major, wltli Day-Lilies and others.

Pæonies of the tree section and single and double Pyrethrums came from Messrs. Kelway & Son, Langport. The Pyrethrums were very fine in colonr and of good size. A single Pyrethrum named Devonshire Cream is the advent of the yellow in these flowers.

In the open air the Messrs. VEITCH & Sons, Ltd , had Irises. Primula japonica, a great host of Ecenurus with fine spikes as a groundwork to Coniferous plants; and fine plants of the Umbrella Pine, Sciacopitys, and such like.



TULIPA TUBERGENIANA: COLOUR OF FLOWER VIVID CRIMSON. OBTAINED AN AWARD OF MERIT AT THE ROYAL HORTICULTURAL SOCIETY'S MEETING ON MAY 17.





Gardeners' Chronicle

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FOLKESTONE IN MAY.

ONE of the greatest charms of Folkestone to those of a botanical turn of mind is the greensand bank facing the sea, whose level top furnishes the noble promenade known as the Leas. Amusing as the sight of one's fellows may be, one soon tires of a London crowd, but the cliff aforesaid affords a never-failing source of interest and beauty. Winding paths and slopes lead from the top down to the beach through groves of Austrian Pines, thickets of Elders, Willows, Sycamores, Furze-bushes, Thorns, Privets, Euonymus, and Sea Buckthorn. We name these to show what trees and shrubs thrive so near the sea. Lycium sinense binds the treacherous banks, and in summer yields a wealth of foliage. Equally near the sea grows the Tamarisk, late in coming into leaf, but bearing the salt spray better than most shrubs do. In the more exposed places Willows and Elders get terribly punished. What matter if one set of branches is reduced to the condition of birchbroom in the winter, a forest of young green shoots arises in the spring to take their place. Here in mid-May may be heard the nightingale—and if the visitor is lucky he may chance to see a weasel, and on the very day of writing this two blind-worms were seen. Those who are not impressed by the frivolities of the Leas will appreciate the delights of seeing a little bit of wild nature not a stone's -throw from that crowded promenade. Lord Radnor, the Lord of the Manor, does well to preserve this bank, and we earnestly hope that no more paths or "lifts" will be allowed to disturb this sanctuary.

Familiar with the appearance of the cliff at most seasons of the year, we are always struck by the variety of its vegetation. In mid-May, "Alexanders," otherwise Smyrnium Olusutratum, was the prevailing plant. Very handsome it was when seen in the mass, and so abundant that we had a fear that it would usurp the whole territory. But there was no reason to fear. A week or two later Alexanders lowered its flag, and sheets of white Lepidium Draba took its place, interspersed here and there with Thrift (Armeria maritima). Thrift, we suspect, is a real original native, but the Lepidium is said to have been introduced into the Isle of Thanet by the soldiers in their baggage on their return from the ill-fated Walcheren expedition. From the Isle of Thanet it has gradually spread in various parts of Kent, but nowhere has it made itself more at home than at Folkestone. Marigolds, Poppies and Scabious have also taken possession of the bank, but none of the invaders has been able to dislodge the Medicago, with its spotted foliage, so characteristic of Folkestone cliffs and fields, nor the stinking Iris, whose seed-vessels, with their glowing seeds, which were for a time sold in Covent Garden as "Tichbornes"! The tree Mallow, Lavatera arborea, abounds here, and, strange to say, whilst the ordinary Mallow suffers much from the attacks of the same fungus which causes so much mischief among the Hollyhocks, we have rarely seen the tree Mallow affected. Sea Beet, the origin of our cultivated Beet, abounds along the shore; and not far off on the chalk, but not on the greensand, so far as we have seen, the wild Cabbage grows in plenty. The delights of the "bank" are unending. Spring, summer, autumn, and winter, in each there is something which attracts attention, so that whilst all visitors to Folkestone must acknowledge with gratitude what Lord Radnor has achieved in the way of seasido gardens on the very verge of the sea, they would earnestly pray that nothing more be done to interfere with the eliff by which they are bounded.

SANDLING PARK.

This is a beautiful demesne near Folkestone, on the greensand. The surface is undulating, covered with rich vegetation and fine trees, allowing peeps of the not-distant sea on the one side, and of the oddly-shaped bare chalk hills on the other. Close by is the mediæval castle of Saltwood embowered in trees. The Oaks in their spring foliage of old-gold tint, the Beeches with their delicate green leaves, the Bluebells, the "Kecksies," the Campions, and the superb masses of glowing Broom make up a picture to which it would be hard to find a rival. Primroses are over, and even the gorse is being superseded by the Broom. "Skeatlegs," for so the country folk denominate the Orchis mascula, Shakespeare's "long purples," send up their spires of rosy-lilac

flowers, and on the chalk hills not far off is abundance of the drone Orchis-a bee Orchis in all but its greenish flower-segments and earlier season of blooming. While adverting to popular names of plants it may be worth mentioning that in this part of Kent Cowslips are still sometimes spoken of as "horse-buckles" and "St. Peter's keys"-why, we expect no man knoweth. Lily of the Valley grows wild in the woods near here, and a tragic occurrence which recalls a poaching fray recently occurred, when a game-keeper was stabbed in the early hours of the morning by some wretch who had been uprooting the Lilies. In another wood near by grows a still rarer plant, the Solomon'e Seal; indeed, it may be seen in Sandling Park itself, but probably planted like some other plants which shall be nameless lest another stabbing affray occur. Some bushes of common Box in the woods raise a doubt whether or no they are part of the aboriginal vegetation, as at Box Hill, Surrey, though here the probabilities seem to be that they have been planted in comparatively recent times. In one corner of the park are dotted specimen Conifers, which happily cannot be uprooted. These include fine specimens of Pinus Laricio and its varieties, P. radiata (insignis), a noble tree of P. tuberculata with ovoid, pyramidal shape, densely covered with greyish-green foliage, pinkish fawn-coloured buds, and clusters of cones clinging tightly for many years to the old branches long after maturity. The Douglas Fir is browned by the salt-laden breezes, and does not look happy; and the same may be said of the Red Wood and of Libocedrus decurrens. Wellingtonias are in better case. Abies nobilis and Picea orientalie are good examples of their kind. Common Spruce, Pinaster and Scotch Pine are thriving. The railway makes a sad gash through this beautiful park, and it is rumoured -with what degree of truth we know not-that we are likely soon to see the hateful intimation that this land is to be offered as an eligible site for a colony of villa residences!

THE "AMERICAN GARDEN" AT SALTWOOD.

This garden, near Hythe, Kent, occupies the site of what would in the Isle of Wight be called a chine. It has for many years been famous for its Rhododendrons, including fine examples of Blandyanum, Cunningham'a White, and very many others of the older kinds, with a large infusion of the newer sorts. Great bushes of the old Pontic Azaleas, white Indian Azaleas, and Camellias, are very attractive; whilst, since the garden has come into the possession of Mr. Leney, many of the newer kinds have been introduced. The mollis and sinensis Azaleas are very beautiful, and great bushes of Anthony Koster have more deeply coloured flowers than we are accustomed to see. Tree Pæonies, Illicium religiosum, and Choisya ternata are in full flower, and Embothrium coccineum is growing so vigorously that we expect it to rival ita kindred in Devonshire. Arundinaria Simoni has flowered, and presents a withered and dejected appearance. Numerous other Bamboos are flourishing. A bush of the variegated form of Kerria japonica ie noteworthy, not only on account of its foliage, but for its single flowers, and for showing signs of reversion to the original green type. Of course this behaviour is not altogether to the taste of the owner, who cuts the green-leaved shoots away, but to the botanist it is very interesting. Poet's Narcissus is coming np so thickly mid the grass that one might fancy oneself at Les Avants. Bluebells and Trollius are almost equally abundant. Of another type are the fine plants of Gunnera and Rodgersia. is a magnificent specimen of Cupressus macrocarpa, and many other Conifers, some of which have attained their prime, and others which have outgrown their shelter, dislike the sea breezes, and are on the downward grade.

ENCEPHALARTOS FROM THE CONGO.

Two very distinct species of this genus have been discovered in the Congo. The two illustrations to this article are from photographs of specimens brought over in 1902, and grown in the Colonial Garden of the Congo State at Lacken.

The first species, Encephalartos Lemarinelianus (figs. 164, 165), was introduced into Europe by the late Professor Laurent, in 1896. Captain Lemarinel first discovered it in 1891 on the right bank of the Lubi, the left affluent of the Sankuru. Laurent brought over two plants; one was sent to the Royal Gardens, Kew, in 1897; the other was kept at Gembloux.

During my last voyage I found E. Lemarinelianus in abundance round Luluabourg, on the left bank of the Lulua (6° S., 22° 30′ E.); and at Kanda Kanda (7° S., 23° 40′, about, E.), and on the Kanda Kanda route to Lusambo (4° 55′ S, 23° 20' E.). In the neighbourhood of Luluabourg the Bena-Luluas tribe call this species Kalala Kabo, or Lulondo. At Kanda Kanda the Bena Kaniokas call it Tchiondo, and on the northern route the Balubas name it Biondo.

MM. E. De Wildeman and Th. Durand described this species.* I lately sent over several female cones, and the plants at Laeken have yielded male cones. M. De Wildeman has completed and revised his first description as follows:

pleted and revised his first description as follows: Plant 1 to 2 mètres high, leaves 70 cent, to 1 mètre long, petiole 20 mill., shaggy; pinnules 13 to 60, on each side of the rachis, 0m 0 8 to 0m.15 long by 0m.03 to 0m.013 wide, coriaceous, rigid, glaucous, lanceolate, the edge slightly recurved, the upper and lower margins spiny or smooth, the teeth irregularly distributed along the pinnule, that widens at the base, mu cronate at the tip, disarticulating at the base. Male cone greenish. subcvindrical. 0m 18 to 0m.20, (m.05, the cronate at the tip, disarticulating at the base. Male cone greenish, subcylindrical, 0m 16 to 0m.20, (m.05, the peduncle about 0m.10 long, the bracts short, the antheriferous scales abortive: the fertile triangular, glabrous, the basilar ones reduced and sterile, the others 0m 03 by 0m.02 to 0m.03, raised at the tip, not beaked, but divided into three or four more or lees obtique rows by a submedian transverse line; scales of the summit often irregular, and stamens less numerous. Female cone thick, green, turning to salmorcoloured, shortly pedunculate, 0m 20 by from 0m 11-0m.12, the scales triangular, the basilary and apical scales reduced, sterile, the others about 0m.03 by 1½ to 2 inches, more or less raised at the top, height about 0m.015, not beaked, but arranged as are the scales of the male cone, irregularly, wrinkled under the tip, bearing two ovoid seeds at the base, about 0m.02 to 0m.3 in length, more or less narrowed by reciprocal pressure to the smooth envelope, shining, brownish-red. brownish-red.

E. Lemarinelianus grows on arid bare plains. It has wonderful vitality, resisting yearly the firing of the underwood by the natives to pursue game or keep the tracks open. The female cones when ripe are like large Pineapples. It is not an economic plant, and the natives do not use it in any way. The leaves are arranged in close rosettes, are glaucous, and gracefully curved at the tips. 1

E. Laurentianus (fig. 163) is a fine tree found by me in the Kwango, a large tributary of the Kasai, which itself is an important branch of the Congo, which it joins at Kwamouth (3° 25' S., 16° 20' E). It is found exclusively on the steep banks of the Kwango. It appears to be a survival of old forests destroyed by constant fires. I have noted specimens over 30 feet high. The trunk is often irregularly shaped, over 2 feet in diameter, whitish, ahaggy, with great scars of old leaves; the leaves are sometimes nearly 7 metres long. The petiole is 3 inches across at the base. This fine species, one of the most remarkable of the genus, is named after Professor Laurent, who first introduced Encephalartos from the Congo into Europe. M. de Wildeman describes this species thus:

"Plant with a trunk about 10 metres high, very sturdy, whitish, showing the scars of fallen leaves, and about 60 to 70 c.m. in diameter; leaves primate, 6 to 7 metres long, the rachis glabrous, shiny, more or less

Wildeman, vol. i., fasc. 1, p 9, t. 23 and 24.

? Revue Horticole, February 1, 1904, No. 3.

triangular, 4 to 5 c.m. in diameter towards the base, basilary folioles much reduced, with three teeth 2 to 25 c.m. long, median leaflets, measuring 35 to 40 c.m., and 5 c.m. in diameter; lanceolate, coriaceous, rigid the edges slightly recurred, with rather numcrous spines along both edges, terminating in more or less deep and sharp teeth, spiny at the top, dis-articulated at the base. Male cone, long-stalked stalk, about 25 c.m. long, downy, whitish, furnished towards the top with bracts which are abortive scales; cone, car-

The Colonial Garden at Laeken, founded in 1900, contains numerous specimens of this fine plant. This institution is of great assistance to colonial agriculture, and includes some rare or unique plants, some still undetermined and new to science. In addition to ornamental plants, there are at Laeken Caoutchouc lianas from the Congo, many Rubber plants, and various speci-



FIG. 163.—ENCEPHALARTOS LAURENTIANUS, De Wild. From a photograph taken in the Jardin Colonial de l'État Independant du Congo at Lacken.

mine red from 17 to 25 c.m. long, and 5 to 6 c.m. wide; flowering scales triangular, with short down at the top only, and unusually reddish, the rest of the bracts yellowish, those at the base smaller and sterile, the others 2-25 cent, long and 15 to 25 mm, wide at the top, which is triangular, about 15-2 cent by 8-12 mill., not heaked, divided into three or four planes, of which the lower, more or less triangular, is formed by a line almost parallel with the top of the triangle formed by the upper surface of the scale. From this line diverge the one or two lines which divide the upper part into two or three planes.*

mens brought with much trouble from the Congo. The Gardeners' Chronicle* published some time ago Dr. Regel's analytical key to the genus Encephalartos. M. De Wildeman+ has contributed on this subject a description of the fine species E. villosus, and an interesting account and general review of known species. Louis Gentil, Brussels.

^{*} Matériaux pour la Flore du Congo, vili., p. 28 (1900);

Plantx Laurentianæ, p. 12. † Etudes sur la Flore du Bas et du Moyen Congo, Em. de

^{*} Em. De Wildeman, Études sur la Fiore du Bas et du Moyen Congo, vol. i, fasc. 1, p. 10, t. 25.

^{*} March 27, 1875.

[†] Icones Selectæ horti Thenensis, t. iv., fasc 8, p. 173 and seq., t. cix. (December, 1903).

TREES AND SHRUBS.

LABURNUM ADAMI, Lavallée.

In the Arboretum at Kew there are now three trees of this remarkable Laburnum in flower. Judging by the number of enquiries, its history and origin are not so generally known as one would expect. It first appeared in 1825 in a nursery near Paris belonging to Mons. J. L. Adam. His account of its origin was that on a plant of Cytisus purpureus, which he had budded on the common Laburnum, a branch appeared bearing

in fact, just as if it had been grafted on the trees. A third tree carried flowers of the hybrid form only

DEUTZIA DISCOLOR, Hemsley.

To future cultivators of trees and ahrubs the end of the nineteenth century and the beginning of the twentieth will be memorable for the number of Chinese plants, whose introduction to Europe dates back to that period. Amongst them, and certainly not the least important, will be Deutzia discolor. This species was first described and named by Mr. W. Botting Hemsley from dried material collected by Dr. Henry, but

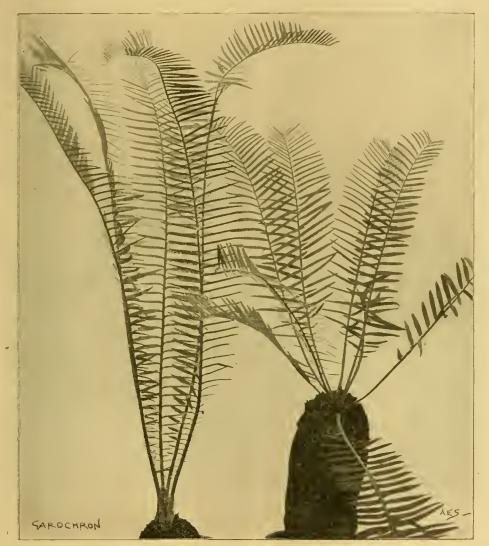


FIG. 164.—ENCEPHALARTOS LEMARINELIANUS, De Wild. and Th. Durand.
From a photograph taken in t'e Jardin Colonial de l'État Independant du Congo at Laeken. (See p. 370.)

flowers purple in colour, and intermediate between those of the stock and the scion. The inference was that a hybrid had been produced by budding. To this branch all the trees of L. Adami in the gardens of Europe and America owe their origin. Still more remarkable, however, is the fact that it still reverts, or partially reverts, back to both its parents. It is not an uncommon thing to see on a tree of L. Adami flowers of the common Laburnum, of Cytisus purpureus, and of the intermediate kind which M. Adam first saw on the tree nearly eighty years ago, and which are of course the true Laburnum Adami flowers. Two trees at Kew have borne this season all three kirds. The pieces that bore the Cytisus purpureus flowers had also the foliage of that species, and looked

the first living material was, I believe, sent to France. It has now been reintroduced by Messrs. Veitch, and I have lately seen in flower some beantiful forms grown in the Coombe Wood Nursery. The species has dull green leaves, lanceolate, dentate, 2 or 3 inches long, with the rough surface so characteristic of the Deutzias. The flowers, each about $\frac{3}{4}$ inch in diameter, are profusely borne in dainty, compact clusters, furnishing almost the entire length of last yeara' shoots and transforming them into arching wands of blossom 1 to 2 feet long. The flowers vary in colour, but in the type are white, more or less flushed with rose. One of the best varieties is figured in the Botanical Magazine, t. 7708, and is named var. purpurascens. In this the petals are

deeply and charmingly stained with rosy purple. Mons. Lemoine has already bybridised this plant with D. gracilis and the result he has named D. gracilis var. campanulata. The earlier-flowering Deutzias, especially this and other Lemoine hybrids, have been more heautiful this year at Kew than they have been for several seasons past. W. J. Bean.

THE EDINBURGH BOTANIC GARDENS.

HARDY PLANTS.—Although flowers are rather late this season, a visit to the Royal Botanic Gardens, Edinburgh, at the end of May afforded, as usual, much interest and pleasure.

Many visitors wend their steps directly to the rock-garden, where at all seasons there is considerable variety. Among the chief attractions at the time mentioned were some capital plants of Morisia hypogæa, whose lovely little yellow flowers contrast so well with the glosay green foliage. Near it was a mass of the neat little Hutchinsia alpina, frequently met with as Noccea alpina, with white flowers. Lychnis alpina was also blooming freely; while sheets of the best Aubrietias were covered with bloom. A. "Dr. Mules," as seen here, will not easily be surpassed in general effect by the larger A. Prichard's A1. One of the most pleasing features in the rock-garden was a mound of Alyssum saxatile sulphureum, whose soft yellow flowers look well beside the deeper yellow of the typical A. saxatile. Androsaces were well represented, among those in bloom being A. villosa, A. sarmentosa, A. lanuginosa, and A. carnea, while several had gone out of flower. Helianthemums were just coming into bloom, but the pretty little H. echioides was freely covered with its small yellow flowers; its remarkably neat habit makes this Spanish Sun Rose a desirable rock-garden plant. The alpine Anemones were very fine among the rock-work, A. alpina and A. a. sulphurea being specially attractive. Phloxes of the subulata type were also making sheets of flower, P. s. G. F. Wilson being one of the prettiest, from its profuse habit. Remarkably pretty was Onosma albo-roseum on the perpendicular wall of a sunk rock-pit, where its drooping flowers showed to great advantage. The small yellow Ranunculus hybridus was pleasing with its yellow flowers, while the charming little Tiarella cordifolia was in full bloom, its foam-like flowers being pretty among the stones. Such plants as Lithospermum proa-tratum, Pulmonaria arvensis and the variety alba, Genista sericea, Dicentra formosa, Geum Heldreichii, masses of the best Iberises, and a large collection of Primula species and hybrids were noted in going through the rock-garden. Saxifrages for some years have been a speciality here, and there is a very large and representative collection of the various species and varieties. Professor Bayley-Balfour is still working upon these, and many will await with interest the publication of his observations. The new S. "Dr. Ramsay," with S. Guildford Seedling, and the closely connected S. Fergusoni, were all in the rock-garden.

The accommodation for aquatic plants at Edinburgh will probably receive its needed improvement before long; but the margin of the pond for the Nymphæas and other aquatics is generally interesting. Those who doubt the hardiness of the Phormiums in Scotland would be satisfied were they to see the fine specimens of P. tenax and others by the margin of this pond. Some have been established for many years. Wulfenia carinthiaca, in one of the compartments close to the water, is a lesson to those who plant it in dry positions, and find that it does not flower satiafactorily. Though full of flower, it may be observed that the plant appears to like plenty of

moisture without a superfluity, as it was more floriferous and vigorous on the higher part of the compartment than in the lower and more saturated portion. A similar position seems to suit Primula grandis, which was thriving here. It cannot be called a sh wy plant by any means. Diphylleia cymosa, Helonias bullata, and Cardamine latifolia were among the other plants in flower. Between the pond and the rock garden there is a representative collection of Bamhoos, generally doing well, and valuable for comparison by cultivators in Scotland who think of growing these gracefol plants, which are generally much hardier than many imagine.

In front of the range of houses and in the bays formed by these there are always many interesting plants to be seen. Thus there was a nice group of Iris lacustris, a smaller and darker-flowered plant than the more popular I. cristata. I. Watsoniana was also very attractive, together with I. missouriensis. The fine Celmisia spectabilis was in bud, and had been out in the open for a year or two. Eremurus himalaicus has sent up three good spikes, while some other Eremuri were looking well. Anthemis Kotschyanus made a nice cushion of green, only sparsely decorated, however, by a few white flowers. A nice mass of Pentstemon Menziesii Scouleri was most attractive, with its large purple flowers on its carpet of foliage. Anemone rupicola, a pleasing Windflower, was also in bloom, its pure white flowers contrasting well with the dark anthers. Iberis Jordani, Trollius americanus, Aquilegia Stuarti, and a number of other plants were also in bloom, with Muscaris and Tulip species; while in the collection of shrubby Veronicas, V. Hulkeana was one of the prettiest, forming a nice bed at a time when few others were in flower.

In the frames and pits behind the range there are many interesting hardy alpine and border flowers. The most striking of these was the noble Meconopsis grandis, finely in flower in a frame. The plant, was about 3 feet high, with entire leaves, and large, handsome flowers, 4 in. or so in diameter, and of a fine purple-blue colour. Dr. Prain is the authority for this fine Meconopsis, which, by the way, has been hybridised at Edinburgh with pollen from M. aculeata, in flower at the same time. The pretty form of Linaria alpina, with fine blue flowers, and called "concolor," was also noteworthy in a frame.

Leucopogon Fraseri, a curious member of the natural order Epacridaceæ, was doing well; and a nice variety of the common Nepeta Glechoma, with blue flowers, found by Professor Bayley-Balfour in a botanising expedition among the Scottish mountains, is worthy of propagation. The collection of Saxifrages in the frames is an exceedingly interesting one, comprising several species or forms little known, but valuable for the purposes of study. Then one noted the curious Trillium viride, the pretty Tanakæa radicans, the distinct-looking Campanula rupestris; with a nice stock of two plants now rather scarce—Calceolarias Kellyana and C. plantaginea, and quite a large stock of seedlings of Primula Reidi. In the frames there was a most comprehensive collection of Primula species and their varieties. The true Anemone palmata, Lychnis dioica varicgata, Saxifraga Guthrieana variegata, and many other good plants were also noted.

The herbaceous borders recently formed are now becoming very attractive, and in the course of a month will be full of flower. S. Arnott.

PUBLICATIONS RECEIVED.—Every Man his own Gardener, John Haleham (Hodder & Stoughton).—
Jersey and Guernsey Growers' Year-Book for 1904.—Our Mountain Garden, Mrs. Toeodore Thomas (Macmillan).—
Holidays in Eastern Counties (Great Eastern Railway).—
Wayside and Woodland Trees, E. Step (F. Warne & Co)—
E canor Ormerod, LL.D., Robert Wallace (Murray).

KEW NOTES.

Lonicera affinis, Hooker. — This lovely Honeysuckle is in flower in the Temperatehouse, Kew, trained on wires near the roof. The species is new to cultivation in this country, and is one of the most desirable plants for a cool greenhouse. It will be an excellent companion for the well-known L. sempervirens, and, like that species, it is of evergreen habit. The present plant was raised from seeds sent home in 1897 from Yunnan by Dr. Henry. It had not heen collected from that province before, but had previously been collected in Japan and the Luchu Archipelago, according to the Index Flora Sinensis. The Kew plant flowered for the first time in 1902, but it did not show its merits

leafy branchlets from the previous season's growth, and are crowded together near the apex of each shoot. They are bright pink in colour, and their fragrance reminds one of that of a newly-opened Hyacinth. The habit of the plant is neat and compact, and it is admirably adapted for border culture in a mixed collection of shrubs. It is a native of the province of Kansuh, in Northwestern China, and is a perfectly hardy species. Chas. P. Roffill, May 28.

ONCIDIUM LANCEANUM, Lindl.

This fine stove species is now flowering in the Cattleya-house. The species is never grown in large quantities, owing, in the first place, to its comparative scarcity in its native home (Guiana and Trinidad); and, secondly, to its dislike for



FIG. 165.—ENCEPHALARTOS LEMARINELIANUS.

From a photograph taken in the Botanic Garden, Eala, Congo Free State, by the late Professor Em. Laurent. (See p. 370.)

as a greenhouse climber until the present year. At the time of writing, the whole plant was a sheet of yellow flowers, possessed of a powerful fragrance which pervaded the whole house. Individually, the blooms last a fortnight or three weeks, but a succession of flowers is produced for about six weeks to two months. These furnish the main crop, but the plant produces a few sprays during the whole of the summer. The flowers are produced from the ripened growths, and on first opening are pure white, but fade in a day or two to deep yellow.

LONICERA SYRINGANTHA, Maximowiez.

This species is widely separated both in habit and flowers from L. affinis, and is at present in bloom in the Lonicera collection, where it forms a neat, compact bush some 7 or 8 feet in diameter and about 5 feet in height. The branches are short and twiggy, with opposite and decussate leaves. The flowers are produced on short,

artificial conditions. The plant now in flower carries three erect spikes, with a total of thirty-eight flowers, each with a diameter of about 2 inches. The sepals and petals are somewhat fleshy, having a yellow ground colour, barred and blotched with bright chocolate-brown; the large lip is heautifully coloured with various shades of rose. The flowers have a vanilla odour. Figured in Gard. Chron., May 10, 1884, fig. 118. W. H.

PÆONIA LUTEA.

A plant of this distinct and rare species is at present in flower in the Himalayan-house at Kew, where it is planted out in a border, in a light position among other plants. It was received as a young plant from the Jardin des Plants, Paris, in 1898 and flowered at Kew for the first time in 1900, when a figure was prepared for the Botanical Magazine, t. 7788. This species forms a perennial woody stem, after the style of its near relative P. Moutan, but does not attain nearly to the dimen-

sions of that species. The Kew plant, although some seven or eight years old, has only formed a woody stem about 8 inches high. The greater part of the annual stems dying tack to almost the base, the woody stem elongates but very little each year. Early in the present spring, when growth should have commenced, for some reason or other the buds on the woody stems refused to start, and it was feared that the plant would die; but to our surprise several growths appeared from below the surface of the soil, near the base of the old stems, while a few others appeared about 2 feet away: these have all grown vigourously and are now just coming into bloom. flowers are usually solitary and terminal, but occasionally the more vigorous shoots produce two and even three blossoms each. The flowers are of bright yellow colour, 21 inches in diameter, with eix to ten petals, and numerous short stamens of the same colour as the petals, and in the centre of which are three small green carpela. The leaves are ternatisect, of soft texture, a foot or more in length and about the same in breadth, and more or less glaucous both above and below.

For the introduction of this lovely plant into European gardens we are indebted to the Abbé Delavay, who discovered it in the mountains of Yunnan, S. China, in 1882, and who sent seeds home to the Jardin des Plantes. Part of the young stock came into the hands of Lemoine, of Nancy, who worked up a stock and introduced it to commerce. From an account of this plant which appeared recently in an American paper, it is stated to graft readily on the roots of the herbaceous Pæony. I have not tried this method. but have several times endeavoured to work it on to those of P. Moutan, but without success. It will no doubt prove to be a useful plant to the hybridist on account of its colour, and may be the progenitor of a new race of Pæonies.

In the note which accompanies the figure in the Botanical Magazine, mention is made of the interesting fact that double and single forms occur in both the wild and cultivated state. The Kew specimen has so far only produced single

flowers. Chas. P. Raffilt.

The Week's Work.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Dendrobiums .- Many of these plants that were potted in the early spring have their young growths well advanced, and these from their bases are making large numbers of new roots. If any of the plants have filled their pots with roots, now is a good time to repot them. Do not disturb the compost, but carefully turn them out of the pots, place them into larger ones, and fill the space around the roots with a mixture of sphagnum-moss and leaf-soil in equal parts, with a moderate quantity of coarse silver-sand. After repotting the plants should not be allowed to become dry at the roots, or the young growths may finish up prematurely, and recommence to grow when they should be at rest. Dendrobiums whose flowers were fertilised several months ago are fast swelling their seed-capsules, and should be elevated well up to the roof-glass; the capsules should be tied upright to neat sticks, so that each part of the pod may obtain its full share of light.

Calanthes .- The back pseudo-bulbs of the deciduous Calanthes which were placed in sphagnummoss when the growing plants were repotted, have their growths sufficiently well advanced to be repotted. Afford them the same kind of compost as advised in a former Calendar for the older

Miltonias .- Plants of M. Endresii, M. vexillaria superba, M. v. Leopoldi, the distinct hybrid M. Bleuana and its variety nobilior, having commenced to grow, may be reported if necessary. Being surface-rooting plants they require plenty of pot room. The following compost will suit them admirably: one part fibrous peat, one part leaf-soil, and two parts chopped sphagnum-moss, adding a small quantity of coarse sand. Surface adding a small quantity of coarse sand. Surface the compost with living sphagnum mose half an inch deep, taking care to press it firmly around the base of the young growths. These plants will grow freely during the summer months in a hady part of the intermediate house. Plants of M. vexillaria that have just flowered should be given a short rest; the cool-house will suit them until the commencement of autumn. All of the Brazilian species, as M. spectabilis, M. cuneata, M. candida, &c., are rooting and growing vigorously. Abundance of water must now be given them until growth is completed. The distinct M. Schroderiana is sending up its flower-spikes in the intermediate-house, and should be been fairly most until the decrease. kept fairly moist until the flowers open; afterwards the plants may be allowed to rest.

Cochliodas.—For the purpose of giving contrast in colour the following Cochliodas are worthy of attention—C. Noetzliana, C. vulcanica, C. sanguinea, and C. rosea. The plants do best in the cool-house the whole year round. Repotting should be done when the plants begin to grow, affording them the same kind of materials as is generally recommended for the Odontoglossums.

Tetramicra (Leptotes) bicolor. - This pretty little plant has just passed out of flower, and should if necessary to afforded fresh rooting-material. The species was formerly considered to material. The species was formerly considered to be a difficult plant to grow well for long together, but if grown in the leaf-soil mixture and suspended in a light position in the Cattleya-house, it will thrive well and bloom profusely.

Odontoglossums grande, Schlieperianum, Insleayii, and its varieties that are commencing to grow, should be repotted at once. A compost consisting of one-half lcaf-soil, the remainder being equal parts of peat and sphagnum moss, will suit them admirably. Place a few piecea of Fern-rhizome over the bottom of the pot for drainage, and fill rearly up to the rim with the compost, then surface with fresh living sphagnum moss, putting the plants in the Cattleya or interme-diate-house. Afford but little water until the growths have advanced and the roots are active.

_ On p. 343 read, "Cymbidiums being deeply rooting plants should be grown in pots rather than pans."

THE HARDY FRUIT GARDEN.

By H. MARKHAM gr., Wiotham Park, Barret.

Sweet Cherries .- Examine trees on walls, and tie or nail in the leading shoots and other young growths required for filling up spaces. Sweet Cherries fruit both on spurs and on wood two years old, and it is therefore necessary to keep the trees well furnished with such growths. If the young growths are to be fastened to wires, be careful that sufficient room is left in the ties. Black aphis usually attacks the Cherry-tree very early, and must be checked by washings with diluted tobacco-water or quassia extract. When the trees have been thoroughly cleansed of the pest, syringe them daily with warm clear water until the fruits are perfectly cleansed from the insecticide. No quassia, or Gishurst's compound, for should be used after the fruits have stored. should be used after the fruits have stoned, and it is imperative therefore to have the trees thoroughly clean before that time arrives. Cherry trees on walls are usually trained in the form of fans. The main branches should not be placed too near together, but the distance may be regulated by the size of the leaf. Heavily-cropped trees will be greatly benefited by a good dressing of gnano or some other stimulants during the stoning and ripening periods and if growing in light soil place a good mulch of rotten manure over the roots, and then afford a watering if this is necessary. When shortening foreright and other shoots, do not be too severe at this time, otherwise a great many of the lower buds may be When shortening foreright and forced into growth during the present season.

. Vincs.—Regulate the new growths before they become too crowded. Look first after the leading shoots and carefully secure them in the proper rositions. Remove all those shoots that will not be wanted, but those showing flowers need to have the points proched out at one or two joints. have the points pinched out at one or two joints or leaves above where the flowers are showing.

Newly-planted Orchards.—Examine all newly-planted orchard-trees, and if any are found to

be "hanging," owing to the soil having sunk, loosen the ties and re-fasten the trees to the supports. See that the surface of stiff land beloosened to prevent cracking in dry weather. Should there be a spell of dry weather, trees planted on gravelly land should be afforded a thick mulching with short manure. This applies in particular to newly-planted orchard trees, to afford water to which would be a long and tedious process.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Border Carnations.—Afford stakes to the plants as soon as they are required. The coil-stake is a good type to use, and is certainly better than ordinary stakes and matting, which constantly require attention to prevent the shoot, as growth proceeds, from curling up the stake and breaking off. Mulch the heds if the ground is at all dry. The present weather is suitable for these plants, and we may expect a good show of flowers.

Pinks.—Those that were put in the propagating pit last month will be nicely rooted, and may be potted off or placed in a cool frame, removing the lights as soon as the plants have estallished themselves. Plants in borders or beds are difficult to stake, yet if this is not done the flowers droop on to the earth, and the rain then spoils them. A good plan is to drive a few neat stumps into the ground, with some 1½-inch wire meshed netting placed flat over them just high enough for the flower-buds to get through.

Roses.—According to the weather prospects at present, no mulching will be required as previously noted. Plants that have started into growth late may still be thinned of some of the shoots in the centre of the plant, keeping the outside ones to shape the plant. The earliest plants may be afforded a slight application of artificial manuse one of the best for Roses is Ichthemic guano, which should be "hoed-in" afterwards. The wet winter has not been suitable for all varieties of the Rose, especially of standards. Some established plants have failed to grow. These will have to be left with the hopes of their growing, and the space may be filled up for the summer with pot plants plunged in the pots and replanted in the autumn. Beds may be planted even now from pot plants, but will not be so satisfactory as those planted in autumn. Afford neat stakes to any newly-planted Rose-trees, and mulch the ground around them with short manure.

-The Moutan varieties have been excellent this spring; the variety Reine Elizabeth is one of the best, being very useful for floral decoration, the flowers lasting a long time. As soon as the flowers have passed remove any seedvessels, and afford the plants an application of artificial manure. Keep the growths secured firmly to stakes, and afford copious waterings when necessary. Herbaceous Pæonies planted in large clumps or beds may have a single wire put around them, inserting a stake to snit the height of the plant, and fastening the wire on the top with a small staple. It will not look so unsightly as a number of stakes, and the flowers will be seen to better advantage.

Flower-beds .- The work of "bedding out" will now be finished. Loosen the surface soil with the Dutch-hoe, and remove any crocks and other rubbish there may be about the flower garden. A few plants should be kept in reserve for filling vacancies that may occur, but the weather being genial failures will be few.

Flowering Shrubs.—As these pass out of flower they should be pruned, and the growths thinned or regulated. This work can be done more satisfactorily now, when the size of any particular plant is apparent, than in winter. Remove the dead flowers, loosen the surface soil with the hoe, and where the hoe cannot be used cut the grass down with the rip-hook and clear away the rubbish at once.

Evergreen Shrubs .- The weather in the past few weeks has been excellent for removing or planting trees, but at this date the work should cease. Mulch any of these with some good rotten dung or horse manure, but do not apply excessive water to the roots before these are active. Spray the trees overhead twice each day.

Walks.—These will occupy a good deal of time at this busy season, especially where weed-killer cannot be used: nothing looks worse than a walk full of weeds. Let the weeding be done in the early morning.

FRUITS UNDER GLASS.

By W. Fyfe, Gardener to Lady Wantage, Lockinge Park, Wantage.

Strawberries .- As soon as the runners are in a fit condition, immediate attention must be given to the work of layering. We obtain our runners from rooted plants of the previous year planted in August, for these produce early and vigorous runners in abundance. When the blossoms show in the spring on these plants they are removed, in order that the strength of the plants may be concentrated in the production of runners. All unpromising or "blind" plants are destroyed. We use pots 3 inches in diameter for the layers, and these are made quite clean and dry before they are filled with loam, which if of unusually heavy character may be modified by the addition of wood-ashes. The soil should be made moderately firm in the pots, and sufficient space must be left for applying water. To keep the layer in its place a peg or, if preferred, some matting will be necessary. Stop all runners at the first joint beyond the layer, doing this early that the layer may gather additional strength. Afford water to the soil in the pots as often as it may be necessary. When the layers have made roots, cut the runners from the parent plants, and place the pots containing the layers on coal-ashes in a shady situation, where they may remain for a time.

Forced Strawberry Plants.-As soon as the fruit is gathered from plants in pots we are using these plants for the making of new plantations. In cases like ours, where the natural soil is not what may be termed favourable to the Straw-berry, these plants yield as much fruit of good quality the subsequent year as can be obtained from plants two years planted upon the chalk. We reduce the "balls" of roots a little after We reduce the "balls" of roots a little after taking the plants out of the pots, plant them firmly, and afford them water until they are established, keeping the plants free from runners during this season.

St. Joseph Strawberry .- We are now potting plants of this variety for fruiting in the autumn, pots and ample drainage are essential. The drainage material is covered with dry moss, and a little soot is shaken over the same of the soot is shaken over the same of the sa a little soot is shaken over the moss, to make it distasteful to worms. Use soil that has been obtained from some old pasture, but which has been stacked sufficiently long to destroy all the herbage. If it is of a heavy or close nature break it well up, and mix with it while fairly dry some droppings from the stables. We do not seek rich but rather try to encourage the formation of an ahundance of roots, which may be fed afterwards as desired. If the soil is in a good condition, press or ram it moderately firm, but upon no account when the soil is heavy or wet. Should the sun be powerful, a few days of slight shade after potting will benefit the plants. The time of fruiting may be regulated, by retaining or removing the flowers, for any time during August, September, and October.

THE KITCHEN GARDEN. By JOHN PENTLAND, Gardener to C. H. B. FIETH, Esq., Ashwicke Hall, Marshfield, Chippenham.

Leeks .- Those that are well forward require to be thinned and transplanted. In order to obtain Leeks of large size with well-blanched stems, select a piece of ground sufficient for the quantity required, afford a rich supply of manure, and then thoroughly trench or dig the ground, breaking and mixing the soil and manure well together as the work proceeds. On the ground thus prepared draw drills about 5 inches deep, and from 12 to 14 inches apart, along the bottom of which dibble in the strongest plants 7 inches apart. Make a hole with the dibble 5 inches deep, into which drop the plant, just allowing about 3 ins. of the plant above the surface of the ground; this will of course vary according to the length of the plant, and no hard-and-fast line need be adhered to. After the plant is dropped in the hole there is no necessity to fill and ram in the soil about the plant; leave the hole open; a little fine

soil dropped in to cover the roots is all that is required, and even that can be dispensed with if a good watering is afforded as soon as planting is finished. This will wash in sufficient soil to cover the roots. A rich, moist situation, and abundant waterings during the growing season should the weather be dry, are the essential requirements, beyond hoeing the surface of the ground occasionally and hand-weeding the rows of plants.

Endive.—If the maincrop sowing has not been made, let it be done without delay. Sow seeds at intervals also until the month of July is well advanced. The crop requires rich soil, and every attention should be afforded the plants, so that they may not suffer a check to growth, as it is necessary that the heads should be moist and crisp. In some localities, when the plants have been tied up in order to become blanched (especially in autumn), they are apt to damp off. Where this trouble is experienced, more than the usual amount of space should be allowed between each plant, and they should be cultivated in a border

that is well exposed to the sun and air.

Planting of Broccoli, Brussels-Sprouts, Cauliflower, &c.—If this work has not been done according to the directions given in previous calendars, no time should be lost before carrying it out. The extent of the garden and the requirements of the kitchen together will make the operation a simple one, or one attended with much difficulty. Where there is ample space for everything, and sufficient labour, little trouble is experienced; but where much is required and there is little space for the crops, double cropping becomes necessary, and much fore-thought must be exercised so that every yard of ground on which a crop has matured may be immediately followed by another one. Take a look round and see what arrangements can be made. Label the ground intended for each variety so that there will be no mistakes.

PLANTS UNDER GLASS.

By C. R. FIELDER, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Cyclamen.—Young plants raised from seeds sown last August, and now growing in 60-sized pots, should be transferred to others 5 or 6 inches in diameter. Afford them a compost consisting of two parts fibrous loam, and one part leaf-soil, adding a little thoroughly rotten manure and some coarse silver-sand. Let the plants be stood on ashes or shingle near to the roof glass in a low house or pit where a night temperature of about 55° is maintained, and dispense with artificial heat as soon as that temperature can be maintained without its aid. Use the syringe freely, both between the pots and overhead. Ventilate freely when the plants are established, and afford shade in the middle of the day during bright sunshine. Watch for the first sign of crippled young leaves or rusty-looking leaf-stalks, and if no other insect is visible the cause of the injury may safely be attributed to the "Begonia-mite," which causes much injury to Cyclamen. As a remedy, the plants may be dipped in tobaccowater or other insecticide, or dusted with tobaccopowder. In the autumn, if large plants are required, they may be afforded another shift into 7-inch or 8-inch pots.

Gloxinias and Achimenes .- These, when coming into flower, chould be assisted by applications of weak liquid manure, particularly in the case of Achimenes growing in challow pans and wire-baskets. These will by this time be full of roots, necessitating constant attention in regard to watering. The plants may also be afforded a drier and more airy position than was necessary while they were making their growth. Gloxinias may be grown at this season in a cooler and more freely ventilated house than would be advisable earlier in the year, and where the room is needed in the stove, plants which are growing freely, or are in flower, may be placed in a house having an intermediate may be placed in a house having an intermediate temperature. The propagation of choice varieties of Gloxinias by means of leaves may be undertaken at the present time. Choose for this purpose the mature leaves, and, after cutting through the midrib in two or three places, peg them down on the surface of the soil in pans which have previously been filled with a finely sifted courset consisting of leaves and the source of the soil in pans which have previously been filled with a finely sifted courset consisting of leaves and the source of the soil in pans which have previously been filled with a finely sifted courset consisting of leaves and the soil in pans which have previously been filled with a finely sifted courset consisting of leaves and the soil in pans which have previously been filled with a finely sifted courset. sifted compost, consisting of loam and sand in

equal proportions. During the summer small tubers will be formed at the points where the midrib was severed, and these must be rested and stored in the same manner as the old tubers.

HOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

MISREPRESENTATION OF SEEDS .- Adverting to the paragraph on this subject in the Gardeners' Chronicle for May 27 it is no doubt a fact that "misrepresentation" does exist; but I contend that purchasers are in a large measure responsible for this, owing to the present craze for whatever is supposed to be "cheap," quality being relegated to the background. Take the case of the Clover-seed cited: although Englishsaved seed has not been abundant this season, still, plenty of good quality was obtainable at prices necessarily considerably higher than have ruled for some years past. Sowers in their mistaken policy of buying that which costs least, and cutting down prices to the last fraction, fairly drive merchants in this highly competitive age to meet pressing cases in the way indicated. sowers would adopt the policy of purchasing only the best seeds, paying reasonable prices for these, cases of the kind mentioned would not be of frequent occurrence. Of course, "bargains" may at times be met with, but as a rule lowpriced good of all sorts are (quality considered) the "dearest," and not, as unfortunately most people think, the "cheapest." H.

ERITRICHIUM NANUM (see p. 342).—M. Correvon's interesting note on this alpine gem seems to show that careful imitation of natural conditions is not always the way to success. Many of the small islands off Novaia Zemlia are almost covered with myriads of this plant, which there flourishes within a few feet of sea-level. So far, however, from being "free from damp," the soil appeared to be absolutely saturated, a stony bog, so to speak, consisting of disintegrated rock with innumerable fragments retaining the moisture, which would probably not be stagnant. summer (?) climate is considered to be the most unpleasant in the world for fogs, &c., but in winter the plants are safe under several feet of snow. Chas. E. Pearson, Chilwell Nurserics, Lowdham.

THE FRUIT PROSPECTS .- The amount of bloom that has been seen everywhere, both on flowering shrubs and fruit-trees, after such a wet season as last, makes one stop to consider whether, after all, we are not wrong in thinking that we have more flower after a good amount of sun to ripen the wood. It seems to me that the frost of the spring of 1903, combined with the wet season, has proved a blessing in disguise. G. W. Y.

HARDY PLANTS AT THE TEMPLE SHOW .-Increasingly great is the interest displayed each year in good hardy plants, and as each Temple Show comes round the number of the growers of choice hardy flowers appears to have increased also. The quality of the exhibits is likewise very superior. Contrast the great display of hardy flowers of 1904 with that of ten years back, for example! At this latter named period a more or less indifferent mode of exhibiting prevailed, and in a great measure only the big flowers and the chowy masses could be seen. Worse than all, a large proportion of the plants were lifted—I fear ruthlessly in many instances -from the open ground, to present but a drooping, bedraggled, unconvincing picture even on the opening day of the show. Such exhibits in no wise assisted the progress in hardy plant growing, but happily such means were not followed by all. There were those who in the very earliest days of the Temple Show had the right idea in mind. Months ahead suitable plants were potted-up, and these were brought to the exhibition tent in a manner that merited all praise. Indeed, by a judicious treatment, these slightly hastened pot-grown examples put on a superior front as compared with the plants from the open ground. Who shall say how much of the improvement now observable is traceable to these earlier attempts of exhibiting plants in a suitable manner? The chief sin to-day is that of overcrowding-the mere lumping together of large

masses, regardless of colour, regardless indeed of anything save that of getting everything on the stage at any cost. The rise in favour of hardy plants, causing a largely increased number to grow these flowers commercially, and incigrow these flowers commercially, and inci-dentally to exhibit them on important occasions, such as the Temple Show, has doubtless itself proved a mighty censor, and to-day not fewer than a acore of exhibitors are eager for the space occupied by the few of former years. Here, then, directly and [indirectly, is one of the chief reasons for the improvement so noticeable to-day. The thirdclass article so much seen in former years is now forcibly deleted, so to speak. Why not an all-round improvement on the present mode of displaying the material? It is so in some instances, and the special award for taste in arrangement will tend doubtless to improve matters in the same direction, yet I think it should be forthcoming without any such incentive as this. Even from the exhibitor's point of view the densely packed bank of cut flowers is not a good way of exposing his wares. Where everything exhibited is in the cut state much of the leaf-growth is left at home. Then follows the large, closely-packed bunch, and with the short stems the early stages of overcrowding commence. As a result, quite a third of the subjects set up are not seen. One of the reasons for the crowding is perhaps the simplicity of exhibiting cut specimens. Pot plants require preparation, and they pay for it withal. What of the lost beauty of such flowers as Columbines, Trollius, Lupins, Thalictrum, Heuchera, to go no further, by merely exhibiting the flowering topa? or Flag Iriaes, again, of which hundreds of spikes are tightly wedged in narrow-necked bottles minus the beauty of their characteristic sword-like leaves that are ever a feature in the garden. It is here, and to the cultivation of legitimate pot-grown specimens as opposed to lifted plants or the re-petition of cut flowers only, one must turn if the good hardy flowers of the day are to be effectively displayed, playing their part as worthily in the exhibition-tent as they do in many a garden. Is this too much to hope for or expect? E. H. Jenkins, Hampton Hill.

INCARVILLEA DELAVAY! has not behaved here as stated by E. H. Jenkins on p. 347, during the four years we have grown it. Instead of missing a year's growth, the plants have kept continually increasing. Our roots, which had only one crown when purchased, have now six crowns, and are throwing up six and seven flowering stems this season. I suggest that the plants failing to grow for a season was due to the crowns having been damaged, or to the atrong, fleshly roots having descended into some unsatisfactory subsoil. Seedlings may be easily raised, and will flower the second season, increasing in vigour yearly, where the soil, if not suitable, is made so by adding grit or sand. W. H. Clarke, Aston Rowant Gardens, Oxon.

PICEA MORINDA (SMITHIANA).—The illustration given in the Gardeners' Chronicle for May 21 reminds me how scarce this species is, and how few gardeners actually know it. Some years ago I had charge of the gardens of the late J. Farley Leith, Esq., M.P., at Prittlewell Priory, near Rochford, in the south of Essex. In the pleasure grounds of the Priory were two lovely specimens of Picea Morinda, with their graceful little pendulous branchlets. As it is more than twenty years since I saw them they must now be very fine specimens. G. A. Bramfield.

THE GARDENERS' ASSOCIATION.—To those who have undertaken the self-imposed and onerous duties in connection with the formation of the above Society, the gratitude and thanks of of every progressive horticulturist are due. The individual success or prosperity of any gardener is not entirely in his own hands, as many good men have to accept inferior positions through keen competition and lack of opportunity, and one of the aims of the Society is, if possible, to assist competent men to secure better appointments. What steps will be taken in the event of references being withheld by an employer from a member of the Society without just cause

or reason? This is a question worthy of consideration, as such causes of friction occasionally arise. Apart from the admirable objects of the formation of the Society, and from a commercial or business point of view, horticultural traders should not lose the opportunity of increasing their popularity among gardeners by affording so worthy a movement the support and influence it justly deserves. F. James.

THE CURRANT BUD MITE.—I was much interested by the remarks of Mr. A. H. Pearson, on p. 330 in the Gardeners' Chronicle for May 21, regarding the Black Currant bud mite. I also took notice of the remarks of a former correspondent (see p. 236), who stated that in a garden of which he had charge, the Black Currants were in a wet piece of ground, and he offered the suggestion that dryness at the roots might render the bushes liable to the attacks of "mite." I do not know the variety Boskoop Giant, but is it not the wet season of 1903 that has been instrumental in helping instead of hindering Mr. Pearson's experi-I certainly do not pose as an authority on the mite pest, but will give the following information for what it is worth. The garden here is in a low lying situation, almost on a level with a river that passes, so that it is certainly not very well drained. Added to this, we have an annual rainfall of anything from 70 to 100 inches (this ought to make those in the South of England take fresh courage with their "excessive" rainfall for 1903 of something like 40 inches). fair idea of the state of the soil and atmosphere can be gained by this statement. I may say there is no mite here. The bushes grow strongly and there is the chance of a very heavy crop this season. The promise of other small fruits is good. Apples promised well, but the bullfinches have eaten nearly every flower-bud. H.L., Braemore, N.B.

MAY - FLOWERING TULIPS: LATIN VERSUS ENGLISH NAMES.—In consequence of the escape that noble Tulip globosa maculata grandiflora had at the Drill Hall meeting of the 17th inst. on account of its Latin name, I wish to make known to growers who have had it from my grounds that it will be called in future as "Glare of the Garden." Other Tulips of my distribution will also drop their Latin nomenclature, viz.—elegans maxima lutea will be known as "Golden Spire," fulgens lutea as "Mrs. Moon," aurantia maculata as "Globe of Fire," globosa nana as "Crimson Globe," ornata grandiflora as "Golconda," The Nigger as "Crimson Pompadour;" this latter by desire of visitors. W. Baylor Hartland, Ard Cairn, Cork. [We should be glad if all garden-raised forms were named in English, leaving the two Latin names, generic and specific, to be applied solely to the original wild types. A Japanese Maple with a string of half-a-dozen Latin adjectives is a nuisance. Did such a person as Linnæns never live? Ed.]

STRAWBERRIES FOR FORCING.—In reply to Mr. Roberta's remarks on p. 316, if I did wrong in applying the artificial manure, I wonder such good men as Mr. Fyfe and Mr. Coomber advise this to be used in top-dressing when taking the plants from their winter quarters. T. H. C., in one of his calendars last year, also advocated stirring the surface soil and working in some approved fertilizer. Interested Reader.

THE NEW HORTICULTURAL HALL.—I return once more to this subject, because the Council of the Royal Horticultural Society, in the programmes of the Temple Flower Show, published the names of all the subscribers to the New Hall Fund, with the amount subscribed by each one. It is interesting to note that the total number of subscribers was 1420—a great number, though still only a fifth part of the entire body of Fellows. But of this number 266 gave sums from £10 upwards, whilst 1154 gave sums less than £10. That fact is interesting as showing how wide an area, after all, has been covered, and how largely the non-monied class has subscribed. But it may be that in completing the £10,000 yet required few big sums will be given. If that be so, then the proportion of the total contributed by the poorer section of subscribers may be much more equalised. But I draw attention to this matter rather for the purpose of pointing a moral. A subscriber of one of the more moderate sums at the

Temple Show expressed his great disappointment, being actuated by the same motive as influenced so many others in subscribing—viz., the making the new Hall the home for all allied or horticultural societies—that the Dahlia. Society and the newly-formed Potato Society should be, as it were, literally driven into the arms of the Crystal Palace Company for a place in which to hold their shows, when both would somuch sooner have been housed at the new Hall. I fear that sense of disappointment is very general. It is a grave error to treat these societies as pariahs. They should be kept under the shelter of the Royal Horticultural Society at all hazards, and treated with the utmost liberality and consideration. A. D.

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APPLE ECKLINVILLE SEEDLING.—Here, in a rich light loam of good depth over gravel, this Apple fruits regularly and abundantly, never failing to produce some fruits even in the worst seasona. I grow it both on Crab and Paradise atocks, and prefer the former, as the variety is such an abundant bearer that the dwarfing stock is not needed. The fruits grow to a very large size, and I can always dispose of them to wholesale fruit merchants at 5s. per bushel sieve; it does not take many well-grown fruits to fill a sieve. Mr. Chas. Ross, of Welford Park Gardens, has crossed Ecklinville Seedling and Mère de Ménage, and obtained an early Apple of splendid colour, which he has named Ruddy, the wood of which is much like that of Ecklinville Seedling in appearance. Geo. Pyne, Denver Nurseries, Topsham, Devon.

—— I should like to express my opinion of this Apple, being told by my salesmen in Covent Garden and Spitalfield Markets that I had more of it in the market than any other grower! I had 3250 trees of this variety planted in the years 1883 and 1884. I find it is the best paying Apple that I grow, with the exception of Grenadier and Worcester Pearmain. I had over 3000 bushels of fruit last season, and it averaged from 7s. 6d. to 8s. per bushel, which, I think was very good. I planted at the same time 1300 trees of Stirling Castle, 300 Cox's Orange, 300 Bramley Seedling, but none of these pays like Ecklinville Seedling. My soil is a rich loam with 9 feet of brick earth underlying it. I do not grow Apples for storing, but send them away on the day they are gathered, and I must say Ecklinville Seedling is a market gardeners' Apple, and there is nothing I know of to compare with it for profit but Grenadier. Cox's Orange is a good cropper with me, but it does not pay to grow at 12s. per bushel so well as Ecklinville does at half the price. I may say I attribute my success to suitable soil, placing grease-bands round the trees in autumn, and spraying with Bordeaux-Mixture in the spring. I am pleased to say I have a fine set of fruit on Ecklinvilles again this year. Wm. Mitchell, Broadlands, Enfield Highway, N.

- "A. G.'s" note on the above confirms the statement made to me some time ago by a Cambs. fruit-grower that it was unprofitable for them to grow large soft Apples for market. The fruits travelled badly, realised poor prices, and the high railway rates left very little for the grower. Where one is close to the market and sells his own produce, the heavier crops usually gathered com-pensate him for the smaller prices made; and if close to a jam factory a market for them can generally be had to be made into pulp. one is placed a large distance from the market, my friend advocated growing choice sorts, such as Worcester Pearmain, Devonshire Quarrenden, Cox's Orange, Yellow Ingestre, Blenheim Orange, Lord Derby, &c. Allington Pippin is also a variety very highly spoken of. Can any reader confirm the following? A large grower in Kentabout twelve months ago told me that Beauty of Bath worked on the Crab stock had proved itself to be a failure for market, and this variety should only be planted on the Paradise stock. Upon a former occasion a grower from Evesham said that Newton Wonder was a failure on the Paradise stock. He said where this variety wasfirst raised, trees had been planted on both stocks, and those on the Paradise had been quite unproductive, and suffered much from canker. So far I have been unable to verify either statement. E. T., Heathrow, Middlesex.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to PUBLISHER. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPPE, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR JUNE.

TUE3DAY, JUNE 14-Roy. Hort. Soc. Coms. meet. WEDNESDAY, June 15 { Grand Yorkshire Gala, at York (3 days).

THURSDAY, JUNE 16 { Linnean Soc. meet. Brighton Hort. Soc. meet.

FRIDAY. JUNE 17-Royal Bot. Soc. tecture. SATURDAY, JUNE 18 -German Gardeners' Club meet.

JUNE 21 Roy. Oxford Hort. Soc. (Commemoration) Show.
Roy. Agr. Soc. of Eng. Exhibition at Park Royal, Acton (5 days). TUESDAY.

ERIDAY, JUNE 24-Roy. Bat. Soc. lecture.

 $J_{UNE\ 27}$ { Isle of Wight Rose Show, at Ryde. MONDAY.

JUNE 28 - Roy. Hort. Soc. Coms. meet. TUE3DAY.

Rose and Horticultural Shows at Chippenham, Farnham, Farningham, and Richmond (Jurrey). WEDNESDAY.JUNE 29

THURSDAY, JUNE 30 { Rose and Horticultural Shows at Canterbury and Colchester.

SALES FOR THE WEEK.

WEDNESDAY NEXT, JUNE 15—
Palms, Plants, Begoniae, Geraniums, Ferns, &c., at 12; Palm Seeds at 3; by Protheroe & Morris, at 67 and 68 Cheapside, E.C.
FRIDAY NEXT, JUNE 17—
Great Sale of Imported and Established Orchida, by order of Messra. Sander & Son. at 67 and 68, Cheapside, E.C. by Protheroe & Morris, at 12 20. (For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

IEMPERATURES; —
 LONDON. June 8 (8 P.M.): Max. 64°: Min. 49°.
 June 9, Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden (10 a.M.): Bar., 29°9; Temp. 55°. Weather, duil, windy.
 Paovinces. – June 8 (6 P.M.): Max. 58°, 8. Coast of England; Min. 50°, N.E. Coast of Scotland.

The British Gardeners' Association.

TIME and space, or rather the want of both, prevented us from giving more than a summary of the proceedings

in our last issue. We can now repeat that the meeting was very largely attended, and that the proceedings were practically unanimous. That is not to be wondered at when the disabilities under which gardeners labour are remembered. The long years of preparation, the scanty wages, the long hours of labour, the too often wretched accommodation, the knowledge and forethought demanded, and the responsibilities incurred, are such as are not met with in the same proportions in other skilled occupations that are much better remunerated. Gardeners are so scattered that hitherto any collective action to remedy these evils has been almost impossible. But after the eagerness shown at the recent meeting it is evident that the way is cleared, and that the gardeners have the ball in their own hands. The studied moderation of the speakers was convincing, and it was evident that selfrespect, together with a regard for the rights of others, were the dominant feelings of the members present.

So long as the members are actuated by these feelings it is obvious that employers have everything to gain, whilst the selfrespect and the honour of the gardeners will be greatly enhanced. It is very satisfactory to find so many of Kew employés taking the lead in this matter, though of course they do so not officially, but in their individual capacity.

The principal points in the prospectus were touched on by Mr. Gordon in his address, but for the benefit of those who were not present we append the draft prospectus, which shows the principles upon which the newly-elected Committee will

PROSPECTUS.

"The objects for which this Association is to be formed have already been made known in a pamphiet entitled "Plea for a Gardeners' Association," 10,000 copies of which have been distributed by post and otherwise to gardeners throughout the British Isles. These objects are therein stated to be :-

- 1. To admit as members all who are professionally employed in any branch of horticulture, including private and public gardens, the nursery and seed trades, and market gardens.
- 2. To establish a register of gardeners, with a view to regulating and controlling the labour market for gardeners.
- 3. To regulate the wages of gardeners with due regard to the interests of both employer and employed.
- 4. To regulate the working hours of gardeners by fixing the limit of a day's work beyond which all work done shall be counted as overtime, and he paid for.
- 5. To co-operate for the promotion of the interests of the profession and the welfare of all who belong to it.

To organise the Association so as to make it effective for all branches of the profession in every part of the country, it is proposed to elect an Executive Council, to appoint a paid Secretary and to rent an office in London where the Secretary will conduct the business of the Association, and the Executive Council hold their meetings. It is also proposed to establish a branch in every large town, and wherever there are sufficient gardeners to form one. As, however, the Executive Council will require to be elected by the members of the Association, the work of organisation will be conducted by a Committee of Selection, comprising those members of the Provisional Committee who are willing to serve, and twelve other gardeners to be elected at the meeting [these were duly elected]. These will co operate with the Secretary until 500 or more members have joiced. The election of an Executive Council will then be proceeded with on the lines laid down in the Rules for the general management of the Association. To enable the Committee of Selection to commence operations and to secure the services of a Secretary and an Office the sum of £250 will be needed at once.

An Appeal Committee, consisting of the General Secretary and of one member elected by the Branches of each district, will have power to dissolve the Executive Council. This provision is made to enable country members to have a voice in the general management. Legal advice will be needed, and this will be afforded by Mr. R. S. Garnett, Solicitor, Clements' Inn, Strand, who has had experience in the promotion of similar Associations, and to whom the Provisional Committee is indebted for help and advice in preparing this scheme.

QUALIFICATION FOR MEMBERSHIP.

- 1. To be not less than 20 years of age.
- 2. If less than 23 years of age, to have had at least 5 years iraining in good private, public, or commercial establishments.
- 3. If more than 23 years of age, to have bad at least 7 consecutive years' professional experience.
- 4. To be able to produce satisfactory testimony as to general character.

Candidates must obtain from the Secretary a form of application, which when fitted up should be returned to him. If the Committee of Selection is satisfied that the candidate is qualified for membership, it will instruct the Secretary to forward him a certificate. The certificate will be renewed annually on receipt of subscription.

The charge for registration and certificate will be 28. 6d., and the annual subscription 28. 6d. These two aums should be forwarded to the Secretary together with the form of application.

Proof of membership will be the possession of the Association's certificate for the current year.

NOTE .- These regulations are special to the period in which the Committee of Selection will be in office. Regulations for the election of members, &c., are included in the Rules for the general management of the Association.

REGISTRATION.

A register of members will be kept at the central office, and it will be the duty of the Secretary to see that full particulars relating to every member are entered in a book to be called the General Registration book, which will be open for inspection by members at a day's notice at all reasonable times. It will contain the name, age (date of birth), condition (married or single), present situation, of every member.

The Association will also keep a record of the professional experience of its members. It will thus be in a position to furnish reliable testimony as to the qualifications and character of applicants for situaiions. The Association will also act as far as its resources will allow as an Employment Registry Office, so that members desiring to change their situations, or employers seeking to engage the services of a gardener may be assisted.

WAGES.

The Association will endeavour by legitimate means to secure for every section of its members a fair rate of It is generally admitted, even by employers, that the present scale of wages for gardeners is unsatisfactory. The difficulties in the way of improvement will not be easily removed, but they will have to be faced. The result of inquiry in seventy-five gardens all over the country in which skilled journeymen are employed shows that the average wages are 17s., with bothy, &c., and if the latter perquisite is valued at 3e., the total weekly wages of a man who has been trained for at least five year; in his profession are 20s. appointed legislators of Great Britain have lately stipulated in Parliament that the lowest weekly wages to be paid for unskilled labour shall be 21s. The Association hopes to effect an improvement by recommending the following scale of weekly wages for

- 1. Journeyman 188, with bothy, &c., 21s. without.
- 2. Foremen in gardens and small) 24s. with bothy nurseries and single-handed or house, gardeners 278. without.
- 3. Gardeners and departmental 30s. with house, foremen in nurseries with less 35s without. than five assistants 35s. without.
- 4. Gardeners and departmental 35s, with house, foremen in nurseries with five or more assistants 40s. without.
- It should be clearly understood that these are minimum rates. Where the duties and responsibilities of the post would justify a higher rate the Association will endeavour to obtain it.

WORKING HOURS.

The duties of a gardener often necessitate his working more hours per day than almost any other skilled operative; he has also often to perform duties late at night and on Sunday. Whilst the Association will recognise that it is impossible to do away with long hours and extra duties, it will endeavour to secure for its members payment for all overtime. The result of enquiry in seventy-five gardens, public and private, in all parts of the country, is to show that it is usual to pay for overtime, that in many gardens Sunday work is paid for, but that in only a few is night-duty treated as overtime and paid for. The Association will endeavour to get employers to adopt the following arrangement :-

HOURS OF LABOUR.

Summer Period (9 months) 56 hours per week (maximum). 5 days of 10 hours, 6 to 5.30, with 12 hour for meals, and 1 day of 6 hours.

Winter Period (3 months), 48 hours per week (maxi-

All other time worked, including night and Sunday duty, to be counted as overtime and paid for.

GARDENER APPRENTICES.

The Association will take steps to control the intake of gardeners by reiusing to recognise as suitable training for a youth employment in some meuial posi tion, or in a place where there is no gardening worthy of the name. It will rely upon the vigilance of its members to keep out young men who may be otherwise worthy, but who cannot honestly be called gardeners. The requisite five years' training must be in gardens of repute. The Association will keep a registry of gardens, nurseries, and other establishments, training in which would constitute a claim to membership, in the belief that both parents and employers will find it advantageous to consult the Association where apprentices are concerned.

FOREIGN GARDENERS.

Foreign gardeners, whether temporarily or permanently employed in this country, will be eligible for membership, provided they are qualified, and agree to abide by the rules of the Association.

Particulars as to the Secretary, address of central office, &c., will be published in the Gardening papers as soon as possible. Meanwhile all communications, donations, &c., may be addressed to—

MR. W. WATSON, KEW ROAD, KEW.

SCUTELLARIA VENTENATII (see Supplementary Illustration). - The species of Scutellaria illustrated in our Supplement this week is remarkable for the brilliance of its crimson corolla, the tube of which is much elongated. An illustrated description of the plant was published by Sir WILLIAM HOOKER in the Botanical Magazine, t. 4271, about aixty years ago, but the species has never been commonly cultivated in gardens. The species was discovered by Mr. PURDIE in the mountains near Sta. Martha, and seeds were sent home by him in 1845. The specimen from which our illustration was prepared was exhibited by Mr. J. T. BENNETT-Poll before a meeting of the Royal Horticultural Society on May 3 last, and it was also a striking feature in an exhibit sat the Temple by Messra. Veitch.

FELIX SAHUT.—The Revue Horticole announces the death, on May 5 last, of this distinguished French horticulturist. He was one of the first to discover, in association with PLANCHON, the Phylloxera on the roots of the Vine in the neighbourhood of Montpelier. He was also one of the most active in advocating and practising the introduction of American resistant Vines on which to graft the wine-producing varieties.

THE PHYSIC GARDEN, CHELSEA.—Professor J. REYNOLDS GREEN, F.R.S., will deliver his last lecture in the present series on Wednesday next, June 15, at 4.30 P.M., on the following subjects:-The process of digestion. Intracellular digestion in plants and animals. Mechanism of digestion. Enzymes. Process of their secretion. Their mode of action. The enzymes of germination, Diastase and its distribution. mination. Diastase and its distribution. Inulase. Enzymes attacking glucosides. Emulsion. Myrosin. Proteolyte enzymes. Trypsin. Erepsin. The course of proteolysis in plants. Lipase and the digestion of fata. The gardens are very attractive at the present time, and many very interesting plants are in flower. Mr. W. HALES has so altered the place that visitors can hardly recognise in the orderly flower-beds and trim grass verges the old garden of some years ago. Mr. Francis Darwin's library has been housed in the excellent lectureroom. The students have, therefore, a valuable means of reference and study available on application to the Chrator.

THE TEMPLE SHOW.—Mr. ANKER writes to ask us to say that the Cactaceous plants exhibited by him were shown on behalf of M. F. de Laet, of Contich, Belgium, and that the Medal is M. de Laet's, though the official List of Awards described it as having been awarded to Mr. Anker. We are informed by the Secretary of the Royal Horticultural Society that a Gold Medal was awarded to Sir Fredk. Wigan, Bart., for Orchids, and that this was accidentally omitted in copying the lists.

WILD RICE (ZIZANIA AQUATICA) is the subject of a report to the Bureau of Plant Industry by Messrs. Edgar Brown and C. S. Schofield. It is used in America as a food for wild-fowl. It was originally brought under notice in this country by Sir Joseph Banks, and may be seen growing at Kew. It is shown by analysis to farnish a nutritious food.

THE FRUIT INDUSTRY .- The Departmental Committee appointed by Lord Onslow to inquire into and report upon the Fruit Industry of Great Britain held sittings on the 1st, 2nd, and 3rd inst. The following members were present:-Mr. A. S. T. Griffith-Boscawen, M.P. (Chairman); Col. Long, M.P., Mr. C. W. Radcliffe-Cooke, Mr. Hodge, Mr. Monro, Mr. Vinson, Dr. Somerville, Mr. P. Spencer Pickering, M.A., F.R.S., the Rev. W. Wilks, and Mr. Ernest Garnsey (Secretary). The following witnesses gave evidence:-Mr. Thomas Pringle, fruit merchant, Newcastle-on-Tyne; Mr. William Craze, fruit merchant, Liverpool; Mr. E. G. Wheler, President of the Land Agents' Society; Mr. Thos. Blackwell and Mr. Chivers, jam manufacturers; Mr. Cecil Warburtou, Zoologist to the Royal Agricultural Society of England; and Mr. H. T. Bulmer, cider manufacturer, Hereford.

ORCHIDS AT DÜSSELDORF. — We are requested to state that exhibits of Orchids will be held at Düsseldorf in connection with the International Exhibition in that city, on Sept. 3 to 6, and on Oct. 21 to 23. The ahow on the abovenamed dates in September will be of a special character, and all entries must be made not later than August 15. There are sixty-eight classes, and the prizes in each class vary from £50 to 30s. All communications on the aubject should be addressed to Herr Otto Betrodt, Marienfelde, Berlin. A few copies of the schedule have been sent us, and will be forwarded, if stamps for postage be enclosed, on application to the Publisher of the Gardeners' Chronicle.

JARDIN D'ACCLIMATATION.—Visitors to Paris should not fail to visit this establishment in the Bois de Boulogne. We have on various occasions drawn attention to it. The publication of a detailed report of a visit paid by a Committee of the National Horticultural Society of France in the Journal of the Society for April, 1904, confirms our favourable opinion, and affords us another opportunity of bringing the garden under the notice of horticulturists visiting Paris.

ASPARAGUS FLY.—We have had submitted to us some stalks of Asparagus in a pitiable condition, apparently from the attacks of the larvæ of a fly. In the district round Argentenil the plague has assumed such proportions that the authorities have ordered the destruction of the shoots throughout the Department of the Seine. A figure of the fly and of the channels its larvæ make in the shoots is given in the May number of the Bulletins d'Arboriculture, s'c.

FRUIT AND VEGETABLE FARMING. -- The Royal Agricultural Society announce the issue of two new illustrated pamphlets on these subjects, entitled "Practical Hints on Fruit Farming," Mr. CHARLES WHITEHEAD, of Barming House, Maidstone; and "Practical Hints on Vegetable Farming," by Mr. James Udale, of the Worcester County Experimental Gardens at Droitwich. Mr. WHITEHEAD'S pamphlet deals with methods of preservation and distribution, new orchards and plantations, the renovation of old orchards, and the cultivation of the principal fruits for market purposes. He also gives valuable information as to pruning, grafting, budding, picking, grading, packing, &c., together with a description of injurious insecta and the methods of destroying them. Mr. UDALE gives practical details for the cultivation on a farming scale of all the principal vegetables, these for convenience of reference being described in alphabetical order. The insect and other pests which injure vegetables, and the approximate remedies, are also described. Both pamphlets are published for the Society by Mr. MURRAY at the price of 1s. each; but members may obtain copies at half-price from the Society's offices at 13, Hanover Square, or (on production of their members' admission tickets) at the Agricultural Education Exhibition to be held in connection with the Society's show at Park Royal, Willesden, N.W., from the 21st to the 25th of next month.

FOREST SCHOOLS.—A School of Forestry has been established in the Forest of Dean for educating woodmen, and to enable them to become foremen on large estates. The training afforded will be on the lines on which young gardeners are trained at Kew. Other schools are contemplated in other localities, whilst it is probable that the Cooper's Hill establishment will be broken up (see Journal of the Board of Agriculture for April).

AGRICULTURAL CORRESPONDENTS. — The Board of Agriculture, which takes cognisance of horticultural matters as well as of those pertaining to pure agriculture, has published a list of "Correspondents" in various counties. Attached to the list are some "instructions," from which we condense those portions which refer more particularly to gardening:—

The position of Agricultural Correspondent is a purely honorary one. The duties of an Agricultural Correspondent will consist in bringing to the notice of the Board any special circumstances affecting the practice of agriculture, horticulture and forestry, or the transport of farm, garden and forest produce in his district, and in making known to agriculturists and others concerned the information contained in the Board's publications. A Correspondent will be supplied with copies of the publications issued by the Board, and in the case of leaflets he will be furnished with a supply of copies for distribution when suitable opportunities arise. He will be instructed as to the statutory powers of the Board and as to their scientific and technical resources. A Correspondent will be furnished with stationery, and his communications to the Board should be transmitted in special envelopes addressed: "The Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Intelligence Division" Communications so addressed need not be stamped. Among the more important matters in regard to which the Board destre to receive early and detailed information are the following:—

I.-PRODUCTION.

Losses arising from the use of unsuitable, defective or worthless seeds. Difficulties in connection with the selection and use of ferrilisers and feeding stuffs and complaints as to their quality or failure. New descriptions of fertilisers and feeding stuffs. Losses arising from the attacks of insects and diseases affecting erops. The spread and suppression of weeds. The partial or complete failure of crops from exceptional causes. New methods of cultivation and the growth of new crops. The practical value of new implements and machinery. Difficulties in the growth and treatment of orchard and garden produce. The deterioration and possible improvement of pasture.

II. - DISTRIBUTION.

Inadequacy of railway and other facilities for transit. Complaints as to railway rates. Difficulties at markets with regard to tolls and accommodation (including weighbridges). Loss of markets at home or abroad, and the decline of prices from any excaptional circumstances. Methods of marketing and requirements of purphasers as to quality, packages, &c.

purchasers as to quality, packages, &c.

A Correspondent should communicate to the Board, as speedily as possible, any facts which may come to his knowledge with regard to the above or similar

points

In reporting attacks of insects or fungi on plants, specimens of the pest and portions of the plants injured abould be forwarded for examination; or if these are not available the name or a clear description of the insect or fungus should be given.

of the insect or fungus should be given.

Similarly in the case of compaints with regard to railway rates, specific details should be given of the transaction on which the complaint arose.

"JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY." — The May number, completing vol. xxviii., has been issued, and is extraordinary not only for the number but also for the value of its contents. It forms a complete record of the proceedings of the Society, and of the papers read at the several meetings. As most of these matters were dealt with in our columna at the time we need now only call attention to their reprint in a convenient form. There is a larger proportion of original illustrations than usual, particularly the representations of Irises in connection with Miss Armitage's paper on Irises for

the rock-garden and the water-side, and those relating to hardy ornamental Vines by Mr. James H. Veitch. We entirely sympathise with the Editor's complaint that a large proportion of the Fellows never even glance at, or at least do not act on, the directions given in the notices to Fellows. In like manner a very large proportion of the letters we receive are misdirected, those intended for the Editor being addressed to the Publisher, and vice versâ, in spite of the full directions published in almost every number. With so extensive a correspondence the loss of time and inconvenience occasioned by this neglect are in the aggregate very considerable. Mr. WILES'S liberality in distributing gratuitously packets of seed of Shirley Poppies cannot be said to meet with adequate appreciation, when we find 300 applicants out of some 2,000 writing to the wrong address, and over 250 not even sending a stamped and directed envelope for a reply. As to the distribution of surplus plants, concerning which the distributors complain of the Fellows, we think the Fellows have in their turn sometimes good resson to complain. We have seen plants sent out by the Society which were only fit for the rubbishheap, or, more appropriately still, for immediate cremation. We are quite aware of the difficulties the Society has to encounter in this matter, of the conditions under which the plants are offered, and of the utter unreasonableness of some of the applicants; but rather than excite a feeling of disgust it would be better not to send any at all, than send such specimens as were brought under our notice some short time since. It is to be hoped that this was an exceptional occurrence, attributable to the confusion incidental to the removal from Chiswick. No such comments are possible with regard to the Journal. which is admirable, and satisfactory to workers and thinkers alike.

CASSAVA.—Sir Daniel Morris, who neglects no means of adding to the resources of the West Indies, recommends the culture of Cassava (Manihot utilissima), for the sake of its starch and for the manufacture of glucose. The tuberous roots are the portions in which the starch is stored. Cassava contains a certain proportion of prussic acid, which would make its use as food open to objection, were it not that the acid is dissipated in the extraction of the starch.

M. DE PANNEMAEKER.—The Revue de l'Horticulture Belge announces the death of this well-known botanical artist. He was trained in the school of VAN HOUTTE, where accuracy and fidelity to nature were esteemed more than artistic imagination. He contributed for many years to the majority of the Belgian illustrated journals, and died suddenly, at the close of his daily work, on May 17.

Lysol.—Instead of whitewashing the trunks of our fruit-trees, as is done generally—but with only partial success, as the lime wash cannot penetrate to the lurking-place of the insects—it is now recommended to use Lysol. The Lysol is used in the proportions of 40—50 grammes to a litre of water. This is applied to the tree, and acts, it is said, perfectly. It destroys insects and parasitic growths, and contributes greatly to the health and appearance of the trees. It is harmless, and not costly.

A GARDENER - CRICKETER. — Mr. W. H. BAILEY, gr. to BASIL P. ELLIS, Esq., and for many years a member of the Reigate Priory Cricket Club, in playing recently for Oxshott C.C. sgainst the London and S.W. Railway Co.'s Staff C.C., made 122 runs and took five wickets at a small cost; and at the close of the match was presented with a new bat by TREVOR CASTLE, Esq, in recognition of such a splendid innings.

FORCING LILAC. - In the Bulletin Mensuel of the Nice Société, d'Agriculture, M. Jules VERAN gives some interesting facts about forcing Lilac. He says that "the Lilacs to be forced are repotted at the end of June or the beginning of July, according as the weather is more or less sunny. Care is taken for the first fortnight to keep the plants in a shady place, where they are constantly kept covered; they must never be allowed to wilt; for this reason they are only reported early in the morning or in the evening, the pots being buried up to the rim. Watering is done frequently, and once a week liquid-mannre well diluted with water is applied. Watering is reduced in amount towards the end of September and the beginning of October, when the leaves begin to fall. At this season the pots are dug up and placed side by side, watering being altogether stopped, so that the plants may enter upon a period of rest, when excess of moisture would

This plan demands five or six weeks' longer time than is required when the plants are subjected to complete darkness, but the results are stated to be superior. After New Year's Day no more plants are placed in the dark, but they are copiously watered. Forcing terminates at the end of April, the shrubs that have not been forced, as well as those from which the flowers have been removed, are cut down and planted in the open-air, when in two years' time they are ready to be again potted and subjected to forcing.'

FERTILISERS AND FEEDING STUFFS.—The Departmental Committee appointed by the Board of Agriculture and Fisheries to inquire into the working of the Fertilisers and Feeding Stuffs Act, 1893, held sittings on the 2nd, 3rd, and 7th inst. The members present were the Right Hon. Lord Burghclere, in the Chair; Dr. T. E. Thorpe, C.B., F.R.S., Mr. J. W. Clark, K.C., Mrs.



FIG. 166.—MR. DOUGLAS' HYBRID DIANTHUS "LADY DIXON."

From a cross between a Sweet William and Urlah Pike Carnation: colour cherry-red.

Exhibited at the Temple Show. (See p. 360)

cause rotting of the roots within the pot. For this reason the plants are, from November onwards, kept under shelter from the autumn rains. This condition, modified according to circumstances, is an important essential for forced Lilacs. The plants should also be covered with a deep mulch of dry manure. Forcing begins about the middle of November, in order that the flowers may be produced for Christmas or New Yesr's Day. The forcing-house is divided into three compartments; one is completely covered over to exclude the light, the plants being placed side by side, the stems only being wetted with warm water at a temperature of 28° to 30° Réaumur (say, 95° to 100° Fahr.). In three weeks' time the flowers expand, and it is then necessary to expose them to the light. They are in consequence removed to the second compartment and well watered. After a week the flowers begin to show colour, when the plants are removed to the third compartment at a temperature of 15° Réaumur (66° Fahr.), where the flowers assume their normal colour.

A. K. Loyd, K.C., M.P., Mr. R. Burnard, Mr. A. M. Gordon, Mr. I. Pearson, and Mr. J. W. Spear, M.P. The following witnesses gave evidence—viz., Mr. E. Packard, representing the Chemical Manure Manufacturers' Association; Mr. H. Voss, Mr. W. Hutchinson, Mr. G. Goetze, Mr. Alexander Cross, M.P., Mr. J. Milne, Mr. I. Pearson, Mr. B. Barton, Mr. A. J. Tod, Mr. W. A. Temperley, Mr. W. Lenton, and Mr. W. J. Dutton.

OVIDIUS.—Under this name a vegetable has been recently introduced into France, which is evidently very closely allied to our Sea-kale, which by the way is not much known in France. According to M. GRIONAN in the Revue Horticole, the new vegetable is a Crambe, probably C. tatarica. A well-known chef, M. Ovide Bichot, we are told, obtained seeds and cultivated the plant for several years. The seeds must not be buried, as they only germinate on the surface of the soil, hence need protection from birds. To the ignorance of this fact of surface germination the

previous want of success in propagating the plant is probably to be attributed. It may be grown and forced in the same way as Sea-kale. Whether it possesses any advantage over the ordinary Sea-kale remains to be seen. As mention is made of the acridity of Sea-kale it would seem as if our French friends were not experts in forcing or cooking 'Sea-kale, for, as produced on English tables, acridity is certainly not a usual character-ustic of the vegetable.

The injury caused by the Dendryphium has now assumed the proportions of an epidemic in the Cucumber-houses of this particular market gardener, but is not recorded under such circumstances from elsewhere. Now Dendryphium comosum is a well-known saprophyte, growing ou decaying vegetable matter, but its occurrence as a parasite has never before been recorded. A careful examination as to the origin of the outbreak of the epidemic caused by Dendryplium

to the expressed juice of twelve other plants selected at random, and representing seven Natural Orders. The above I consider to demonstrate the presence of a latent power—that of being positively "chemotactic" to a given substance or combination of substances—posses.cd by a saprophytic fungus. In the present instance the Dendryphium happened to be brought in contact with a living plant possessing the chemotactic influence required to enable the fungus to



FIG. 167.—A SPECIMEN CALCEOLARIA EXHIBITED AT THE TEMPLE SHOW BY MESSRS. WEBB AND SONS, WORDSLEY. (See F. iv. of Supplement in list week's issue.)

CUCUMBER DISEASES .- The following are the conclusions arrived at by Mr. MASSEE, as published in the Philosophical Transactions, vol. 197:-Last year the very destructive epidemic among Cucumber-plants, which resulted in a loss of over £20,000 to the growers of these plants in the South of England, was entirely due to the fungus called Cercospora melonis (see "Gard. Chron., Sept. 5, 1896, p. 271, and Oct. 4, 1902). This spring a market gardener, whose Cucumbers had suffered severely from the Cercospora last season, brought some Cucumber-plants to Kew, which he was afraid were attacked by the same disease. Examination showed that the plants were not attacked by Cercospora melonis, but by another fungus called Dendryphium comosum.

revealed the fac'; that the young Cucumberplants were growing in a mixture of two-thirds
loam and one-third of stable-manure. Further,
the portions of half-decomposed straw from the
manure that projected above the surface of the
soil were covered with a copious growth of Dendryphium. The fungus had been introduced
with the manure. Dendryphium-spores from the
manure, when placed in a drop of water on the
under surface of living Cucumber-leaves, produced the disease. The germ-tubes of the
spores were positively "chemotactic" [by chemotaxy is meant the presence in the plant of some substance or liquid which is attractive to the fungus]
to a decoction of expressed juice from Cucumberleaves, but failed to respond chemotactically

become a parasite. A second illustration of extended parasitism, due entirely to opportunity, is afforded by Puccinia malvacearum. This fungus was first observed in Britain in 1873 on cultivated Hollyhocks. Since that date the fungus has attacked all our indigenous malvaceous plants included in the three genera, Malva, Althæa, and Lavatera. It has also occurred on species of Abutilon in greenhouses. The conclusions to be drawn from the above observations are that: (1) The entrance of the germ-tubes of a parasitic fungus into the tissues of a living, healthy plant depends on the presence of some substance in the cells of the host attractive to the fungus. In other words, infection is due to positive chemotaxis. (2) A saprophytic fungus can be gradually "educated" to become an active parasite to a given host-plant by means of introducing a substance positively chemotactic to the fungus into the tissues of the host. By similar means a parasitic fungus can be induced to become parasitic on a new host. (3) An immune plant signifies an individual of the same species as the one on which a given species of fungus is parasitic, but which, owing to the absence of the chemotactic substance in its tissues necessary to enable the germ tubes of the fungus to penetrate, remains unattacked.

"BOTANICAL MAGAZINE."—The June number contains illustrations and descriptions of the following plants:—

Tupistra Clarkei, Hooker, fil., t. 7957.—An Aspidistra-like plant, discovered in Sikkim by Sir Joseph Hooker. A useful decorative plant.

Bullophyllum Weddelli, Reichenbach, f., t. 7958.—A genus common to both the Old and the New World, the species of which vary enormously in habit and comprise species with leaves 2 feet in length, and others with leaves and flowers barely one-twelfth inch in diameter. B. Weddelli has a thick scrambling rhizome with four-angled pseudobulbs at intervals; the long-stalked racemes spring from the base of the pseudo-bulb and bear numerous, densely-crowded, greenish flowers, with purple-spotted, mobile lip. It is a native of Brazil.

Chamædorea pulchella, Linden, t. 7959. — A graceful Palm with a slender atem supporting a crown of pinnately divided leaves, the pinnæ linear-lanceolate; inflorescence much and laxly branched with minute globose yellow flowers. Kew.

Impatiens Oliveri (t. 7960), C. H. Wright, in the Gardeners' Chronicle, 1903, ii., p. 178.—A very attractive species. Native of East Tropical Africa. Kew.

Lysimachia Henryi, Hemsley, t. 7961.—A native of Western China, lately introduced to the Veitchian Nurseries by Mr. E. H. WILSON. It grows and flowers freely on the rockery at Kew, and when better known will be a general favourite.

LINNEAN SOCIETY OF LONDON.—There will be an evening meeting, Thursday, June 16, 1904, at 8 P.M., when the following papers will be read:—1. "Variations in the Arrangement of Hair in the Horse," with lantern slides, by Dr. Walter Kidd; 2. "An Account of the Jamaican Species of Lepanthes," by Mr. W. Fawcett, B.Sc., F.L.S., and Dr. A. B. RENDLE, D.Sc., F.L.S., &c.; 3. "On the Blaze - Currents of Vegetable Tissues," by Dr. A. D. Waller, F.R.S., &c.; 4. "British Freshwater Rhizopoda, by Mr. James Cash; 5. "Notes on the 'Sudd' Formation of the Upper Nile," by Mr. A. F. Brown; 6. "The Place of Linnæus in the History of Botany," by Mr. P. Olsson-Seffer.

HORTICULTURAL CLUB.—A discussion on "Himalayan Rhododendrons for English Gardens" will be opened by Sir John Llewellyn, Bart., at the meeting on Tuesday evening next, June 14.

HORTICULTURAL SHOW AT YORK. — The forty-sixth grand Yorkshire Gala will be held in the Bootham Field, York, on Wednesday, Thursday, and Friday, June 15, 16, and 17. The schedule includes prizes amounting to £700.

THE METRIC SYSTEM BILL, introduced by Lord Belhaven and Stenton (as amended on report), has been read for a third time, and passed in the House of Lords. The purport of the Bill is contained; in Clause 1, which says:—
"As from the first day of April one thousand nine hundred and nine, or such later date as His Majesty may by order in Council fix, the standard kilogram and standard metre.... shall respectively be the imperial standards of weight and measure."

THE BOLL WEEVIL.—An announcement has been made by the American Department of Agriculture that Mr. Cook, the botanist, during his journeys in the province of Alta Verapaz, Guatemala, discovered an ant which is an effective enemy to the boll weevil, which is so injurious to the Cotton-plant. This ant will at once be introduced into the cotton-producing States.

STOCK-TAKING: MAY.—Very pleasant is it to record an increase as well in the bulk as in the value of the imports into the United Kingdom during the past month-the increase in value being £2,864,992, the figures being for last month £44,780,098; for May, 1903, £41,915,106. In cotton the unfavourable conditions still exist. Attention was not long since directed to the destruction caused to the crop in the Cotton-growing States of the American Union by what is called the "boll weevil," and we were in the hope that an equivalent to the "Ladybird" might crop up, and do for Cotton pests what our green-fly exterminator has done in California, and, we learn in some localities here, for the pests infesting the Hop plant. It is interesting to be told that an English botanist, exploring in Guatemala, has discovered an ant with a penchant for weevils, and orders have been sent out for supplies of the exterminator, to be liberated and set to work over the pest-infested area in the Southern States. A concise summary of the imports gives the following figures :-

IMPORTS.	1903.	1904.	Difference.
Articles of food	£	£	£
and drink—duty free	9,057,591	8,878,627	- 178,967
Articles of food & drink—dutiable	8,711,966	9,234,830	+ 522,864
All other Imports	24,145,546	26,666,641	+ 2,521,095

The imports of fruits and vegetables were as follows:-

IMPORTS.	1903.	1904.	Difference.
Fruits, raw-	Cwt.	Cwt.	Cwt.
Apples	85,203	168,018	+ 82,825
Apricots and Peaches	202	34	-168
Bananas bunches	328,525	391,286	+ 62,761
Cherries	8,107	27,772	+29,665
Gooseberries	869	691	-178
Grapes	910	1,133	+ 223
Lemons	76,464	78 785	+2,321
Nuts-Almonds	9,456	8,692	-764
Others used as fruit	67,827	33,784	- 34,043
Oranges	815,489	615 440	-200,049
Pears	2,701	2,142	-559
Strawberries	1 928	2,915	+987
Unenumerated	6,133	6,189	+16
Vegetables, raw-			
Onionsbush.	1,098,231	1,054,250	-43,981
Potatos ewt.	907,910	1 124,669	+ 216 759
Tomatos ,,	83,193	111,519	+ 23,326
Vegetables, raw, un- enumeratedvalue	£50,295	£57,543	+£7,248

There are still trans-Atlantic Apples on the market, and our last communication from the Orient Company related to the arrival of 35,500 cases of antipodean fruits, which quickly crop up in the metropolis, Liverpool, Manchester, Glasgow, &c. The new season's small fruits are now received with welcome. It may here be noted that of the shipping using the Suez Canal for bringing fruit and other foods to market, some 61 per cent. are British, representing over 62 per cent. of the total tonnage engaged. We note, in relation to the items "Wood and Timber," an import last month of £1,785,344, against £1,872,744 for the same period last year, or a decrease of £87,400. The value of the imports for the past five months is £228,775,107, as against £219,260,527 for the

same period last year, or a gain of £9,514,580, and this brings us, in conclusion, to a record of our

EXPORTS

for May, which figures at some £24,332,089, against exactly £24,327,026 for the same period last year, or a gain of £5,063—a trifling sum surely, but it is all that better than adecrease. The figures for the five months are £120,046,897, against £120,250,665 for the corresponding period last year—a decrease of £203,768

PLANT DISEASES, &c .- From the Bureau of Plant Industry of the United States Department of Agriculture, in addition to several reports of which separate mention is made, we have received Bulletins concerning the "Wilt Disease of Tobacco," caused by a fungus (Fusarium). Itenters the plant by the root. All diseased plantsshould be burnt on the ground.—"Fruit-trees-frozen in 1904." Peach-trees and Plums were much injured, but good cultivation and stable. manure, or a complete fertiliser consisting of nitrate of soda, bone-meal, and muriate of potash,... may enable the trees to outgrow the mischief .-"The Work of the Community Demonstration. Farm." An experimental farm worked on cooperative principles .- "The Dry-rot of Potatos," due to Fusarium oxysporium, probably the samefungus that causes the sleepy disease in Tomatos. Strictly hygienic procedures are recommended .-"Modern Rice Culture in the Philippines," in-Spanish and in English (Manila).—"Cultivation of Tobacco," by Clarence W. Dorsey (Manila).
—"The Cocca-nut," by W. L. Lyon (Manila).
"Botanical Work in the Philippines," by Elmer-D. MERRILL (Manila) .- " A History of Botanical Research in the Philippine Islands from 1611 to the Present Day," a very valuable summary, including brief reference to the work of Mosely BURBIDGE, ROLFE, BOXALL, LÖHER, and others. It is only two or three years since the Americans came into undisturbed possession, but it is remarkable to see the evidence of pregaration for the future, both in pure and in applied botany. by the Bureaus of Agriculture, Forestry, and similar institutions.

RESUSCITATION OF AN OLD ABERDEEN SOCIETY.—A number of the old members of the North of Scotland Horticultural and Arboricultural Association held an informal meeting in the King's Rooms, Aberdeen, on Monday evening, 6th inst., for the purpose of taking steps to resuscitate the Association, which has been in abeyance for ten years. There was a goodly muster, and Mr. C. S. France, a past chairman of the Association, presided. After an interchangeof opinion, it was resolved that the Association should be resuscitated, and a small committee was appointed to promote that object, and report to a. meeting three weeks hence. Mr. WILLIAM REID. (of Messrs. Reid & Leys, seedsmen, Aberdeen), was appointed interim secretary. The objects tobe aimed at are the promotion and advancement of the science and practice of horticulture and arboriculture, and for the dissemination of aknowledge of such branches of natural history as were connected therewith; and by exhibitions and the granting of certificates to promote a greater interest in horticulture, both amongst practical gardeners and amateurs.

FAGUS BETULOIDES.—Mr. BARTLETT sends us from Pencarrow Gardens flowering sprays of the Antarctic Beech figured in our columns in September, 1903. The tree is of great interest as forming forests in the Straits of Magellar, about as near to the South Pole as any tree or shrub can venture. It is of bushy, compact habit. The coriaceous deep-green leaves are about \(\frac{3}{4}\)-inch long, on very short stalks, ovate, tapering to both ends, crenate-serrate, and covered with thinly-scattered minute glands. The male flowers are 9—10 mill. long, on short axillary

recurved pinkish-red stalks. Perianth simple, pinkish-green, glandular, campanulate, with a five-lobed limb; lobes rounded. Stamens ten, springing from the base of the perianth with protruding, pink, innate anthers. We have not detected the female flowers. Presumably the flowers are wind-fertilised, though the anthers are quite bright enough to attract insects who have an eye for colour.

DROITWICH EXPERIMENTAL GARDEN. - A copy of the eighth Annual Report contains details of experiments on various methods of pruning, the effects of lime on fruit-trees, the eradication of the finger-and-toe disease, the effects of different kinds of manures, and so forth. A collection of typical fruit-trees is cultivated. Even in 1903 some Apples were produced, such as Beauty of Kent, Ecklinville Seedling, Bramley's Seedling, Cellini, Betty Geeson, Duchess'e Favourite, Lord Grosvenor, Mr. Gladstone, Pott's Seedling, Ringer, Royal Jubilee, Stirling Castle, and Schoolmaster. Mr. UDALE may consider himself lucky-some people last year had not many more Apples than he cites names! Only three varieties of Pears produced fruit-Marie Louise d'Uccle, Beurré Gouhaut, and Fertility. In all 13 lb. were produced, as against 6292 lb. in 1901! We have not space to make further citations, but the Report is so interesting and so instructive that we strongly recommend its perusal by all engaged in similar work. Though the conditions may be different from those which obtain at Droitwich, cultivators elsewhere may derive many valuable hints from Mr. UDALE'S Report, published at the County Express Office, Stourbridge.

PLANT PORTRAITS.

CLIVIA CYRTANTHIFLORA X.—A hybrid between C. nobilis and C. miniata. Garten Flora, May.

CYPRIPEDIUM CHAPMANNI X (= CURTISI X BELLATULUM) AND C. ASHDURTONE.E X (= C. DARDATUM X INSIGNE)—Revue de l'Horticulture Belge, May.
GLADIOLUS "PRINCEPS."—A seedling from cruentus X Childsul, described by M. Ph. de Vilmorin. who at the same time gives a valuable note on the history of the genus, G. princeps has very large flowers of a deep red colour. more or less spotted with white. Revue Horticole, May 1.

THE APIARY.

Sections.—The present time is a very busy one with the bee-keeper. Sections have to be prepared, and placed on the stock or shallow frames, as the case may be. All sections should be carefully made, care being taken to have the hands clean, and each piece of wax should he very caresheets are used in the section, they should be glued, to prevent the comb from bulging out. The better plan would be to purchase sections with grooves to them. The two-way-split top section will be found to be very good this season, selecting only those of the first strate. selecting only those of the first grade.

Supering .- Each hive should have the sectioncrate placed down near it, with a queen-excluder zinc to cover the top bars. The cost of this will be about 7d. per sheet. It prevents the queen getting up into the sections to breed. There will also be much less trouble in taking away the full sections, and a certainty that the queen is helow while you are operating. The top bars should be carefully scraped to allow the excluder to fit down in its place, and the section-crate should be so fitted and packed at each side and end as to prevent any bees getting above or out at the end.
If crates are placed so as to allow space underneath, they will give the bees a good deal of extra work to close the space up, as bees do not like draughts. Number each hive, and enter in a diary the date when each is "supered," how diary the date when each is "supered," how many frames it contains, and the strength of the hive. Water should be kept in the apiary in shallow tins or pans, with small pieces of wood floating to prevent the bees from drowning. Expert.

ORCHID NOTES AND GLEANINGS.

THE COLLECTION AT BURFORD.

Notwithstanding the surprising number of species and varieties of Orchids from widely separated parts of the world which find a home in the famous collection of Sir Trevor Lawrence. Bart., and their varied cultural requirements, the vigorous condition the plants of all classes is admirable. Some of the sections which, not without just cause, have earned for themselves the reputation of being difficult to manage have been satisfactorily brought into subjection. Of these the Phalænopsis are perhaps the most intractable in gardens, but at Burford they grow luxuriantly, the smaller plants occupying one side of the inner compartment of the range in which they have been accommodated for a good many years, and the old specimens the rather shady side of the large span-roofed warmhouse. Here the fine specimens of Phalænopsie Aphrodite and P. amabilis, including the new and very fine variety, Rimestadtiana, are making a fine display of their beautiful, large, white flowers. Some of the specimens have from twelve to fifteen leaves proceeding from the stout stems which bear them high above the surface of the compost in which they are grown. One fine specimen has an enormous spike with ten branches, another has three very fine spikes of flowers, and three and four-branched spikes are frequent. The plants have been in bloom for some time, and most of the strongest are allowed to perfect all their flowers.

With the smaller species of Phalænopsis in the other house, Mr. W. H. White, the orchid grower at Burford, has for some time past been using as a compost one-third decayed leaves, one-third peat, and one-third sphagnum-moss. With this compost he is well satisfied, for the plants have improved on it. Mr. White also uses some proportion of leaves with the compost for most of the Orchids, and he speaks highly of the beneficial effect. In the large span-roofed warmhouse is a very fine lot of specimen Cypripediums, the most remarkable of those in flower being the rare C. Stonei platytænium, with a strong spike of three flowers; beside it is a specimen of the typical C. Stonei, comparison with which shows how remarkable is the variation between the broad-petalled heavily-spotted C. S. platytænium and the type, the petals of which are very narrow and with little surface to display the markings. Overhead on one side is the very complete collection of Cirrhopetalums and Bulbophyllums, some of which are always in flower. Among the most remarkable at present is the feather-lipped Bulbophyllum saltatorium, and the pretty Cirrhopetalum nutans with a profusion of elegant sprays of cream-white flowers. Suspended from the roof on the other side of the house is the collection of Catasetums, which, after resting, have been re-potted and started into growth; and among uncommon plants in flower in this house are Galeandra Devoniana and G. nivalis, the pretty ivory-white Dendrobium × formoso-Lowii, D. × illustre, D. × Euterpe, Oncidium carthaginense roseum, O. pumilum, Schomburgkia tibicinis, and in bud a very singular Vanilla, whose snake-like leafless stems are bearing yellow flowers. In the remarkable collection of Angræcums, two A. filicornu and others were showing for bloom.

In the house adjoining, used in the season for resting Dendrohes, Odontoglossum citrosmum is making a good show of flower; and in the East India-house beyond, Aërides Houlletianum, A. crispum, A. Lobbii, A. Fieldingii, A. odoratum, Saccolabium gemmatum, and others are also in flower. Of Dendrohiums noted are D. Jerdonii and D. suhclausum, with orange-coloured flowers; D. Parishii and its variety albens, D. X rhodopterygium, D. crepidatum, D. transparens,

D. hercoglossum, and others. Odontoglossums, chiefly O. crispum, as in most other Orchid collections, demand increased attention at Burford. For their accommodation a new range was built a few years ago, and it has proved suitable in every way. But the Odontoglossums now in bloom are in the range devoted to them in the main block. Here there is a very fine display of flowers on the sturdy plants, many of which have been grown at Burford for a long time. The flowers are large and well finished, and in the healthy cool atmosphere in which they are grown it is not found necessary to restrict the number of flowers borne on the plants. The large white form, still the favourite with many growers, predominates, though a proportion of them are of the rose-tinted type, and some of these are spotted as in the forms called punctatum. Two very distinct blotched varieties appear, the one a good broad-petalled white with large brownish blotches; and the other a rather smaller flower, but very remarkable for the heavy blotching of brownish-ruby-red which decorates its surface. Each segment bears two or three very large blotches of this bright colour, which is very rare in Odontoglossums.

The Masdevallia-house is aglow with the forms of M. coccinea, M. Veitchiana, and M. ignea, and with many examplee of others of botanical interest, together with some curious Pleurothallis, such as P. astrophora, P. Grobyi, P. ornata, &c. The intermediate house, in which the central stage bears a collection of Sobralias, is always interesting on account of the large number of Epidendrums flowering there at all times. When these notes were taken a good show was made with E. Schomburgkii, E. radicans, E. × Ellisii, E. × dellense, E. × Boundii, E. elongatum, E. ybaguense, and other species, and hybrids of that section; E. glumaccum, E. organense, E. fuscatum, E. Linkianum, E. Endresii, E. × elegantulum, E. umbellatum, and many others. In the same direction we noted a good batch of Miltonia vexillaria in flower, and the rare M. Endresii and M. Schroderiana, Dendrohium cruentum, Cirrhæa viridi-purpusea, a row of fine spikes of Oncidium lenchocilum, one of them having over twenty branches to the spike; a healthy and improving plant of the rare Cypripedium Fairieanum; a row of various hybrids, with Sophronitis grandiflora, the very handsome magenta-rose-coloured Sophro-Cattleya ×Chamberlainiana, and the yellow Sophro-Lælia × Marriottii being in bloom. On one side is a very interesting collection of Epidendrum hybrids, some of which, although at first only considered curious, have become very pretty under cultivation. Among the best are the two Veitchian productions, Epi-Cattleya × matutina, and Epi-Cattleya × Mrs. James O'Brien, both of which are handsome hybrids.

In the Cattleya and Lælia-houses is a good show of flowers. Among the forms of C. Mossiæ, C. M. Goossensiana is heautiful. Of Lælia purpurata varieties the best are L. p. alba, and L. p. Russelliana, both with pure white sepals and petals. The hybrids of Lælia cinnaharina are making a good display, the good forms of L.-c × Hippolyta still being the best. Also in bloom are Brasso - Cattleya x striata, both the white and the rose forms; Lælio-Cattleya × Fascinator, and other showy Lælio-Cattleyas; a grand mass of the fine old Cattleya Skinneri covered with flowers; and among other things noted were Polystachya zambesiaca, P. bracteosa, Dendrobium teretifolium, D. linguæforme, Bollea colestis, Maxillaria Sanderiana with several fine flowers; good Cymbidium tigrinum, a large buth of the evergreen Epidendrum montanum with pretty heads of white flowers; the bright-red Renanthera Imschootiana, and a very large number of pretty species rarely seen except at

Burford. J. O'B.

SOCIETIES.

ROYAL BOTANIC.

HORTICULTURAL EXHIBITION IN REGENT'S PARK.

JUNE 6-11.-A comprehensive Horticultural Exhibition was held by the Society in their gardens at Regent's Park, the show being favoured with typical summer weather. The range of subjects exhibited was wide, embracing most of the branches of horticulture, including not only displays of plants and flowers, such as had been seen at the Temple the week before, but as has been seen at the Temple the week hetore, but also machinery, heating apparatus, garden furniture, mowing machines, horticultural structures, glasshouses, &c. Subjects such as Nature Study, School Gardening, and County Council Horticultural teaching came under the Educational Section, while examples of colonial produce were exhibited under the Colonial Division.

Messrs. Doulton & Co., Lambeth, and Messrs Linerty & Co., Regent Street, W., both contributed artistic pottery-ware, vases, fountains, pedestals, and similar garden furniture; while Messrs. Champion & Co., 115, City Road, E.C., had a number of their artistic tubs and vases, suitable for the cultivation of trees, shrubs & Co. shrubs, &c

Funigating and spraying insecticides, garden tools, syringes, labels, lawn mowers, flower-holders, and other horticultural sundries were to be seen on various other horticultural sundries were to be seen on various stands, each exhibitor claiming some advantage to be derived from the use of his speciality. A large and good collection of Suodries was shown by Messrs. James T. Anderson & Sons, 135. Commercial Street, London, E., consisting of tools, raffia, mats, shadings, &c. An opportunity of great value was afforded one, in the exhibits of heating appliances, to become acquainted with the latest devices for conserving fuel and obtaining the maximum heating power. Messrs. Messenger & Co., 122, Victoria Street, Westminster; Messrs. C. P. Kinnell & Co., 65, Southwark Street, S. E., and other firms contributed to this important section.

Several model glasshouses were displayed outside, tenants' fixtures being a speciality. Mr. W. Duncan Tucker, Lawrence Road, South Tottenham, erected a number of improved plant-houses; and Messrs. J.

TUCKER, Lawrence Road, South Tottenham, erected a number of improved plant houses; and Messrs. J. Chispin & Sons, Nelson Street, Eath, also.

Messrs. Merryweather & Sons, Greenwich Road, London, sent a number of useful appliances, including pumps, spraying-machines, hose, nozzles, &c., their "Noveity" spraying and garded engine being a most useful appliance. A very useful adaptation of the small motor engine for pumping, irrigation, and similar purposes, was shown in their "Haffield" portable engine (see fig. 168). This apparatus is mounted on a light iron carriage, and can be easily moved about. The pump has three barrels, and is driven by a petrol motor capable of delivering 3,000 gallons per hour. It can be utilized for spraying, irrigation, watering crops, water supply to house and irrigation, watering crops, water supply to house and stable, and is also valuable as a fire-engine.

Probably the principal feature of the show was the large display of Rhododendrons belonging to Messre. JOHN WATERER & SONS, Bagshot, Surrey. This collection comprised over 1,000 plants of Rhododendrons, all hardy varieties, and occupying about 10,000 square feet the whole being under one canvas roof. Beds, borders, and groups were shown to the best possible advantage, the plants being in excellent condition, and exhibited a wealth of colour and variety. We could not fail to notice such varieties as Mrs. William Agnew, Mrs. Holford, Mrs. Tom Agnew, Duke of Connaught, and

Mre. Tritton.

Mrs. Tritton.

Messrs. H. Cannell & Sons, Swanley, had a number of succulent plants on a stage in the conservatory. Echinocactus Ottonis was carrying a beautiful yellow flower; Mammillalia Bocasana was also in flower.

Messrs. Carrer & Co., 237, High Holborn, London, filled a large vase with Gloxinias, and set up a pretty circular group at the end of one of the beds in the conservatory, comprised of Astilbe (Spiræa), Cinerarias, and Verbenas, edged with giant Mignoneite and Maidenhair Ferns.

hair Ferns.

Messre. Blackmore & Langdon, Twerton Hill Nur-Messre. Blackmore & Langdon, Twerton Hill Nursery, Bath, filed a table with choice Begonias. The variety Ellen Harper has camellia-shaped, rosy-pink flowers; Miss Dorothy Hardwick is a pleasing fuilled flower with soft salmon colour; Western Queen is a good creamy-white. Mrs. Box, Yellow Queen, W. Sparshott, Hon. Lady Neeld, and J. Milburn are but a few varieties of this most excellent group. A very unique mottled flower with frilled petals was noliced among several other excellent unnamed seedlings.

Messrs. T. Rivers & Son, Sawbridgeworth, had a number of fruit-trees in pots, Peaches, Nectatines, Plums, and Grapes, all well fruited, and with fruit of high quality.

high quality.

Mr. S. Mortimer had some excellent Tomatos, boxes

Messrs. John Peen & Sons, West Norwood, brought Caladiums with bright and pleasingly marked foliage, a group of tuberous-rooting Begonias, and trays of Gloxinia and Streptocarpus flowers.

Messrs, Dorbie & Co., Rothesay, N.B., sent an exten-

Messrs. Dobbie & Co., Rothesay, N.B., sent an extensive collection of choice Aquilegias.

Messrs. Watkins & Simpson, 12, Tavistock Street, Covent Garden, London, had a pleasing collection of hardy annuals. Saponaria vaccaria, Centaurea imperialis alba, Poppies, Lupinus, and other subjects, were looking fresh, and staged with good judgment.

Messrs. W. & J. Brown, Stamford, set up a collection of greenhouse plants, Verbenas, Carnations, Heliotrones &c.

of greenhouse plants, Verbenas, Carnations, Heliotropes, &c.

Mr. M. PRITCHARD, Christchurch, Hants, set up a number of bunches of cut hardy flowers, Lupinus, Poppies, &c. A number of Pyrethrums made a very hright display, the colours being good and flowers large. A fine batch of Campanula glomerata was also noticed in this collection.

Mr. Geo. Prince, Longworth, Beiks, contributed a quantity of cut Roses from the open.

A collection of Sweet Peas was displayed by Mr. Hemsley, 23, Knowles Hill Crescent, Lewisham, the Bruce Flower-holders being utilised for their display.

Messre, Hugh Low & Co., Bush Hill Park Nurseries, Enfield, contributed the only collection of Orchids, having among their group some fine types of Cattleya Mossiæ, Dendrobium Bensonæ, Cypripedium Lawrenceanum, Odontoglossum crispum, and a plant of Cattleya Mossiæ Wagneri carrying four flowers. The same firm also set up a stand of greenhouse plants, insame firm also set up a stand of greenhouse plants, including a large batch of Carnations, and had a number of Figs and Grapes in fruit in pots.

Messrs. WM. PAUL & SON, Waltham Cross, staged a

section. A batch of Oriental Poppies in the centre of the group gave a very striking mass of colour to the whole.

Mr. G. REUTHE, Hardy Plant Nursery, Keston, Kent.

whole.

Mr. G. Reuthe, Hardy Plant Nursery, Keston, Kent, staged alpines and hardy plants, introducing vases of cut flowers. Among the group, Sarracenia purpurea was flowering nicely as was also S. flava and Darlingtonia californica; Crinodendron Hookeri in a small pot was carrying its scarlet flowers on their long peduncles, somewhat resembling ripe Cherries.

Messrs. Barr & Sons, King Street, Covent Garden, set up a large group of hardy, herbaceous, and alpine plants, Pæonies, Irises, Poppies, Liliums, Lupinus, Campanulas, &c. Several trays contained alpines. Gladioli were a fine feature in this exhibit; cut spikes of the Bride, Ackerman, and Blushing Bride, all being admirably displayed in vases. The same firm occupied a tent on the lawn to display a collection of Japanese pigmy trees.

Messrs. Wm. Cuthush & Son, Highgate, London, N., staged a very fine bank of hardy herbaceous and alpine plants. This was prettily arranged in three bays, the centre of Liliums and suitable foliage plants, the wings being composed of Eremurus at the back, with other members sloping towards the edges. A pure white form of Cypripedium parviforum was noticed. The same firm also set up a very artistic group in the centre of a large tent reproducing on a large Scale The same firm also set up a very artistic group in the centre of a large tent, reproducing on a large scale what one might expect to find as a table decoration.

Messrs. J. Cheal & Sons, Crawley, staged vases of hardy herbaceous flowers, and a miniature rock-garden

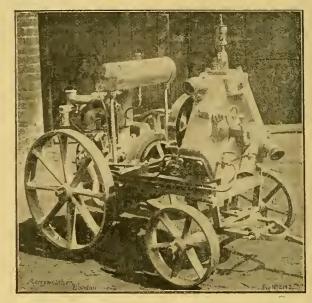


Fig. 168.—Messrs, Merryweathers' "hatfield" PORTABLE ENGINE.

very extensive group of Roses occupying the centre of one of the marquees. Bush and standard plants were plentifully filled with choice flowers, most of the handplentifully filled with choice flowers, most of the handsomer varieties being included. The Rambler type of
Rosee was well shown, the long sprays were filled with
clusters of flowers, and were much admired. Waitham
Rambler was carrying a profusion of its pretty pink
single flowers; Baroness Rothschild, Caroline Testout,
Madame Edmée Metz, Boadicea, and Pharicaer were
all in first-class condition.

Messrs. R. Smith & Co., Worcester, set up a collection of Clematis at the end of one of the marquees, relieved with Crimson Rambler Rose, standard Viburnum plicatum, and Japanese Maples worked in for effect. The Clematis were shown in good condition, the plants well grown and trained, and plentifully flowered. Marie Lefebvre is of light heliotrope colour; Gladiolus, Iriscs, and Liliums were also shown by the same firm.

Mr. R. Anker, Addison Road Nursery, Kensington, Mr. R. Anter, Addition for the Succulents, greenhouses, "good-luck Shamrock," &c. Several plants of "Edelweiss" were shown in good condition. Some China pigs had germinating grass on their backs which served as a substitute for hair, which presented a very

as a substitute for hair, which presented a very grotesque appearance.

A large collection of hardy plants was staged by Messre. T. S. Warre, Ltd., Feitham, Middlesex. The group contained many excellent members of this pleasing section, and among other meritorious plants we noticed Sarracenia flava major (doing well in a large pan), Ostrowskia magnifica, Eremurus Elwesianus (fine spike), Chamelirium carolinianum, &c.

Mr. Amos Perry, Winchmore Hill, London, N., staged a lengthy table with hardy and alpine plants, contributing many choice flowering plants in this

contributing many choice flowering plants in this

planted in a natural style. Lychnis Viscaria splendens

planted in a natural style. Lychnis Viscaria splendens flore-pieno was noticed, its double flery-rose flowers being very showy.

Mr. W. J. GODFHEY, Exmouth, Devon, set up a collection of zonal and show Pelargoniums. Lady Roscoe (light pink), President McKinley (large handsome scarlet), and Lord Curzon were noticed among the zonals. Loveliress, a show variety, is as its name indicates; Geo. Gordon is also a fine variety of this section. This firm also exhibited Oriental Poppies.

Messrs. John Laino & Sons, Forest Hill, staged a group of hardy decorative foliage plants, Maples, Ivies, Cornus, Euconymus latifolius aureus, Eleagnus aureo-variegatus, Rctioospora pisifera aurea, &c.

Under the section "Colonial Department" was a number of fresh, bottied, canned, and dried fruits, and other products indicative of the wealth and capabilities of the respective colonies exhibiting.

THE DINNER.

THE DINNER.

A dinner was given on Salurday evening, June 4, in the Club-rooms at the Gardens. Mr. C. Brinsley Marlay presided, and among others present were Lord Redesdale. Sir John Cockburn, Sir Henry Trueman Wood, and Mr. Frederick Clifford, K.C. Dr. Coode Adams proposed "The Presidents of the Sections of the Exhibition," to which Lord Redesdale responded. Lord Redesdale proposed "Success to the Royal Botanic Society and to the Exhibition." Mr. Brinsley Marlay, who is a Vice-President of the Society and Chairman of the Executive Committee of the Exhibition, responded to the toast. responded to the toast.

THE CONFERENCE.

In connection with the exhibition an Educational Section was constituted, with Sir William Collins as President, and Mr. R. Hedger Wallace as Honorary

Secretary. In addition to a very representative collection of exhibits illustrative of Nature-study, a Conference was arranged, which occupied the whole of Tuesday, June 7. Several of the papers and addresses dealt with horticultural teaching and the subject of allotments. Mr. F. W. Verney, L.C.C., dwelt upon the preparation for work on small holdings, and he outlined a Scheme of teaching in the dispersion scheme for teaching in the dispersion scheme. lined a scheme of teaching in the elementary schools which should provide a proper training for such pursuits.

Sir George Kekewich urged the claims of outdoor Nature-study, and in the discussion which followed all his suggestions were cordially endorsed, with the exception of one, which was that animals should never be studied in captivity. Many speakers objected never be studied in captivity. Many speakers objected to this, and urged that the keeping of creatures might well serve as a basis for many lessons in kindness. Miss Lilian Clark, B.So, gave an account of direct teaching from Nature at James Allen's School, Dulwich; and in the afternoon Mr. Weathers, of the Middlesex County Council, discussed the question "What is Horticulture?" and spoke of the methods of teaching horticulture, and the requirements of allotment-holders. Earl Carrington followed with an account of his allotment schemes, and their success. account of his allotment schemes, and their success from the point of view both of landlord and tenant. Iron the point of view both of landlord and tenant. Mr. R. Cesar considered the question of school gardens, and horticultural tesching in schools. The last paper was by Miss Violet James, of Heidelberg College, Ealing, who, in dealing with Nature-study, showed how by keeping creatures indoors, in addition to outdoor work, her pupils acquired a keen interest in living things and a respect for life. things and a respect for life.

Awards.

Awards.

Special Large Gold Medal, Messrs. John Waterer & Son, for Rhododendrons. Gold Medals to Messrs. William Paul & Son, Waltham Cross, for Roses in pots; Messrs. Hugh Low & Co., Enfield, for Orchids, Carnations, &c.; Messrs. Thomas Rivers & Son, Sawbridgeworth, for Fruit-trees in pots; Messrs. John Laing & Sons, Forest Hill, S.E., for Begonias, and Choice hardy plants. Fruit-trees in pots; Messrs. John Laing & Sons, Forest Hill, S.E., for Begonias and choice hardy plants; Messrs. William Cutbush & Sons, for Carnations, Herbaceous, and other plants; Searcy Tansley & Co., Connaught Street, W., for decorated dinner-table; Messrs. Douiton & Co., Lid., Lambeth, for terra-cotta and Doulton vases; Messrs. Ransomes, Sims & Jefferies, Ltd., Ipswich, for motor and other Lawn-mowers; Messrs. Liberty, & Co., Regent Street, for noticery, ware. Messrs. Liberty & Co., Regent Street, for pottery-ware; Messrs. Liberty & Co., Regent Street, for pottery-ware; Messrs. Merryweather & Sons, Ltd., Hatfield (Greenwich Road, S.E.), for spraying, pumping, and other machines; Mr. J. W. Riley, Herne Hill, S.E., for rustic summer-houses, arches, vases, &c.,; Mr. W. Duncan summer-houses, arches, vases, &c.,; Mr. W. Duncan Tucker, South Tottenham, N., for conservatory, green-houses, &c.; Messrs. Charles P. Kinnell & Co., South-wark Street, for Boifers, and other heating apparatus.

In addition to these there were awarded six large Silver-git Medals, seven Silver-git Medals, seven Silver-git Medals, three Silver Medals, three Bronze Medals, seven Certificates of Merit, five Voles of Thanks, besides various large Medals in the Colonial

DUTCH HORTICULTURAL AND BOTANICAL.

THE Floral Committee met on May 18, 1901, and made awards, including those following:-

A First-class Certificate to Cottago Tnlip "The Fawn," from Messrs. Roes & Goemans, at Vogelenzang. The flowers are long and egg-shaped, a rosy-fawn colour, turning to blush-rose, flushed with white.

Certificates of Merit were awarded to Malva capensis.

Certificates of Merit were awarded to Maiva capensis. a plant for the cold greenhouse, from Mesers, Joh. VAN DEN BERG & SON, at Amsterdam; flowers pink, Cattleya Mossiæ, var. Apgelus, from Mr. J. G. BALLEGO, of Leiden; flowers nearly white, with soft lilac. Winter-flowering Slock "Empress Elisabeth," from Messrs. VAN NAMEN BROTHERE, at Zevijndrecht; flowers carming, rosq., a vary fine flower. Cottage. Tulip "Inglescombe Scarlet," flowers carmine-rose—a very fine flower. Cottage Tulip "Inglescombe Scarlet," flowers deep scarlet, with black eye; and to Cottage Tulip "Moonlight," flowers sulphur-coloured, from Messrs. Roes & GOEMANS, at Vogelenzang. Cottage Tulip "Golden Cohlet" a new imported plant from Mr. P. W. Vogelenzang. GOEMANS, at Vogelenzang. Cottage Tulip "Golden Goblet" (a new imported plant), from Mr. P. W. VOET,

at Overveen, near Haarlem.

A Botanical Certificate was awarded to Arenaria [?] purpurascens, flowers rose coloured, a fine creeper; and to Haberlea rhodopensis, flowers lilac, both from Mr.

H. D. WILLINK VAN COLEEN, at Brenkeleo.

A Silver-gilt Medal was awarded for a collection of cut flowers of Rhododendron arboreum hybrida, in twenty-five varieties, from Mr. C. TRETS, at Boskoop; and a Silver Medal for a collection from Messrs. P VAN NOORDT & SONS, at Boskoop.

AGRICULTURAL SEED TRADE ASSOCIATION.

MAY 30.—The annual dinner of the above association was held at the Holborn Restaurant on the above date, under the presidency of JOHN HARVEY, Esq., Nonington. The Chairman proposed the toast of continued "Success to the Agricultural Seed Trade Association, and in the course of a very able speech, remarked that the number of arbitrations during the past few years had been very few, which he thought spoke volumes for the Association He also hoped that all those pre-sent would do their best to increase the membership. He was further glad to find the Association was not in

debt. He also suggested that a uniformity of weights and measures would be beneficial in this country.

Mr. Edward Sherwood proposed "Success to Agriculture." In the course of his remarks he wished that something could now be done to utilise large areas of arable land in this country lying dormant.

Mr. H. LE MAY proposed the Secretary's health (Mr.

DAVID ALLESTER), which was received with acclamatiou.

GARDENERS' DEBATING SOCIETIES.

SHIRLEY (SOUTHAMPTON) GARDENERS' .usual monthly meeting on Monday, May 16 Mr. David Cleary lectured on "The Life History of Worms and their Influence on the Soil."

CROYDON AND DISTRICT HORTICULTURAL.—
"Selaginellas" was the subject of a paper read recently
before the members of this Society by Mr. A. Osborn,
Royal Gardens, Kew. These highly decorative plants,
he said, had been somewhat neglected of late years. The propagation of these plants by spores was not often adopted, the principal methods of increase being by adopted, the principal methods of increase being by division and cuttings. The soil should be light and rich, consisting of loam, leaf-soil, eifted peat and sand, good drainage being essential. The almosphere around them should be kept humid, and great care must be exercised in watering, especially through the

READING AND DISTRICT GARDENERS'. - The last meeting of the 1903-04 session of the above Associa-tion was held in the Club-room, over 100 members being present. The President (Mr. Leonard Sutton) presided. The subject arranged for the evening was "The Decoration of Vases with Flowers," and Mr. J. T. Powell gave a practical demonstration in this popular section of floral art. In his remarks he pointed out that if gardeners would take up this subject more fully, and make themselves competent in this branch of the profession, a great saving of flowers would be the result. Various examples were given and sugges-tions made with Bougainvilleas, Narcissi, Arums, Tulips, Schizanthus, double-flowered Almond, Mag-nolias, Wild Cherry, Violets, Primroses, &c During the evening the prizes awarded in the essay com-petition, "The Carnation and its Culture," were dis-tributed. The winners, over 25 years of age, were lst, Mr W. Turnham, Culham Court Gardens, Henicy-1st, Mr W. Turnham, Culham Court Gardens, Henlcyon-Thames; 2nd and 3rd, equal, Mr. T. Judd, The
Gardens, Hatchgate, Reading, and Mr. J. R. Taylor,
Bracknell. Under 25 years of age, 1st, Mr. H. Wynn,
The Gardens, Cressingham, Reading; 2ud, Mr. W. J.
Hicks, The Gardens, Bear Wood; 3rd, Mr. W. G. Wadge,
The Gardens, Eaton Hall, Chester. Mr. Jas. Douglas,
V.M.H., Edenside, Great Bookham, kindly judged the
papers in the senior division, and Mr. Chas. Blick,
The Warren, Hayes Common, those in the junior
division.

BRISTOL AND DISTRICT GARDENERS' .- The opening meeting of the summer session was held on Thursday, May 26, Mr. P. Garnish occupying the chair. The evening was devoted to essays dealing with a review of the work of the Society during the past twelve months, for which prizes were offered by Messrs. Parker & Son, of Queen's Road. There were three competitors, each reviewing the work of the Society in masterly way, and on a vote being taken Mr. W. Ellis Groves was awarded 1st prize.

WARE HORTICULTURAL .- The monthly meeting was held on Tuesday, May 24, when Mr. F. Noyce, head gardener at Presdales, read a paper on "Carnations." He described his own practice with Souvenir de la Malmaison Carnations, mentioning the best time of layering and the most suitable compost to grow them in, also their general requirements and the enemies to be guarded against. He explained his method of growing Tree and Border Carnations from seed and pipings. Mr. Phillips remarked that he had seen the Carnations at Presdales, which were in the best of An exquisite vase of mixed Carnations was exhibited on the table by Mr. Noyce.

SCHEDULES RECEIVED.

IPSWICH AND EAST OF ENGLAND HORICULTURAL SOCIETY'S summer exhibition, on Wednesday, July 6, 1904; and Chrysanthemum show on Tuesday and Wednesday, November 8 and 9, 1904. Secretary, Mr. H. E. Archer, 13, Museum Street, Ipswich.

ELTHAM ROSE AND HORTICULTURAL ASSOCIATION'S exhibition, to be held at The Moat, Eltham, on Thursday, July 14, 1904.

CARNEGIE DUNFERMLINE TRUST -The first summer show is arranged by the Trustees to take place on Thursday and Friday, July 21 and 22, 1904, in the Pittencries Park, Dunfermline.

NOTTINGHAMSHIRE HORTICULTURAL AND BOTANICAL Society's fannual exhibition to be held in the Ar-

boretum Grounds, Nottingham, on Wednesday and Thursday, July 13 at d 14, 1904. Hon. Sec. Mr. C. J. Mee, 29, Long Row, Nottingham.

ANCIENT SOCIETY OF YORK FLORISTS' Dahlia Show and Floral Fête on Thursday, September 8, in the Exhibition, York.

HANDSWORTH HORTICULTURAL, - More than half a entury ago the Handsworth and Lozells Fioricultural Society was a very flourishing institution, holding a series of exhibitions each year, at which florists series of exhibitions each year, at which horists flowers in particular were largely exhibited; and one of the principal exhibitors was Mr. John Willmore, a gentleman of means, who cultivated Orchids, Ericae, and many stove and greenhouse subjects, and after whom Erica Willmoreana was named. The Handsand many stove and greenhouse subjects, and alter whom Erica Willmoreana was named. The Handsworth Horticultural Society was formed in 1885 to take up the work of the older society, and now holds its exhibitions in the Victoris Park, in July. The schedule of prizes for July 22 and 23 contains 147 classes, and almost every aspect of practical horticulture has provision made for it. The secretary is Mr. John Edwards, 24, Stafford Road, Handsworth.

CREWE MEMORIAL COTTAGE HOSPITAL EXHIBITION. A horticultural exhibition will be held in the Queen's Park, Crewe, on August 6, in aid of the funds of the Cottage Hospital.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY'S SHOW, to be held on Wednesday and Thursday, July 27 and 28, 1904, in the Sophia Gardens, Cardiff.

CAMBRAI HORTICULTURAL EXHIBITION, from July 24 to 23, 1904, at Cambrai, France.

FOREIGN CORRESPONDENCE.

VITIS INDICA.

This species has stood another winter in the open with me. The specimen is now about half a foot high, and is making new shoots. Minimum temperature this winter 14° Fahr. (18° of frost). In a cold frame another specimen is now about 11 foot high, with many new shoots.

CÆSALPINIA SAPPAN.

This Brazilian plant has wintered with me in a cold frame, with minimum temperature of 30°, and a temperature of 32° for many weeks. It was very fresh and vigorous when taken out of the frame in March.

THAPSIA GARGANICA.

This plant is now flowering in my garden with a flower-stalk of nearly 2.50 m., and a circumference of the lower leaves of 450 m. The wild plant reaches only 30 cm., as I have seen from dried specimens from Algiers. With its enormous leaves it is now a beautiful plant. M. Buysman, Middelburg, Holland, June 1.

ENQUIRY.

SHELL LIME. - Does any reader know of shelllime as a commercial product in this country? I should like to know where it can be procured. In the American Agriculturist, May 21, 1904, Mr. C. J. Allen (their best known writer on Cabbage-growing, I believe) speaks of the inattention paid by many of their chief growers to the idea that club-root is to be feared from the constant growing of Cabbage on the same ground. They attribute their immunity to the habit of putting a handful of shell-lime round each plant and left on the surface till the first hoeing. Mr. Allen is disposed to attribute club-root to the prevalence of potash, and finds it especially in wet seasons, which will have rendered the potash more soluble. On a piece of ground at his trialgrounds, Long Island, heaps of rnbbish at intervals had been burnt, leaving much ash; below these, Brassicas (planted over the whole piece) were infested with club-root, the spaces between entirely free. J. D.

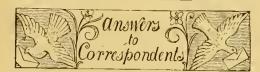
Obituary.

VISCOUNT POWERSCOURT.—It is with great regret we have received the news of the death of Lord Powerscourt, on June 5. Lord Powerscourt took a keen interest in all matters connected with horticulture and arboriculture, and was amongst the oldest of our correspondents. His very interesting garden at Powerscourt, Co. Wicklow, has been described on many occasions in these pages.

CHRISTOPHER BOLLAND POWELL.—On Tucsday, May 31, at the age of seventy-four, there passed away, at his residence, The Old Hall, Southborough, Tunbridge Wells, C. B. Powell, who in his younger days lived at Drogheda, Ireland; later at Bury St. Edmunds, and for the last twenty-four years in the district in which he died, and in the conduct of whose local affairs he had taken a great interest. He was a Director of the Baltic Sawmills, and a busy man of commerce, whose main pleasure was in his garden (which has been often noted in our columns), and in horticulture generally.

The late Mr. Powell was specially fond of bulbous plants and Orchids. The former class, when at Bury St. Edmunds, he enriched by raising Crinum × Powelli, which has proved one of the most stately of hardy bulbs. Later he raised other hybrid Crinums of less importance, but which have not got generally into cultivation. In hybridising Liliums, the late Mr. Powell was very successful; the Gladiolus of the Lemoinei strain he worked up independently of the original stock; Nerines, Hippeastrums, tuberous Begonias, &c., were also great favourites.

THOS. DUNN-BIRCH.—The death has occurred of Mr. Dunn-Birch, for thirty-seven years gardener to Mrs. H. L. Jones, of Elmsall Lodge, near Pontefract. He was a successful cultivator of Chrysanthemums, and won several prizes in the leading shows in the district. Deceased was interred at St. Mary's Church, Badsworth, on Monday, May 30, when many of his gardening friends attended.



ASH INJURED BY INSECTS: Frazinus. The shoots have been injured by the caterpillars of the Ash-tree moth (Prays curtisellus). The only practical means of checking the pest is to cut off the injured shoots; but as the insects are now nearly all hatched, this treatment will only meet with partial success.

Asparaous: W. P. The plants are attacked by Cercospora asparagi, a parasitic fungus. As the disease is so general with you, the safest plun would be to remove and hurn all the stock, and start again in another piece of ground. Any attempt at a cure would only result in loss of time, as the fungus is so very destructive where it has once gained a good hold.

Basic Slag: J. Y. Fifteen to twenty cwts. per acre, or 6 to 8 oz. per square yard.

Books: C. Get Bailey on Plant Breeding, to be had from our Publisher. The papers you require are Revue Horticole, Le Jardin, Müller's Deutsche Gürtner Zeilung, Die Garten Welt.—W. B. We do not know of any available book on the subjects.

CARNATIONS: Stenne B. Uredo dianthi; burn the plants and syringe the healthy ones with ½-oz. of liver-of-sulphur to one gallon of water.

CATERPILLAR: R. P. The insect sent is the larva of the large angle shades moth, Phlogophora meticulosa. It has not hitherto been recorded as injurious to fruit-trees, its usual food plants being varieties of herbaceous plants, and it sometimes attacks the Tomato when cultivated outside. It is highly probable that other

species of caterpillars are also infesting the trees. If the trees are small you could mateterially lessen the pests by shaking the branches over a sheet or tarpaulin. If large ones, then apply Paris-green (Poison) at the rate of 2 oz. to 40 galls, of water, taking care not to do so when the fruit is near the ripening stage.

Figs: A Weekly Reader. As your tree produces fruits each year, it is impossible for us to say why they should always fall before reaching maturity. One thing only is certain—the tree is checked by some cause, probably by incidence of the weather, or may be by disease. Send some of the fruits to this office for examination.

—H. C. P. Why address the Publisher on such a matter? The Figs are affected with a fungus, Cercospora Bolleana, often described and figured in the Gardeners' Chronicle. See specially July 7, 1900.

FRENCH GERANIUM: M. B. We do not know what plant is intended. As a popular name it is almost certain to be incorrect.

Gardeners' Club: W. T. C. The address of the Secretary (W. Collins) of the United Horticultural Benefit and Provident Society is 9, Martindale Road, Balham. We know of no other "club" of the kind you mean exclusively for gardeners. The gardening charities, including the Gardeners' Royal Benevolent Institution and Ryal Gardeners' Orphan Fund, are of a different character, insomuch as they are charities rather than self-help societies, although the principles of self-help are encouraged by each of them to the extent that subscribers to the fund have a much better chance of benefiting therefrom than have non-subscribers. At the same time, candidates for pensions have to submit themselves for election. The new British Gardeners' Association, instituted at a meeting held last week on June 1, may also be regarded as a gardeners' club.

LARUENUM: W. H. W. Cytisus Adami is a graft hybrid, and plants frequently revert to the common Laburnum (see note on p. 371).

Liquid-Manure Distributor: J. D. We do not know such a machine as you require. Apply to a horticultural sundriesman, who may be able to recommend one. In any case, if liquid-manure be so used it would require to be quite clear and free from any particles likely to choke the machine.

Melon: E. J. C. The Melon plant was quite decayed when it arrived. The Anemone leaves are attacked by a fungus—Æcidium punctatum. Destroy all diseased plants, as when once attacked they never bloom afterwards, and are certain to spread the disease.—H. J. W. The injury is caused by a mite. The use of XL-All or other insecticide will put the matter right.

NAME OF CATEBPILLARS: J. P. C. Five of the Caterpillars are those of the winter moth (Cheimatobia brumata); the others are those of a species of Tortrix. The former may be easily recognised by the loop-shaped attitude when walking, and also by the white stripes on the side of the body.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—Miss M. Oakfield. Cytisus scoparius var. Andreanus.—C. L. W. Daphne pontica.—G. S. L. 1, Saxifraga Camposii (syn. Wallacei); 2, S. aizoon; 3, Saponaria ocymoides; 4, Saxifraga Tayzetts; 5, Veronica gentianoides variegata; 6, Saxifraga Guthrieana.—Southwick. 1, Saxifraga cæspitosa; 2, S. hypnoides elegans; 3, S. Whitlavii; 4, Gypsophila repens; 5, G. prostrata; 6, Achillea umbellata, so far as we can judge by the specimen received.—Kentish. 1, Fraxinus Ornus; 2, Spiræa Bumalda; 3, Cornus ssnguinea; 4, Gaultheria Shallon; 5, Pyrus Aria; 6, Thuya dolabrata, variegated form.—W. T. 1, Geranium pratense; 2, Mespilus germanica.—Medic. 1, Cut-leaved Beech; 2, send when in bloom; 3, Epilobium angustifolium; 4, Papaver orientale; 5, Hemerocallis flava; 6. Iria pseudo-acorus.—A. M. 1, the double form of Saxifraga granulata; 2, Iris sibirica; 3, Streptosolen Jamesoni; 4, Limnanthes Douglasi.—G. W. W. 1, Euphorbia

splendens; 2, Nerium oleander (white form)
3, an Ash. We cannot tell which species without better material; 4, Cassia corymbosa.—
A. B. Y. Z. 1, Anguloa uniflora; 2, Cypripedium exul.—H. P., Cardiff. 1, Muscari comosum; 2, Maurandia erubescens, generally called Lophospermum scandens in gardens.—
T. H. 1, Arundinaria Simoni; 2. Anthericum lineare variegatum. Your Black Currants are affected with "hig bud," caused by mites. You do not read your Gardeners' Chronicle, or you would know how common this is. Destroy all the affected bushes; pare off the top soil and burn it also.—H. G. P. 1, Thuya orientalis var. filifera; 2, Cephalotaxus pedunculata; 3, Abies concolor (lasiocarpa of some gardens); 4, Arbutus procera; 5, Magnolia Soulangeana; 6, M. acuminata.—T. T. 1, Brassia verrucosa; 2, Pyrus torminalis.—J. K. Epidendrum selligerum.—R. N. H. Dendrobium aduncum.—X. Y. Z. Brassavola grandiflora.—R. S. Helianthemum (rock Rose); 2, Symphytum officinale.—A. P. All hybrids of Pelargonium peltatum. We cannot give their distinguishing names.—M. S. 1, Cattleya Rex; 2, C. intermedia; 3, Odontoglossum luteo-purpureum sceptrum.—E. B. 1, Nepeta violacea; 2, Berberis Wallichiana.—E. H. Omphalodes linifolia.—H. W. D. Eriobotrya japonica—the Loquat.—E. B. Iris graminea.—G. H. H. 1, 4, and 6 appear to be all forms of the common Spruce, Picea excelsa; No. 5 is perhaps P. Alcockiana, but without cones; and with no indication of the native country, it is impossible to name the species of Picea from small twigs; 2, Ulmus montana; 3, Fraxinus ornus, flowering Ash.

Peaches, &c.: G. F. T. The Peaches are subject to Peach-mildew, for which apply flowers-ofsulphur. The swelling on the Rose is probably due in the first instance to frost, then comes fungus, &c.

Peach Trees: Constant Reader. It is much too late to prune young trees now other than the pruning understood by dishudding and the pinching back of young shoots not required for making the foundation of tree. Before the trees commenced to grow you should have cut back a little any long unripened growths there may have been, but as shoots often die back after a tree has been transplanted, and a good supply of wood is an advantage, the knife should not be used too freely.

Pears: J. B. The pears are attacked by a grub, probably of the Codlin moth; see Gardeners' Chronicle for May 14, p. 312.

Pelarconiums: A. W. There is no apparent disease in the plants, but too much manure may have been afforded them. The plants will probably flower satisfactorily presently.

PROLIFEROUS ROSES: J. C. W. Very common.

The balance of growth has been upset by some cause, the nature of which we do not know.

Instead of coming to an end, as it usually does when the flower is formed, renewed growth takes place in the centre of the flower.

RHODODENDRON VEITCHIANUM: J. B. D. The flowers have frilled margins.

Tomatos: J. W. B. D. The plants sent are badly attacked by Tomato leaf-rust (Cladosporium fulvum). Spraying with diluted potassium sulphide or with Bordeaux-mixture will check the spread. As the disease is oldstanding, the building should be thoroughly drenched with carbolic acid during the winter, and the soil should be aterilised with gas-lime.

Tulips: P. F. J. The bulbs were probably not fully ripened last autumn. They are quite healthy, and will very likely flower next year.

VINES: D. K. and W. S. F. Attacked by Botrytis cinerea—explained in last week's issue.

COMMUNICATIONS RECEIVED.—J. Simpson.—W. M.—Sir D. Morris, Barbados.—T. D. B.—J. W. McH.—Louis Gentil—A Waterer—C. G. Van T., Haarlem—R. D.—R. B. Tilley—A Weekly Reader.—The Edenton Transcript, S. Carolina.—R. D.—W. L. Bastin.—E. J. R.—D. W. R.—Universily College, Reading.—R. L. C.—A. H.—F. W. B.—W. W.—Lady B.—T. S. & Co.—W. S.—W. C. W.—M. L.—A. L.—Regular Subscriber.—H. C.—W. H. Young.—J. R. P. & S.—W. H, Divers.—M. C (Photograph)—W. H.



SCUTELLARIA VENTENATII: COLOUR OF FLOWERS BRILLIANT SCARLET. EXHIBITED BY MR. BENNETT POË AT THE ROYAL HORTICULTURAL SOCIETY'S MEETING ON MAY 3.



Gardeners' Chronicle

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THE PHILOSOPHY OF HOEING.

Vlew in the rockery at Totley Hall, Sheffield

A HOE, says Webster, is an instrument for loosening or arranging the earth about plants; and the same authority adds that the word comes to us from the French. Whether the tool itself was introduced by our Gallic friends, thus constituting another of the many refinements of civilisation which we owe to them, is a question to be left to others. Our position is that the hoe is among the most important of the weapons the gardener uses in his combat with the hosts of forces that sometimes seem to rise up against him.

The effects of hocing fall under three main heads: air is introduced, the movement of water is modified, and the soil particles are broken up. Each of these means more than is evident at a first glance, and a little consideration may profitably be given to the subject.

In studying the first of these effects, the introduction of air, we start from the fact that hoeing alters the air capacity of the soil in much the same way as working a concertina changes the capacity of its bellows. When the particles are pushed closer together, air is expelled; when they are separated, fresh air is drawn in. Experiments made with sand have shown that

the volumes of air brought into play are very considerable, and much greater than would à priori be expected. Nor is the benefit confined to the layer of soil actually stirred; the soil for some distance beneath participates, and aëration proceeds to an appreciable depth. The air in unstirred soil, even near to the surface, is very impure, containing fifty or a hundred times as much carbonic acid as ordinary air. With constant change there comes a great improvement.

It is not necessary to insist on the vital importance of fresh air to every part of the plant. Every gardener learns it by observation or by sad experience, and it becomes the corner-stone of his gardening doctrines. But the help of his invisible friends among the soil-bacteria depends, if anything, to an even greater extent on an adequate supply of oxygen. Some of these minute organisms, so small that millions of them could comfortably be placed on a penny-piece, vigorously break down the organic matter which would otherwise tend to accumulate and make the soil unfit for plant growth. Others change the nitrogen compounds from forms more or less useless to plants into nitrates, bodies readily capable of assimilation. Others, again, perform a feat which chemists are now trying to emulate, and convert free nitrogen from the air itself into nitrates. These wonderful helpers require no special assistance, and the gardener merely has to follow the advice given by the famous city councillor on gondolas for the Park lake: "Don't buy a dozen; buy two, and let them breed." He is even spared the expense of "buying two," for they occur in nearly all soils, and propagate rapidly under favourable conditions. Air, moisture, and proper temperature are all necessary, and the happy combination is brought about by frequent hoeing.

The formation of nitrates involves the addition of oxygen to nitrogen, or a nitrogen compound. If hoeing be neglected, the supply of air is diminished, and bacteria are not only prevented from making more nitrates, but some of them may finally, in extreme cases, even be driven to obtain the oxygen they need from the nitrates already built up. All their useful work is destroyed, just as the utility of a hive of bees vanishes if the bees live on the honey they have accumulated. Their good offices, in fact, depend completely on the quantity of air they receive.

Quite apart from bacterial action, chemical changes requiring oxygen, and apparently sunlight, go on in the soil. Experiments are still being made on the subject, but it would seem from all that is known at present that oxidation plays an important part in keeping up the fertility of the soil.

Another of the three main classes to which the effect of heeing may be referred, is the alteration in the movement of water in the soil. Water rises to the surface from the water-level in the same way and in virtue of the same forces as oil rises in the wick of a lamp. Compacting the soil, up to a certain extent, facilitates this rise, loosening the soil checks it. The part of the soil most under the action of the hoe is therefore cut off from its source of supply, and rapidly loses water. A dry layer is thus formed which has only a very limited power of drawing water from the moister part

below, but which protects this part from the drying action of wind and sun. Hoeing thus conserves the water in the soil; and the importance of this is evident when we bear in mind the fact, not always fully realised, that the rainfall in many parts of England is not sufficient for the production of maximum crops. On soils which are not too heavy it is good practice to have recourse both to the consolidating and loosening effects-to have the soil firm below in order to secure a constant supply of water to the root, and loose for the top inch or so to furnish a sufficient protection. I find the Sproughton-hoe, besides being a valuable time-saver, very efficient in this respect. Used on a well-cultivated soil, it brings about the necessary compacting beneath, whilst thoroughly stirring the surface soil. These are essentially the conditions required for Roses, and the Sproughton-hoe is of course par excellence the tool for them. Raspberries and other plants with delicate, shallow roots require the same conditions.

The temperature of the soil is regulated more by the water it contains than by any other factor, except, of course, the sun. Water takes up about five times as much heat in getting warm as an equal weight of soil, and the best way of warming a soil is to dry it. This explains why seed-beds have to be so carefully prepared for small seeds like Onions; the preliminary stirring and breaking up into fine particles dries, and so warms, the soil. But the seed must have water, and the bed has to be stamped or rolled to draw the water up. The gardener's instinct is wanted to decide exactly how far these two processes must go, and not unusually cottage gardeners judge a man by his Onion-bed. It is a common belief that hoeing lets the warm air in, and so warms the soil; but this is only true to a very limited degree. The correct explanation is that the air dries the soil, and a day's sunshine heats dry soil much more than it does wet soil.

The greatest loss of heat, however, is brought about by the evaporation of water from the soil, and the pernicious effects of ground draughts are largely due to this cause. The mulch obtained by hoeing is an excellent protector, and further helps to keep the well-hoed soil warm.

A further effect of hoeing is to improve the mechanical condition of the soil. After a shower of rain, the clods can readily be broken, and if the surface is kept well worked they do not reform. Only in this way can "steely" land be dealt with and made to give a good tilth. As the soil particles become smaller their total surface increases, and a two-fold improvement sets in—the water capacity and the power of retaining soluble manures both increase. Water and soluble salts are alike retained at the surface of the soil particles. If, on the other hand, the soil is already so fine that water will not readily pass through (as in the case of clay), the structure becomes coarser.

We may, in conclusion, consider the effect of hoeing at different seasons of the year.

In early spring the surface soil is disconnected from the moist soil below, air is introduced, and the top layer dries. It is now more readily warmed, and becomes suitable for seeds. The drying effect must

for a time be counteracted by rolling to secure a continuous supply of water for the seedling.

Later on, when growth starts, further effects come into play. Not only is the temperature of the soil raised for the two reasons already mentioned, but the air necessary for the young roots is driven in, and their development thus facilitated. Water is conserved, and the store available for the plant increases. The action of bacteria is promoted, and the continual breaking up of the soil increases the power to hold water and plant food, and prevents the latter from being washed away by heavy rains. All the causes co-operate to produce vigorous growth. In one part of my garden I had two small plots of Rose-bushes similarly situated and in very similar condition. Throughout May one lot was hoed every second day, the other every ten days. There is now a considerable difference between them, the first lot being larger and more vigorous than the second.

The active formation of nitrates brought about by frequent hoeing may in fact tend to give too great a vegetative growth and retard ripening, in which case a dressing of phosphatic manure would be the natural Jethro Tull, who advocated corrective. cultivation instead of manuring, grew good crops on well-hoed land entirely without manure, but they ripened late. Had he supplied some phosphate to counteract the increased nitrification the result would probably have been different. We have heard of gardeners who let the ground get hard about their Tomatos, and still get good crops; the Tomato of course does not want too much nitrate, and vigorous nitrification is not essential for it. But those gardeners would do well to try whether good cultivation and a phosphatic manure would not give even better results.

In a late season it may in certain cases be advisable to cease cultivation and so check nitrification with a view of hastening ripening. This plan has been recommended for Hops. After last year's heavy rainfall, however, trouble is more likely to arise from a deficiency than an excess of nitrate. Edward J. Russell, D.Se.

THE ROCK GARDEN IN SPRING-TIME.

A WELL-EQUIPPED rock garden cannot fail to afford pleasure by the bright masses of flowers borne by the plants in the heyday of their beauty throughout the spring and early summer months. At other times there is much of interest, but at no season is the display of flowers comparable to that made during the first half of the year, when Aubrietia, Alyssum, Arabis, Alpine Phloxes, and the many garden forms of P. setacea, with Anemones, Snowdrops, and Saxifragas, each play their part in making a gay and diverse display. What may be employed to provide effective colour-masses in any given garden will depend not a little on the garden itself, and whether it is possible to arrange more than one type of rockery. The garden in a hill district, for example, affords opportunities that in a garden of the reverse type can only be provided at great cost. In the former, with its natural banks and slopes, a rugged slope may be converted into a paradise of flowers in a short time. In much the same way is the more extensive rock-garden suited for the larger masses of plants; while those of moderate area can be made of equal interest with the smaller-growing species. The illustration, fig. 169, is of a distinctive character suggestive of a somewhat extensive slope, rendered the more easy of access and simple of treatment by the stepping - stone pathway in the midst. In such a case, not only the slopes on right and left, but the spaces immediately below the stones, are available for plants, and many good species may be successfully grown in such positions. In this

blossoms trailing over the bank. In like manner may be used the white and rose-coloured perennial Pea, and where rugged stones jut out here and there the effect is good. These larger trailers require to be employed judiciously, and generally are suited to rockeries of the largest dimensions. In the present picture some of the most prominent subjects are Cheiranthus alpinus, C. Marshalli, C. Allionii, the latter both of rich orange shade, and very good in the early spring-



FIG. 169.—VIEW OF THE ROCKERY IN THE GARDENS AT TOTLEY HALL, SHEFFIELD.

way the pretty Corydalis lutea or the scarlet Zauschneria, together with Armerias and the low tufts of Phloxes and similar plants, ever appear to advantage. On the larger slopes such plants as Iberis, or the pretty masses of Saponaria ocymoides and S. o. alba make fine sheets of colour in their season. Mossy and other Saxifragas wedged here and there amid the stones are very effective; while perhaps one of the most striking plants that suggest themselves at the moment is Tropæolum polyphyllum, with glaucous leafage and golden

time; Genista procumbens overhanging rocks; and such Phloxes as lilacina, Vivid, and The Bride, with tufts of flowers. Aubrietias, as may naturally be expected, are very good, such as Dr. Mules (a good violet shade), Fire King, and others. In such places the double white Arabis is a fine plant, well suited to the company of those just named.

Saxifragas of all sections enter quite freely into the display, from the early S. Burseriana of February or March, to the days in June or later, when S. longifolia and S. pyramidalis send forth

their fine pyramids of flowers. The illustration is from a photograph taken by W. A. Milner, Esq., in his garden at Totley Hall, Sheffield, where a large number of good alpine plants thrive excellently. Of none can this be said more truly than of the more free-growing Androsaces, A. lanuginosa, A. sarmentosa, &c. No words can describe the wealth of flowers produced by the former species; and not only is it one of the best of flowering alpines, but it is one of the most profuse. E. H. Jenkins.

late. It is a native of Annam, where it was found by Mr. Bronckart, growing along ravines and in sandy soil at 4,000 to 5,000 feet altitude. The general habit recalls the species named, the leaves being about 21 to 3 feet long, and rather narrow, and the scape measures some 3 to 41 feet long, and hears numerous flowers about 31 inches in diameter. According to a coloured drawing, communicated to Kew, with a native dried specimen, in 1901, by Mr. G. Schneider, the flowers are rosy-lilac in colour, with many crimson



FIG. 170.—HÆMARIA DAWSONIANA.

MEW OR NOTEWORTHY PLANTS.

CYMBIDIUM INSIGNE, Rolfe, n. sp.*

This is a handsome species of Cymbidium, allied to C. Lowianum and C. longifolium, but differing from both in having a very broad, nearly orbicular lip, and the disc not strongly bilamel-

* Cymbidium insigne, Rolfe. - Rhizomes stout, emittir g numerous strong roots. Leaves clongate, linear-ohlong, acute, 2½-3 feet lorg, 3-4 lines broad, broader at the conduplicate hase. Scapes subcrect, arching, 3-43 feet long, clothed at the base with elongate-lanceolate acute sheaths, racemose, with numerous dowers. Bracts ovate-lanceolate, zcute, striate, 2-4 lines long. Pedicels about 17 inch long. Sepals ellipblotches on the lip, and some yellow on the centre of the disc. The flowering of this fine species in cultivation will be awaited with interest. R. A. Rolfe.

tical-oblong, apiculate, 13 Inch long, 9 lines broad, the lateral pair somewhat falcate. Petals elliptical, oblong, apiculate, somewhat narrowed at the hase, 12 inches lorg, 8 lines broad. Lip nearly orbicular in outline, somewhat three-lobed, 12 inch long; side lobes subcrect, very obtuse, 6-7 lines broad; terminal lobe short, obtuse or emarginate, undulate, about an inch broad; disc puberulous. Column clavate, arcuate, 14 lines long. Allied to C. Lowianum and C. longtfolium, resembling the former in habit and stature, and the latter in the texture of the flower, but the lip far hroader, and not strongly bilamellate. Native of Annam: collected by Mr. Bronckart. R. A. Rolfe.

HÆMARIA DAWSONIANA.

Or the class of Orchids which are grown more especially for their beautiful foliage and are generally known as Anœctochili, I find this Hæmaria the easiest to keep in good condition. Apart from the deep olive-green foliage, with its copper-coloured veins, it is an extremely pretty plant when in flower. In the Cambridge Botanic Garden it flowers annually about Christmas-time, and the flowers remain in good condition for at least a month. They are pure white, except for an orange-yellow blotch on the column. The scapes are covered with short downy white hairs, which give them a velvety appearance, and when viewed above the dark handsome foliage afford a very pleasing contrast. Contrary to what might have been expected, the plant does not seem to suffer by being allowed to produce its flowers and retain them for such a long time. The specimen from which the accompanying photograph was taken (see fig. 170) made new growths (from the horizontal parts of the stem), which promise to be as vigorous as those from which the flowers were produced. It is grown here under a bellglass among other Orchids, where a minimum temperature of 60° F. is maintained, and where it is protected in summer from strong light by the shade afforded by the leaves of taller plants standing round about it. E. J. Allard, Botanic Gardens, Cambridge.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUMS FROM LLANDUDNO.

FROM the gardens of Joseph Broome, Esq., Sunny Hill, Llandudno (gr., Mr. A. C. Axtell), comes a fine set of Odontoglossum flowers, re-markable in that it comprises several rare varieties. Among them are-

Odontoglossum crinitum .- A very pretty and rare species, with some resemblance to O. gloriosum, but with the labellum covered with long white filaments. Sepals and petals greenish-white, spotted with brown. Lip white, with pale rose markings. The specimen is interesting as it is taken from one of the original plants in Mr. Broome's collection, then at Woodlawn, Didsbury, Manchester, and described in the Gardeners' Chronicle in 1882.

O. × Adrianæ. - The specimens sent seem to represent the widest range in this extremely variable Odontoglossum. The largest is equal to a good O. crispum, having cream-white flowers edged with yellow, and profusely blotched with chestnut-red, the markings being very large. The other extreme has smaller flowers but broader segments; primrose coloured, evenly marked with small reddish spots.

O. Hallii magnificum.-One of the showiest of Odontoglossums. Flowers yellow, the sepals almost covered with chocolate markings; the petals and lip prettily marked with chestnut-red.

O. hastilabium.-A distinct species from New Grenada, bearing branched spikes of flowers 4 inches across. Sepals and petals equal and lanceolate; whitish, barred with purple. Lip with a broadly hastate front, lobe claret-coloured at the base, fading to nearly white towards the margin.

Two examples of Odontoglossum × Andersonianum, and a remarkably fine Ansellia africana are also sent.

ODONTOGLOSSUM CRISPUM "LADY ARDILAUN."

As though in response to the popular craving for good spotted varieties of Odontoglossum crispum, a plant which has been in Lord Ardilaun's garden at St. Anne's, Clontarf, Co. Dublin, and which, although it has grown well, has never before flowered, now sends forth a fine inflorescence, blooms of which are kindly sent by Mr. Andrew Campbell, the gardener at St. Anne's.

The flowers are 4 inches across, white, heavily tinged with purple on the backs of the sepals, and on the front in a less degree. The crimpededged petals are white, slightly tinted with rose. The basal halves of the sepals bear clusters of six or seven red-brown spots, and the petals sometimes one of the same colour. The lip and column give effective features, the column being red-brown on the upper side and orange-coloured underneath. The blade of the lip is fringed white, with a bright yellow disc and elaborate brown markings.

ODONTOGLOSSUM CRISPUM "MOUNT HARRY."

A charming variety of the reigning favourite spotted Odontoglossum has flowered with R. G. Fletcher, Esq., Mount Harry, Withdene, Brighton (gr., Mr. Garnett), being the second valuable variety flowered out of a small lot of imported plants obtained from Messrs. J. & A. A. McBean, Cooksbridge. Like several other pretty forms flowered out of recent importations, it has a bare suspicion of O. × Adrianæ about it in the distinctly toothed wings of the column, which, like the upper margin of the lip, have slight brown markings such as are invariably present in O. Adrianæ. In colour, size, and all other important points it is, however, O. crispum. The flowers are white beautifully tinged with rose colour, and each sepal and petal hears about twenty reddishpurple spots, some scattered along the margin, and the larger ones clustered towards the middles of the segments. Lip white, fringed, and with yellow crest having a reddish blotch in front.

KEW HAND-LIST OF ORCHIDS.

We are glad to welcome the publication of the second edition of the very useful Hand-List of Orchids cultivated in the Royal Gardens, Kew. The collections have not only increased in number, but their cultivation has been much improved owing to structural alterations in the houses. At present 220 genera are represented, and about 1850 varieties and species, so that the visitor is sure to find something of interest at any time of the year. Of course the main object is botanical, but the very numerous varieties and hybrids now cultivated are by no means devoid of scientific interest as affording clues to the lines of descent and of affinity, and as illustrations of the range of variation. "A few changes in nomenclature have become necessary, the most important being the separation of species formally included under Cattleya labiata, and the breaking up of the genus Cypripedium.' Both these are matters of opinion on the part of experts. For garden purposes it might have been more convenient to keep up the genus Cypripedium, and to treat Paphiopedilum as a section of it. The cross references do much to remedy the present inconvenience, which will be less felt as time goes on. In any case Orchid lovers owe a debt of gratitude for the compilation and publication of this excellent List.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

The plants figured in No. 55, March, 1904, which begins the 7th series, are the following:—Cattleya Massiliensis, Maron; Cypripedium nitens var. Hyeanum, Cogn.; C. Madioti, Cappe; C. Romulus, Hort.; (b) Geodorum cirinum, Ldl.; (a) G. c. var. Augusti, Cogn.; Lælio-Cattleya Truffautiana var. Fournieri, Cogn.; L.-C. Clive, Hort.; L.-C. Binoti, Cogn.; Maxillaria variabilis v. lutea et v. crocea; Mormodes igneum, Ldl. (formes); Odontoglossum Duvivierianum v. Burfordiense; Stanhopea Wardii v. Frobeliana, Cogn.; Zygopetalum maxillare v. Gautieri, Regel.

In No. 56, May, 1904, the following are illustrated:—Cattleya Cogniauxii, Fr. Peetera; C. Enid, Hort. Veitch; C. Fabia var. Vigeriana, Hort.; C. F. W. Wigan, Hort.; C. Imperator, Rolfe; C. Peetersii, Hort.; C. Pittiana, O'Brien;

and C. Rembrandt, Maron; Cypripedium Memoria-Fournieri, Cogn.; Dendrobium Cœlogyne, Rchb. f.; Lælio-Cattleya Digbyano-Mossiæ var. splendens, Peeters; Oncidium superbiens, Rchb. f.; Stauropsis fasciata, Benth.

ALPINE GARDEN.

SAXIFRAGA ARETIOIDES ALBA.

This species and S. a. primulina, with yellow flowers, are two of the rarest and best of the crustaceous Saxifrages. I do not know the origin of the former, though, judging by the size of its flowers, it is more a counterpart of the latter variety than a replica of typical S. aretioides. The plant flowers much earlier, however; the flowers are of large size, very solid-looking and much refined. The varietal name "alba," signifying that the plant is merely a white aretioides, does this beautiful plant an injustice. With larger flowers even than the variety S. a. primulina, and with more sturdy stems, the plant is greatly superior, and I know of no Saxifrage more pleasing when in flower. The rosettes of leaves are rather larger than those of the yellow variety mentioned, and somewhat whiter in the incrustation. It is essentially a plant for pot cultivation, or at least should be grown in that part of the rockery where only such treasures are planted and remain constantly under the eye. My little specimen is tightly wedged between stones, and whether planted in pots or grown on the rockery there is, I believe, no better way of securing them in position. A dry rockery is not suitable for its success, and in gritty loam it delights in free supplies of summer moisture. A loose soil and a dry sunny bank is often fatal to these small alpines. E. Jenkins.

SHORTIA GALACIFOLIA.

This charming little spring-flowering plant is undoubtedly one of the gems of the garden in the early days of the year. In the month of March the drooping, white, prettily-fringed flowers, held aloft above the crimsoned leaves on pink foot-stalks, are perhaps more beautiful than any of the showier spring Irises that are in bloom at the same period. Discovered over 100 years ago in the mountainous region of North Carolina, it was lost to botanists for the best part of a century, but introduced into cultivation in this country in 1877. Although since that date the species has been largely imported, it is by no means always to be found in good health in gardens. A compost of sandy peat and sphagnum-moss has been recommended for its culture, and in this the plants are doing excellently with me; but I may say that I have seen plants exhibiting robust vigour in pure fibrous loam, in loam and leafmould, and even in soil containing sufficient lime to render the culture of Rhododendrons a failure, though soil of the last description was at one time held to be fatal to success with the Shortia. One essential evidently is that the compost should be porous, for the plant appears to resent stagnant moisture about its roots in the winter.

Considerable difference of opinion exists as to the correct site for the Shortia. Some recommend that it should be grown in shade, and a friend who knows the plant in its native habitat assured me that it carpeted the ground beneath trees; but in this country entire absence of direct sunlight seems to prevent the foliage from assuming that crimson tint which is one of the chief beauties of the plant, and renders it such an attractive object in the autumn. Possibly a position on the north side of a rock-mass, where it may obtain about three hours' sunshine in the summer, is as good a site as can be suggested. My plants are growing in just such a spot, and both situation and soil appear to be to their liking. S. W. Fitzherbert, Devonshire.

GENTIANA VERNA AND ITS VARIETIES.

Gentiana verna occurs in all the alpine and subalpine districts of the Alps, the Jura, the mountains of Auvergne, the Pyrenees, the Spanish Sierras, the Apennines, some of the mountains of Great Britain, the Carpathians, and even on the German table-land. Its corolla is intensely blue, with a white centre. It is one of the prettiest alpine plants, and abundant in green pastures. In parts of the Swiss Jura, Gentiana verna varies wonderfully, though, generally, the flowers are of a deep blue colour. In certain districts of the Jura, however, we have for some years found a variety of forms constant under cultivation which we have propagated by cuttings with excellent results, the plants produced proving finer and more resistent than those transplanted from the fields to the garden. A pure white form has been called by Mr. Reginald Farrer, "Chionodoxa" (Glory of the Snow). The flower is well formed, slightly greenish outside, quite whitewithin. It flowered freely, and we have sown seeds of it, wondering if it will produce albinodescendants.

There are also flowers of two shades of blue—
1, corulea (sky-blue); and 2, azurea (clear blue).
There is a fourth form with a violet-mauveblossom that we have called violacea, and onewith rosy-violet flowers we have named rosea.
This is not easy to cultivate, but we have had a
plant for two years that flowered this spring and
is beginning to spread. There are Gentians alsowith flowers of colours intermediate with thosedescribed.

As to habit, there is as much variety in the plants as in the colours of the flowers in the same fields. There are grandiflora, which keeps its size under cultivation, another form in which the corolla has four instead of five lobes, and yet another which has six. We found long-stemmed types (longicaulis) and dwarf plants-(nana). All these characteristics persist under cultivation, especially in plants raised from cuttings. Gentiana verna does not seem easily grown in England. It is a plant of bright dry pastures, flooded with sunshine and fresh air. At-Floraire we grow it in full aun in ordinary soil, heavy rather than light; and we do not move it, as it does not like its roots to be disturbed. I remember seeing, years ago in a garden in Stafford, a plant of Gentiana verna sent over by us and set in the border of the kitchen-garden, alpine plants being thought unfit for the flowerbeds. This tuft having received no attention was quite covered with flowers and greatly admired. Henry Correvon, Floraire, near Geneva.

ERITRICHIUM NANUM.

For the benefit of those who would like tocultivate this alpine plant, I give some details of cultivation. Those who carry them out as-described need not fear the result. Select a sunny fissure in the rockery where the plantwill be directly under the eye, and where moisture can be afforded conveniently during the growing season without damping the foliage or face of the plant, and where it can be kept perfectly dry from September until the end of January. During these months the plant is dormant. It commences to grow towards the end of January, but no water must be afforded for quite a month after the plant shows signs of life. The compost used for planting should consist of hard fibrous-peat, leaf-mould, and grit in equal parts. This should be broken up finely, and put through a quarter-inch sieve; then use a fine sieve to take out the dust, add a little sand to what remains in the sieve, and mix it well together. This compost suits the plant better than anything I have tried, the roots are very like silk, and require something fine to work into. A stone should be placed in a slanting position inclining downwards towards the bank;

place a layer of compost on the stone, then lay the plant on, adding more compost to cover the roots well over, then place on the top stone, pressing firmly down. Care must be taken not to bring the stone over the plant, but only to leave room for the soil to show between the stone and the plant, taking great precautions to leave the neck of the plant free, and adding more compost behind the stones. Then add another flat stone on the top half a foot from the plant. This may be allowed to hang over a few inches. The top stone should be so arranged as to carry the water direct to the roots of the plant. With care this can be made so that no water need be used on the face of the plant, and in this manner the foliage will always be dry, while the roots will get ample moisture from behind. A stone can be placed over the whole plant in September, and left until the end of January. It can then be removed when the plant again requires water. A little top-dressing should be given in the spring, using the same compost as described for planting. Robt. B. Tilley, Leicester.

KEW NOTES.

Scutellaria violacea.—This is an extremely pretty Indian species, now flowering in the Begonia-house, and it does not appear to have been in cultivation previous to its introduction to Kew in 1900, when seeds were sent to the Royal Gardens by Mr. William Nock, Superintendent of the Botanical Gardens, Hakgala, Ceylon. It is a soft-wooded, quick-growing species, like S. coccinea and S. Ventenatii, only with a more sturdy habit and a stouter inflorescence. leaves are cordate-acuminate, coarsely crenate on the margins, and tomentose, being from 2 to 3 inches long, and 11 to 2 inches broad; the erect inflorescence is from 6 to 8 inches long, having rather large violet-blue flowers, with a white blotch on the lip of the corolla; the flowers are arranged about half an inch apart on each side of the square rhachis. Like all the other stove species of this genus, it is very easily grown, and very floriferous. Cuttings, if rooted in the spring, soon make neat little bushy plants about 1 foot high.

ACINETA BARKERI, Lindley.

A plant of this lovely Mexican Orchid is now flowering in the warm Orchid-house. It has stout pseudo-bulbs 5 inches in length; the leaves are broadly lanceolate, ribbed, and about 18 inches long; the pendent raceme is about 1 foot long, produced from the base of the pseudc-bulb, and hanging through the bottom of the Teak basket. There are fifteen flowers on the inflorescence. each having a diameter of 21 inches; the sepals are dark amber-yellow coloured, with numerous minute black spots on the outer surface; the petals and lip are of the same yellow colour, dotted with rather large red spots. This species was introduced by Mr. Barker, of Birmingham, in 1837. It is synonymous with Peristeria Barkeri, under which name it is figured in the Botanical Magazine, t. 4203. Members of this genus succeed best when grown in Teak baskets in a stove temperature, and they require a liberal supply of water when growing, and when the flowers are developing, or the pseudo-bulbs will become badly shrivelled, and future growths weak. W. H.

PAVETTA CAFFRA, Linnaus.

Specimens of this South African Rubiaceous plant are flowering in the Begonia-house. It is a slender branched shrub with rather small, obovate, glabrous leaves, growing into a bush 3 to 4 feet high. The plants now in flower are in 8-inch pots, having a diameter and height of about $1\frac{1}{2}$ foot. The inflorescences are produced terminally on short branches; the flowers are white, about $\frac{1}{2}$ inch in diameter, and the Ixoralike inflorescence is of light and feathery appearance. It is an old garden plant, and somewhat

extensively grown on the Continent, though not often seen in this country. Cuttings may be easily rooted in bottom heat. The young plants should be cultivated in an intermediate temperature, and the shoots need to be stopped frequently, otherwise the plants will become of straggling habit. Botanical Magazine, t. 3580.

ALLAMANDA GRANDIFLORA, Hooker.

A plant of this fine species is now flowering in the stove. The flowers are rather smaller than the more extensively grown A. Schottii, but much more beautiful in colour, being a clear bright yellow, without any markings in the throat. A. grandiflora has become very scarce in gardens, the larger-flowered and stronger-growing species having almost ousted it from cultivation, notwithstanding the fact that it is certainly the best coloured of all the yellow Allamandas. But it is a very weak grower on its own roots, but if grafted upon the stronger species, such as A. Schottii, it grows vigorously and flowers freely. Like the other members of the genus, this species should be rested during the winter months. It is a native of Brazil.

CALANTHE DISCOLOR.

This species "has been known for over sixty years, having been originally described in 1838 (Lindley's Sertum Orchid, sub-tab. 9), at which time



FIG. 171.—CALANTHE DISCOLOR.

its habitat was unknown. . . . It was figured in the Botanical Register, 1840, t. 55, when Lindley remarked that it had blossomed in several places in England, and that it probably came from Japan. The form figured had vinous purple sepals and petals, and a nearly white lip, but there is a paler one which is less showy. It seems to be a fairly common plant in Japan, being found in numerous localities. The spikes attain a length of 5 or 6 inches, and in this condition the numerous flowers are very attractive. It would probably succeed in a cool greenhouse, but we should hardly expect it to stand our wintersunprotected."—"R. A. R.," in Orchid Review, May.

The plant was brought under our notice by Messrs. Cutbush, of Highgate, and has been recently exhibited by them. Our illustration is from a plant which flowered in the Royal Gardens, Kew. The Kew plants all had dull brown sepals and petals and a pure white lip. A third and distinct variety is figured in the Ic. Fl. Jap., i., t. 50, under the name of Calanthe discolor var. flava. At Kew the plant is grown in a cool-house in shallow pans, in a mixture of loam, peat, and and. It is just possible that it will prove sufficiently hardy to be grown outside in mild localities in this country.

PLANT NOTES.

THUNBERGIA ALATA.

This plant is very rarely found in such excellent condition as I saw it recently in hanging baskets in Warren House Gardens, Stanmore. Planta may be easily raised from seeds, and they are much admired when in flower, especially the dark orange-coloured variety. The chief enemy is red-spider; but every good gardener will know how to combat that pest. Mr. Ellis had it in a warm corridor which connects all the fine planthouses together, in a very convenient manner. This house, I was informed, formerly contained Roses, but was found to be much too hot for that purpose. It is now planted with a useful collection of stove creepers and other plants, which will prove very interesting when fully established. I well remember a beautiful archway about 7 feet high, formed of Thunbergia alata, which I saw in Florida some years ago at Christmas. W. H. Divers, Belvoir Castle Gardens.

HERBACEOUS BORDER.

THE APPROACHING LILY SEASON.

THERE is every probability of a good season for Lilies, judging by the growth they have made during the last two months. Their development this year has been almost abnormal in its rapidity, owing chiefly to the abundance of moisture with which they were favoured during the spring. This applies especially to such vigorous Oriental and American species as monadelphum var. Szovitzianum, which, after being firmly established, becomes a veritable giant in vitality and in growth; Lilium auratum, and Lilium pardalinum. Lilium Henryi, a native of China, sometimes described as a dark-coloured speciosum, has been growing like a tree, and promises to eclipse all its former remarkable achievements. Few Lilies for garden culture are more reliable than this variety, which since its introduction has proved itself a most valuable acquisition. In my own garden during the season of bloom, it is hardly capable of sustaining the weight of its flowers, and I presume that wherever it has a congenial situation elsewhere, its cultivators have a similar experience. I found some difficulty for many years in adequately establishing the highly attractive Lily of California, Lilium pardalinum; now it is one of my finest possessions. I have also been successful with its picturesque derivative, entitled Lilium Burbanki x, which bears the honoured name of a famous American raiser, who has told us that it is also partly derived from that fragrant and exquisitely beautiful Lily, also Californian, Lilium Washingtonianum—though this derivation, to the most experienced cultivator, is not easy to discern. Lilium Humboldtii I have found much more capricious and difficult of culture than any of its contemporaries of American origin. In a sense it is enduring; but it has never grown with sufficient strength to be very effective. Notwithstanding all that has been said against Lilium auratum, it seldom fails to succeed. It is much more reliable from every point of view than Lilium longiflorum, or even than the majestic

Lilium giganteum, the latter of which, unless it has immense vitality, declines to develop its great flowering stem. As I know from sad experience, it sometimes has been grown from an offset for at least four years without flowering at all. This doubtless may be attributed to lack of vital strength in the bulb, whose inherent weakness may, on the other hand, be owing to the character of the soil. Lilium chalcedonicum, the "Scarlet Martagon," whose colour may be described as vermillion, is one of the few Lilies eminently adapted for garden cultivation, which multiplies its bulbs without apparent deterioration. As much, I greatly fear, could not truly be asserted of Lilium longiflorum, which, through attempting too much in this direction, becomes subject to vital degeneration and inevitable premature decay. David R. Williamson.

GLOBE FLOWERS (TROLLIUS).

These noble May flowers are seldom seen in a satisfactory condition in shrub and herbaceous borders, because they love moisture, and that cannot always be afforded them. Our greensand stone here is hot and dry during spring and summer, and they do not develop full beauty.

Recently, in digging out foundations for a new gasometer, quantities of blue clay had to be taken out. I secured several cartloads, and then choosing a plot of ground nearly level, with a slight fall only, I dug out five beds 5 feet wide, 20 feet long, 11 foot deep; these I lined with blue-clay 9 inches thick, so as to hold water, the centre of the beds being slightly hollowed. then filled up with the excavated soil to within 3 inches of the level, and planted a collection of Trollius in rows, with other semi-aquatic plants. They soon established themselves, and are now a blaze of grand flowers on bushy clumps 3 feet through. The topmost of the five beds had a pipe laid in the path to bed No. 2, and so on to No. 5, so that by fleeding No. 1 we could make the whole set thoroughly wet in dry weather with a hose. To describe the varieties alphabetically,

Europæus.—The globes are of pale glistening demon-yellow, 2 inches across, and the plants grow about 20 inches tall, and produce a mass of flowers, first from the "king" blossoms, and afterwards from the laterals; the best in this colour forming an elegant clump.

Europaus albus is much paler, and a very poor grower—really not worth culture.

Excelsior is of the japonicus type, with flowers \$\frac{12}{4}\$ inch over; not cupped, as in the above, but more open, the florets standing erect. The colour is bright madder-orange, very striking, and the foliage is finely divided into five sections. The best of this colour.

Europeus major is the same as that fine variety napelliformis. It has hold foliage, and makes a clump 2½ feet through, bearing rich canary-yellow-coloured cupped flowers, nearly 2 inches across. Very striking and fine.

Japonicus or Fortunei.—Flowers 1½ inch over; earlier than the rest; of rich madder orange colour; foliage distinct, deeply toothed.

Newry Giant is tall, very single, and is a disappointing sort here.

Orange Globe or Yellow Globe is the finest of the set. The flowers are cupped $2\frac{1}{2}$ inches over, of a brilliant old-gold colour, but very bright. It forms a pretty clump, and grows $2\frac{1}{2}$ feet tall; is altogether first-class.

T. altissimus has not yet flowered.

I can commend this treatment to all lovers of herbaceous flowering plants, and later on will report on the various Astilbes, Spiræa, Primula japonica (with flower-spikes 2 to $2\frac{1}{2}$ feet now), Iris Sieboldi, and other plants under the same conditions. It will be noted that the clay being 6 inches below the surface, any surplus water drains off naturally. Geo. Bunyard, Maidstone, May 26.

TREES AND SHRUBS.

VIBURNUM TOMENTOSUM, Thunberg.

THE beantiful shrub generally known as Viburnum plicatum is really a variety of this species. In its typical state V. tomentosum has a flat, umbellate inflorescence, the centre flowers of which are small and structurally perfect; whilst those on the margin are large and imperfect—i.e., they have no stamens or pistil. In the variety plicatum all the flowers are of this showy sterile kind, and the inflorescence becomes more rounded in form, resembling that of the common "Snowball Tree," V. Opulus sterilis. Introduced from Japan by Fortune about fiftyfive years ago-twenty years in advance of its parent type—V. plicatum has always been the better-known plant of the two. Had one to choose between them, preference would perhaps be given to this one; but as there is no such necessity, one may well grow both, for they are not only very beautiful, but are more distinct from each other than many separate species are.

This season V. tomentosum has been particularly fine. Its branches have the same stiff, horizontal pose so characteristic of V. plicatum, and they bear the flowers (which are white) in similar double rows of corymbs, each about 4 inches across. Messrs, J. Veitch & Sons have recently distributed a form of V. tomentosum with an inflorescence similar to that of the type but even finer; they have named it var. Mariesii. Both V. tomentosum and its variety plicatum have flowered at Kew, the latter in large masses. W. J. Bean.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, gr., Wrotham Park, Barnet.

Cordon Pear-trees. - Most of these have set heavy crops, and need severe thinning, or the fruits will be small. Remove a few fruits from the clusters at once, and after a fortnight examine the trees again, and reduce the fruits to the number required. Large-fruiting varieties need to be more freely thinned than those of medium size, while the strength and health of an individual tree should also be considered in regard to the number of fruits that shall be left to ripen. If any of the trees have been root-pruned or lifted entirely, they should not be allowed to carry so many fruits as they would have done otherwise. It will be better to crop them lightly until they have overcome the effects of the operation. If the Pear-midge is prevalent, pull off and burn all abnormally large fruits, as such usually contain one or more of the larvæ. Cordon Pear-trees are usually worked on the Quince-stock, the roots of which grow near to the surface and are therefore more liable to confine surface, and are therefore more liable to suffer from drought than those worked on the wilding. This will make the work of watering and feeding of more importance. A good dressing of artificial manure applied at this date and pricked in over and about the roots, following this with a good watering through a moderately coarse rosecan, will be of great benefit, and if a mulching of manure be applied afterwards the trees will be likely to grow strongly and ripen large fruits.

Figs.—These trees are now growing fast, and many of last year's shoots are well studded with fruits. Make the new growths secure by tying them as needed, laying them in where possible on parts of the walls that are not covered, and fastening others to the old bare wood. Reduce the shoots if this is necessary to prevent over-

crowding, but do not stop any of the leaders or those shoots required for fruiting next year except those which have reached the boundary of the wall, which may be stopped at three joints above the fruiting wood. Do not afford food or water to the roots if these have an unrestricted run; but if they are confined, and the trees are likely to suffer, let them be given a few good soakings with liquid - manure during the

Strawberry-beds.—Examine the beds containing early plants, and pull up any weeds there may be amongst them. The beds should be made in good order before the nets are put over them, which should not be deferred till after the fruits begin to colour. Most gardeners have their own particular way of applying netting, but the best way is to have a frame-work fixed 4 or 5 ft. high, and to let the nets be placed over it. In this way the fruits can be gathered much more conveniently. As a make-shift I have managed to protect the fruits from birds by driving a few stakes about 2 feet high along the side of the squares, at intervals, and by fixing a stout wire to the posts to support the nets clear of the plants, and high enough to keep the birds from reaching the berries through the meshes. This plan will be found to answer very well where proper frame-work cannot be employed.

THE ORCHID HOUSES.

By W. H. WRITE, Orchid Grower to Sir TREVOR LAWRENCE, Bart., Burford, Dorking.

Aërides, Saccolabiums, and Vandas.—During the months of June, July, and August, such Orchids as Aërides, Saccolabiums, and Vandas will be in full growth, and during this period the plants will be making long aërial roots from their stems. It is advisable to examine these plants periodically for all scale insects, particularly the white species, with which they are often infested, and at the same time to tie or peg down any of the roots that are long enough on to the surface of the moss. These long roots soon enter the moss, &c., and frequently send out side or lateral roots, which, when they enter the compost, greatly assist toward the retention of the lower leaves. Afford the plants plenty of heat and moisture, and if any of them require more root-room it should be afforded at once.

Thunias.—All of the Thunias, including T. Marshallii, T. Bensonæ, T. candidiesima, T. alba, T. pulchra, and the distinct hybrids T. Veitchiana and T. Brymeriana, are handsome plants when grown strong, and their pretty arching spikes of flowers are attractive. The spring of 1904 has been very favourable to their cultivation, for scarcely a growth has failed to produce good flower-spikes. The flowers, unfortunately, do not generally remain in bloom more than ten or twelve days. As the plants pass out of flower, remove them to a cool, well-ventilated house, where they may obtain plenty of sunlight. They will need to be watered at the roots occasionally so long as the leaves keep green, but when they commence to change colour it should be gradually withheld, and the plants placed in a sunny position in the cool greenhouse, where the temperature will not fall below 55°. Any growths that have failed to flower, and are growing to an unreasonable length, should have their tops cut off and he treated similarly to those that have flowered. In the dry atmosphere the leaves frequently become infested with redspider, but it is easily kept in check by occasionally laying the plants down on their sides and syringing them with a hot solution of softsoap and water, adding a little of the XL-All insecticide and allowing it to dry on. Afterwards give them a good hard syringing with clear rain-water.

In the Odontoglossum or Cool-house there are many plants now in flower, the principal being the popular Odontoglossum crispum and its numerous varieties. For the present it is advisable not to damp-down frequently, as thereby the flowers would be liable to become spotted and useless. A moderate damping of the floors, stages, &c., at early morning and evening will be sufficient, leaving the ventilators open at both top and bottom. The

flower - spikes should not be allowed to remain on the plants until shrivelling of the pseudo-bulbs takes place. Vigorous growth in every plant is necessary, and over-flowering tends undoubtedly against this, especially in the case of such species as Odontoglossums and Oncidiums. The spikes of flowers when cut will last for a considerable time if placed in water and kept in the aame house where they have been grown. When the flower-spikes have been removed the plants will not require nearly so much water at the roots. Keep the surface of the compost just moist, and use a fine rose watering-can, so that the soil will not be made too wet. While at rest the pseudo-bulbs should not be allowed to shrivel unduly, though a slight shrinkage will do them

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Late Grapes.—There must be no delay in the work of thinning-out bunches and berries, so as to get them ripe in September. Overcropping should be avoided, or the Grapes will not keep long after they are ripe. If suitable temperatures be afforded such varieties as Lady Downes, little difficulty will be experienced in keeping the Grapes plump and fresh until the following May. Perfect finish is necessary for sound-keeping qualities. Thin well to secure large berries, and prevent overcrowding, especially in the case of such varieties as Gros Colmar, the berries of which should be left at 1 inch apart. Varieties having oval-shaped berries will not need to be thinned so severely. The up the shoulders of large bunches of Black Alicante, &c., as acon as the weight of the berries has atraightened the main stalk. The roots must be kept moist at this stage, and the borders should be mulched (if this has not been done already) with light droppings from the stables, which have been previously sweetened by frequent turnings. Late-fruiting Vinea require plenty of food for the roots and a hot, moist atmosphere. The nights are still so cold we find that fires are necessary to keep the temperature up to 65°. Admit air to the house early in the morning by means of the top ventilators, increasing the amount as the temperature increases, and damping the paths with diluted manure-water at closing time. Red-spider, if present, may be easily discovered by the yellow appearance of the foliage. Apply a few good syringings with clear rain-water at closing time before the berries commence to colour.

Watering.—Healthy and vigorous Vinea carrying full crops, and occupying inside and outside borders which have been previously mulched with manure from the stables, may be watered frequently and moderately to attract the roots to the surface. If the supply of stable-manure is insufficient, employ some other material that will not make the surface become "pasty." If the foliage of the Vines is pale in colour give about one ounce of nitrate of potash, saltpetre, to the square yard after the border has been watered, and lightly water the nitrate in the following day. At least once a season at about this time we give sufficient water to make a stream flow freely from the drains. But if we were to repeat this frequently, we should wash from the soil the ingredients necessary for the Vines.

THE KITCHEN GARDEN.

By JOHN PENTLAND, Gardener to C. H. B. FIRTH, Esq., Ashwicke Hall, Marshfield, Chippenham.

Mulching.—At the time of writing the soil in this locality is in a sufficiently moist condition to support the growing crops, but if mulching is to be done this is the best time to apply it, for there is little use in putting it on when the ground is dry, unless sufficient water to wet the soil down to the roots of the growing plants is given afterwards. Mulching is applied as a means to conserve the moisture in the soil, and in addition to this, when water is given or heavy rains occur, a certain amount of nourishment is washed from the mulching into the soil, and the crops are thus benefitted in both ways. Although any rough material, such as long straw

or grass, is sometimes cousidered good enough for use as a mulch, we prefer to have that which was thrown on one side when selecting manure for the making of Mushroom-beds. Having turned this over several times since, it has become short, and when mixed with manure from an old Mushroom-bed, will make such a mulch as will retain moisture and nourish the crops. Make a selection of the material at hand, and utilise manure from an old Mushroom-bed for the mulching of Asparagus-beds and special crops. The longer material can be used between lines of Scarlet Runners, Peas, and crops where there is a wide apace between the rows. The mulch should be made about 4 inches deep, and the surface left as smooth and neat as possible.

Parsley. — Make a sowing now on a border having a south aspect, well sheltered from the north and east, and where frames can be put over the plants during the winter months. Prepare the ground by working in it some well-rotted manure, and a good dressing of soot and lime. We usually make another sowing a month later, but we find that plants raised now become well established by autumn, and afford a good supply of Parsley during winter. Those from the later sowing afford a supply during early spring. Any plants of Parsley that are running to seed, if not required for that purpose, should be cleared off the ground, and some other crop planted.

Matured Crops.—Clear away any crops that have matured, and prepare the ground for planting again. All late Broccoli and plants of early Cabbage which have been cut tend to impoverish the soil to no useful purpose. As soon as the ground has been made ready, let a sowing of Turnips or some other useful catch crop take their place.

Seed Sowing.—Make a sowing of Peas, choosing varieties that succeed best in your neighbourhood. Ne Plus Ultra is our favourite variety for sowing late in the season. Make another sowing of French Beans. Take measures to maintain the supply of salads. Sow seeds of Cucumbers to raise plants to succeed those now fruiting.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Hertfordshire.

Richardia africana.—As soon as these cease flowering it is usually the practice to either plant them in the open ground for the summer or stand them together in the open-air and withhold water for a time. If the method first-named be adopted, the plants may either be put ont in shallow trenchea or planted on the flat. When grown in trenchea the plants do not require to be watered so frequently. But in either case it is necessary to incorporate a liberal dressing of good rotten manure with the soil before planting. In preparing the trenches only half-a-spit of soil need be thrown out, the manure being then dug into the bottom of the trench. If single plants in 6-inch pots are required, the old plants must be divided and the strongest of the divisions planted 15 to 18 inches asunder. Remove all small corms or suckers previous to planting, and if it is desired to increase the stock, these small suckers may be planted out separately where they will not be overgrown by the larger plants. The method of allowing the plants to remain in their pots and withholding water from them is also very satisfactory. The foliage dies down and the plants remain dormant until about the end of August. Signs of new growth will then become apparent, and the plants should at once be turned out of their pots, shaking the whole of the old soil from the roots, and either potting them singly in 5 and 6-inch pots or placing several atrong plants in a pot of a larger size as may be required. Remove the small suckers as advised above, and if desired these may be placed to the number of three or four in a 6-inch pot.

Tree or Winter-Flowering Carnations.—The earliest-rooted plants should now be placed in the pots in which they are to flower, treating later ones similarly as soon as it is seen that the roots have taken possession of the soil afforded at the previous potting. The extent of the shift

should be governed by the size and strength of the plants, and while strong plants now in 5-inch pots may require to be transferred to others 7 inches in diameter, weaker ones may be allowed to flower in pots of a smaller size. It is very important that the pots be drained well, and a little ccarse fibre or a few leaves should be placed upon the crocks to prevent the soil from being washed down among the drainage. Use a compost of three parts good fibrous loam and one part flaky leaf-soil, together with a 6-inch potful of bone-meal and a 4-inch potful of soot to each barrow-load of compost, adding a little old mortar-rubble and sufficient coarse sand to keep the soil porous. Before potting the plants see that neither the potting-soil nor the balls of the plants are dry. Water must at all times be given with discrimination, and especially when the plants have recently been repotted. Let them be stood on ashes in the open-air during the summer, or, where the necessary convenience exists, in shallow frames, over which the lights may be drawn in wet weather.

THE FLOWER GARDEN.

By A. B. Wadds, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Rockery.—Remove all weeds and old flower-stems. Afford water, and a mulch to late-planted varietics, especially if they have to grow in dry situations. Seedlings from sowings made some weeks ago will be ready for transplanting on a shady border. Cuttings and offsets that were taken off when planting was done will require attention. The showery weather has been suitable for these plants, and any Sedums or Saxifrages growing too rapidly may be cut away, and pieces planted between the stone steps or elsewhere. Rooted cuttings of Campanula isophylla, C. i. alba, and other Campanulas may be planted to trail down the rocks. Seeds of the beautiful Aubretia "Dr. Mules" should be sown as soon as they have ripened.

Wild Garden.—Grass may now be cut above Snowdrops and all early-flowering bulbs. Narcissus may be left a few weeks longer, as the growths are still green and fresh. Keep all grass and weeds cut down that would interfere with the growth and flowering of other plants. In addition to keeping the Heaths free from weeds afford them a good mulch of shortmanure, as they will grow rapidly during the next few weeks. Wild flowers from seeds sown broadcast or in irregular beds should be weeded and thinned out as may be necessary. Camellias and other shrubs may have their growths thinned out if they are too dense. Old plants of Myostis or Wallflowers taken up from the beds in the flower-garden may be laid on any bare banks; the seeds will quickly germinate, and the plants flower next spring. Climbers on rustic bridges and tree stumps should only be tied sufficiently close to keep the wind from breaking them.

Polyanthus.—Transplant the seedlings on to a north or shady horder. Old stools may be divided, and will give more flowers next spring. The soil should include a good proportion of road-scrapings.

Violets.—Keep all runners cut off, and apply the hoe frequently over the surface of the ground.

Climbers.—Tropæolum speciosum will require almost daily attention to keep the young shoots regulated. Where the roots are in a dry situation afford them copious supplies of liquid-manure from the farmyard. The young growths of Clematis, Wistarias, &c., will need attention. Syringe climbing Roses frequently with water, as green-fly is already apparent. If Ivy is growing on the mansion, and the young growths are allowed to cover the woodwork around the windows, an unsightly mark will be left when the growths are removed.

Annuals may still be planted out. Afford Stocks and Asters a dressing of soot and lime. All transplanting should be finished from seedbeds.

Ground work.—Dig up ground for planting Wallflowers, Myosotis, Silene, &c., affording it a good dressing of short manure.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER. Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents .- The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JUNE 18-German Gardeners' Club meet.

Roy. Oxford Hort. Soc. (Commemoration) Show.
Roy. Agr. Soc. of Eng. Exhibition at Park Royal, Acton TUESDAY.

(5 days).

June 24 Opening of the new trial grounds at Reading University, Roy. Bot. Soc. lecture. ERIDAY.

SALES FOR THE WEEK.

Palms, Plants, Litums, Geraniums, Pansies, Ferns, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.

FRIDAY NEXT, JUNE 21—
Imported Orchids, Established Orchids, 145 Renanthera Imschootians, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.20.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick

ACTUAL TEMPERATURES :-

LONDON. - June 15 (6 P.M.): Max. 64°: Min. 55°. June 16, Gardeners' Chronicle Office, 41, Welling-ton Street, Covent Garden (10 A.M.): Bar., 50: Temp. 70°. Weather, sunshine with ooi freet, covent Garden (10 A.M.): Bar., 30; Temp. 70°. Weather, sunshine with cooi breezes.

PECVINCIS.—June 15 (6 P.M.): Max. 64°, Norwich; Min. 56°, S.E. Coast of Ireland.

It is with deep regret that The late C. Wolley-Cod. we have to announce the death of our old correspondent, the Rev. C. Wolley-Dod. Mr. Dod had for some time past been in failing health, so that his demise was not unexpected. Nevertheless the announcement will create widespread regret among a large and influential circle; for, indeed, his position in the horticultural world was unique. He was in correspondence with almost every amateur gardener in the kingdom, and with not a few of the professional growers also. He was an excellent cultivator, careful to study the requirements and, we may say, the caprices of his favourites.

His knowledge of plants was extensive rather than profound, but no one took greater pains than he to secure accuracy of determination as to species, and consistency of practice as regards nomenclature.

His classical attainments served him in good stead, and his knowledge was ever at the service of those who appealed to him.

He was born in 1826, educated at Eton and at King's College, Cambridge. It was somewhat singular that so thorough a purist in the matter of plant nomenclature should have experienced so many changes in his own family surname. He was the son of the Rev. J. F. HURT, who married Miss Wolley and assumed her surname. The son eventually married the grand-daughter of Mr. T. C. Dod, of Edge Hall, and became thenceforth known as Wolley-Dod.

Our own acquaintance with him dates from the time when he was an Eton master. Even

then he took great interest in gardening matters, and lent important aid to the late Mr. MENZIES in the compilation of his splendid work on Windsor Forest. It was not, however, until he took up residence at Edge Hall, in Cheshire, that he had free scope to indulge his botanical tastes. The record of a visit to Edge Hall more than twenty years ago, which occupies some four columns of our space (October 7, 1882), embodies the leading principles which to the last actuated Mr. Wolley - Don in the management of his garden. The climate and soil are not particularly favourable, hence the necessity for constant rejuvenescence. At that time we noted that Mr. Wolley-Dod's watchwords were "propagate, propagate, propagate," and this enabled him to tell the visitor, "Make a note of what you want," and to give endless hints of greatest value to the cultivator.

"And the plants-how and where are they disposed? Anyway-all ways-everywhere. They line the sides of the carriage-way, they fill borders upon borders, they occupy bed after bed. They clothe the slopes, they are dotted on the lawn, they edge their way in up to the very hall-door, they are invading the kitchen garden at such a rate that the quarters have wellnigh become beds."

The formation of the various rockeries gave occasion for a series of practical hints, the value of which the lapse of years has only served to confirm, and were it not for the exigencies of time present, we could scarcely do better than reprint what was said in 1882. It must suffice to refer the reader to our number of October 7 in that year.

Since that time other visits have been paid by plant-lovers, and a great variety of notes have been contributed to these pages by Mr. Wolley-Dop himself and by others who visited his garden and profited by his liberality or his information. Truly in later times horticulture has not sustained a more severe loss than in the person of CHARLES WOLLEY-DOD.

HELIANTHEMUM ROSEUM VAR. SUPERBA,-In reference to the subject of our Supplementary Illustration this week, Mr. ED. MOLYNEUX, Swanmore Park, writes as follows:--" Helianthemums, or Sun Roses, are fast increasing in variety and popularity on account of their usefulness in rendering that part of the garden where they are planted especially gay in spring and early summer. One nurseryman catalogues no fewer The variety of II. roseum than thirty varieties. known as superba, which is so well pourtrayed in the illustration, is one of the very best. The leaves are ashy-grey or glaucous in colour, and this contrasts effectively with the intense rose colour of the flowers, which are produced in profusion. I have not seen the variety in any other garden, not even at Kew. The culture of Helianthemums is quite simple. They require an open, sunny spot on the rockery, and a fairly light soil, or they may be planted to form an edging to a path where they can ramble over a few stones. The plants should be supplied with water during dry weather that occurs whilst they are making growths. After a few years the plants are liable to become a little untidy in appearance, but they may be easily replanted, as propagation is simple and growth rapid. Short half-ripened pieces of the current season's growth. if dibbled in sandy soil in a cold frame in August, and shaded from bright sun for a time, will soon make roots, and make stocky plants in the first

FRUIT OF CEREUS TRIANGULARIS.-A recent issue of the Bulletin Mensuel de la Société Centrale d'Agriculture de Nice describes this fine Cereus, and the use made of its fruits in certain tropical regions where it grows abundantly. "In Mexico, in the Antilles, and in all South America as far as Southern Brazil, this Cereus is cultivated for the sake of its fruits, which are sold in the markets under the name of Pitahaya. This is the best of the Cactus fruits. Its qualities improve with heat until it is fully developed. If October is warm in Nice the fruit, when ripe, equals that produced in temperate regions of America."

"FLORA AND SYLVA" for June advocates the practice of cutting shoots of flowering shrubs when in bud and of allowing them to expand in water. Jasminum primulinum is well figured, and is accompanied by an interesting note from the pen of Dr. HENRY, who considers the plant to be a variety of J. nudiflorum. The Oakwood variety of Lælia præstans is also figured, the figure being supplemented by a useful cultural note by Mr. CHAPMAN. The Gueldres Roses (Viburnum) form the subject of a useful article, as do the species and varieties of Aubrietia. AUBRIET, we may add, was a botanical artist of repute.

POTATOS.—In a market-day lecture delivered at Chelmsford, under the auspices of the Essex Education Committee, Mr. Dymond, as the result of experiments carried on at Essex, said that "by far the most profitable dressing of artificial manures to use along with dung for Potatos is 3 cwt. superphosphate of lime, 12 tons per acre."

COMMITTEE ON RAILWAY RATES. - The Committee appointed by the President of the Board of Agriculture and Fisheries to inquire whether there is any evidence to show that preferential treatment is given by the railway companies in Great Britain to foreign and colonial agricultural produce, as compared with the treatment of home produce, is about to issue a circular letter to Chambers of Agriculture and agricultural clubs and societies and to the honorary Agricultural Correspondents appointed by the Board of Agriculture and Fisheries. The Committee wishes it to be as widely known as possible that evidence will be accepted not only from such associations, but from all persons who consider that they have grounds for complaint. Particulars of proposed evidence should in the first place be submitted on a form to be obtained from the Secretary, Mr. E. C. STONEHAM, 7, Whitehall Gardens, London, S.W.

MR. CHARLES HERRIN, who has recently severed his connection with the Horticultural College, Swanley, was the recipient of a handsome timepiece and a barometer in a silver stand, presented to him by the students. The timepiece bore the inscription: - "Presented to Mr. C. HERRIN by the students at the Horticultural College, Swanley, April, 1904." This was accompanied by an illuminated address, and the signatures of all the students at the College. Mr. HERRIN, it will be remembered, was formerly gardener at famous Dropmore, and for many years has been a valued correspondent of this journal, having for several seasons written a weekly Calendar.

PACKING CUT FLOWERS .- So many losses occur through the careless packing of cut flowers that some hints gleaned from a recent number of the Irish Farming World may be useful to those who will not heed more lengthy exhortations:-"Two infallible rules may be laid down for the right treatment of flowers to be sent away. One is to cut them the day before (preferably not in the heat of the sun), and place them in water in a cellar or other cool place until the time for packing. The second is to pack fairly tightly, filling the box with the flowers or with supplementary

paper or dry moss. Flowers should not be packed when wet, as they take up sufficient moisture to last them on their journey if first kept in water as above directed. Shrubby, hard-stemmed subjects, such as Lilacs, Rhododendrons, and Roses, last better if some of the hark is peeled off to allow them before they are proked to suck up more moisture than they otherwise could do. Perhaps Chrysanthemums are the most enduring flowers in transit, but the Narcissus genus, and Anemones and half-opened Tulips last well. Red

put down as £4,380. Seeing, however, that the Glasgow and West of Scotland College costs over £6,000, and the Edinburgh and East of Scotland College over £5,000 per annum, additional grants are still required if the College is to he equipped and staffed on a scale equal to the two colleges named; otherwise there would be the risk of agricultural students from the North passing Aberdeen and proceeding to Edinburgh or Glasgow. The prospects, however, for additional contributions are bright, and a few weeks

benefits of its teaching to the agricultural community of the district it was supposed to represent, being, as the Scottish Education Department held, not sufficiently in practical touch with it, and so failing to inspire that enthusiasm and interest which the importance of the subject demanded. Summed up in a sentence, the Agricultural Department of Aberdeen University failed in attaining the end it desired, and the results the Scottish Education Department expected, chiefly through lack of funds and through



FIG. 172.—EDGE HALL, MALPAS, THE RESIDENCE OF THE LATE REV. C. WOLLEY-DOD. (SEE P. 392.)
The figures include those of the late Mr. Wolley-Dod, and the late Rev. Mr. Harpur-Crewe. The photograph was taken by another great plant-lover, Mr. A. O. Walker, in 1884.

Moses are perishable, but Tea Roses gathered in bud keep fresh for days."

THE PROPOSED AGRICULTURAL COLLIGE FOR ABERDEEN AND THE NORTH—Slowly but surely matters are getting into train for the successful establishment of an Agricultural College for Aberdeen and the North of Scotland. Already good progress has been made in securing annual grants from the authorities of the various northern counties, until now the sum promised amounts to £2,190, and as the Scottish Education Department has guaranteed that the Government will contribute "penny-about" to the full extent of the sum raised locally, the sum at present available for the College may be

should see the successful inauguration of the College. A few words concerning the proposal for the establishment of an Agricultural College in Aberdeen may prove interesting. The proposal had its origin in the withdrawal of the grants hitherto given by the Scottish Education Department to the University of Aberdeen for the purpose of promoting agricultural education. The Agricultural Department in connection with Aberdeen University has been directed by a committee consisting largely of members of the University Court, with the addition of a few representatives from certain bodies which enjoy this privilege in consideration of grants given by them. This department failed, however, to bring home the

the want of co-ordination with the other educational agencies at work in the northern counties. It is felt, therefore, by all concerned that the time has now come for the counties, instead of giving grants to different agencies, to give them to one central organisation, and so secure that complete co-ordination which in a matter of this kind is so imperatively necessary. Indeed, the two great wants of agricultural education in the north of Scotland hitherto have been money and co-ordination. Hence the need for the proposed college. Only such an institution, it is felt, can, on the one hand, command the necessary fonds, and on the other organise a coherent and adequate system of agricultural education.

FLOWERING SHRUBS .- We are indebted to the kindness of Mr. ANTHONY WATERER, of Knap Hill, Woking, for a selection of cut flowers of Rhododendrons and Azaleas of rare beauty. The number of varieties represented was so large that to enumerate them would have been impracticable; moreover, they were not named, and thus any such enumeration is out of the question. Many were, we believe, seedlings-at any rate, among the Rhododendrons. There were shades of colour ranging from white through pink to deep crimson and scarlet; and in the Azaleas a similar range of colour, with the addition of yellow. Some of these were shown at the Horticultural meeting on June 14. In size of truss, form, and solidity of petal they were all that the most exacting could desire. With them came also specimens of various flowering shrubs, among which we specially noted the following :-

AZALEA NANCY WATERER.—One of the ponticum section, with yellowish buff flowers, the odd segment of a deeper yellow. A well-known handsome variety.

DEUTZIA LEMOINEI.—Leaves $2\frac{1}{2}$ inches long, nearly glabrous, very shortly stalked, lancoolate, serrate; flowers white, $\frac{3}{2}$ -inch in diameter, in dense terminal racemose cymes.

PYRUS CORONARIA, FL. PL—Leaves oblong, crenate, tapering to a slender, downy stalk, rather shorier than the leaf itself; flowers atalked in tufts, each about 2 inches across, globose, pink, semi-double.

VINURNUM PLICATUM. —A well-known species, with well-marked plicate leaves and globose heads of white flowers, all sterile.

WEIGELA HOSEA VAR. EVA RATHKE.—A variety with deep blood-red coloured flowers; anthers and stigmas protruding white.

ROSES AT DÜSSELDORF.—The great Roseshow in connection with the Düsseldorf Exhibition will be held on June 25—30.

THE NATIONAL POTATO SOCIETY .- A valuable present in the form of twenty-four plants in pots of the famous El-dorado Potato, grown from rooted shorts, has been made to the Society by Mr. J. W. MALDEN, of Ham, Surrey, through Mr. GROVES of that place. A dozen of these plants have been placed under the care of Mr. WEATHERS, the Middlesex County Instructor in Horticulture and a representative on the Potato Society's Committee, and the other dozen is in the hands of Mr. A. Dean, Surrey county representative. The plants were in 48's, and ranged in height from 6 to 12 inches, all being well rooted. They have been planted under the most favourable conditions available, and should produce tubers enough to enable the variety to be grown in all the various county trial-grounds next year. It will be specially interesting also to note how far the tubers produced from plants thus raised will compare with those grown direct from planted tubers.

University College, Reading .- The new training garden to be opened on Friday next, June 24, is the old Portland Road nur-series of Messrs. Surron & Sons, whither we have journeyed many times in the past to see the steps in the development of the Chinese Primula and other flowering plants. The official opening will be at 3.45 P.M., by the Earl of Onslow, President of the Board of Agriculture. There will be a reception at 3 P.M. by Mr. and Mrs. Alfred Palmer, on the lawn of the College. We feel sure that much useful teaching and experimental work will be done in connection with the College, under the direction of Professor Percival, and wish the College every success with its newly-acquired means of imparting instruction.

THE WISLEY GARDENS.—When visited on Saturday last very many objects of beauty were seen and admired. Specially charming near the garden entrance were masses of diversely coloured forms of Tree-Lupins, planted informally on each side of a small ditch, amidst Rhododendrons.

with here and there blue and yellow Irises thrown in. This planting, serpentine in form, extended to a considerable length, and can only be fitly described as very beautiful. The strain of Japanese Primulas the late Mr. G. F. Wilson had created, was in luxuriant bloom and showing many colours. As grown at Wisley these Primroses are indeed glorious. The Ferns in every direction have just now very beautiful foliage, and exhibit great luxuriance. Shrubs of many descriptions were in great bloom. Paul's Carmine, single Rose, a huge hush, was a most brilliant object. Everyone who can should try and see the Wisley Gardens at least three or four times each year.

THE ROYAL AGRICULTURAL SOCIETY'S EXHIBITION will be opened at Park Royal, on Tuesday next, June 21, and continue open until Saturday, June 25. Park Royal is near to Willesden, Acton, and Ealing, and now that the place is becoming more widely known, it is hoped that the exhibition this year will meet with financial success.

PRESENTATION. — Mr. A. DYE, who has recently been appointed gardener at Tring Park, was on Friday last the recipient of a handsome testimonial, consisting of a walnut pedestal writing-table, presented to him by the general garden staff. Mr. DYE acknowledged the gift, expressed his pleasure, and hoped that the good feeling existing between them would continue.

THE LAXTON STRAWBERRY.—Messrs. LAXTON BROTHERS, Bedford, have shown us a few fruits of this new variety that were gathered in the open on June 14, which is much earlier than most varieties are ripening this season.

CYPRIPEDIUM ROTHSCHILDIANUM.—We have received a magnificent spike of seven flowers of this handsome Cypripedium from Mr. J. May, gr. to J. B. Joel, Esq., Northam House, Potter'a Bar. A photograph of the plant shows it to be growing in a pot 15 inches in diameter. A secondary spike bears four flowers. It is very rarely that C. Rothschildianum produces seven flowers on one spike, therefore the cultivation in this instance has been very successful. A fine specimen of the species was illustrated in the Gardeners' Chronicle for March 3, 1900, p. 137, from a photograph taken by Baroness Addline De Rothschild.

WARNING! PHYLLOXERA.—We are sorry to have to state that specimens of the root-form of this insect have been sent us from a garden in Sussex. We have not seen such an attack for some few years, and were in hopes that the plague had been stamped out. Gardeners should be on the look-out, and when certain of the nature of the attack, take the most drastic measures to get rid of the pest. Necklace-like roots, with minute yellowish insects like miniature grains of rice, should excite the strongest suspicion. The leaf-gall caused by these creatures is much less common in our experience.

THE WEATHER IN ABERDEENSHIRE.—Writing under date of Friday, 10th inst, an Aberdeenshire correspondent says :- "During the last fortnight the weather, with frequent days of fourteen hours' sunshine, has been most suitable for gardening operations, and great progress has been made in field and garden. Not since 1896 has there been so lavish a display of blossom on all fruit-trees and shrubs. Apple and Pear-trees were a magnificent show. Fruit-bushes and Strawberry-plants are loaded with fruit. Raspberries, though plentiful, are later this season-a happy prospect in comparison with the last two deplorable seasons. One growl, however, may be heard from out this pæan of joy, and that is caused by the desire for rain."

PUBLICATIONS RECEIVED . - Meteorological Notes and Remarks upon the Weather during 1903, with its effects upon Vegetation, by Jas. Whitton, Superintendent of Parks, Glasgow. Comparing the records with those of previous years, the most outstanding feature of 1903 is the heavy rainfall registered, greatly in excess of that of the past twelve years. . . Crops ripened slowly, and harvesting operations were performed under unwonted difficulties with extremely unsatisfactory results. The health of the community was not affected adversely by the atmospheric conditions."—The Garden Village of the small Holdings Association, by James Long (Manchester Statistical Society). An interesting paper on an important topic.—Botanical Survey of a Pasture, by R. C. Gaut. A report on investigations carried out during the summer of 1903 in one of the fields of the Manor Farm, Garforth, about 8 miles from Leeds.—Annual Report on the Botanic Gardens, Singapore, for 1903, by H. N. Ridley, Director. Many experiments with Para Rubber were made. The new herbarium and with Para Rubber were made. The new herbartum and museum building were completed. -Bulletin of the Department of Agriculture, Kingston, Jamaica, April. Contents: Handling and Packing of Fruit, Banana Experiments, &c. - Bulletins of Miscellaneou Information, Trinidad, January and April (J. H. Hart, F.L.S., Superintendent, Botanical Department). These publications contain assusual manypapers useful to their readers, and we note particularly articles on the Fruit Industry of Jamaica, Report by Mr. W. E. Smith and Vanillin as a Subparticularly articles on the Fruit Industry of Jamaica, Report by Mr. W. E. Smith, and Vanillin as a Substitute for Vanilla.—Il'est Indian Bulletin, vol. v., No. 1... Contents: West Indian Starches, Sweet Potalos at Barbados, Fruit Industry of Jamaica, Lemon Industry in St. Vincent, and Naudet Process for Extracting Cane-Juice.—Agricultural Bulletin of the Straits and Federated Malay States, edited by H. N. Ridney, Director of Bottanic Gardens; March. Contains many useful notes, chiefly relating to rubber.—Proceedings of the Agri-Horticultural Society of Madras, October to December, 1993. The Society is in a satisfactory condition and Horticultural Society of Madras, October to December, 1903. The Society is in a satisfactory condition and doing useful work. — Department of Agriculture. Brishane, Botany Bulletin No. XVI., June 1903—Contributions to the Queensland Flora, by F. M. Balley, F.L.S., including descriptions of fungi collected by Drs. L. Diels and E. Pritzel in Australia, many new to science. — Contributions to the New Guinea Flora, by F. Manson. Bailey, F.L.S., Colonial Botanist. A paper describing: new species of plants sent by Captain F. R. Barton, irom New Guinea to Queensland.—Il'heat Growing in Canada, by William Saunders. Director Dominion Experimental Farms. From the Michigan State Agricultural College Experiment Station, Entomological Department, Special Bulletin No 24 (February), Insects Injurious to Fruits in Michigan, by R. H. Pettit, and Special Bulletin No. 25 (March), Botanical Department: Fungous Diseases of Fruit in Michigan, by B.O.Longyear.

—Sixteenth Annual Report of the Agricultural Experiment —Sixteenth Annual Report of the Agricultural Experiment Stations of the Louisiana State University and A. & M. College for 1903. In spite of an extremely unfavourable stason good work was done, though the crops were unsatisfactory on the whole—Bulletin of the Agricultural Experiment Station of the Louisiana State University, by W. C. Stubbs, Director and State Chemist: Analyses of commercial fertilisers and Parfagreen.—Key to the Genera of Woody Plants in Winter, including those with hardy representatives found, growing wild or in cultivation within New York State, by K. M. Wiegand and F. W. Foxworthy. A useful pamphlet, dealing with about 180 genera, and to help the student to trace to the genus any woody plants found in the above-meutioned area.— Aronng the pamphiet, dealing with about 180 genera, and to helpthe student to trace to the genus any woody planis
found in the above-meutioned area. — Anung the
Bulletins from the U.S. Department of Agriculture wenote the following: Farmers' Bulletin No. 188, Weedoused in Medicine, by Alice Henkel; Farmera' Bulletin
No. 195, Annual Flowering Plants, by L. C. Corbett;
Bureau of Plant Industry Bulletin No. 59, Pasture,
Meadow, and Forege Crops in Nebraska, by F. L. Lyon
and A. S. Hitchcock; and Bulletin No. 52, Wither-lipand other Diseases of Citrous Trees and Fruits, by P. H.
Rolis; and Bulletin No. 57, Methods used for Controllingond Reclaiming Sand Dunes, by A. S. Hitchcock;
Division of Entomology, Bulletin No. 46, Proceedings of
the Sixteenth Annual Meeting of the Association of Economic Entemologists.—From the Philippine Bureau of
Agriculture: Farmers' Bulletin No. 1, A Primer on the Agriculture: Farmers' Bulletin No I., A Primer on the Cullivation of Sugar-Cane, by W. S. Lyon.—The Botanical Magazine, Tokyo, February 20, with articles in English and in Japanese.

GUIDE-BOOKS RECEIVED.—The modern guide-book is not a mere printed list of train services and of attractions peculiar to certain towns, but may fairly claim to be a work of art. As an instance of this we may mention the following publications received:—Holidays in Eastern Counties, edited by Percy Lindley, and pleasingly illustrated, and the Great Eastern Railway Company's Tourist Guide to the Continent, equally attractive, and also edited by Mr. Lindley. These-wolumes are published from 30, Fleet Street, E.C.—We also note the receipt of Herne Boy, by Tighe Hopkins; a eulogistic description of the town and weighbourhood, said to be the "healthlest place in England." The pictures show it to possess attractions for the pleasure-secker as well as for the invalid or convalencent.—Holiday Tours in Switzerland, Brighton Railway Company.

SORTING GOOSEBERRIES.

THE scene represented in fig. 173 is a familiar one in market nurseries at this season in Kent and elsewhere. During the period Geoseberries are being gathered the word "time" is called, and all the pickers then leave the plantations, bringing the gathered berries with them. Each carefully sorts and cleans the berries she has picked, which are then weighed by the foreman.

NOME CORRESPONDENCE.

The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

THE FRUIT PROSPECTS.—I was much pained the other day, when enquiring as to the nature of the fruit crops in West Middlesex. to learn that they were somewhat disappointing, so large a proportion of the embryo fruits having dropped. I have seen similar results in Mid-Surrey; still there seems to be a good deal of diversity of opinion as to prospects generally, and the actual facts will only be known when the annual censua is taken for the Gardeners' Chronicle next month.

mids, and that they were planted in holea which he described as the size of the inside of a silk hat; the roots were got into these by the simple expedient of twisting the stem round and round, just as one used to get a gun-cleaner covered with tow into the barrel of a muzzle-loading gun; failure of any kind might result from such treatment. Where are the plantations referred to "where this variety was first raised"? I should like to visit them. As has been several times stated in your columns the original tree was found growing in a garden at King's Newton, Derbyshire, and nothing whatever was known about its parentage. I do not know any grower of Apples either in King's Newton or the neighbouring parish of Melhourne who has planted any appreciable number of trees of Newton's Wonder, but if I can get his address will certainly pay him a visit. Anyway the Apple in question has been before the public quite long enough to stand or fall upon its own merits, but as the distributor of this popular variety I am interested in knowing what can be said against it. Would it not be advisable to get more detailed particulars before condemning one of the finest Apples in cultivation? A. H. Pearson, Lowdham.



Fig. 173.—sorting gooseberries.

Probably no returns are more reliable than are those from the gardeners of the United Kingdom, because they have no interest in reporting other than the truth. In Middlesex the statement was volunteered that the great thinning of embryos which had taken place was due to our having so many dry, cloudy nights, rather than moist or dewy ones. It is always difficult to ascertain the exact causes, but if some fruit suffers from such a cause, why not all? Possibly it will be found in the end that a cold, wet autumn had its influence in not securing well-matured fruit-buds. A. D.

about this Apple on p. 375 of your last issue, I should like to ask your correspondent "E. T." for some further particulars. He says that an Evesham grower finds Newton Wonder a failure on Paradise stock, and that it suffers much from canker. Could he give the Evesham grower's name? We have sent a good many trees of Newton Wonder on the Paradise stock into the Evesham district, but have never heard of any such report as is now quoted. Since this Apple was sent out by us some seventeen years ago we have raised very many thousands both on Paradise and Crab stocks, and it is quite news to us that it is subject to canker. Of course, something may depend upon the method of planting. I remember a grower from that district telling me that one of his neighbours had a number of good-sized pyra-

INCARVILLEA DELAVAYI.—In stating my experience recently in the Gardeners' Chronicle I had no desire to suggest that the peculiar behaviour of certain plants was universal. In several communications that have reached me, however, the latter view has been taken. I gave the facts of my experience as a meana of accounting for the non-appearance of the plant, so that any readers might proceed with caution in similar circumstances. In my own case the failing plant had its crown within 3 inches of the surface, and with a 2-feet bed of good soil for its roots. Moreover, this plant with others reaches $3\frac{1}{2}$ feet high now, and flowering spikes are free. In one garden of my acquaintance all the plants failed to appear. E. H. Jenkins.

ORCHIS HIRCINA, L., THE "LIZARD ORCHIS."
—Having noticed in the Gardeners' Chronicle
(p. 340, May 28, 1904) that Orchis hircina, flowering at Kew, hore forty flowers on a spike 18 inches
high, it may be interesting to compare a plant
now in flower here. This is 3 feet high, and carries 129 flowers on a spike 20 inches high, all at
present in good condition. The lohes of the lip
are 2½ inches long, measured from the centre of
the flower. This is one of two bulbs brought
from Granada (Spain) by Lord Walsingham
in 1901; the other has also flowered twice in an
open garden in the Isle of Wight. They were
growing together with Orchis simia, Lam., on a

dry bank above the outskirts of the town beyond the Alhambra. W. Riddell, The Gardens, Merton Hall, Thetford.

SCHIZANTHUS WISETONENSIS.—This charming annual, one of the most valuable introductions in recent years, should, in order to have it in its best character, he treated as a cool greenhouse plant. It can be grown both as a biennial and an annual—as a biennial to bloom in April and May, and as an annual to have in good character in July, August, and September. Very fine specimens can be grown in a 32-sized pot, and as it is found there is among the seedlings a good proportion of plants that develop a dwarf compact habit of growth, this type is admirably adapted for pot culture. I have found among the aeedlings some of more straggling and taller habit of growth, and these generally produce blossoms of purple tints, some handsomely marked. A suitable compost is made up of good loam, some well-decayed manure, leaf-soil, and a little sand; the pots must be well drained. I tried the Schizanthus on two consecutive years in the open ground, but the cold, wet, dull summers did not suit it. It might succeed better in a drier and sunnier summer, but it is certainly seen at its best when cultivated in pots. R. D.

INFLUENCES ON THE COLOURING OF FRUITS (see p. 358).—I have previously pointed out in these pages that in relation to Apples pronounced to be "green" at the autumnal Crystal Palace Exhibition of the Royal Herticultural Society, the absence of rain in and about August seemed to account for the want of colouring in Apples, while in seasons of a fair amount of rainfall a month or six weeks before the show, Apples would be generally well coloured. The explanation of this difference which I offered was that as natural nitrification of the seil is the result of the effect of much sunny weather, this creation of fertility in the soil finds expression in growth of branch and leaf to the detriment of the maturation and colouring of fruit. In the converse of those circumstances, ample rainfall would cool the heated soil and reduce nitrification, so that energy in trees could be concentrated on matura-tion and colouring of fruits. Of course I am aware that a fair amount of humidity in the soil aware that a fair amount of humidity in the soil is requisite for nitrification to become most effective, which it does, I think, somewhere between 100° to 110° F. Whether colouring of fruit is in reality the result of rain falling on and touching the fruit individually, or follows from the cooling of the soil, or is partly attributable to both functions, I am not able to distinguish. Doubtless fruit, when approaching maturity, is largely under the influence of sunshine, and may then be experiencing the chemical preparedness be experiencing the chemical preparedness for the effects of subsequent rainfall, which appears to be the immediate predisposing cause of high colouring. When, therefore, in the present reference to the subject, Peaches under glass are placed out of reach of direct sun's rays hy shading, so that consequently the Peach-horder cannot be affected and heated, but has water supplied artificially all the same, the circum-stances resemble outdoor conditions when rainy weather supervenes, in both cases probably accounting for the effect of higher colouring. As the matter merits some attention, and evidence is not ahundant, I should also like to refer to an explanation I offered when a year or two ago in these columns experiments on Peas were referred A correspondent in the West of England stated that nitrogenous fertilisers applied to the crop in relation to the earlier sowings were effective, but on all the later sowings such applications were without effect. The explanation I offered was, obviously, that natural nitrification in the soil is poor in the spring menths, but that its rise in the heat of summer months wipes out the evidence of effects of nitrogenous artificials at that time in relation to leguminous plants, and that they are, therefore, superfluous in dry seasons, irrespectively of the need of watering all artificials. Although the three instances here cited for the application of the principle cover different planes, they seem as if they might be referred to one and the same cause, the effect of the high natural nitrification in the soil during dry, sunny seasons, with practical lessons derivable from the observa-tion, a position that might be strengthened by

other contributors to your columns. In relation to Peas, nitrification also accounts for the fact that ample watering is probably more effective than copious manurings with dung, although some of the latter applied as a mulch would save some trouble in watering. H. H. Raschen, Sidcup, Kent, June 4, 1904.

APPLE ECKLINVILLE SIEDLING.—In aeveral counties where I have seen this variety planted, it has succeeded remarkably well. I have planted it very extensively on several large estates, in some instances amounting to hundreds of orchard trees in a season. The tree has a good stout, upright, clean stem, and makes a head which the eye of the purchaser notices at once. I know of no instance where this Apple will not succeed, upon heavy stiff red marl to light sand. Its cropping qualities are excellent upon any form of tree; any stock suits it, and I have never seen it affected with canker. The skin and flesh of the fruits being of a soft nature show every bruise and mark; but if the fruit can be disposed of locally or put upon the market without bruising, good prices will follow. With a great many planters the variety Warner's King has become a favourite. It is a good market Apple and is not so easily injured as Ecklinville Seedling. W. H. Clark, Aston Rowant Gardens, Oxon.

CYTISUS LABURNUM VAR. ADAMI.—Referring to Mr. Bean's remarks on p. 371, I may say that a very good specimen is flowering in these gardens at the present time, showing all three varieties very freely. L. E. Walker, Barton Hall Gardens, Bury St. Edmunds.

HARDY PALMS (p. 330).—"E.A B.," Cheshunt, gives us a distinction between Trachycarpus excelsua and T. Fortunei—"The petioles of the former are armed on the margins with sharp teeth, those of Fortunei are smooth." Is this a recognised distinction? With me it is just the contrary. I have fine specimens of T. Fortunei which flower and fluit, and the petioles are thorny; and I have lately received T. excelsus from Bordighera and the petioles are smooth. Henry N. Ellacombe.

ERITRICHIUM NANUM (see also pp. 342, 374, 388).—Mr. Pearson's communication, succeeding that written by M. Correvon, must make those who have read both, and are trying to establish this beautiful alpine plant in this country, wonder under what conditions the plants may eventually be grown with success. I thought this plant was most exacting in its requirements, yet both the above writers have seen it growing and flourishing under conditions so adverse, particularly as regards moisture about the plants and the altitudes of the situations, that I am tempted to think that it may yet become a general favourite when the essential conditions to its growth are discovered. When in flower the plants are the most attractive of alpines. Bramble, Surrey.

BLACK CUFRANT.—I send you a few shoots of Black Currant, taken from some bushes which are badly infested with green-fly. The shoots were taken from two bushes in the same row, not two yards separating them. You will notice that the leaves are scalded or scorched on one set of shoots, of the variety Black Naples; and on the other, variety Victoria, though infested equally badly with the fly, the leaves are practically uninjured. All Black Currants in this neighbourhood, and they are cultivated largely, are to a great extent so badly attacked with green-fly, and possibly a blight of some kind as well, that the crop will be very small this year. I have been through some gardens during the past few days, and it was pitiable to see the bushes, some of them with not a leaf on, and the fruit all dropped too. Surely, green-fly alone could not cause the leaves to fall in such a wholesale manner in a few days! I should be glad if you would let me know in your valuable paper if you find any injury on the enclosed other than caused by fly. William R. Spencer, The Manor Gardens, Loughgall, Co. Armagh, June 13. [They are badly infested with green-fly in various stages. Syringe them with Quassiawater, Tobacco-water, or petroleum emulsion made by mixing 2 oz. of petroleum to a gallon of hot soap-suds; keep the mixture constantly stirred during its application. Ed.]

BEGONIA "AVALANCHE."

This handsome white Begonia was exhibited by Messrs. Blackmore & Langdon, of Tewerton Hill Nursery, Bath, at the recent Temple Flower

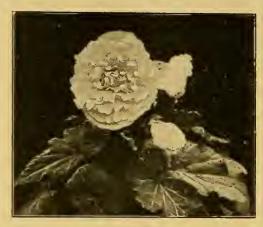


Fig. 174.-Begonia "Avalanche": Plowers white.

Much reduced.

Show, when the Floral Committee recommended it an Award of Merit. Its beautiful wavy petals are pure white, and set in the outer segments as though surrounded by a collarette. The flowers are of large size and substance.



FIG. 177.— "PALLENGE TROPHY TO BE OFFI RED FOR GRAPES AT EDINBURG I

THE AUTUMN SHOW AT EDINBURGH.

At the autumn shows of the Royal Caledonian Horticultural Society the exhibition of Grapes always forms a striking feature, and in order to still further stimulate the cultivation of this important fruit by British gardeners a handsometrophy has been presented by Mr. W. H. Massie, of the firm of Dicksons & Co., nurserymen and seedsmen, Edinburgh, for competition in this class. The trophy, which takes the form of a Vase, is of the value of 50 guineas, and it stands 28½ inches high. The upper part of the bowl of the Vase is richly chased, the ornamentation consisting of representations of bunches of Grapefruits and foliage, and on opposite sides of this part are semicircular spaces, on one of which is ioscribed, "Royal Caledonian Horticultural Society Scottish Challenge Trophy for Grapes, presented by Mr. W. H. Massie, 1, Waterloo Place, Edinburgh, 1904," the other being reserved for the names of the winning competitors. The ornamentation of the top and bottom parts of the bowl is of Runic design, as is also that of the handles. These latter arise from near the baseof the bowl, and curving inwards at the extremities terminate in short spindle-shaped knobs. The upper termination of the Vase takes the form of a Scotch Thistle, and this is surmounted by a figure of Saint Andrew and Cross. The Vasestands on a plinth of black ebony, in which is inserted a representation of the Society's Medal. The trophy is offered in a class for eightbunches of Grapes, not more than two bunches of any variety, and the winning competitor also obtains the Society's Gold Badge and £15 in money. In the event of one competitor winning the tropby three times it becomes his absolute-property. The competition for it takes place in September of this year, and is to run through the-International Exhibition, which is to be held by the Society in 1905.

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 14.—The last meeting but one that it is expected, the Royal Horticulinnal Society will hold in the Ortili-Ha'l of the London Scotiish Volunteers at Westminster was held on Tuesday last. There was an excellent display on that occasion (a miniature "Temple" Show), and the Hali was full.

Orchids were numerous, and the ORCRID COM-MITTEE'S awards included one Botanical Certificate and one Award of Merit.

The Floral Committee recommended eight Awards of Merit.

The Fruit and Vegetable Committee recommended an Award of Merit to a new variety of Cucumber showeby Mr. Mortimer.

In the afternoon there were as many as 257 new Fellows elected (!), and afterwards the Rev. GEO-HENSLOW delivered a lecture.

Floral Committee.

Present: W. Marshall, Esq, Chairman; and Messra. C. T. Druery, H. B. May, R. Dean, Jas. Hudson, W. Howe, R. Hooper Pearson, G. Reuthe, C. R. Fielder, Chas. Dixon, Jao. Jennings, J. W. Barr, R. C. Noteutt, Chas. Jeffcies, R. W. Wallace, W. Cuihhertson, C. E. Pearson, Chas. E. Shea, Geo. Gordon, E. H. Jenkins. C. Blick, Ed. Mawley, Geo. Paul, E. T. Cook, A. Perry, F. Page Roberts (Rev.), and H. Turner.

Some Sweet Peas were shown by Mr. W. J. UNWIN, Histon, Cambridgeshire, of two varieties, Gladya Unwin, soft pink in colour, hooded; and Histon Favourite, of the same colour as the variety Lady Grisel Hamilton.

From the Hon. Mrs. EVELYN CECIL, Mychett Heath, Poole, came a Scilia in flower, said to come from Zululand. The flower-spikes were more than 3 feet high, and the tiny flowers were slate-coloured. It was probably S. natalensis.

An excellent variety of Pink was shown by Mr. JAS. DOUGLAS, Edenside Nurseries, Great Bookham. There were nice large plants in pots, and tley tore a number of large Carnation-like flowers, while, with faint pink markings. It is recommended for cultivation in the garden border.

MARTIN R. SMITH, Esq., Warren House, Hayes, Kent (gr., Mr. C. Blick), exhibited several varieties of Carnations in pots. In addition to that which gained an award, there were Lady Hermione (of soft rose colour), Armads, flowers of Cecilia. &c.

A very bright scarlet-flowered Zoral Pelaigonium was shown by T. C. Beck, Esq., Duke Street, Henleyon-Thames. It was named Mis. A. M. Beck, and the plants bore strong trusses of flowers, of similar sutstance to those of H. Jacoby, but of brighter scarlet.

Messrs. Frank Cant & Co, Braiswick Nurseries, Colchester, had a display of Roses in vases and boxes admirably staged, and presented in first-class condition. A batch of the handsome Lady Roberts found many admirers; Harrisoni, Austrian Copper, Paul's Carmine Pillar, and other climbit g varieties (Silvergilt Flora Medal).

Mr. G. PRINCE, Longworth, Berks, also set up a charming display of cut Roses. Boxes contained choice flowers of some of the well-known varieties, including Bellefleur, Red Copper Briar, Madame A. Carrière, Maman Cochet, Mr. E. Mawley, and Harrisoni (semi-double, yellow), were all shown in fine condition (Silver Flora Medal).

Mesers. B. R. Cant & Sons, Colchester, staged vases of cut Roses, including a new pillar Rose named Maharsjah, mentioned under "Awards" (Silver Flora Medal).

Massers. PAUL & Son, Cheshunt, N., staged cut Roses in vases, principally of the climbing varieties, some choice Fæonies, Lathyrus rotundifolius, and Lonicera Hildebrandtii, the latter having yellow flowers, with corolla tubes over 6 inches in length, and twisted at the base. Some hybrid Heucheras were also shown by Messrs. FAUL & Son (Silver Flora Medal).

Messrs. Cannell & Sons, Swanley, sent Aquilegias and Gloxinias, both of a desirable strain, and presented in a tasteful manner, the former lightly arranged in vaccs with pots of Maidenhair Fern. Violacea is a striking flower of Gloxinia, the tute inside heling coloured a deep magenta. Cannell's Scarlet, Mrs. Watson (mottled), Her Msjesty (white), and Emperor Frederick are also good varieties of this flower (Silvergilt Banksian Medal).

Mr. CHAS. TURNER, Royal Nurseries, Slongh, staged a group of pot Carnations. The plants were robust and carried good foliage and flowers. Varieties of Souvenir de la Malmaison were largely represented, including several good forms of this type, such as Pricess May, a dark form, and Sir Bevys, which is still darker. Emperor and Falca are good fancy varieties; Pagan is of an unique slaty-buff colour. Artisan is a pleasing Picotee (Silver Flora Medal).

W. James, Esq., West Dean Park. Chichester (gr., Mr. W. H. Smith), sent some splendidly-grown plants of Carnations H. J. Jones, and varieties of Souvenir de la Malmaison. The latter were large plants in 12-inch pots, well grown, and carrying about three dozen large blooms (Silver-gilt Flora Medal).

A large number of varieties of Codiæums (Crotons) was shown by Mr. L. R. Russell, Richmond, Surrey, principally of the yellow coloured section, although some reds were included. Diana is a new variety with pleasingly frilled edges to the leaves; Eysisn and Daphne are two good varieties (Silver Banksian Medal).

Mr. H. B. May, Upper Edmonton, staged forty-two species and varieties of Nephrolepis. This collection was very much appreciated, and contained many well-grown specimens of this useful genus of Ferns (Silvergilt Flora Medal).

Messrs. Jas. Veitch & Sons, Kirg's Road, Chelsea, had a pleasing batch of Gloxinias, working in the group some of their new plants, such as Lobelia tenulor, and Rehmannia angulata. The forms and colours of the Gloxinias were commendable, and the plants robust and well cultivated. Among the group we noticed Gloxinera × "Brilliant," with flowers of a Gesneraceous type. Messrs. Veitch also set up a number of vases with Aquilegia blooms, working in the group spikes of Eremurus robustus and Digitalis randiflora, the latter with a pleasingly-spotted throat. The Aquilegias were of good colours and form (Silvergilt Flora Medal). Messrs. Jas. Veitch & Sons, Lid., also exhibited two new varieties of Caladium—C.

Admiral Togo, with delicate, reddish-coloured leaves,

with green margins; and Elsie Hoffmann, a very richly

coloured variety, with leaves of crimson and bronze-

green.

HARDY ILOWERS.

Messrs. R. H. Bath, Ltd., The Floral Farms, Wistecb, staged Pæonies, Pyretbrums, Irises, and a few miscellaneous hardy cut flowers. Pyrethrum Mrs. Batemsn Brown has large crimson flowers, with a pleasing eye; Favourite, Standard, and Flsie Gertrude are also varleties worthy of mentior. The Pæonies contained many excellent varieties; albiflora carnea is a handsome, rosy-coloured single, and very striking; Fairy, Mons. Boucharlet, and Ceres are also good (Bronze Flora Medsl).

Messrs. WM. CUIBUSH & SON, Highgate, London, N., set up a group of hardy plants in a tastefully decorated manner. Eremutus were a feature, including F. Bungel, Pyrethrums of good colours, Liliums, &c, with foliage plants suitably worked in, formed a pretly group. Xerophyllum asphodeloides and Saxifraga nutata were both interesting (Silver-gilt Banksian Medal).

Messrs. GEO. JACKMAN & SON, Woking Nursery, Surrey, staged cut flowers of hardy plants—Liliums, Irises, Poppies, including some pleasing Iceland varieties, Lupins. Pæontes, &c. A nice climp of Cypripedium spectabile in pots was shown in this collection; Achillea alpina has very dense heads of its white flowers and pretty serrulated foliage; Pæony Paline has very handsome single crimson flowers of reriect form (Silver Banksian Medal).

Mr. T. S. WARE, Ware's Nurseries, Feltham, Middlesex, also contributed a large group to the hardy cut flower section, retting up some pleasing vases of blooms of Pæonies, Irises, Lupins, Popples, Campanuias, &c. Campanula muralis was a mass of flower in a small pan (Silver Banksian Medal).

Mr. R. C. NOTCUTT, Wood's Nursery, Woodbridge, sent a contribution of Irises. Poppies, Campanulas, Delphiniums, Pyrethrums, &c. Papaver orientale "R. C. Notcutt" has pleasing salmon pink coloured flowers (Silver Bankslan Medal).

Messrs. R. Wallace & Co., Kilnfield Nurseries, Colchester, also set up a group of herbaceous flowers, Pæonics, Irles, Lupins, Ixtas, Phloxes, Liliums, &c. Brodiæs laxa, Achillea alpina, and many other choice and interesting members were included (Silver Flora Medal).

Messrs. W. Bull & Sons, King's Road, [Chelsea, staged a collection of Spanish Itis flowers in vaccs. Sunbeam (pure yellow), Darling, Mrs. Langlry, Gold Cup, and Blue Flag were some of the handsomer varieties included (Bronze Flora Meds.).

Mr. G. REUTHE, Hardy Plant Nursery, Keston, Kent, set up a group of hardy cut flowers, in which varieties of Iris germanica were a prominent feature, and including such handsome varieties as Queen of May and Gracchus. Achillea mongolica has dense heads of numerous white flowers—a good type of plant for supplying cut bloom (Bronze Flora Medal).

Mr. Anthony Wateren, Knapp Hill Nursery, Woking, Surrey, set up a number of trusses of Rhododendron flowers in trays, some unnamed, yet possessing first-class qualities. "Mr. George Paul" had a fine truss of snow-white flowers. Other varieties were remarkable for the brilliancy of their orange spots against a white or pale illac background. We shall probably hear more of these fine varieties.

Mesers. Hugh Low & Co., Bush Hill Park, Enfield, staged a small collection of Carnations, including The Pearl and Innocence, both pure white varieties.

Mr. M. PRITCHARD, Christchurch, Hants, also set up a stand of hardy cut blooms. Freenies were shown well, also some grand spikes of Eremurus. Campanula rupestris was finely flowered, also C. nobilis. Both Spanish Irises and Ixias were a leature.

A similar group to that just described was staged by Mr. Amos Perry, Winchmore Hill, Londov. Here again was displayed a choice collection of hardy blooms, with many flowers of bright and showy colours, Poppies, Heucheras, Lupinus, Phlox, Irlses, and similar herbaceous species. Some choice varietles of Calochortus occupied a portion of this stand.

Messrs. Kelway & Sons, Langport, Somerset, had a large number of Pæony blooms, for which this firm is justly renowned. Lyde (large rosy coloured double), Snowflake, Lady Algernon Lennox (with white centre and rosy outer petals), and Countess of Warwick (a handsome single), are but a few of the kinds presented. Some good Pyrethrums and Delphiniums were also staged by Messrs. Kelway (Silver-gilt Bank; ian Medal).

Meisrs. Barr & Sons, 11, 12, 13, King Street, Covent Garden, W.C., staged a handsome group of Freeny flowers in vases, chiefly doubles, although a few single forms were included. The group contained many fine shades of colour, some of rosy - pink being very handsome (Silver Panksian Medal).

Messrs. Dobbie & Co., Rothesay, staged vases of Aquilegias on a white table-ground with Maidenhair Ferns suitably worked among them for effect. The colours and form were good and the strain indicative of careful selection (Bronze Flora Medal).

AWARDS.

Begonia Morrisiana specio.a—This variety is described as a cross between B. bollvlensis and the variety Glory of Stanstead. It has very large double flowers [male] of bright scarlet colour, which, being very heavy, droop perfectly. Every growth requires to be tied to a stake in order to keep it in a perpendicular position, but it would make a fine flowering plant for large baskets, and should besuspended atsome considerable distance from the ground, as the growths would hang 2 feet or more below. A group of profusely flowered plants was shown by G. J. Morris, Esq., St. Dunstan's, Hendon (gr., Mr. A. Simmond) (Award of Merit).

Carnation " Peller Gal."—This is a very large-flowering, lemon-yellow-coloured Carnation of the Souvenir de la Malmaison type in respect to the flower-bud, but having narrow leaves. The flowers were 4 inches across, but possessed no perfume. Shown by MARTIN R. SMITH, Esq (Award of Merit).

Dianthus x calalpinus.—This is a pretty little hybrid Dianthus from a cross between D. alpinus and D. callizonus. The flowers are rather more than an inch across, circular in form, of bright reddish-purple colour with chocolate-coloured ring round the centre, obtained evidently from D. callizonus. There were thirty to forty flowers upon the plant, shown in a 5-inch pot. It is hoped the hybrid may be cultivated much more easily than D. callizonus. Shown by Mr. G. REUTHE (Award of Merit).

Hesperis matronalis litacina plena.—This is an old but rare variety of the well-known Hesperis matronalis (Rocket), with mauve-coloured double flowers. Shown by Lord Aldenham, Aldenham House, Elstree (gr., Mr. E. Beckett (Award of Meiit).

Parany "Nellie,"—This is a very handsome herbaceous variety of the single flowered section. The flowers are 10 inches across, of rich rose colour with an effective mass of yellow stamens. Shown by Messrs. Kelway & Sons (Award of Merit).

Parony "Mrs. French Sheldon."—A very large double flower of globular form, white with yellow centre that tints over the white, and the outer segments are marked with rose colour. Shown by Messrs. Kelway & Sons (Award of Merit).

Rose Austriace striute.—This is one of the prettiest varieties of the Austrian Briar, all of which are among the most lovely of Roses. In the particular variety under notice, the flowers are rich yellow coloured in the centre, but reddish-coloured at the apex of the retals, the colour taking the form occasionally of stripes. Sprays were shown by Alfred Tate, Esq., Downside, Leatherhead (gr. Mr. W. Mease), under the name of Downside Austrian, but the same variety having been cultivated for many years in Miss Willmott's garden under the name of striata, the Committee thought it best to keep to the old name (Award of Merit).

Rose Maharajah.—This is a handsome Pillar Rose, which is said to make growths 8 feet long in a season. The large single flowers are deep crimson, about the same colour as those of Barbon Job, but they have more substance. Shown by Messis. B. R. Cant & Sons (Award of Meri!).

Orchid Committee.

Present: Harry J. Vei'ch, Esq. (in the Chair); and Messrs. Jac. O'Brien (Hon. Sec.), J. Gurney Fowler, de B. Crawshay, F. Wellesley, W. Cobb, W. A. Bilrey, H. T. Pitt, R. G. Thwaites, F. W. Ashton, G. F. Moore, W. Boxall, H. A. Tracy, W. H. White, W. H. Young, J. Colman, H. Ballantine, J. W. Potter, H. Little, F. Sander, and T. W. Bond.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, was awarded a Silver-gilt Flora Medal for a very fine group, the plants in which, all excellently well grown, represented a very wide range of genera. species, varieties, and hybrids. The large-flowered Cattleyas included a rare selection of varieties of Cattleya Mossiæ from the pure white variety Wageneri to the lavender-tinted variety coru'ea; and the handsome Lady Wigan, Beatrice, and Dulcie. C. Mendeli was in three fine forms; C. Warneri, two well-flowered specimens; and the rare hybrid C. x resplendens in one. The best forms of Ledia-purpurata were Arthur Wigan, Backhouseana, and Russelllana, and among the hybrids were Ledia x cinnsbrosa, L.-C. x Bippolyta, L.-C x elegans-superba, and others. A fice

feature in the group was a grand apecimen of Cœlogyne pandurata with three spikes bearing together thirtyone large flowers. The Phalænopsis included the rare P. speciosa, P. amabilia, and P. Luddemanniana; the Cypripediums, C. bellatulum, C. b. album, C. Godefroyse, and C. x W. H. Young. At the back of the group, and gracefully arching forward, were fine specimens of Sobralia macrantha with two of the pure white forms bearing many large flowers; and among other things noted were two good Lælia Digbyana, a finely-flowered plant of Miltonia vexillaria G. D. Owen, and two of the variety Empress Victoria

Sir TREVOR LAWRENCE, Bart., Burford (gr , Mr. W. H. White), showed a small collection of rare Orchids, including a fine apike of Cypripedium Stonei platytæninm with the typical C. Stonei for comparfson; a finely flowered plant of Dendrobium x formoso-Lowii, cream-white with yellowish disc and filaments on the lip; a very strong branched spike of Phalænopsis amabilia, and the showy Odontoglossum crispum pardalioum, with very rich reddish-claret blotching on the flowers.

Messrs. Sander & Sons, St. Albana, were awarded a Silver-gilt Flora Medal for a fine group, principally of hybrids, the striking feature in which was the excellence of their strain of Lælio-Cattleya x Martineti and its extreme variation, the flowers on different specimens ranging from the variety delicata with white sepals and petals and only alight purple marking on the lip, to the dark rose variety Saturn, whose labellum had a showy veining of purple, and the bronze or yellow tinged varieties Jupiter, Sonset, and Mara. Over fifty specimens of this fine hybrid were staged. The same remarks apply to the forms of L.-C. × Canhamiana, ahown in less quantity, the best being Rex, Princess of Wales, and splendens. Other things of special interest were Miltonia vexillaria Regina, a large white with pink centres to the sepals and petals; the large rose M. v. Empress Victoria Augusta, the yellow-and-purple Lælia x Yula, and the pretty little Eulophia Lub. bersiana, with white-and-green leaves and alender sprays of greenish flowers.

Measrs. JAS. VEITCH & SONS, Chelsea, secured a Silver Flora Medal for a very remarkable group of hybrid Cattleyas, Lælio-Cattleyas, Lælias, &c., together with a fine selection of C. Mossiæ, of which the two most remarkable were C. M. Rosalind, a superb pure white flower with a faint blush tint on the lip; and C. M. Reineckiana auperba, a very distinct form. Among the hybrids were several good I selfo-Cattley a x Canhamiana, and L.-C. x Apbrodite, the variety excellena of the latter being very handsome. Also present were L.-C. × Lycidas, L.-C. × Ascania, L.-C. × Ascilia, Cattleya x Niobe, I elia x Pacuvia; Cypripcdium x Ajax, and other hybrids. Among the apecies noted were two good examples of Epidendrum prismatocarpum, Cologyne Dayana, several of the pretty Oncidium divaricatum, &c.

Messra. Stanley, Ashton & Co., Southgate, staged a fine group, principally of their fine strain of Cattleya Mossiæ, which included a good C. M. Wageneri and a apecimen of C. M. Reineckiana. The forms of Lælia purpurata were also very ahowy; and with them were good varieties of Odontoglosaum crispum, O. luteo-purpureum, Oneidium curtum, O. flexuosum, O. varicosum, showy Masdevallias, &c. (Silver Flora Medal).

Mesers, Hugh Low & Co., Enfield, had in their group a grand specimen of Cattleya Mossiæ with about fifty flowers; C. Warneri, nine flowers; C. intermedia alba, Cologyne asperata (Lowii); Dendroblum Lowii, the pretty pale lilac Lycaste tricolor, Bulbophyllum Lobbli and its much larger and darker variety Claptonense; Cypripedium Lawrenceanum Hyeanum, and a form of C. callosum Sanderæ flowering out of an importation; the new C. × Baron Kuroki (Lowianum × insigne Chantinii) with showy greenish flowers with heavy blotched lines of chocolate on the dorsal sepais and spotting on the petals, Gongora bufonia, Mas. devallia Carderi, Cattleya Mosaiæ, Wageneri, &c. (Silver Banksian Medal).

Mesars. B. S. WILLIAMS & Son, Holloway, staged an effective group composed of large-flowered Cattleyas. Cymhidium Lowianum, Cypripedium x Gowerianum magnificum, C. × Harrisianum superbum, Iælia purpurata, Lælio-Catileya × Canhamiana, L.-C. × Edouard André, varieties of Odontoglossum crispum, &c. (Silver Banksian Medal)

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), showed Catileya × Fairie Queen, with yellow sepals and petals and a marbling of purple on the lip; Cattleya Mendeli formosa, Rosslyn variety, a charming blu; h white flower with a purple spot on the lip; Irichopilia suavis alba, T. crispa, Champlatreux variety; a large specimen of Odontoglossum citrosmum Rosslyn variety, with many spikes of light-rose flowers, the petals spotted dark-rose; and the delicatelytinted Cattleya Mossiæ Day-dream.

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. Stables), again showed one of his excellent specimens of Odontoglosaum crispum cultivated in a clear glass pot. The plant shown had made a very large buil and a new growth a foot high, as well as the inflorescence of thirteen large flowers, since July last. Mr. CRAWSHAY also showed O. nebulosum Crawahayanum very densely apotted, and O. Uro-Skinneri, Rosefield variety, with a fine rose-blotched lip.

The Hon. WALTER ROTHSCHILD, M.P., Tring Park (gr., Mr. A. Dye), sent an inflorescence of the rare and singular Epidendrum confusum with lanceolate, pale straw-coloured sepais and petals measuring 4 inches from tip to tip, and white labellum with bright purple lines. It has the general appearance of E. fragrans, but the flowers are much larger, the odour very different, and the labellum distinct.

Messrs. A. J. KEELING & Sons, Westgate Hill, Bradford, showed a brilliant acarlet Masdevallia coccinea, M. × Bocking bybrid; I mlia × Vinem, &c.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), showed a fine form of Lelio-Cattleya × Herode (L.-C. × elegans × C. O'Brieniana).

Mr. H. A. TRACY, Twickenham, ahowed Cattleya × Faerie Queen var. Goodsonæ, a fine pale-yellow flower with rose-purple marking on the lip; L.-C. × tyntes-fieldiense and Cattleya Mossiæ "Pearl," a pretty blush-

H. G. GOODSON, Esq., West Hill, Putney (gr., Mr. Geo, E. Day), aent the light-purple Bifrenaria tyrianthina Goodsonæ

C. J. Lucas, Esq. (gr. Mr. Duncan), sent a wellflowered plant of Restrepia elegans.

R. G. THWAITES, Esq., Streatham (gr., Mr. Black), showed a magnificent variety of Odontoglossum Pescatorel with flowers equal in size to those of a good O. crispum, labellum finely blotched with purple.

Awards.

AWARDS OF MERIT.

Latio-Cattleya × Martineti. - A very fine flower of a glowing light purplish-rose with darker rose veining and central bands on the petals. Sepals and petals flushed with bronzy-yellow. Lip claret-purple with yellow disc. From Messrs. F. Sanner & Sons.

BOTANICAL CERTIFICATE.

Restrepia teopardina rosea .- From the Hon. WALTER ROTHSCHILD, M.P. (gr., Mr. A. Dye). A dwarf species with pretty flowers having a white ground, the lateral sepals being densely spotted with rose, and the upper sepal and petals having dark-rose lines.

CULTURAL COMMENDATION.

To Mr. W. H. White, gr. to Sir TREVOR LAWRENCE, Bart., for Cypripedium Stonei platytenium; and Phalænopsis amabilis with a fine branched spike.

NORMAN C. COOKSON, Esq., through the Chairman, gave notice that at the next meeting he should move that the resolution, providing that plants with the number of flowers restricted by disbudding or removal of a portion of the spike should not receive certificates, be rescinded.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (Chairman), and Messrs. Jos. Cheal, W. Bates, S. Mortimer, A. Dean, H. Markham, G. T. Miles, H. Parr, R. Lewis Castle, F. Q. Lane, O. Thomas, Jno. Jaques, S. Norman, and James H. Veitch.

Excellent fruits of Royal Sovereign Strawberry were shown by the Earl of CLARENDON, The Grove, Waterford (gr., Mr. C. Harris), (Silver Banksian Medal).

Mr. H. PARR, Trent Park Gardens, New Barnet, exhibited dishes of Tomato "Trent Beauty," nice fruits of the Perfection type, also fruits of another variety named "Coronation."

Another variety of Tomato was shown by Mr. A. FABIUS, Redlands Nurseries, Emsworth, Hants (Cultural Commendation).

Scedling varieties of Melons were shown by Mesars. WHEELER & SON, Ltd., Gloucester, and Mr. A. SMITH, Woodlands Park, Leatherhead.

Award.

Cucumber "Aristocrat,"-A fine Cucumber of unusually good form, obtained from a cross between the varieties Unique and Sensation. Shown by Mr. S. MORTIMER, Rowledge Nurseries, Farnham (Award of Merit).

LINNEAN.

JUNE 2.-Prof. W. A. Herdman, F.R.S., President. in the Chair.

The President, on taking the Chair, briefly thanked the Society for his election, mentioned that the Linnean Society was the first scientific society he joined early in life, expressed his continued interest in its welfare and assured the meeting that his earnest endeavour would be to maintain the high standard set by his distinguished predecessors in the Chair.

Mr. A. O. Walker exhibited (1) viviparous plants of Cardamine pratensia, which phenomenon was unusually manifest this year, probably due to the abnormal rainfall; and (2) a gall on the flower bud of the same plant, ascribed to Cecidomyla Cardaminis.

Dr. Scott, in remarking that the state of vivipary was to be found in most years in some degree, alluded to a paper by Johannes von Hanstein on the subject about twenty years ago.

about twenty years ago.

Prof. T. M. Fries, F.M.L.S., who was present, gave a set of prints of portraits of Linneus from his recent volumes on the career of his eminent country. man. Speaking in German, he expressed his gratifica-tion at the facilities afforded him, during a stay of a few weeks in London, of access to the whole of the Linnean manuscripts.

Mr. W. T. Hindmarch exhibited photographs of the

following plants:—Primula deorum, Velen., which he had succeeded in flowering, he believed, for the first time

hadsucceeded in flowering, he believed for the first time in this country; Shortia uniflora, Maxim., the Japanese representative of the genus, with targer flowers than those of the original S. galacifolia, Torr. and Gray, and showing a tendency to vary in colour according to exposure; and Rhodothamnus Chamæcistus, Reichb., noteworthy for the abundance of its flowers.

The first paper, "On the Species of Impatiens in the Wallichian Herbarium of the Linnean Society," was by Sir Joseph Hooker, in whose absence it was presented to the Society by Mr. C. B. Clarke. The introduction described the material in question, constating of forty-eight ticketed specimena, out of 200 known species of the genus; though few in number, these specimens the genus; though few in number, these epecimena foreshadow the remarkable segregation of the species in the several phyto-geographical regions of India, which has no parallel in any other large genus known which has no parallel in any other large genus known to the author. The examination of the material, naturally difficult, was enhanced by the confusion of species on the same sheet, and several numbers for the same species. In the sheets exhibited the confusion can only be accounted for on the supposition that the plants, after having been laid out to be glued down, that the cone secient here it have a down at the control of the second secient have a through down and the second secient here is the second secient have a through down at the second secient here is the second secient have a through down at the second secient have a second sec must by some accident have been thrown down or swept off the table, and then gathered together and swept off the table, and then gathered together and mounted by an ignorant preparer. The second part of the paper consists of a detailed review of each sheet of the collection, with a critical determination of the apecimens. There is one previously undescribed apecies, which was collected by Wallich in 1821, and found by Sir J. D. Hooker in a bundle of plants remaining (after the great distribution of 1831) in our rooms, for which the name Impatiena practermisas is proposed, and the plant technically described. An index to the names, corresponding numbers, and localities closes the paper.

the balles, corresponding numbers, and localities closes the paper.

The second paper was by Dr. G. H. Fowler, who gave an account of the Chestognatha collected on H.M.S. Research in the Bay of Bleay in 1900, forming the third paper of the ceries dealing with this collection.

The last paper was by Prof. R. J. Andersoo, on "The Flow of Fluids in Plant-Stems," which was read in title only, the author being prevented from reading it himself, as intended. The experiments of the author were devoted to forcing water through woody stems, but references to the work of earlier investigators are not given.

NATIONAL FRUIT GROWERS' FEDERATION.

JUNE 13 -A meeting of the Council was held at Caxton Hail, Westminster, on the above date. Mr. F. S. W. Cornwallis, President of the Federation, took the Chair. The Secretary reported that a resolution had been passed by the Local Committee of the Federation at Swanwick, Hants, thanking the South Western Railway Company for the excellent arrangements made by them last year for dealing with their Strawberry crop. This had been forwarded to the General Manager of the Company, who expressed his pleasure at this recognition of the efficiency of its traffic arrangements, and also the hope that those made for dealing with the present year's heavy crop would prove equally satisfactory.

The report of the Finance Committee was adopted. The Council then discussed the subject of the Departmental Enquiry now proceeding on preferential treatment by Railways of foreign produce, and arrangements were made for the collection of evidence.

Another subject of great importance to Kent fruit-growers which occupied the attention of the Council, was the want of rapid transit for fruit from that county to the Northern Markets through the absence of proper connection of the South-Eastern trains with those of the Northern lines from London. It was stated that great and unnecessary delays arose from

this cause, and it was decided that steps should be immediately taken to endeavour to obtain a remedy for a state of things which so scriously handicaps the fruit-growing industry in Kent. The next meeting was fixed for the first Monday in October.

UNITED HORTICULTURAL FIT AND PROVIDENT. BENE-

At the recent monthly committee meeting, six new members were elected. The death of Mr. Edwin Isted, of Hove, Brighton, was reported. Mr. Isted was a comparatively young member, but having left a widow and three young children unprovided for, the Committee granted 25 14s. 7d. from the Benevolent Fund, to be added to £4 5s. 5d., the amount standing to the late members' credit, thus making the amount £10 for the widow. The sick-pay for the month was £20 14s.

HORTICULTURAL CLUB.

THE PRESIDENT ON "HIMALAYAN RHODODENDRONS."

THE lecture on "Himalayan Rhododendrons" by Sir JOHN T. D. LLEWELYN, Bart, President of the Club, had been looked forward to with pleasant anticipation. and when, after one postponement, it was delivered on Tuesday evening last at the Hotel Windsor, the proceedings proved to be among the most interesting the Ciub has ever experienced. The President's knowledge and enthusiasm for Rhododendrons are widely known, and enthusiasm for Rhododendrons are widely known, and his collection at Penllegare, near Swansea, is famous. But not only were the members fortunate in having so recognised an authority for this subject, they were additionally fortunate in having as guests for the evening Sir George Watt, Botanist to the Government of India; F. W. Moore, Curator of the Glasnevin Botanic Gardens; W. Watson, Curator of the Royal Gardens, Kew; and W. J. Tutcher, Assistant-Superintendent of the Botanic Garden at Hong Kong. Few, if any, living men know the flora of the Humalavas. Few, if any, living men know the flora of the Himslayas better than Sir George Watt, and he related to the meeting such an account of the various conditions in which Rhododendrons grow, and of the magnificent effects they produce, that his hearers could but wish that his experience had been theirs also.

Sir JNO. LLEWELYN at the commencement of his

remarks spoke in appreciation of the different strains of greenhouse and intermediate house Rhododendrons of greenhouse and intermediate-house Rhododendrons that had been raised by Messrs. James Veitch & Sons from B. jasminiforum, multiflorum, Edgeworthii, &c. He said that some of the Himalayan species that grew as the bottom of the slopes, such as R. Nuttalli, were certainly too tender for cultivation out-of-doors in this country; but many other species were hardy in his garden in South Wales, and still others in the south-west of Ireland and in Cornwaii. The term "hardy" was a comparative one, and where a species was said to be not "hardy" it meant that it failed to succeed in the conditions that existed in a particular garden, and might be due to the kind of soil, or the rainfall, more than to the degree of cold. The danger to Rhododendrons from cold was not during the winter, when the buds are closed, but after leaf action has commenced bude are closed, but after less action has commenced in spring. Those species that commence growth first are the least hardy, but those whose leaf action does not commence until the latter end of May are generally safe. Sir John read a quotation from his diary of February 27, 1893, to show how much temporary injury was done to the flowers on that day by rail show was done to the flowers on that day by rain, snow, and frost, and another written eight days later showing how wonderfully the Rhododendrons had recovered ing how wonderfully the Rhododendrons had recovered themselves directly the state of the weather was more genial. Himalayan Rhododendrons, said Sir John, required a cool, peaty, or loamy soil. At Penliegare he has no peat, but loamy soil and leaf-mould. He spoke with enthusiasm of the effects of the different species from February until midsummer, and declared that many of these species were worth cultivating as foliage plants, owing to the tomentum on the leaves. Most of the species succeed in South Wales but R. Dalhousiethe species succeed in South Wales, but R. Dalhousic-anum and Edgeworthii need to be afforded shelter there. In regard to the names, Sir John said, his authorities were Sir William Hooker, Sir Joseph Hooker, and Mr. were Sir William Hooker, Sir Joseph Hooker, and Mr. C. B. Ciarke. He spoke appreciatively of the hybrids that have been raised, and mentioned the names of Anthony Waterer, John Waterer, Jas. Veitch & Sons, H. A. Mangles, Gill, &c., who, among others, have done good work in raising seedlings. The excellent variety Pink Pearl varied much according to cultivation, and was a magnificent flower. Hybrid Rhododendrons, said Sir John, had become florists flowers, and it was necessary they should know what constituted a good variety. The segments should be of good form and substance; they should open out flat, and be of a bright colour or snotted, and the truss should of a bright colour or spotted, and the truss should produce fitteen to twenty flowers neither in too crowded a manner, nor yet too lax. Referring to the Rhodo-dendrons at Kew, he said, "Kew is a place that when-

ever I go there I feel thoroughly proud of it."
Proceeding to speak of the methods of propagation. Sir John said that propagation was generally effected by means of (1) graiting, (2) seed, (3) layering. The method by seed was a slow one, most of the species requiring twelve to fifteen years before they flower, but

R. ciliatum was an exception, and would flower in three years. Layering should be practised in preference to grafting, which he could not recommend. Whenever the branches of a bush or tree can be layered, let it be done, eaid Sir John; it will thrive better, and the growths will the better shade the roots and keep them cool. In concluding a lecture, of which was received the great briefly he said that the red we are only able to speak briefly, he said that the red varieties of R. arboreum should be used for crossing. He believed that excellent varieties were to be obtained from this species.

Sir George Watt spoke of the pleasure it afforded him to hear of the practical cultivation in England of his favourites. Sir John Llewelyn had spoken of the extraoidinary beauty of the hybrids, but he doubted extraoidinary beauty of the hybrida, but he doubted whether any of these were so beautiful as the pure species? If he could take his hearers to Sikkim that they might see the species grouped as Nature alone can group them, he thought that they would agree with him. Sir George then proceeded to say that there were three regions in the Himalayas, each of which has different climatal conditions, and he thought that these circumstances had not been given the attention they deserved. In the first place there was Sikkim with an annual rainfall of 150 inches. The Sikkim species appeared to like to be frozen one day and drowned another. Sir George described how they grew upon the slopes, with lorty species of Primula growing between them, and ice floating down among them. In the central zone (2) the plants grew in peatmould of the finest character. This was quite loose, and one could thrust the arm in it up to the shoulder. The Rhododendrons creep up the slopes by naturally and one could thrust the arm in it up to the shoulder. The Rhododendrons creep up the slopes by naturally layering their upper branches and extending upwards. This district included Nepaul and Cashmete. In the third zone were the mountathous districts that extend into Burmah and China; and there were species growing in that region at an attitude of 2,000 to 4,000 teet lower than they did in the other zones. R. Falconeri, that grows in Sikkim at an attitude of 15,000 feet, 500 miles to the east, grew at an altitude of only 9,000 feet. Sir George Watt was confident that the higher ranges of the Eastern Himalayas, and in Assam, would afford more species suitable for cultivation in England than any other part of Asia.

Mr. F. W. MOORE spoke eloquently and enthusiasti-

Mr. F. W. Moore spoke eloquently and enthusiastically of the Himalayan Rhododendrons; but he said that it was certain that they will not succeed except in a locality with a heavy rainfall, a humid atmosphere, and a retentive soil that is free from lime. Even when new soil is prepared for them, unless it be possible to prevent the percolation of water containing interesting the procession. be possible to prevent the percotation of water containing lime into the new compost, the plants would receive injury. He referred to the extraordinary degree of variability in R. barbatum. Some varieties had white flowers, others spotted flowers, and others, again, were of deep red colour. He was much surprised to hear some of the particulars related by Sir George Watt, as, for instance, that respecting R. Dalhousieanum and R. Nuttalli. These were two species most difficult to cultivate out-of-doors, vet they were found at an elevation of These were two species most difficult to cultivate outof-doors, yet they were found at an elevation of
14,000 feet. Mr. Moore proceeded to speak of the three
rare species, R. Shepherdi, R. Kendrickii, and R.
Wightti. The species named last particularly is most
difficult to obtain, and Mr. Moore doubts if there is a
plant in cultivation, a doubt shared by other speakers;
though Mr. Watson said afterwards that there are
plants at Kew which have been sent from India under
that name. They have not flowered yet, and as so that name. They have not flowered yet, and as so many consignments from various places have been labelled similarly, and have proved to be nothing of the kind, the doubts are justifiable. Sir Joseph Hooker's illustrations of the plants are so fine that it is Hooker's lilustrations of the plants are so fine that it is especially desirable the species should be procured. Cutivators have great faith that the flowers would prove to be equat to the illustrations, because Sir Joseph Hooker's figures, drawn by the late Mr. Fitch, are invariably true to the plants they pourtray. Mr. Moore described with fervour the beauties of R. barbatum and R. Aucklandii, whether in or out of flower, with their pink stems and red bracks. He condemned the grafting of Rhododendrons, and insisted that layering was the proper means of propagation. He said if his hearers had seen a specimen of R. Falconerl in co. Wicklow 14 feet high, they would think with him that nothing could have a more magnificent with him that nothing could have a more magnificent effect. Amateurs would be sure to look after the hybrids, it was for him, as the Curator of a Botanic Garden, to obtain and cultivate the pure species.

Mr. W. Watson said some good words for hybrids. Many were certainly better than the species—that known as Pink Pearl, for instance. He spoke of the difficulty experienced at Kew in cultivating R. argenteum, and related how, when Sir J. Hooker wrote to Sir George King asking him to send some species from the Eastern Himalayas, Kew received what were described as fourteen species. Eventually every plant was found to be R. campanilalum. was found to be R. campanulatum.

Mr. HARRY VEITCH, who made a lew remarks, said that the Chelsea firm had found R. ciliatum to be the best mother for hybridising purposes, and with R. Edgeworthii this had produced excellent results. It was announced that the annual outing of the Club would be on July 21 to Burnham Beeches, &c., by the kind invitation of Mr. Harry J. Veitch.

GRAND YORKSHIRE GALA.

JUNE 15, 16, 17.-The Forty-sixth Exhibition of the above-named Society opened on Wednesday last in the well-known Bootham Field, York. Taking them as a whole, the exhibits are quite up to the usually high standard of the York shows. Having been permitted to see over thirty successive York Galas, the writer cannot help remarking on the many changes in the general character of the exhibits during that period. In the first decade of the period named trade exhibits were a very minor feature; now they are almost if not fully the most important.

In the competition for a group of miscellaneous plants on a space of 300 square feet, artistic arrangement to be a leading feature in judging, the 1st prize ment to be a leading feature in judging, the 1st prize was won by Messis Artindale & Sons; 2nd. J. Blacker, Esq., of Selby (gr., Mr. W. Curtis); and 3rd, E. B. Faher, Esq. M.P. (gr., Mr. W. Townsend). These made a splendid collection of groups.

For a similar group, arranged in a space 200 square feet, 1st, Mr. W. Vause, nurseryman, Leamington; and 2nd, Mr. J. S. Sharp, Almondbury.

The best collection of nine stove and green house plants

in flower, excluding Orchids, was shown by Messrs. J. CYPRER & Sons, Cheltenham. The best plants in the

Ist prize group were Ixora salicifolia, Statice profusa, and Erica Cavendishiana, all very fine.

In the classes for tix and three stove and greenhouse plants respectively, Messrs. Cypher & Sons were again 1st for six plants, and Mr. W. Vause 1st for three plants.

For six ornamental foliage or variegated plants there was a good competition, and some fine plants were exhibited.

Messrs. Simpson & Sons, Seiby, had the best exhibit of three Codiceums (Crotons); 2nd, E. B. Faber, Esq.,

The 1st prize for twenty varieties of alpine and herbaceous plants was won by Mr. S. HAROCASTLE; and Mr. JOHN NICHOLSON was 2nd.

For a collection of alpine plants arranged on a rockery in a space of 21 feet, for the prize offered by Messre. Backhouse & Son, the 1st prize was awarded

to Mr. Nicholson.

Some very fine specimen Ferns were exhibited in several classes, and the Rev. G. Years was 1st for four

Hardy Ferns were well shown, but were not quite such an important feature as they have been formerly at York. ORCHIDS.

Exhibitors in these classes are allowed to use Ferns or other suitable placts as helps to the more effective

or other situation placets as helps to the Mode detected display of their exhibits.

In a class for a table of Orchids measuring 12 feet by 5 feet, arranged for effect, there was a good competion, and the 1st prize was won by Messrs. Cypher & Sons with a fine group; 2nd, Mr. John Rohson, Altrincham, who showed a fine lot, composed chiefly of Odertalessum. of Odontoglossums.

The best collection of ten Orchids in flower, distinct, was from Mesers. J. Cypher & Sons; Mr. John Roeson being 2nd; and W. Lewis, Esq., Harrogate, 3rd.

There were also classes for six Orchids grown by

PELARGONIUMS.

The former displays of these plants have decreased The former displays of these plants have decreased in latter years, though there were some well grown and flowered plants exhibited on this occasion. There were two classes for show Pelargoniums, one calling for eight varieties, and the other for four varieties. For zonal and nosegay varieties there were three classes, calling for twelve, six, and four distinct varieties respectively. Classes were also provided for six double-flowered gonals and for three lawled doubleflowered zonals, and for three Ivy-leaved doubleflowered varieties.

Table plants are usually very well shown at York, and the exhibits this year was no exception to the rule. For eight distinct varieties, to be grown in 6 inch pots, Messrs. ARTINDALE & Son were 1st; and Mr. J. S. SHARP, 2nd.

POT ROSES.

Good prizes were offered in all the Rose classes, especially in those for a group of pot Roses arranged for effect. The 1st prize was won by Mr. J. D. HUTCHINSON, and the 2nd prize by Mr. H. PYBUS.

There was good competition in the classes for groups of Cannas, Carnations, Gloxinias, Tuberous Begonias, Fuchsias, and Calceolarias. In each case the exhibitor was allowed to use Ferns or foliage placts.

Mr. JOHN ROHSON, Bowden, was 1st for Carnations with a very fine exhibit; and W. T. OWBRIDGE, Esq. (gr., Mr. Waterhouse), for Calceolarias.

Mrs. Lloyd Linggreff, York (gr., Mr. Skiil), was 1st for Gloxinias; and Mr. F. STYAN for Begonias.

CUT FLOWERS.-ROSES.

There were ten separate classes for cut Roses, ranging from that for seventy-two single flowers in not fewer than thirty-six varieties down to that for twelve bunches of garden Roses in not fewer than six varieties. There was good competition all along the line, and some splendid flowers were shown.

In the class for seventy-two flowers Messrs. HARK-

NESS & SONS, Hitchin, were 1st; and Mr. Gro. MOUNT, Canterbury. 2nd. Both collections were of very fine quality. Messrs. J. Townsend & Sons, Worcester, were 3rd.

For forty-sight flowers, distinct varieties, Mr. Geo. MOUNT was 1st; and Messrs. D. Prior & Son, Coichester, 2nd; and Messrs. HARKNESS & Sons, 3rd. For thirty-six distinct varieties, Mr. Geo. MOUNT

Mr. G. PRINCE won the 1st prize for twenty four distinct varieties, and for twenty-four bunches of garden Roses.
Colonel Mellish was 1st for twelve bunches of garden Roses.

The exhibits of Roses generally were the best seen

at York for many years.

For tweive bunches of slove and greenbouse cut flowers staged in vases or glasses there was a capital competition, and some splendid exhibits were made. Mr. J. D. Ellis was 1st, and the Marquis of NORTHAMPTON 2nd. For a collection of hardy cut flowers, to cover a space of not more than 90 square feet, the competition was also good, and together the exhibits made a spiendid exhibition in themselves. The 1st prize was won by Messrs. Harkness & Sons, Bedale;

prize was won by Messrs. HARKNESS & SONS, Bedale; and the 2nd prize by Messrs. G. Gleson, Bedale.

Prizes were also offered for twenty-four bunches of hardy flowers and for twelve bunches. The 1st prize for twenty-four bunches was won by Mr. J. D. HUTCHINSON, Kirbymoorside; and Messrs. HARKNESS & SON, Bedale, 2nd. Both collections were very fine.

There was a class-for twelve distinct varieties of Sweet Peas. For eighteen bunches of herbaceous Prepries, distinct, Messrs. HARKNESS & SON were 1st, and Messrs. R. HARKNESS & CO. Hitchin water 2nd

and Messrs. R. Harkness & Co., Hitchin, were 2ad.
Groups of flowers in vases for table decoration,
and hand baske's of cut flowers were charming.
Mr. John Whaoge was 1st for vases of flowers, and Messrs. PERKINS for baskets of flowers.

For a decorated table of ripe fruits, not to include more than fourteen dishes nor fewer than ien dishes, the Earl of Harainoton, Elvaston Castle, Derby (gr., Mr. J. H. Goodacra), was 1st; and the Hon. Mrs. M. Ingaam, Temple Newsam, Leeds (gr., Mr. B. Dawes), a

The first prize for a collection of ten dishes of fruits

was also won by the Earl of HARRINGTON.
In the class for six dishes, the Earl of Londes-

In the class for six dishes, the Earl of Londesborouh (gr., Mr. McPherson) was 1st.

For three bunches of Black Hamburgh Grapes Arthur Wilson, Esq., Tranby Croit, Hull (gr., Mr. Leadbetter), was 1st; and for three bunches of white Grapes Mr. Murchison, Wetberby, was 1st.

The Earl of Lathon, Lathom House, Ormskirk (gr., Mr. B. Ashton), was 1st for Peaches with a fine dish of fruits of Royal George; and the Marquis or Northampron, Castle Asbby (gr., Mr. A. Searle), was 1st for six Nectarines.

A fine lot of Melons was shown. Mr. McPherson was 1st for both scarlet and white fleshed varieties.

TRADE EXHIBITS.

TRADE EXHIBITS.

The Society offers Gold Medais for the best Trade collections of Orchids, best collection of Stove and Greenhouse Plants, excluding Orchids; ornamental trees and shrubs, and for decorative plants and cut flowers arranged for effective display. That for Orchids was won by Messra. Charlesworth & Co., Bradford; that for stove and greenhouse plants by Messra B. Shuth & Co. Worcestar; that for cornal by Messrs, R. Smith & Co., Worcester; that for ornamental trees and shrubs, also by Messrs R. Smith & Co.; and that for decorative plants and cut flowers, by Messrs. W. Cuibush & Sons, Highgate, London. The Premier Prize was won by Messrs. Cutbush & Sons. Yorkshire Gardener.

ANSWERS TO CORRESPONDENTS.

- AMERICAN BLIGHT: H. M. Petroleum emulsion, at the rate of 2 oz of petroleum to a gallon of hot soap-suds. Keep the liquid in constant motion during the time of its application to
- BRITISH GARDENERS' ASSOCIATION: E. Seymour. Several of the points you raise in the letter you have sent us demonstrate the need for such a Society. But the formation of the British Gardeners' Association is now an accomplished fact, and there is not the need for such letters as have been published recently. Your address shall be forwarded to the Secretary, who may send you a form of application for membership in the course of next week.
- CAMPANULATE FOXFLOVE: IV. Foote. This is a very common occurrence, and due to the union of several flowers at the top of the spike.
- CATERPILLAR ON VINE: W. S. That of a species of Tortrix Moth, and apparently T. Forsterana. The habit of suspending itself by a silken thread is common to most if not all the species

- of this extensive family of moths. You should remove all the caterpillars that you can find, otherwise they may increase and become very troublesome.
- CUCUMBER: G. F. The diseased condition was concealed by the careless packing in cotton-wool. It seems as if it were the early stage of the Cucumber-spot, Cercospora melonis, so often described in these columns.
- DISCOMFORT AT THE TEMPLE SHOW: R. We sympathise with you in your troubles, but our columns are so crowded that we cannot find room for the insertion of your letter. Moreover it would be better to address your complaint to headquarters.
- FIG LEAVES: T. S. The leaves are affected by a fungus (Cercospora Bolleana). Burn the leaves and spray the healthy foliage with weak Bordeaux-mixture.
- GARDEN PLAN: E. Lewis. You have certainly laid-out the ground to very good advantage, notwithstanding the difficulties you have mentioned.
- Grapes: Foreman H. Your Grapes are attacked with the "spot" caused by a fungus—Gleosporium. Burn the affected berries and spray the healthy berries with liver-of-sulphur loz, and rain-water one gallon.
- INJURED APPLE-TREE: H. Chapman. The leaves are attacked by the Apple mildew. There are several small dipterous larvæ (Syrphus sp.) among the white-felted mycelium, but they are predaceous, preying upon plant-lice, and therefore beneficial. Dusting the foliage with flowers-of-sulphur mixed with one-third of its volume of slaked lime has proved beneficial. As a means of prevention, spray in early spring with a solution of copper sulphate.
- Leaves of Trees: G. C. Nothing easier. Dry them quickly between sheets of paper; old newspapers will do well. Use plenty of paper, and change the damp paper every other day for a short time, replacing it by dry sheets. Then fasten the dried leaves down by narrow strips of gummed paper to sheets of paper of uniform size, and scatter a little naphthalin over them to keep off insects. Take care not to put the leaves of more than one species on a sheet. Write on a label the name of the species, the name of the collector, the place species, the name of the collector, the place where collected, and the date. When you have a sufficient number put them in genus covers of thicker paper, labelled outside with the name of the genus. Then arrange the genera in their natural orders, thus put all the species of Prunus together, all the species of Cratægus together, and put the two under one order Rosaceæ, and so on. By no means stick them in an album, as the specimens would not be convenient for reference. convenient for reference.
- MILDEW ON GRAPES: J. S. If you use sulphur for applying to the heated pipes in the form of a wash in the usual manner, it should be possible to destroy the mildew. We do not know of any better means.
- AMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—M. L. White flowered shrub is Staphylea pinnata; the other is Syringa Josikæa.—A Regular Subscriber. 1, Spiræa hypericifolia; 2, S. chamædrifolia; 3, Pyrus arbutifolia; 4, Rhodotypus kerrioides; 5, Weigela rosea, white variety.—A. L. 1, Weigela rosea; 2, Viburnum plicatum; 3, Spiræa chamædrifolia; 4, Cornus sanguinea; 5, Spiræa hypericifolia; 6, S. Lindleyana.—W. W. 1, Selaginella denticulata; 2, S. Wildenovii; 3, Saxifraga Geum; 4, Ajuga reptans; 5, Euphorbia cyparissias; 6, Adiantum, withered beyond recognition.—J. T. Prunus Mahaleh.—W. C. W. Odontoglossum crispum; the abnormal terminal flower is made NAMES OF PLANTS: Correspondents not ancrispum; the abnormal terminal flower is made up of two, the column and labellum of each being present, though joined.—F. T. 1, Epidendrum oncidioides; 2, Oncidium prætextum.—A. R. 1, Maxillaria tenuifolia: 2, Ansellia africana; 3, Disa tripetaloides.—W. T. Styrax officinale.—L. B. W. 1, Cistus ladaniferus; 2, Diplopappus chrysophyllus; 3, Potentilla fru-ticosa; 4, Hydranges, send when in flower; 5, Veronica Teucrium; 6, Sedum kamtschaticum.

- P. L. H. 1, Manettia bicolor; 2, Cypripedium barbatum; 3, Saxifraga Geum; 4, Centranthus ruber; 5, Lychnis viscaria, double fl.; 6, Polemonium coruleum, white form; 7, Spiræa Ulmaria; 8, Santolina incana.—M. C., Rothesay. 1, Saxifraga Hostii var. altissima; 2 and 4 appear to be S. hypnoides elegans and S. decipiens greenlandica, but the labels were detached through employing marginal stamp waste, which is most unsuitable for the purpose; 3, Saxifraga Kolenatiana; 5, S. lingulata var.—Constant Reader. A Pulmonaria probably; P. officinalis, Reader. A Pulmonaria probably; P. Officinalis, very common in old gardens.—B. M. Odontoglossum × loochristyense.—E. R. 1, Gloriosa superba; 2, G. virescens; 3, G. grandiflora.—A. B. S. The fleshy plant is Mesembryanthemum acinaciforme; the other an undeveloped Geum urbanum.—E. T. Odontoglossum luteopurpureum, a species which varies very remarks.—Hortes. Chryschaetron, Hockeri, and ahly. — Hortus. Chrysobactron Hookeri and Cypripedium barbatum.—J. N. H. W., Falmouth. We cannot undertake to name varieties of Rhododendrons. Send to a Rhododendron grower in the trade, who would no doubt oblige you.— 1, Berberis Wallichiana; 2, B. vulgaris; 3, Weigela rosea; 4, Cotoneaster nummulari-5, Weighla rosea; 4, Cotoneaster nummurationia. — Correspondent. Blue flowering shrub in cardboard box, Ceanothus azureus.—R. G. H. 1, Hordeum pratense; 2, Cynosurus cristatus; 3, Bromus sterilis; 4, B. mollis; 5, Poa trivialis; 6, Alopecurus pratensis; 7, Lolium perenne.—J. W. Listera ovata, the Twayblade, and Neottia nidus avis, the Bird's-nest Orchid, beth compren in Priteir both common in Britain.
- NOTICE TO LEAVE: Ignorant. In the absence of an agreement, we think that a week's notice is all that can be claimed by a foreman working under the conditions you describe.
- PEACH-LEAVES: H. H. Your leaves are affected with the Shot-hole fungus. Burn the affected leaves. Spray the young folisge with a solution of sulphide of potassium, taking care not to spray fruits that may be nearly ripe.
- PEARS: X. Y. Z. Infested with the grubs of a fly—Diplosis pyrivora. Burn the fruits to save next year's crop.
- Pears: C. J. Porter. Two diseases are present. The most abundant is a fungus called Entypella prunsstri, forming small warts on the shoots. The second is canker. Remove dis-eased shoots and coat the younger branches especially with Bordeaux-mixture.
- PLUMS: W.S. The fruits are affected with a fungus, Exoascus pruni, which feeds on the flash and the kernel is not formed. They are flesh, and the kernel is not formed. They are known as Bladder-Plums. The Vine-leaves next week.
- RHUBARB: F. W. H. The leaves appear scalded from sun-burn when wet. Is the soil too shallow and too dry?
- Roses: Roses. Orange rust; see p. 352, May 28. Soil: H. M. It the land is to lie fallow, you may as well trench it, and thus expose it to the disintegrating influences of the weather.

 When levelling it again in winter, add such materials as scrapings from the roadway, wood ashes, burnt clay, &c.
- Vines: W. J. The warts in your case are probably due to mites, not to Phylloxera. Burn the affected leaves and spray with tobaccowater.—G. J. T. We cannot say what has caused the check to the development of the fruits. There may be a fungus disease attacking the berries. You should have sent us specimens.
- COMMUNICATIONS RECEIVED.—3. Mottet.—Vilmorin et Cie—F. W. B.—R. A. R.—Kelway & Sons.—G. E.—M. Bourgnignon.—9. W. F.—A. C. B.—C. Van Lennep.—W. E. N. (next week).—F. B.—W. B. H.—R. A. R.—F. L. C.—J. W. McH.—D. E. H., Cape Town—H. H. R. W. M.—M. Cogniaux, Nivelles—H. E. A.—T. D.—A. P.—T. P.—Joshe—E. P. D. & Sons—Pieris—S. H. M.—R. W. B.—W. O—A. J. K.—Sutton Amateur Rose Society—Progress—C. H.—T. H.—W. H.—T. E. W.—H. S—C. P. Raffill—R. A. R.—A. H.—H. H.—W. B.—W. E.—W. K.—S. W. F.—Thyme—S. A.—A. C. B.—C. P.—W. E.—W. K.—S. W. F.—Thyme—S. A.—A. C. B.—C. P.—W. F. B.—F. S.—Dr. Bonavia—R. D.—Ipswich and East of England Hort. Soc.—Cambridge Hort. Soc.

DIED. - On the 3rd inst., at his home, Bookleton, Tenbury, Thomas Davis, age twenty-four years, late of Keddleston, Derby; Brynkinalt, Chirk; Eden Hall, Langwathby.



HELIANTHEMUM ROSEUM, GROWING IN SWANMORE PARK GARDENS, BISHOP'S WALTHAM, THE RESIDENCE OF W. H. MYERS, ESQ., M.P.

From a Photograph by F. Mason Good.





THE

Gardeners' Chronicle

No. 913.—SATURDAY, June 25, 1904.

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THE DATE-PALM.*

THE Government of the United States intend to succeed in the cultivation of the Date Palm. Immense quantities of Dates are now imported into America, mainly from the Persian Gulf, and the Americans mean to get the full benefit of this large trade by growing the trees themselves.

"Date growing in Arizona is rapidly passing the experimental stage. The fact that this fruit could be grown there, however, was first called to the attention of the public by the success of a number of chance seedlings, which bore good crops of fine fruit. The seeds from which these seedlings were raised came probably from Persian Gulf Dates, since these are the most common ones in our markets."

The Bulletin entitled Persian Gulf Dates is merely the report of an exploration tour to discover the best varieties grown there, and the mode of cultivation pursued by the Persians.

The author writes that on the banks of the Shat-el-Arab, which is formed by the junction of the Euphrates and Tigris rivers, is to be found "the largest single Date-producing region in the world . . . There are probably over five or six million Palms planted along the banks of the river, and as seen from the bridge of a steamer, the waving crowns of these tall Palms stretch away in

" (a) Persian Gulf Dates, by David G. Fairchild; (b) The Date-Palm, by Walter T. Swingle (Bulletins of the Bureau of Plant Ludustry, Department of Agriculture, Washington).

every direction to the horizon. In reality, the strip of land occupied by them is from less than a mile to three or four miles wide, and seventy miles long, with occasional Rice-fields or neglected areas."

It should be remembered that these regions had extensive Date plantations even in the days of the Babylonians, so that Date-culture among those people has become an instinct.

This Bulletin is mainly occupied with descriptions of the various plantations in the Persian Gulf, and of the best varieties cultivated there. It has several good illustrations.

The second Bulletin, entitled *The Date Palm*, is a much more elaborate production. A few extracts will show what it treats of—

"If propagated from seed something over half the plants are males."

"At the present time the proportion followed in commercial planting is that of about one male tree to 100 female trees."

Many good varieties result from seedsowing; and then these are multiplied by offshoot propagation.

"The offshoots are cut away from their parent trunk when they are from three to six years old, after they have begun to

develop roots.

"It does not interfere so much with the usefulness of a male Date-Palm to have it bloom too early, since the bunch of male flowers can be preserved for some weeks without serions deterioration." Indeed, "to provide a supply of pollen for early female flowers, the Arabs make a practice of keeping a few bunches of male flowers from the previous year, which are placed in tight paper-bags and hung up in a cool, dry place. The pollen is said to keep without deterioration for at least two years."

Experiments made in the United States "have demonstrated the possibility of importing Date offshoots from the Sahara, and planting them in the deserts of the south-west (Arizona) in practically as good condition as when they were cut off the parent tree;" and, strange to say, with a greater percentage of survivals in Arizona than when planted in the Sahara.

"Date - Palms continue bearing, if well cared for, until they are 100 years or more old; a good tree producing an average of from 60 to 200 lb. of fruit a year."

What will be new to many readers is the fact that "the Date-Palm has the unusual power of resisting large amounts of alkali, the most dangerous foe to agriculture in the arid regions, both in the soil and in the irrigating water." If waterlogging be prevented, "this plant can live and thrive when irrigated with water so salt as to kill all ordinary plants." Then possibly it may be found practicable to irrigate Date-Palms with sea-water.

"The importance of the alkali-resisting power of this plant is so great that the results of the examination into the alkali conditions in the Algerian Sahara are given in detail, as they constitute the most trustworthy evidence so far in existence as to the amount of alkali the Date-Palm can stand without injury."

The Agricultural Department of India would be wise to make a note of this fact. There the land called "Oosur" is not utilised, owing to the amount of alkali in it. By irrigation and careful planting with

seedling Date-Palms, it may be possible to utilise these lands for Date-tree plantations. With this information regarding the alkaliresisting power of this tree, the Americans are canalising the arid regions of Arizona and planting them with Date-Palms. There are "over ninety named varieties on trial in the Salt River Valley of the U.S.," procured from the Algerian Sahara, from Egypt, Bassorah, Muscat, and even from the "Panch Ghur" region of Beluchistan. In the oases of the Sahara, under the shade of Date-trees, "Apricot, Peach, Almond, Pomegranate, Fig, and Jujube - trees can be successfully grown, and under these again vegetables."

The Bulletin on The Date Palm, and its complement The Persian Gulf Dates, are of great value. The former consists of 141 pages, and is illustrated by a number of fine plates. They should certainly be in the hands of all who are conducting experiments with the Date-Palm, both in India and in Anstralia.

Without an ample supply of water, the Date-Palm cannot be satisfactorily grown. In this connection it is interesting to learn from the *Empire Review* for June. p. 453, of the success of the Date experiment in Australia. Mr. S. J. Mitchell, in his paper entitled "Bisecting Australia with a Railway," states that Artesian wells have been bored in some places with magnificent results. "At Sultaninna one yields a surface flow of over a million gallons per day.

Here the Government are successfully raising Date-Palms: already about 3,000 have been planted, and are doing well, the fruit being very fine."

One has not heard of any experiments having been made with the Date Palm in South Africa. That part of the world would seem to be a fit place for such experiments, if sufficient water is procurable. E. Bonavia. M.D.

FRENCH BULBS.

Now that the season has arrived when Frenchgrown bulbs become a subject of general attention on the part of nurserymen and seedsmen, these notes will probably be read with interest.

TEMPERATURE.

Everybody knows that the French bulbs are especially adapted for forcing, as they have been grown in a warm climate. Yet it is principally during the autumn, winter, and spring months that attention is important. The bulbs planted in August flower in December, and continue to do so until the end of March without any other warmth than that of the sun. Though it is a fact that some cold days occur in winter-time (sometimes there is a strong, cold wind, called the mistral), yet we have many beautiful days which may compete with the finest summer days in England. Frost is nearly unknown. Thousands of people here have never seen other than artificial ice; natural ice of 3-inch thickness only occurs in exceptional winters. Rarely does the temperature fall below freezing point.

PLANTING.

During the warm days and the scanty rainfall of March, April, and May, the bulbs must be planted in such a manner that they can be easily watered. The watering is such an important matter that it affects the results of a year's work.

The bulbs are planted either in single or double rows right across the field; between every row (single or double) is a distance of

8 inches. This space is used for a path, and for convenience when watering, and is a little hollowed.

WATERING.

The water coming from the hills is stored in amall canals, from which many gardens obtain their supply.

From the principal canal a branch canal runs to all the gardens of the same grower. One shallow path along all the rows of bulbs has a dyke across at every row. When the lock by which it is connected with the branch canal is opened, the water finds its way instantly along the first path. When this is full from end to end, the first little dyke is removed, and the water runs on into the second path. When this is full from end to end, the second little dyke is removed, then the water fills the third path, and so on.

This way of watering is very quick, though it calls for much attention. It has the advantage that no leaves get wet. Where the gardens have no main canal, they have a water-pit of 10, 15, or more metres deep (a metre is a little over a yard). A horse pumps up the water.

Besides these gardens, there are others which cannot be watered at all, but depend entirely on the rainfall.

"GARDENS."

Though here again we have a bulb-growing district, the ground is not so flat as in Holland. Many gardens, however, are level (all these can be watered), others are on the slopes. Even the sides of the hills are covered with gardens. Of these the people have made the best they could. They built walls and levelled the soil in such a manner that the hillside is transformed into terraces. To bring up the water high enough for these is impossible, but they catch all the rain and prevent it from running away.

"CAMPAGNE."

All gardens which depend on the rainfall for their supply of water are called "campagne." In April and May rain falla but seldom, and sometimes these gardens suffer much from want of water. The warmth of the sun makes the soil dry and very hard, and the plants do not grow. Generally Vines are planted which resist much drought, though the bulbs grow there very well, if it rains at the right time; if it does not they remain small. However, many growers consider these small bulbs just as good as the bigger ones from the "gardens." The bulb from the latter retains a good deal of water, and is not as firm and resistant as a bulb from the "campagne."

A bulb from this locality has been grown under difficulties, and has, as regards water, never known what plenty means, and has never been able to store so much water, for nearly all the water taken up by the roots has evaporated from the leaves. A bulb from the "gardens," however, ein always store more water, and never suffer. The difference between these two is that a bulb from the "campagne" of 12 cent. circumference has more substance than one from the "gardens" of 12 cent. Now suppose that both under the same circumstances do the same work of producing a flower when forced. From which are you likely to have the best results? Is the grower right when he says that a bulb of 11 cent. from the "campagne" has the same vigour as one of 12 cent. from the "gardens"? If there was ever a deficiency of bulbs of a certain size, the "campagne" bulbs of 1 cent. less circumference would surely prove good substitutes. But if rain falls at the proper time the bulbs from the "campagne" may attain to the same dimensions.

CROP.

This year we had the rain just at the critical moment, and we may expect a moderately good crop. Up to the time of writing no prices had been officially fixed, though we expect that they will be shortly. The general opinion is that the

prices will be (at the beginning of the trade at any rate) such that targains will be rare. For the main crop, however, there will be plenty of good bulbs, and there is a chance that prices may drop later on. F. Beamer, Junr, Ollioules, France.

STRELITZIA AUGUSTA.

I send you a photograph (see fig. 176) of the specimen of this species growing in the greenhouses of the Department of Horticulture and Landscape Gardening at the Massachusetts Agricultural College. The age of this fine specimen



FIG. 176.-STRELITZ!A AUGUSTA.

is not known exactly, but it is probably between twenty and thirty years old. The photograph shows the large flower spikes, which are from 2 to 3 feet long, and of very striking appearance. It is evident that this specimen is an unusually large one, being fully 20 feet high. Nicholson's Dictionary of Gardening gives the height as 10 feet; Barley's Cyclopadia states it to be 18 feet. Bailey says it has haves at the summit of the stem, which seems to be misleading, as this old and large specimen is leafy nearly all the way up. Nicholson's Dictionary of Gardening speaks of the leaves as being 2 feet long. In our specimen they are often 4 feet long. The Dictionary also describes the leaves as 1 to 1½ inch broad, which must certainly be a misprint, as our specimen shows leaves often 2 feet broad. It is a striking plant. The plant occasionally forms offsets, by which means it may

be propagated. The flowers are not so showy as in the more common Strelitzia regine, but the plant as a whole is much more impressive on account of its size. F. A. Waugh.

NOTICES OF BOOKS.

The New Forest. Bg Mrs. Willingham Rawnsley, with twenty full-page illustrations in colour. (London: Adam and Charles Black).

This makes no pretence of being a botanical work, but is emphatically a pretty book, nicely got up and pleasingly illustrated. The author has chosen a delightful tract of country to describe and picture, and has been quick to appreciate it in all aspects. The chapters are arranged according to the months of the year, during all of which the New Forest showa charms to those who can see them. Mrs. Rawnsley illustrates the Brockenhurst Road in spring, wild Daffodils at Minestead, Matley wood and bog, the pond at Park Hill, the Beaulieu Road, Lyndhurst Church, and other well-known places in the district; and her sketches are capitally reproduced (in England) by the Carl Hentschel colour-type process.

As regards the letter-press it is pleasing, and describes what no fairly observant person can fail to notice, but shows no extraordinary perception or originality. Thus, we are told that towards the middle of June, when the bracken spreads its fully opened layers of green beside the grassy tracks and over wide spaces of open lawr, and when Fox-gloves' send up their tall spikes under the shade of the oaks, is a perfect time for roaming in the forest How fairy-like a vision it is to kneel low down amid the Forn, right under it, and to look along the tall, slender, greygreen stems, far away into the distance and to see the carpet of yellow and pink Vetches, the tall creamy-white butterfly Orchis, sweet of scent, the pink Heather, the yellow Cinquefoil, and many other sby blossoms that love to hide under the shade of the bracken."

More than a hundred pages of such chronicles make up an acceptable, prettily-illustrated book that will much please the section of the public for whom it is intended.

SMALL CULTURE. Edited by W. J. Malden. (London: E. Marlborough & Co, 51, Old Bailey.)

The articlea collected under the above title have been issued in two parts, the first one being devoted to the keeping of pigs and poultry, and the second seriea (now before us) to orchards, vegetables, allotments, glass culture, and beekeeping. The scope of the book is thus defined "Whilst the ideal of 'three acres and a cow; may to many be comparatively unattainable, this may as well be taken as our motto, the idea often finding practical realisation in, say, half-arood and a pig, or an acre of fruit-trees, or a vegetable-garden and a few bee-hives; or in a variety of other ways, according to means, abilities, localities, and industry; and the question of how it can be made to pay is, without doubt, the one that is of the greatest importance."

With this in view Mr. Malden has enlisted the aid of Messrs. J. Watson (allotments), C. N. White (bee-keeping), W. J. May (vegetables). W. Dyke (glass culture), and A. G. Page (orchards). Their directions are given in homely but accurate language. Considering the importance of the subject, not as a means for making a fortune but as providing interesting, healthful, and not unprofitable employment, the allotment or "small culture" system deserves every encouragement, and we hope with Mr. Malden that "these volumes will supply a stimulus to many, and guide them in the way to share in the useful and profitable work described therein."

HYBRID CLEMATIS.

From Professor Francesco Marchi, of Mantua, we have received specimens of hybrids raised between Clematis coccinea and C. lanuginosa. The difference in form and colonr between these two species is so great that much interest attaches to the hybrid. The flowers of C. coccinea (=Pitcheri) are distended at the base, constricted at the neck, and with the segments slightly recurved at the apex. In colour they are of various shades of scirlet and purple. The

KEW NOTES.

ACRIDOCARPUS NATALITUS. — This handsome climber from Natal is flowering in the Mexicanhouse, where it is trained upon a pillar and rafters for a length of about 20 feet. The plant is of evergreen habit, with twining, terete, woody stems, and covered in the upper parts with a brownish pubescence. The leaves are alternate, 3 to 8 inches long, 1½ to 3 inches broad, dark green above, light green below. The inflorescence is a densely-flowered raceme



FIG. 177.—HYBRID CLEMATIS RAISED AT MANTUA, OBTAINED FROM A CROSS BETWEEN C. COCCINEA (= PITCHERI) AND C. LANUGINOSA: COLOUR PURPLISH.

flowers of C. lanuginosa, it will be remembered, are large circular, fiat like a plate, and of a pale lavender colour. Professor Marchi's specimens arrived in a shattered condition, but they were of various shades of colour and clearly intermediate in form between the alleged parents. Professor Marchi tells us that of the numerous crosses he has raised some are woody climbers, others more or less herbaceous. The flowers are formed in great abundance and are produced very early and continuously till stopped by frost. The plants themselves are quite hardy. We shall look forward to make their better acquaintance.

terminating the growths. The flowers are bright yellow-coloured about $1\frac{1}{2}$ inch in diameter, the edges of the petals being prettily fringed. The species was figured in the Botanical Magazine, t. 5738. It is a rare exception among climbers to find one which is not subject to attacks from insect pests, but this species, beyond the customary training and watering, gives little or no trouble. Chas. P. Rofill.

ARETHUSA SINENSIS, Rolfe.

This pretty terrestial Orchid is now flowering in the Odontoglessum-house; it is the Chinese representative of a genus containing but four

species, the best known being A. bulbosa, a native of N. America. The species now in flower has usually about three leaves, each some 6 inches long by 11 inch broad, the erect scape reaching 2 to 3 inches above the foliage; having usually from four to eight flowers, somewhat like a Bletia in form; the sepals and petals are white tipped with bright red, as also is the lip. was figured in the Botanical Magazine in January of this year (t. 7935), the following remarks accompanying the plate:-"The history of the introduction of this interesting little Orchid is obscure. It was first sent to Kew by the editor of the Gardeners' Chronicle in May, 1896, and in June of the same year it was received from Sir Trevor Lawrence without any indication of its origin. Sir Trevor sent it again in June, 1900, when he exhibited it at the Royal Horticultural Society. Subsequently Mr. Rolfe identified these cultivated fragments with specimens collected by Dr. A. Henry near Mengtze, in the Province of Yunnan, Western China." At Kew it is grown in a pan in a cool-house, in a mixture of peat, sphagnum-moss, loam fibre, Belgium leafsoil, and sand. During the winter, when the plant is at rest, water should be supplied only sufficiently often to keep the tuberous-root from shrivelling. The plant now flowering was sent to Kew by Mr. Elwes last year.

ERANTHEMUM HYPOCRATERIFORME, R. Br.

An old specimen plant of this fine species is now commencing to flower in the Water-Lilyhouse. It has the exceptional character amongst Eranthemums of being a climber-in the same sense that an Allamanda is a climber—and presents a totally distinct appearance to that of any other member of the genus. It was first sent to Kew by the Rev. Mr. Brockstadt in 1870, and flowered in May, 1875. The plant now flowering has a stout, woody stem, the growths being trained up the roof, making branched stems 6 to 10 feet long during the summer. The leaves are 2 to 3 inches long, 11 to 2 inches broad. The dense spikes of flowers are terminal, also produced on subterminal branches; the corolla is almost salver-shaped, 1 in. in diameter, and bright red in colour, with a blotch of deeper red in the centre; the corolla-tube is slender, and $1\frac{1}{4}$ inch long. It has been in flower for about three weeks, and will continue to grow and flower for quite four months, making from time to time a very bright display. Few plants are as floriferons as this one, when once a good specimen is obtained. An excellent figure is given in the Botanical Magazine, t. 6181. native of the West Coast of Africa. W. H.

SOILS AND MANURES FOR SPECIAL CROPS.

(Continued from p. 291).

Roses under Glass .- The following mixture has been recommended as a complete fertiliser for Roses under glass:-Superphosphate (high grade). 130 lb.; sulphate ammonia, 10 lb.; nitrate soda, 30 lb.; sulphate potash, 40 lb. It is recommended to add 1 ounce of this mixture to 1 gallon of water for 2 square yards of bench or bed surface once a week as the plants need it. This is equivalent to 3 lb. to 48 gallons of water applied to 864 square feet of bench or bed surface, or about 6 ounces to 50 gallons of water for 100 square feet. This is the right strength for weakly plants. Twelve ounces could be used to 50 gallons of water per 100 feet for strong plants once in ten days or two weeks, as the plants need it. It is safer to use the 50 gallons per 100 feet standard of application, as this is about the amount of water usually applied in an ordinary watering to 100 square feet of bed 6 inches

Wagner's manure solution has given good results for Roses as well as Carnations and other crops. It is made as follows:—Phosphate of ammonia, 2 oz.; nitrate of soda, $1\frac{3}{4}$ oz.; nitrate of potash, $1\frac{3}{4}$ oz.; sulphate of ammonia, $1\frac{1}{3}$ oz.; water, 50 gallons.

Various other combinations of sources of nitrogen, potash, and phosphates may be used at about the same rate of total soluble material for 100 square feet of bed 6 inches deep. The proportion of each food-element must depend upon the need of the crop. It is necessary to consider the total soluble materials, as well as the total available food, when fixing on the strength of solution to use. This is because, as previously stated, roots are often injured when the amount o manurial-salt in solution, whether chemical or other kind, exceeds a certain limit; that is, about one part by weight in 400 of water for ordinary crops, though this varies more or less according to the crop grown, nature of the manure in question, soil conditions, &c.

If desired, the organic manure solutions may be discarded and only chemical fertilisers used. Farmyard dung may also be left out of the soil and artificial manures substituted. Voorhees recommends for forcing greenhouse crops in general when a good loam of reasonable fertility is used: 8 oz. nitrate of soda, 1 lb. superphosphate, 1 lb. bone-meal, 8 oz. muriate of potash. This is to be thoroughly mixed in the soil for each 100 square feet of bench or bed surface at the time of filling, with subsequent feedings as in the case of regular compost. He further recommends for Roses and other flowering plants where phosphates are especially desirable, four parts bone-meal, and one part of muriate potash, at the rate of 2 lb. of the mixture per 100 square feet of area, well worked into the soil previous to setting the plants. Later feeding may be followed as in regular compost soils. J. J. Willis, Harpenden. (To be continued.)

SHIRLEY POPPIES.

[See SUPPLEMENTARY ILLUSTRATION.]

In the Journal of the Royal Horticultural Society (Vol. xxviii., Parts 3 and 4), Mr. John Bidgood publishes a paper on "Albinism," with special reference to Shirley Poppies, and he repeats the interesting circumstances under which these flowers were obtained. He says that:—

"The progenitor of all the Shirley Poppies was the seed of a single flower of Papaver Rhœas, which Mr. Wilks found in 1880 growing in a clump of these plants in a waste corner of his garden, abutting on the fields. This flower, which had a narrow white edging to its four petals, was marked and its seed saved and sown. Next year, out of 200 plants there were four or five on which all the flowers were white-edged. The best of these were marked and the seed saved, and so on for several years, the flowers all the while getting a larger infusion of white to tone down the red, until they arrived at quite a pale pink, and one plant was absolutely pure white, with the exception of the black blotch at the base of the petals.

Up to this stage the black blotch was found in all the flowers, when suddenly it disappeared from one plant. There was no gradual toning down of this colour, as in the upper portions of the petals, no intermediate brownish blotches. It just failed suddenly and completely, leaving a white blotch in its place. Then by careful selection of all plants which had white centres, in about thirteen years the black colour was entirely eliminated from the whole race. Mr. Wilks says that for several years past his strain of the flowers has not given him one black "rogue."

This is not the case with seed supplied by the trade, although obtained originally from Mr. Wilks's stock. They throw black "rogues" fairly often, no doubt, because they have not been so carefully selected as the others.

There is the less danger of the original stock being contaminated as Mr. Wilks's garden is now surrounded by grass fields and woods where the type form does not grow. He is still working at them, in the hope of some day obtaining a true yellow. Papaver Rhoas, and he has already arrived at distinct shades of salmon. I venture to predict that, whilst he may well expect to obtain white forms again, yellow ones are beyond his reach.

There are some points to be noted about these plants:—

- 1. The race has been obtained by simple selection. It is still a pure species, although an albino race. No admixture of any other species has caused variation.
- 2. The race breeds true. So long as they pollinate one another, they produce no black-centred flowers, and the upper portions of the petals all show incomplete albinism.
- 3. Whilst the scarlet pigment of the upper parts of the petals has gradually diminished for twenty-four generations, and is not yet suppressed, the black centre disappeared suddenly and completely. This would appear to indicate that the two pigments are distinct.
- 4. There is no reason to suppose that cultivation has had any effect whatever in diminishing the pigment.

Seeing that in a state of nature there are species with individual differences in colour intensity, as well as albino races, the probability is that if Mr. Wilks had grown, selected, and gnarded these Poppies in a Corn-field, with as much care as he has in his garden, he would have achieved the same result, and it is not impossible that it would have been arrived at in a shorter time. For so long as it is the general opinion of horticulturists that cultivation tends to increase colour-intensity, it is not reasonable to suppose that it has diminished that of Shirley Poppies."

The sudden disappearance of the black blotch is indeed a noteworthy occurrence, and will give rise to much speculation as to "how and why." Floral fashion moreover decrees that the black spot is a blemish, or at least that it is not to be encouraged. So long, however, as some of the Poppies are allowed to preserve this characteristic we must not complain. Chaeun à son goût.

The Week's Work.

THE HARDY FRUIT GARDEN.

By H. MARKHAM gr., Wiotham Park, Barnet.

Strawberry Plants.-Layering for the purpose of providing plants for making new beds should be commenced as soon as the runners are strong ne commenced as soon as the runners are strong enough to be pegged either into small pots or on turves cut in small squares and placed closely together. I usually layer into small pots filled to within half an inch of the rim with sweet, moderately rich loam, which is pressed firm. If plants have been cultivated for the express purpose of providing layers street. pose of providing layers, strong runners will now be plentiful and the work may be taken in hand, but if the stock has to be increased from plants bearing fruit, the runners will not be so early hearing fruit, the runners will not be so early nor so strong, and the work of layering may be postponed for a couple of weeks. See that the pots are kept well supplied with water when once the layers have been pegged down. Keep all useless runners removed, and cut off the growing points above the layer. A few of the avertication of the province of the service treatment of the service treatmen earliest-rooted plants of Royal Sovereign should be planted on a warm, sunny border for the production of early fruits. If any of the plants which have been moderately forced remain to be planted, the work should be finished without further delay. Let the roots be soaked thoroughly with water prior to turning them out of the pots. Loosen the soil and separate the roots, then plant firmly, and afford a good watering at once to settle the soil round about them. There are numerous varieties, but for ordinary purposes I do not grow more than six, commencing with young plants of Royal Sovereign and finishing with Waterloo. I hope to get the variety

Eleanor for fruiting latest, as the variety is exceptionally useful for this purpose, the berries being of large size, good colour, and solid, but not so sweet as those of some of the earlier varieties.

Orchards.—In this neighbourhood the crop of Apples is likely to he very heavy, and in some instances at the expense of next year's crop. Large trees may be afforded a thorough soaking with liquid-manure from the stock-yard. This will increase the size of the fruits, and assist the trees in building up strong buds, &c., for next year. In grass orchards sheep should be turned in to keep down the grass, and if fed with a little cake so much the better for the trees.

Morello Cherries.—Notwithstanding repeated dressings, the trees have again become infested with black aphis, and to cleanse the leaves of this pest it will be necessary to wash them once again with extract of quassia, tobacco-water, or some other insecticide. As soon as the young shoots are clean, examine the trees, and tie in the young growths required for filling spaces and for fruiting next year. The young growths of this season will, in addition to the spurs, produce heavy crops of fruit next season.

THE FLOWER GARDEN.

By A. B. Wanns, Gardener to Sir W. D. Pearson, Bart., Paddockhurst, Sussex.

Herbaccous Borders.—These will now require much attention. Keep all plants neatly staked that require it. Doronicums and other early-flowering plants should have their old flowerheads removed. The hoe should be kept going between the plants, and any that are suffering from dry winds should be mulched and watered.

Anemones from seeds sown some few weeks ago will now be ready for transplanting in a shady border; these will make nice plants by the autumn. Seed may be gathered from the old plants, and sown as soon as it is well ripened.

Dahlias.—The staking of these plants must be carefully attended to. Old tubers will now be throwing up numbers of shoots, which may be reduced to three upon each plant. The recent cold winds have not heen very favourable for planting-out young plants, but this work should now be finished. Young plants that have been potted-on will make better specimens than those planted out in the open three weeks ago. Some prepared soil should be given when planting, and every facility afforded to make the plants grow vigorously.

Flower-beds.—Go over the plants occasionally, and remove any decayed leaves. Dot plants may still be planted, should the cold, dry winds have delayed the work of putting these out. Most of them can be plunged in their pots, but any planted in this manner will require abundance of water.

Bedding Begonias.—Give these a good soaking of water if no rain has fallen, or where slight showers have only moistened the surface. They should also be damped over every evening, which applies to fibrous-rooted varieties as well. Stake any plants that require it with a neat green stake. Where they are exposed to winds they will require constant attention in this direction.

Climbing Roses.—Young shoots coming from the base of the plants, and which will furnish a supply of bloom next season, must be tied up, otherwise the wind will easily break them; this especially applies to Crimson Rambler. An application of liquid-manure will be beneficial, especially to those planted in a dry situation; frequent syringing to destroy aphia and redspider will also be necessary. Panl's Carmine Pillar is an excellent Rose for arches, &c.; its splendid colour, light habit of growth, rendering its cut sprays adaptable for vases. &c. Its easy cultivation should lead to this variety being much more extensively planted. It is not readily attacked by mildew or blight, and is a robust grower. Rôre d'Or is another splendid variety for walls. This variety requires severe thinning when the flowering season is past.

Water-Lilies.—Keep these clean and free from weeds and rubbish. The common Calla has a nice effect with its bright foliage well above the water. It is flowering well here, and is perfectly hardy. Calla Little Gem has been planted close to the water's edge against some

rocks, with the roots just touching the water. It has had no protection, and is now in flower.

Sweet Peas .- Give these copious supplies of liquid-manure, as the rains have not reached the roots sufficiently to do them any good.

Hollyhocks. - See to the staking of these as required, and water them with soot-water, and apply a good mulch of rotten manure. Veltha Solution will keep the rust in check, but must be applied frequently.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower to Sir Trevor LAWRENCE, Bart., Burford, Dorking. East Indian house.—The plants in this division should be given generous treatment in every respect. Extreme fluctuations in the temperature must be avoided, as the plants are now making their growth. Draw up the blinds as early in the afternoon as is possible without causing injury to the plants, and close the ventilators so that the temperature may run up to between 80° and 90°; but do not neglect to damp the floors at closing time, especially under the hot-water pipes, also the stages and between the pots. The fine sprayer should be used for damping overhead, two or three times each day during very hot weather, the majority of the Cypripediums, Habenarias, terete-leaved Vandas, young seedling Orchids, and the numerous small botanical species which grow in this house. The temperature at night should be kept as near to 70° as possible, and the lower ventilators should be left partly open whenever the weather is suitable.

The Cattleya and Intermediate-houses will also require damping morning and afternoon, and the temperature should be raised by means of sun-heat when possible; but all the ventilators ought not to be shut up for this purpose. The top ventilators should be closed entirely, leaving the lower ones wide open, and so long as the outside air is not colder than 50° they should be left open all night. Cattleyas, Lælias, and the majority of the intermediate-house Orchids are often injured by too much atmospheric moisture, and by a hot stifling atmosphere mosture, and by a not string atmosphere. Use enough fire-heat to maintain a temperature of 60° to 65° at night, and even in the daytime the hot-water pipes should he kept just warm, that plenty of fresh air may be admitted to the plants, and an even temperature be maintained. The shading on this house health he served even fitted as not string to the shading of the sh should be removed every afternoon immediately the sun commences to decline in strength.

Mexican Division .- This house, which contains such plants as Lælia anceps, Vanda teres, Odontoglossum citrosmum, &c., requires a very thin shading only, and this should be pulled up at about 3 PM and the house closed, so that the temperature may rise to between 90° and 100°; at the same time syringe the plants well overhead, and damp every part of the house. About S.P.M. afford a little ventilation, and the last thing at night, if the weather is mild, open the top and bottom ventilators, afford little or no fire-heat, and allow the temperature to fall to 60° by morning; or if it falls to 55° no harm will be done. The blinds on the houses mentioned should on all bright mornings be let down as soon as the sun bas raised the temperature from 5° to 10°, and those on the Odontoglossums and Masdevallias immediately the sun shines on the plants, and be kept down in the evening until the sun ceasesto shine on the roof.

THE KITCHEN GARDEN.

By John Pentland, Gardener to C. H. B. Firth, Esq , Ashwicke Hall, Marshfield, Chippenham.

Globe Artichokes.—Seedlings that were raised early in boxes and in open borders are now sturdy little plants, and should be transplanted carefully. There being little time for trenching land at this season owing to the labour being required in other parts of the garden, a quick and suitable way of getting these plants established in their permanent quarters before the season becomes too far advanced, is to take out trenches about 18 in. wide, 18 inches deep, and 4 feet apart, tread-in 6 in. of manure at the bottom and fill in with soil. mixing in with it a good supply of manure, and making it moderately firm as the work proceeds. Make the mound which will be thus formed of neat appearance, and place the plants along the

centre at distances of 2 feet apart. They should be taken up with good balls of earth attached, and planted deeply, so that the soil will afford the necks considerable support, and thus prevent the leaves falling about. Afford a thorough good watering to settle the soil, and shade from strong sunshine until they are well established, which will take but a few days if the work is carried out with care. Attend to the requirements of established plants, use the hoe frequently, and mulch the ground if this has not been done. Afford diluted manure-water if the soil is poor.

Jerusalem Artichokes. - Although these grow strong and sufficiently high to keep all weeds view, do not allow the weeds to grow there and thus scatter their seeds over the other parts of the garden. Maintain all parts of the garden and tidy by hoeing the surface of the clean ground occasionally.

Asparagus Beds .- Do not cut Asparagus after this date if the plants are to be cultivated next season. Thoroughly clean the heds, and as it is impossible to tell where growths may come through on old-established beds, hand-weeding must be practised. After this has been done, encourage strong growths by every possible means at your disposal, including top-dressing with rich rotten manure which will allow all growths to come through without meeting with any lumps to cause them to be crooked, and by frequent applications of liquid-manure diluted with water, unless it is already sufficiently weak by the admixture of water with it in the tank in which it is collected.

Potatos .- Earth-up all that are ready as soon as possible; and if double cropping has to be practised, plant between every other two rows such crops as are likely to be in most demand.

FRUITS UNDER GLASS.

By W. FYFE, Gardener to Lady WANTAGE, Lockinge Park, Wantage.

Pines.—Queens and others that have fruits now colouring should be kept drier and no stimulants administered. Let there be a free circulation of air during the day and a little at night, maintaining the bottom heat at about 80°. these directions are followed the fruits will be of good substance and flavour, and will not ripen prematurely. Should the supply of ripe fruits exceed the demand, remove some of the plants into a cooler atmosphere. As soon as the fruits have been cut give attention to the suckers and remove all that will not be necessary for stock. It is good practice to shorten back the old leaves to give room for the suckers. Keep the plants near to the glass, and syringe them frequently. Do not remove the suckers from the parent plant until they have developed ten or twelve strong leaves. Batches of suckers should be rooted at short intervals to maintain a constant supply of ripe fruits. Shift young plants that are in good condition into their fruiting pots, and afford them a lower temperature than that generally accorded fruiting plants. To keep the foliage healthy and to obtain fruits of good colour the bright sunshine at this season must be modified by the use of thin tiffany for a few hours on height clear days. Plants hearing fruits now in developed ten or twelve strong leaves. Batches bright, clear days. Plants bearing fruits now in flower require a drier and freely circulating atmosphere, admitting air earlier in the morning and later in the afternoon. Vigorous succession fruiting plants of the variety Smooth Cayenne, that have filled their pots with roots, and short, broad leaves, should be supplied liberally with clear liquid-manure, alternating this with guano and soot-water. Those plants that will show fruit during the next two months should be kept a little drier. The short rest will incite the kept a little drier. The short rest will incite the plants to show fruit for autumn and winter use.

Melons.-If the fruits are ripening their condition may easily be detected by the aroma in the house, when a drier atmosphere and increased ventilation will be necessary. But the atmosphere and soil should be kept sufficiently moist to prevent the plants from flagging. Cut the fruits when they show signs of separating from the stem. Our successional plants now setting their fruit are receiving treatment identical to that recommended in this Calendar for March 12, except that a little more ventilation is employed. The

practice of applying all water direct upon the stem s rigorously enforced. Make successional plantings in pits and frames facing south, from which bedding plants, Potatos, soil, &c., have been removed. Form a ridge of good fibrous loam along the head of the frame, making the loam moderately firm. Cultivate the plants as single cordons at 2 feet apart, and allow them to run to nearly the length of the frame before being stopped. To provide a supply of fruits during November make another sowing now.

PLANTS UNDER GLASS.

By C. R. Fielder, Gardener to Mrs. Burns, North Mymms Park, Hatfield, Herlfordshire.

Herbaceous Calceolarias .- Where an early batch of plants is required, seed may be sown now. Considerable care is necessary in choosing a suitable position for the seed-pots, especially in the case of the earlier sowings, as the seedlings will be passing through the most critical period of their growth at a time when the days are likely to be bright and the atmosphere very dry—conditions which are the opposite to those herbaceous Calceolarias delight in. Instead of sowing the seed in a pan or in one large pot, it is a good plan to sow it thinly and evenly in half-a-dozen 4-inch pots, which have been pre-viously filled with a finely-sifted compost consisting of three parts loam, one part leaf-soil, and some silver-saud. Previous to sowing the seed the soil in the pots should be given a thorough watering. The seed should not be covered with watering. The seed should not be covered with soil. Let the seed-pots be plunged to the rims in ashes under a handlight or small frame, in ashes under a handlight or small frame, placed in some cool, moist, and shady position, such as the north side of a wall. A sheet of paper should be placed over the pots until the seedlings appear. The object of plunging the pots is to prevent as far as possible the necessity of administering water until the seedlings have obtained a good hold of the soil. If, however, it should become necessary to afford water during the early stages of germination, immerse the pota nearly to the rims in a pail of water, and allow it to soak upwards through the hole in the bottom of the pot. When the seedlings are strong enough to handle, prick them off into pans, or singly into small pots. They may then he placed in a shallow frame facing to the north, and carefully shaded during bright sun-shine. After a few days ventilate the frame freely. Further sowings for succession may be made at intervals of a month.

Stock Princess Alice .- If seeds of this variety be sown at the present time in boxes, and the seedlings be promptly potted into small pots and later transferred to 5-inch pots, the plants will flower at the end of the autumn. This plant is much appreciated for decorative purposes, used as pot plants or as cut flowers.

THE APIARY.

By EXPERT.

Swarming in the South and West of England will soon become very general, and to guard against awarms going away they should be hived as soon as they have settled down. Hive them in a clean straw skep which has been rubbed over with a little sugar and beer or syrup, whichever is handy. Then turn the skep over as soon as the bees are hived and place it on a board, and shade from the hot sun. In the evening place in a bar-frame hive or return to the parent stock, whichever is intended. When large quantities of honey are needed they should be returned, the queen should however be taken away. The number of stock and the date should be noted for future reference. To prevent swarming, two or three extra frames should be given and the slides at the entrance thrown wide open, and the bodybox itself propped up at each end with a little block of wood to enable more to pass into the hive. No supering should be done unless the bees are very strong; in many places stocks this year are weak. Each hive should have a board placed in position to allow tired bees to crawl up into the hive, and all grass round the hive should be cut close. Where ants are troublesome brush round the legs of the hive with a little paraffin to prevent them crawling up, or let the legs stand in dishes containing a little paraffin.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER. Letters for Publication, as well as specimens and plants
fir naming, should be addressed to the EDITOR. 41, Wellington Street, Covent Garden, London. Communications should be WAITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR THE ENSUING WEEK.

JUNE 27 { Isle of Wight Rose Show, at MONDAY.

Roy. Hort Soc. Coms. meet, Gardeners' Royal Benevolent Institution; Annual Dinner at Hotel Métropole. TUESDAY. JUNE 28

Rose Shows at Chippenham, Farnham, Farningham, and Richmond (Surrey), the latter being that of the Richmond Horncultural Society's Show. WEDNESDAY, JUNE 194

THURSDAY, JUNE 30 Colchester Rose Show, and Canterbury Rose Show.

FRIDAY, JULY 1-Royal Botan'c Society, Lecture. SATURDAY, JULY 2 German Gardenei's Club, meet, Sutton Amaicur Rose Society's

BALES FOR THE WEEK.

TUESDAY & WEDNESDAY NEXT, JUNE 28 & 29— Unreserved Clearance Sale of the whole of the Established Orchids at The Nurseries, Holgate, York by order of Mesers. J. Backhouse & Son, Ltd, by Protherne & Morris, at 12 o'Clock each day. WEDNESDAY NEXT, JUNE 29— Palms, Ferns, Gersniums, Paneles, &C., by Pro-therne & Morris, at 67 and 68 Cheereids F.C.

Palms, Ferns, Geraniums, Pansies, &c., by Fro-theroe & Morris, at 67 and 68, Cheapside, E.C.,

at 12.

FRIDAY NEXT, JULY 1—

The whole of the collection of Orchide, by order of F. H. Joyce, Esq., Freshwater, 1sle of Wight, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 1230 - Also imported Orchids, by order of Messrs.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick -62.5° .

ACTUAL TEMPERATURES :-

LONDON. June 22 (6 P.M.): Max. 73°: Min. 63°.

June 23, Gardeners' Chronicle Office, 41, Wellinglon Street, Covent Garden (10 A.M.): Bar.,
30°3; Temp., 67°. Weather, bright sunsbine.

ROES. - June 22 (6 P.M.): Max. 69°, South of England; Min. 55°, North of Ireland. PAOVINCES.

From what we have seen The Apple and from the reports of our Crop. correspondents, we judge that the prospects of the Apple-crop are very favourable throughout the country. With other fruits also the outlook is bright, so bright that our growers will do well to turn their minds to the means to be adopted in case of a "glut" in the markets. Even if this does not take place this season it may do so in another, so that our fruit-growers who complain of low prices from over-abundance may act on the resources at their disposal, and not, as has sometimes happened, suffer the fruit to be wasted as commercially not worth the picking. We have on various occasions alluded to the methods of bottling fruit, and the subject has been treated of in recent volumes of the Journal of the Royal Horticultural Society. We infer either that the commercial bottlers must have been busy last year in spite of the deficient crops, or that the imports from other countries must have been unusually large. That may have been so in the main, yet so far as our nearest neighbour is concerned, the scarcity of fruit last autumn was as pronounced in Northern France, and, we believe, also in Belgium, as it was here. Be all this as it may, the housekeepers in our purview have made no serious complaints of the deficiency of fruit nor of unusually high prices during the past winter.

In addition to the preservation of fruits

in bottles there is the method of "cold storage," by which fruits are kept at a low temperature a few degrees above the freezingpoint. The determination of the exact degree of temperature depends greatly on the particular variety, the conditions under which the fruit was ripened, and other matters which can only be learnt by experience.

The following extracts will be read with interest. They are taken from a report made by Mr. G. H. Powell to the Bureau of Plant Industry of the United States Department of Agriculture. The report may be procured from the Superintendent of Documents, Union Building, Washington, at a low cost.

"Next to crop failure and the control of injurious diseases and insects, the most important feature of commercial Apple-growing at the present time is undoubtedly the preservation of the crop for a sufficient time to permit its distribution to consumers in sound and wholesome condition, in both home sud foreign markets, throughout the winter season. Under the deteriorating influence of warm weather during September and October, a large part of the crop frequently tember and October, a large part of the crop frequently reaches full ripeness, and is thrown upon the market in a perishable condition before mid-winter. This results in disastrous gluts and ruinously low prices for a time, followed by scarcity of fruit and abnormally high prices to the convenient had abnormally high prices to the consumer in the late winter and

high prices to the consumer in the late white early spring.

The successful keeping of Apples on a large scale in refrigerated storage, which began about 1890. has since developed to very large proportions. Experience has demunstrated, however, that in many instances fruit stored in such houses in the autumn has failed to come out in good condition in the late winter or spring, to the serious loss of the owner. It has long been observed also that different lots of fruit in the same storage-room behave differently, some keeping in same storage room behave differently, some keeping in excellent condition, while others spoil. A browning of the skin while in storage, or shortly after removal therefrom, generally known as 'scald,' also frequently lessens the heauty of the fruit, and therefore its selling value, even when its food value is but little impaired."

The experiments epitomised in the Bulletin show how cultivation and methods of packing influence the keeping qualities of the fruit, and the summary of the results obtained shows that :-

"Apples should be stored as quickly as possible after "Apples show to be stored as quickly as possible after picking. The fruit ripens rapidly after it is picked, especially if the weather is hot. The ripening which takes place between the time of picking and storage shortens the life of the fruit in the storage house. The shortens the life of the fruit in the storage house. The fruit-rots multiply rapidly if storage is delayed and the fruit becomes heated. If the weather is cool enough to prevent after-ripening, a delay in the storage of the fruit may not be injurious to its keeping quality. A temperature of 31° to 32° F. retards the ripening processes more than a higher temperature. This temperature fragment the fruit in other respects.

cesses more than a higher temperature. This tempera-ture favours the fruit in other respects.

"A fruit wrapper retards the ripening of the fruit it preserves its bright colour, checks transpiration, and lessens wilting; protects the Apple from bruising, and prevents the spread of lungus-spores from de-cayed to perfect fruit. In commercial practice the use of the wrapper may be advisable on the firest grades of the wrapper may be advisable on the firest grades of the wrapper may be savisable on the noest grades of fruit that are placed on the market in small packages. Apples that are to be stored for any length of time should be placed in closed packages. Fruit in ventilated packages is likely to be injured by wilting. Delicate fruit and fruit on which the ripening processes need to be quickly checked, should be stored in the smallest prestigable commercial package. The fruit goals more rapidly in small package. The fruit cools more rapidly in small packages.

"Apples should be in a firm condition when taken from etorage, and kept in a low temperature after re-

moval. A high temperature hastens decomposition,

and develops scald.

"The best fruit keeps best in storage. Scald is probably caused by a ferment or erzyme; it does not appear practicable to treat the fruit with gases or

appear practicable to treat the fruit with gases or other substances to prevent the scald.
"From the practical standpoint the scald may be prevented to the greatest extent by producing highly-coloured well-developed fruit, by storing it as soon as it is picked in a temperature of 3.º to 32° F., by removing it from sturage when it is still free from scald, and by holding it after removal in the coolest possible temperature."

THE NEIL PRIZE. - The Council of the Royal Caledonian Society have awarded this prize, value £30, to our contributor, Mr. R. P. BROTHERSTON, of Tynninghame.

THE SOCIETY OF ARTS .- A conversazione will be held, by arrangement with the Council of the Royal Botanic Society, in the gardens of that Society at Regent's Park, on Monday, June 27, from 9 P.M. to 12 o'clock. Further particulars can be obtained on application to the Secretary.

SWANLEY HORTICULTURAL COLLEGE,-The presentation of prizes at the Horticultural College, Swanley, Kent, will take place on Monday, July 11, when the Rt. Hop. The Earl of ONSLOW will perform this ceremony. The Hon. Sir John Cockburn will occupy the chair. The Governor of Natal, Sir HENRY McCallum, will deliver an address at the meeting.

THE YORK SHOW .- In our report of the Yorkshire Gala last week it was stated, by error, that Messrs. R. SMITH & Co. obtained the Gold-Medal for the best exhibit of ornamental treesand shrubs and other flowering plants. Medal was really awarded to Messrs. Kent & BRYDON, of Darlington. Messrs. Smith & Co. obtained the Gold Medal for stove and greenhouse. plants.

HURRICANE IN ABERDEENSHIRE.-A terrific south-westerly gale, writes an Aberdeenshire correspondent, the like of which has not been experienced at this period for many years, swept over the North on Th ursday and Friday, 16th and 17th inst. Untold and irremediable damage has been done in muny districts to gardens, where many plants have been blasted and destroyed, fruit-trees and bush es badly shaken, and in not a few cases literally shorn of leaves and fruit. This turn of affairs, it need hardly be said, has caused deep disappointment after the splendid promise of the past three weeks. A great deal of damage was done in the Victoria and Westburn public parks, Aberdeen, while the storm was at its height. A number of trees were torn up by the roots, and a large quantity of flowers in the Victoria Park were destroyed, the grass in this purk being literally covered with the blossom blown off the trees. This deplorable result, except in sheltered situations, seems to have been general. From Gordon Castle, the Duke of Richmond and Gordon's Scottish seat, a correspondent writes "that as the result of the gale some grand old trees have been blown down in the Castle grounds—some indeed that had weathered the storms of ages having at last, in full leaf, succumbed to the fury of the blast. Accompanying the gale were blinding clouds of dust, which were burled along the country-side with great force. In the open fields the damage done was also great. The Turnip crops have suffered most severely, the fields in some cases having been swept bare in patches. Potato-tops far advanced were also greatly broken and blackened; garden Potatos, which were well advanced, and in flower, were much broken down and spoiled. Bushes, where not carefully staked, were broken over by the ground. Altogether the gale was one of the severest and most destructive that has visited the North at this season for twenty years."

THE FRUIT INDUSTRY. - Lord Onslow's Committee held sittings on the 15th, 16th, and 17th inst. The following witnesses gave evidence:-Mr. J. E. HENNELL, representing the Great Western Railway; Mr. G. Monro, of Covent Garden, a member of the Committee; Mr. J. W. Dennis, a fruit-broker of Covent Garden; Mr. G. W. Meats, junior, the auctioneer at the Hereford Corporation Wholesale Fruit-Market; Mr. J. T. Sheppard, a grower from Holt, North Wales; Mr. GEORGE LANGRIDGE, of Tunbridge Wells, representing the Surveyors' Institue, and Mr. T. W. Cowan, representing the Pritish Bee-keepers' Association. The Committee visited on the 14th inst. some of the principal fruit plantations and the Horticultural College, THE COLLECTING OF TROPICAL PLANTS.—
M. Louis Gentil, of the Brussels Botanic Garden, has published a few notes which will serve as useful suggestions to collectors, whether of living or of dried specimens from the Congo and other tropical countries. The Belgians are making excellent use of their opportunities, and at Laeken, as also at the Brussels Botanic Garden, there are collections of living plants of great value, as well as very rich accumulations of dried plants, which are under critical examination by M. DE WILDEMAN and other botanists.

THE DÜSSELDORF EXHIBITION.—The prizes offered in the Cactus section of the Horticultural Exhibition at Dusseldorf have been awarded by the Prize Committee, including as President Herr A. Purpus, and Messrs. Erich Dams, Secretary of the German Cactus Society; Kniffel, of Klein - Quenstedt; Strauss, of Bruchsal; HENTZE, of Magdeburg; and KRIESCHER, of Düsseldorf. The prize distribution does not follow the arrangement in the catalogue, but is as desired by the managers of the exhibition. The 1st prize (£50) for the best collection of Cacti was awarded to Mr. FRANTZ DE LAET, of Contich, near Antwerp. The 2nd prize (£40) was gained by Messrs. HAAGE & SCHMIDT, of Erfurt; the 3rd (£25) went to Mr. FRIEDRICH A. HAAGE, of Erfurt. This firm also won a prize of £7 10s, for their late-flowering specimens of Phyllocactus. Messrs. Winter, of Bordighera, whose succulent plants received recognition in earlier prize-lists, obtained also an Award of Merit for an exceedingly decorative collection. The Gold Medal was presented to the Botanic Garden of Karlsruhe for an interesting exhibit in the section of scientific culture. In the Amateur class the following gentlemen won prizes:-Messrs. HART-MANN, of Hamburg; Schwarzbach, of Rixdorf; Maass, of Zehlendorf; Dames, of Schöneberg; F. REINHARDT, BERINGER, and JOSEF NOLTE, of Düsseldorf; and F. CAPELL, of Bonn. The publisher and bookseller, Neumann, of Neudamm, and the German Cactus Society, also received diplomas.

ROSES AT DÜSSELDORF. — It is expected that 70,000 Roses will be in bloom in the grounds devoted to the great Rose-show to be opened in connection with the Düsseldorf Exhibition this day. The flowers were in good condition a week or more ago, but they are but forerunners of those that are to be shown at the special exhibition. Düsseldorf expects to excel in this respect the World's Fair at St. Louis, where a similar but not so rich a collection is to be found. Great interest is already directed towards the Düsseldorf Rose-show, and the Rose-gardens on the Rhine are a great attraction to visitors to the Exhibition.

THE ROTHAMSTED EXPERIMENTAL STATION. -During the past fortnight a considerable number of persons interested in agriculture have visited the Station, and have been shown over the experimental plots and the laboratories by Mr. A. D. Hall, the Director. On June 9 Prof. J. B. FARMER brought about a dozen students from the Royal College of Science and from University College, London. On the 13th a party of between fifty and sixty members of the Northamptonshire Chamber of Agriculture came; on the 15th, Professor T. H. MIDDLETON brought several students from Cambridge University; on the 16th, Dr. E. B. VOORHEES, Director of the New Jersey Agricultural Experiment Station, U.S.A., and Professor W. S. MYERS, also from New Jersey; and on the 17th, about thirty members (including the Secretary, Mr. H. TRUSTRAM Eve) of the Bedfordshire Chamber of Agriculture. A new feature this year, affording increased interest, is that another field has been added for experimental purposes, in which plots

have been arranged to test the residual value of various manures, the cropping and disease-resisting powers of some of the new sorts of Potatos, the effects of green-manuring, &c.

A FINE OSMUNDA IN THE ST. PETERSBURG GARDEN.—We learn, from a recent Bulletin of the Imperial Botanic Garden of St. Petersburg, of a fine specimen of Osmunda regalis presented to the garden last autumn by M. Scriwanek. This Fern is said to be more than 1,000 years old [!] and is still living. It was found in a forest near Adler, in the Caucasus, by the borders of the Black Sea. The stem of the Osmunda measured above ground is nearly 10 feet in circumference, its height is $1\frac{1}{2}$ foot, and it bears fourteen more or less vigorous fronds about 14 inches long. The pinnules are wonderfully healthy.

ENGLISH CIDER-MAKING.—As matters are at present the French cider makers can afford to buy Apples in Somerset, as English growers, though they have the best of fruit, fail to make a good use of it. Many of the English cider-makers pay too little heed to cleanliness in their work and none to uniformity of product, which is essential to success in all industries. Their Continental rivals use good fruit, handle it carefully, and produce a satisfactory beverage, which they sell at good profit either in their own country or in England. Proper attention to their own interests would even now prevent our farmers from running the risk of losing a source of income which the foreigner may otherwise take from them. Mr. F. J. LLOYD and Mr. R. NEVILLE GRENVILLE, of Glastonbury, have recently been making investigations for the Bath and West of England Society, and the above remarks are a summary of their opinions on this important subject. As the Board of Agriculture is publishing their report (illustrated) we hope the British Apple-grower will awaken to his opportunities and advantages.

CENTRAL AMERICAN RUBBER.—The Bureau of Plant Industry of the United States Department of Agriculture, Washington, U.S.A., has published a Bulletin which will be of the greatest value to tropical planters. It is prepared by Mr. O. F. Cook, the botanist in charge, primarily with a view to determine whether Rubber-cullnre is likely to be a profitable undertaking in Porto Rico and the Philippine Islands. The Bulletin deals particularly with Castillos, or, as Mr. Cook prefers to call it, Catilla elastica. Mr. Cook deals with the botany and the physiology of rubber production, and with the appropriate methods of cultivation and tapping.

PRIZE COMPETITION FOR SPRAY PRO-DUCERS .- The Dutch Pomological Society (Nederlandsche Pomologische Vereeniging) intends holding a competitive exhibition of examples of different systems of machines for spraying fungicides and insecticides (both, of course, liquids). This competition is intended to be held on the premises of the Government College of Agriculture (Ryksland-bouwschool), of the Netherlands, at Wageningen, after which the best machines will be set to work in different parts of the Netherlands so as to demonstrate the best method of carrying on the war against plant diseases and pestiferous insects. The competition is open for :- (1) Small pulverisers and hand-syringes, to be used in greenhouses, conservatories, and hot and cold stoves—1st prize, 50 guilders (£4 3s. 4d.; \$20); 2nd prize, 25 guilders (£2 1s. 8d.; \$10). (2) Pulverisers portable on the back or front of the body -1st prize, 100 guilders (£8 6s. 8d.; \$40); 2nd prize, 50 guilders (£4 3s. 4d.; \$20). (3) Larger pulverisers, to be pushed or drawn, or carried from one place to another. Prize, see (2). Special attention will be paid by the jury to the following particulars:-Construction and material of machines, solidity and perfection of joints and frictional parts, more or less facility of handling pulverisers, and, if required, of repairing machines, the more or less fine spary produced, possibility of spraying not only Bordeaux-mixture, but also other fluids—for instance, kerosene; price, &c. Briefly, everything that goes to make up a good machine at a moderate price will be taken into account. Competing pulverisers or spray producers may be forwarded till September 1, 1904, to Hoeve Duivendsal (Duivendsal Farm), Wageningen, Holland. For further particulars apply to the Secretary of the Pomological Society of the Netherlands, C. van Lennep.

THE HORTICULTURAL COLLEGE, SWANLEY, KENT .- A course for helping those who are desirous of increasing their knowledge of Nature Study will be held at the Horticultural College, Swanley, from August 1 to 13. The instruction will be given entirely (weather permitting) out-ofdoors, rambles in the country under the guidance of naturalists being the chief feature. An introductory and a valedictory lecture will be given by the Hon. Sir John Cockburn, K.C.M.G., and by Mr. J. C. MEDD respectively. The College gardens, orchards, farm, &c., will be in working order, and the Out-of-door Superintendent, Miss TURNOR, will be on the spot to give demonstrations and instruction in simple gardening. Mr. Finn will superintend the investigation of bird and insect life in the woods and fields, whilst on alternate days Mr. Tanon (Resident Science Lecturer) will lead excursions for studying wild flowers, plants, trees, fungi, lichens, &c., in their different habitats. Illustrations of the life-history of bees, with practical investigation of their hives, will be undertaken by Miss C. DUNHAM MASSEY (1st Class Bee Expert, B.B K.A.), who will also give some account of her system of Nature Study teaching (illustrated by the children's charts and drawings) at the Clapham High School for Girls. Miss AGAR will lecture on the planning and management of school children's gardens, founded on her five years' experience as Garden Mistress at Wycombe Abbey. It is hoped to combine natural history excursions with points of anti-quarian, artistic and other interest in outlying districts.

OUR WEIGHTS AND MEASURES. - When we find a provincial county council, whose interests are chiefly of an agricultural nature, making the following statement, we begin to have hopes of amendment. Adverting to our worse than idiotic chaos of weights and measures in this country, the Herefordshire County Council says—" We lag far in the rear of all civilised nations on these questions and all that is wanted to remove from us the stigma of marching a century behind the rest of the world is skilful and thorough treatment of them by the Government of the day." The Hereford Council is of opinion that the introduction of the metric system should be dealt with, not by private legislation, but by the Government; that the decimalisation of our coinage is as important as that of our weights and messures, and that either without the other would be robbed of half its value.

COPYRIGHT IN NOVELTIES. — The French Society of Rose Growers has once again started the question of protection for raisers of novelties. This is a matter that has often been discussed, without any practical result, some of those most concerned having expressed opposite opinions. The raiser has, to a large extent, control over his own destinies, and if he does not exercise it he has no one to blame but himself. Happily for the world at large, if not for the individual, it is not every one who has the commercial instinct. At the same time every one likes to see merit adequately rewarded, and dislikes to see others reap the advantage they have not earned.

· AUTUMNAL FLOWERING SEASON IN CONSE-QUENCE OF A FIRE .-- A recent number of the Bulletins d'Arboriculture, &c., of Ghent, contains an interesting note by M. J. BURVENICH. He relates that last September much destruction was wrought by fire near Châlons-sur-Marne: "Following upon this catastrophe, M. J. Jolly reported, in October, a revival of growth in an orchard that had suffered much. The rows of Pears and Apples in the line of the fire were killed outright; the adjacent ones still showed some signs of life. Among the other rows that seemed half dried up, four trees were, at the end of October, simply covered with bloom. The same phenomenon was noticed on Plums and Lilacs near the burnt area. What was the cause of this abnormal bloom? It is known that by arresting the vegetation, by picking off the leaves of Weigelas in summer for instance, the production of a second crop of flowers is ensured, that by freezing plants or etherising them according to the method of Johannsen, of Copenhagen, the flowers are encouraged to open shortly afterwards; it therefore seems probable that in the case mentioned it is the sudden arrest of vegetation caused by the high temperature which caused the flowering a few weeks after the fire.

RELATIONS OF VANILLA TO ITS HOST-PLANT. -M. H. JACOR OF CORDEMOY has been studying the Vanilla and its host-plants, and has come to the conclusion that the relations between them are more intimate than have generally been His opinions are expressed in the supposed. Comptes Rendus, for February 8, from which we take the following extracts:-"For some time past Vanilla growers have noticed that the host or supporting plant is not without its influence upon the Orchid, which grows better and more vigorously on some plants than upon others. In Bourbon, for example, where the cultivation of Vanilla is of much importance, growers have tried various trees on which to grow the Vanilla, those most frequently used being Casuarina equisetifolia, Jatropha curcas and Pandanus utilis. The first of these has a hard bark that peels off in large flakes which in becoming detached drag down with them the adventitious roots of the Orchid; the other two plants, especially the species of Pandanus, are, on the contrary, quite satisfactory. In fact, observation has shown that the Vanilla roots find, in the living stem to which they adhere, something more than mere support, and that between host and Orchid there exists a close relationship the nature of which should he determined. It has been found," concludes M. CORDEMOY, "that, first, there exists between the lateral and aërial roots of the cultivated Vanilla and the support to which it closely chings a 'mycorhiza' (fungus) at once ectotrophic and endotrophic, that is to say, deriving nourishment from the outside and from the inside. The endophyte exhibits a ramified and continuous mycelium or spawn, which, by root hairs serving as means of communication, maintains a close relationship between the lateral root and its living support. Secondly, with this morphological connection there is very probably a corresponding physiological communication, the fungus being capable of forming in its tissues of living support certain nutritive properties useful to the growth of the Orchid. Consequently there would be between this and the mycorhiza a partnership or true 'symbiotic' association." It may be inferred, further, that similar facts might be observed with other Orchids, and doubtless with other climbing plants.

LEAF MOULO FOR ORCHIDS. - In the May number of the Journal de la Société Nationale d'Horticulture, M. LÉON DUVAL, who speaks from large experience, strongly advocates the use of this substance, and gives full details as to the hest method of making use of it. M. Duvar is such a master in the art of Orchid growing that his article will be read with great interest and profit. We had the opportunity last autumn of seeing and of describing in these pages the results of Mr. Duval's practice.

FLOWERS IN SEASON. - From Mr. Amos PERRY, of Winchmore Hill, we have received fine specimens of the following plants:-

IRIS DOUCLASIANA. — Flowers fawn-coloured, falls marked with deep lilac veins.
PHLOX CANADENSIS, Perry's variety.—Flowers large rich slaty-blue, an improvement on the ordinary form. PHLOX OVATA -Flowers rich rosy-lilac.

Carmine. - Petals dull reddish-pink with a large black

Carmine. - Petais dull reddish-pink with a large trace blotch at the base.

Medusa - Petals dull pink with a large two-coloured bletch at the base, carmine beneath, black above.

Mahony. - Flowers rich red, petals with a small dark blotch above the hase; a very effective variety.

INULA GLANDULOSA.—Upper leaves sessile corda'e, ovate scuminate; flower-heads between 4 and 5 inches across, bracts of the involucre numerous, densely envered with coarse, shaggy, brown hairs; tay florets spreading very narrow thread-like, orange-yellow; disc, flattish.

INULA "OCULUS CHRISTI." — Upper leaves sessile, scarcely cordate lancedate acuminate, coarsely serrate; thinly covered with bristly hairs; flower-heads between 5 and 6 inches across; ray florets spreading linear, orange-yellow; disc flattlish; involucre bracts as in the preceding. A very hold-looking plant.

- From Messrs. Kelway we have received specimens of their magnificent Pæonies, some of which were shown at the recent meetings of the Royal Horticultural Society. Among them were the "Garden," Lord Pauncefote, Sir Edmund Barton, Sir Dighton Probyn, Albert Casser, and Portia. The gorgeous yet harmonious colouring of these flowers always excites admiration. In some the stamens are completely replaced by petals, in others the stamens are mere petaloid threads surrounded by guard petals of the ordinary form; in still others the stamens with their yellow anthers form a dense mass encircled by the petals as in the single-flowered varieties. The flowers are superb in themselves and are representatives of consummate skill and care in cultivation. With the Pæonies came various forms of Pyrethrum, such as :-

Leader -Flower-heads 3\frac{1}{2} inches across, ray florets white finshed with pink; disc convex, yellow.

GENERAL FRENCH. - Flower-heads 21 luches, ray florets rich crimeon; disc yellow.

Good Hope.-Similar to General French, but of a

rich rosy-lilac colour. LEONARD KELWAY.—Flower-heads $3\frac{1}{9}$ inches, all the florete tubular, rosy-lilac edged with white.

EMPRESS QUEEN. - Flower heads 3 inches across, florets all tubular, pale rosy-lilac.

J. N. TWERDY. — Flower-heads globular, convex, nearly 4 inches across, outer florets much reflexed, florets mostly tubular, rich glowing rasy-lilac; central florets yellow. A very fine variety.

- Messrs. J. PEED & Sons have forwarded to us some flowers of their strain of tuberousrooting Begonias. Both double and single flowers are represented, and although the colours of Begonias are always striking by reason of their soft and beautiful shades, the specimens we received are unusually charming. Bright scarlets, soft pinks and salmons, yellows, delicate rosy. pink, white, and other colours were included. The flowers possessed good substance, in addition to attractive colours.

THE NATIONAL POTATO SOCIETY.-We are informed that the gift to this society by Mr. J. W. MALDEN of Eldorado Potatos, referred to last week, has been extended to four dozen plants in all, one dozen having been sent to Yorkshire, and a dozen to Leeds. The twelve plants stated to have been sent to Middles ex were, it seems. diverted to Rothamsted, where they are being grown under the care of Mr. A. D. HALL. Mr. MALDEN has under Mr. GROVES' care at Ham some 2,000 plants of Eldorado. The Silver cup offered by Sir J. T. D. LLEWELYN, President of the Potato Society, as a prize at the Show to be held at the Crystal Palace next October, is to be awarded as an additional prize to what shall be by the judges declared the best Potato exhibit in the show in the competitive

classes. Reports to hand as to the appearance of the Potatos under trial at the various county centres seems to be very satisfactory so far.

A PÆONY SOCIETY has been formed at Detroit, U.S. Nine-tenths of the members are said to have commercial interests in cultivating the flower. No one has up to the present suggested a Rhododendron Society, or a Bamboo Society, or a Sunflower Society. The Cucumber Society, or a Sunflower Society. and the Tomato, and even the Grape-Vine, manage to exist commercially without a Society, and the Pelargonium Society is one of the "has beens." It is a question whether this dissipation of energy is of any value to the many, though it may benefit the few.

ETHERISATION OF PLANTS.—There will be found in the May number of the Journal de la Sociélé Nationale d'Horticulture an excellent summary of the results obtained by the use of the vapour of chloroform or of ether in hastening the development of flowers intended for forcing. M. AYMARD, of Montpellier, amply confirms what has been already stated as to the value of this process. Growers for market will do well to make preparations in view of the demand for forced flowers in winter and early spring.

PLANT PORTRAITS.

PLANT PORTRAITS.

ABEBIA CAFFRA. Revue Horticole, June 1; Gardeners' Chronicle, Dec. 22, 1900, p. 482.

AZALPA JAPONICA ALBA GRANDIFLOBA VAN NOORDT, Revue de l'Hoticulture Belge, June.—A Japanese variety winch might surely be better called A. 'Van Noordt.' It is haidy, and bears large trusses of white flowers.

JASMINUM PRIMULINUM. Flora and Sylva, June.

Lella Prestans, Flora and Sylva, June.

Lella Prestans, Flora and Sylva, June.

MAGNOLIA PYRAMIDATA, Sargent, Trees and Shrubs, t. Li.

LIRIODENDRON CHINENER, Sargent, Trees and Shrubs, t. LII., ascertained to be distinct from the well-known American species.

CRATAGUS PAUSIACA, insignis, disjuncta, bellula, lanuginosa, induta, Kellagii, Faxoni, Sargent, Trees and Shrubs, t. LIII to LX inclusive, ell species newly described by Prof. Sargent.

TILIA MONGOLICA, Sargent, Trees and Shrubs, t. LXII., Euonymus sieboldianus, Sargent. Trees and Shrubs, t. LXII., E. Bungeanus id., t. LXIII., E. patens, Rehder, t. LXII., E. Bungeanus id., t. LXIII., E. patens, Rehder, t. LXII., Yadicane, t. LXV.

ACER ARGUTUM, Sargent, Trees and Shrubs, t. LXVI.;

A. DIABOLICUM, I. LXVII.; the significance of the name is not explained.

VIBURNUM REACTEATUM, Rehder, Sargent, Trees and Shrubs, t. LXXII., L. INTERRUPTA, t. LXX.

LIGUSTBUM CILIATUM, Sargent, Trees and Shrubs, t. LXXII., L. A. ANUEENSE, I. LXXII.

GEYPOCARPA NELSONI, Greenman, Trees and Shrubs, t. LXXII., a representative of a new genus of Composite (tribe Ziunicæ). A Mexican shrub allied to Heliopsis.

VACCINIUM POASANUM, Sargent, Trees and Shrubs, t. IXXII.

CCINIUM POASANUM, Sargent, Trees and Shrubs,

VACCINIUM POASANUM, Sargent, Trees and Shrubs, t. Ixxiv.

PINUS TERTHROCARPA. Staw; synonymous with Grisebach's P. cubensia var. terthrecarpa, butshown to be distinct, see Gardeners' Chronicle, i., p. 179, 1904. The resin-canals; Sargent, Trees and Shrubs, t. LXXv.

ARECA ILSEMANI. — Revue de Vibritaulture Belge, April A pinnate-leaved Palm with red petioles. Initroduced by Messrs. Sander.

Cypripedium Gaston Bultel. — A cross between Madame Coffinet and C. Fairteanum, Madame Coffinet being in its turn inte result of a cross between C. Harrisianum, that is to say, a variety of C. cenanthum. Revue Horticole, April.

NOME CORRESPONDENCE.

(The Editor does not hold himself responsible for the opinions expressed by his Correspondents.)

ARUNDINARIA NOBILIS. — Dr. Otto Stapf, in his articles on "Himalayan Bamboos," states that "A. nobilis is identical with A. Falconeri." Identical "is a stronger term than "synonymous," for it implies such absolute similarity that not the slightest difference is discernible, whereas synonymous plants, i.e., those belonging to the same species, may show considerable varia-tion in their characteristics. Although I have inspected many hundreds of Bamboos, and am confident that A. nobilis and A. Falconeri are confident that A. nobilis and A. Falconeri are dissimilar, I should have been loath to have traversed the statement alluded to on my own responsibility, but having been in communication, both verbally and by letter, with some of the leading growers of Bamboos in the South-west, I can say that they consider A. nobilis and A. Falconeri perfectly distinct. The clumps of A. nobilis now growing at Menabilly are the produce of seed from plants that flowered and died in 1872, after thirty - three years of life, which would bring the year of the sowing of the original seed, which came from North China, the original seed, which came from rotal character of 1839. A. Falconeri was also raised from seed, and the two kinds were for years known to workmen on the estate as the blue and the purple Bamboo. A. nobilis was grown for many years at Menabilly under the name of A. falcata. just received a letter from Menabilly on the points of distinction between A. nobilis and A. Falconeri, from which I quote—"A. nobilis is a much stronger grower and a hardier species. We have culms 28 feet high, which are of a beautiful light-green shining colour, quite smooth, with purple above and below the node, and quite straight. A. Falconeri has more arching, blue-green culms, with a white down above and below the nodes to the top of the stem. The laplant here has culms only 16 feet high. The largest species is much more tender, as a number of the stems die annually; these are also rougher, and have not got that bright glossy appearance that those of A. nobilis have." I understand that Mr. Rashleigh sent as a present to Kew last autumn, specimens of A. nobilis and of A. Fal-coneri from Menabilly. The former weighed 30 cwt., and the latter 15 cwt.; there should therefore be no difficulty in noting these differences at the Royal Gardens. Neither A. nobilis nor A. Falconeri is showing flower at Menabilly, but at Fota, when I was there at the end of May, A. Falconeri was in full flower, but A. nobilis showed no sign of bloom—a fact which appears to point to their being distinct species. Messrs. V. N. Gauntlett, Redruth, who make a specialty of Bamboos, informed me, when I was at their nursery three weeks ago, that they considered A. nobilis and A. Falconeri quite distinct species. The evidence I have submitted appears to that though possibly A. nobilis and A. Falconeri may be synonymous, that is, members of the same species, they certainly are not, as Dr. Stapf holds they are, identical. S. W. Fitzherbert, Devon.

— I am afraid Mr. Fitzherbert is fighting windmills. The specimens of "Arundinaria nobilis" and "Arundinaria Falconeri," which Mr. Rashleigh sent as a present to Kew last autumn, are A. Falconeri (received as A. nobilis) and A. falcata (received as A. Falconeri). They are, of course, neither "identical" nor "synonymous," and certainly not "members of the same species." If Mr. Fitzherbert will correct his determinations of the two Bamboos and read my article, particularly what I said about their differences, he will find that there is no basis for his animadversions, and that in trying to traverse my conclusions he has unwittingly confirmed them. Otto Stapf.

ADAMS' LABURNUM.—My Laburnum Adami is a very healthy tree, and decidedly of an upright or fastigiate habit. It is still in most luxuriant flower, though now beginning to fade. I find no perfume in its flowers, nor any formation of seed-pods. The clusters or bunches of Cytisus purpureus are sweetly scented. There are seven smaller growths of C. purpureus on different parts of the tree, which having grown larger should he very interesting by another year. The only one yellow flower of Laburnum vulgare is forming spring, but nearly all the Plum blossoms round here have dropped; many of those of the Pear also. There will be abundance of Apples; but there has also been a great fall of these blooms, especially so amongst some varieties. The two seasons of sunless weather may have to answer for this state of affairs amongst our fruit-trees. W. Miller, Coventry, June 15.

TOMATOS.—At the recent meeting of the Fruit Committee at the Drill Hall, a suggestion was made by Mr. S. T. Wright that one of the glasshouses now in course of erection at Wisley, be utilised for a winter trial of Tomatos. This proposition arose because two or three assumed new varieties of Tomatos were presented to the Committee for approval or otherwise. That the varieties presented seemed to be free setters and good croppers there could be little doubt, but it is practically impossible for the Committee to deal satisfactorily with Tomatos until they have been seen in a growing state, and produced with other varieties under similar conditions. This, it is hoped, may be furnished

under much more favourable aspects at Wisley than was of late the case at Chiswick. It was very noticeable in the fruits shown on the 14th the that, when cut in two transversely and the seeds and pulp expressed, the centre was hollow. It is high time that in new varieties greater solidity of flesh was evidenced. Fruits may be fine in appearance and abundantly produced, yet lack solidity and flavour. In any such winter trial as suggested, the important features so far as fruits are concerned should be solidity and good flavour, whilst still farther freedom to set bloom and to crop should have the fullest consideration. That it is not easy to obtain good Tomatos in mid-winter is certain, and when such result does follow, great credit is due to the cultivator and to the variety. No doubt numbers of gardeners who are expected to furnish Tomato fruits in the winter would gladly learn of any new or comparatively unknown variety that is specially adapted for fruiting in winter, and if the Wisley Garden can help to that and it will be rendering good service. There is end it will be rendering good service. There is ample room there for almost every phase of horticultural work to be given representation. A. D.

THUNBERGIA ALATA.—In reference to these pretty greenhouse climbers to which Mr. Divers makes reference, I was a few days since interested to see many hundreds of them pricked out in trios in 5-inch pots, standing in a cold frame to get nicely into flower and be sent to market. The grower, Mr. Groves, of Ham, Surrey, in order that purchasers may have full convenience for hanging the plants, drops each pot into a framework of wire, which has a stout hook attached at the top. Thus the purchaser finds means provided hy which to suspend the plants. The three colours of flowers—white, pale yellow, and orange, are raised in equal quantities from secd, and one of each colour is inserted into each pot. These plants, hung in a window or in a glass corridor or under a verandah or in a greenhouse, grow admirably, and being well hardened are less liable to attacks by insects than are warm-house plants. D.

AN INTERESTING TRANSFORMATION. — In Messrs. R. Wallace & Co.'s catalogue, Lilium Alexandræ is said to be a hybrid Lily with pure white flowers as large as those of L. auratum, but the parentage of this hybrid is not indicated. Some years ago I obtained from them a bulb of this Lily. It flowered every year in a pot; the flowers were of the purest white, but were never so large or so broad-petalled as those of L. auratum. Last year my bulb produced two bulbs, which I planted in separate 41-inch pots. Both are in flower now (June 15). Both are of the same height, 1 foot 3 inchas, and both have exactly the same foliage; but while one has flowers of pure white, the other has flowers of a beautiful rose colour with white margins to the petals and a crimson stripe along the mid-ribs of all the petals. The inner three petals have in addition sparse and largish crimson spots near the base of the petals on each side of their midrib. In both varieties the flowers are 7 inches across, and both have the identical breadth of This is a very curious transformationone bulb this year producing white flowers, and the other bulb of the same plant producing rosecoloured flowers, while in every previous year the flowers were white. As this Lily is said to be a hybrid from Japan, can one of the bulbs have reverted to the coloration of one of its parents? It would be interesting to know whether such a transformation has been observed by anyone else; and it will be also interesting to know whether next year the L. Alexandræ var. rosea will still be rose-coloured. E. Bonavia, M.D.

ERITRICHIUM NANUM.—Lovers of this beautiful plant will feel grateful to your correspondent (p. 388) for his instructions for its successful cultivation, but sufficient weight has not been given to the most essential point, which is that of perfect dryness in winter in moist-laden districts, and those not far removed from sea level. In this country this is of vital importance. To secure this end cover the plant with a flat stone as snggested (p. 399), but in such a manner as to allow a free circulation of air by not allowing it to press on the plant. J. Kelley, Lichfield Grove, Church End, Finchley.

DESTRUCTIVE FIELD-MICE. — In a drift of stocks that were budded last summer field-mice have done considerable damage this spring by feeding upon the young maiden growths of Prnnus Pissardi, the double-flowered Peach (Prunus persica flore-pleno), and also a variety of the common Almond (P. Amygdalus macrocarpa). Of the leaves and the more succulent portions of the shoots the mice appear most fond, and in many instances the youngest shoots have been eaten away at their base, thus rendering their recovery by a second growth improbable. Around the entrance and within the interior of their holes one sees a collection of the shoots bitten into short lengths, and denuded of their foliage. In no case have I observed any suckers from the stock (Mussel Plum) having been eaten. F. H. Matthews, Woking.

APPLE NEWTON WONDER.—From what I have been able to learn, this is considered one of the finest culinary varieties grown. We have a few cordon trees here which are the picture of health; in fact, from their habit in every way one would be inclined to say it was impossible for such trees to become infested with canker. On Rosehangh, Ross-shire, Apples are extensively and well grown. Mr. Moir, the gardener, is an enthusiastic and practical grower of Apples, and those who saw his collections at Edinburgh in 1901 and 1902 will endorse this. With Mr. Moir Newton Wonder is a special favourite. It is a strong grower and fruits freely, only it requires frequent root-pruning until it reaches a fruiting stage. It is a handsome Apple and a good keeper. Henry Henderson, Cromarty House Gardens, N.B.

EARLY POTATOS.—I send yon some Potatos to show you how wonderfully early one may have fully-matured natural Potatos. They were grown in the borders of a low span-roof house that I built for this particular purpose, with the roof at a proper pitch to gain heat and light. They were not forced in the usual seuse of the word—that is, there was no heat from manure or water-pipes. They were planted in January, and grown by the heat of the sun's rays, with paper over the stalks at any time when there was danger of frost. They were exhibited at the Temple Garden show. I also exhibited a dish at the Drill Hall, Buckingham Gate, April 19, for which I got a Cultural Commendation. A. H. F. de M., Dublin. [Very good, firm specimens. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

Present: Dr. Masters, F.R.S (in the Chair); Messrs. Shea, Worsdell, Saunders; Drs. Cooke and Rendle; Revs. W. Wilks and G. Henslow, Hon. Sec.

Death of R. McLachlan, Esq., F.R.S.—Dr. MASTERS made a few remarks upon the loss to science occasioned by the death of this eminent member of the Scientific Committee. He was one of the very few left of the earliest members of it; and until failing health prevented him from being so, he was a most regular attendant at its meetings. He was always most courteous and willing to give his assistance whenever questions arose in the department of entomology, in which he was an expert; the suggestions he made for the treatment of insectattacks were marked by caution and sound judgment.

Oak Tree "Spangles."—To an enquiry from Dr. P. PARNELL, Streatham Hill, as to the origin of these galls, Mr. Saunners supplied the following life-history:—
"These are formed by the grubs of one of the many kinds of gall-flies which infest the Oak. Most of the species, this one (Spathegaster baccarum) among the number, do not complete their life-cycle until they have gone through two generations; this peculiarity is generally spoken of as 'the alternation of generations.' In the case of the species which forms the galls sent, the flies which are hatched from them are of both sexes; and after pairing, the females pierce the under sides of the leaves and lay their eggs just below the surface. The grubs hatched from these do not form spherical galls, as the grubs of the last generation did, but make the little flat brown galls which are to common on the under sides of Oak leaves and

which are commonly known as 'spangles.' The flies from these galls emerge in the following spring, but, strange to say, they are quite unl ke the flies of the previous generation which laid the eggs, in appearance; and there are no males, only females. These * parthenogenetic femsles' for many years were known as Neuro'erus lenticularis, and were considered to be a distinct species; they lay their eggs more commonly on the male flowers of the Oak, when they are known as 'Currant galls' on account of their resemblance to a small bunch of Currents; but they often lay them on the leaves. The life-cycle is row complete, and hegins again as soon as the flies emerge. In some species the Ji e-history of the two generations is even more different than that just described; the sexual generation laying its eggs on the roots of the trees, and in due time galls are formed. The asexual generation which emerges from these galls are wingless, crawl up the stems and branches of the trees, and lay their eggs generally in the terminal bud of the shoots; the galls there formed are the well-'Oak - apples,' the flies from which known are of both sexes; the males are winged, but the females have only rudimentary ones, or are wingless. The only means which I can suggest for preventing the Oaks from being attacked by the Spathegaster baccarum is by destroying the galls; this would be almost impossible in the case of the galls formed in the spring, but the second generation of galls, which remain on the leaves till after they have fallen, may easily be destroyed by collecting the fallen leaves and burning them. If this were done thoroughly, there would be a wholesale destruction of this insect, and you would find that very few attacked the leaves the following spring."

Carrots Destroyed by Insects. - In reply to a letter from Mr. BULLOCK, Godalming, Mr. SAUNDERS writes as follows: -"The Carrots are attacked by the millipedes (Polydesmus complanatus), 'the flattened millipede. It is a very annoying pest, and one which is very difficult to destroy, as these creatures, when feeding at the roots of a plant, cannot be killed by means of an insecticide, without using it of such a strength that it would injure the root; but watering copiously with a strong solution of nitrate of soda or common salt might be tried. They may be often caught by burying small slices of Turnips, Mangolds, or Vegetable-Marrow near the plant just below the surface of the soil. A small skewer of wood should be stuck into each slice: this will show where each bait is buried, and will also render handling them easier. These traps should be examined every morning, and any millipedes feeding on them may be picked off, and the traps replaced." Another method described by Mr. SHEA is to make a funnel-shaped vessel with perforations, filling this with pieces of vegetables and burying it. It can then bs liited, and the contents thrown out and the grubs killed.

Hybrid Carnations .- Mr. Douglas sent fine specimens with dark crimson flowers of a hybrid between the Uriah Pike Carnation and Sweet William; also the Plnk, hybridus floribundus, suggesting that it may be identical with the first hybrid artificially made that is koown, by Mr. Fairchild (See Journal of the Royal Horticultural Society, xxiv., p. 56).

Sawdust.-In reply to an enquiry from Mr. ALLEN, Putney Hill, as to whether this material can be utilised, the general opinion was that it is worse than useless, but it becomes valuable if burnt. It was suggested to burn it mixed with vegetable rubbish, then to sift the ashes and mix them with sifted earth. This has been proved by experience to be a very valuable top-dressing.

Scots Pine diseased - Specimens received from Mrs. R. D. TURNER, Ightham. Kent, were examined by Mr. NEWSTEAD, who reports :- "The insect is Chermes pini, an aphis; the white flocculent matter covers the adult apterous female, and her yellowish-brown pedunculated eggs. Soft-soap and quassia is a very good insecticide for this pest; but the paraffin emulsion will give the hest results if applied before the trees have made young growths."

Picea ajanen'is.-Dr. Masters exhibited specimens sent by Mr. Moore of Glasnevin, showing the arex of the yellow male flower occupied by bracts and ovuliferous scales of the usual purple colour. The folisge, leaves, perular scales, and stamens were seen to be in continuous sequence, and the bracts of the female portion were also continuous with the foliage leaves. The ovules were not fully developed.

Hybrid Clematis. - Dr. MASTERS also showed flowers of a hybrid Clematis raised between C. coccinea which has ovoid tubular scarlet flowers, and C. lanuginosa, which bears much larger, flat, lavender-coloured flowers. The flowers, though in a dishevelled condition, showed clear indications of their mixed parentage, both in colour and form. They were received from Professor FRANCESCO MARCHI, of Mantua.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JUNE 16 -Messrs. SANDER & Sons, St. Albans, staged JUNE 16—Messrs. SANDER & SONS, St. Albans, staged a very fine and showy group of hybrid Orchids, principally Lælio-Cattleyas. Lælio-Cattleya × Martineti var. "Jupiter" was one of the best. It has tawny-coloured sepals and petals, and an intensely deep crimson lip (First-class Certificate). L.-C. × Martineti, var. "Saturo," from the same collection, was given an Award of Merit, a similar award going to L.-C. × Martineti var. "Sunset." The group was awarded a Silver-pilt Medal. a Silver-gilt Medal.

a Silver-gill Medal.

Messrs. H. Low & Co., Eofield. exhibited a hybrid
Cypripedium called C. × "Baron Kurcki." The paren
tage was stated to be C. insigne Chantini × C. Lowiibut there was a distinct trace of C. Rothschildianum,
apparent in the flower, and the doubt as to the
parentage of the hybrid, caused it to be passed without

award.
W. Thompson, Esq., Stone (gr., Mr. Stevens), staged a small, well-grown group of plants, principally Odontoglossums. A grand piece of Cochlioda Noetzliana with nine flower-spikes was awarded a Cultural Certificate. A plant worthy of notice in the group was a good variety and well-grown plant of Odontoglossum Pesca-torei var. gigantea. Odontoglossum × ardentissimum var. fascinator was voted an Award of Merit. O. × Crawshayanum, Thompson's var., also received an Award of Merit.

LEEMANN, Esq., Heaion Mersey (gr., Mr. Edge). exhibited a good Odontoglossum, viz., O. crispum var. Campania, which received a First-class Certificate. It is a first-class variety, and a valuable addition to the Heaton Mersey collection.

Mr. D. McLEOD and Mr. A. J. KEELING were voted thanks for groups. P. W.

ROYAL AGRICULTURAL.

JUNE 21-25.—During the present week the Royal Agricultural Society of England has held its annual exhibition at Park Royal, the Society's ground near Willesden, about one half hour's journey from London. Though not our own Society, we horticulturists have sufficient in common with agriculturists to make us hope that this exhibition has been ratronised more generously than the first of the present series, held on the permanent ground last year, when a financial loss was incurred of nearly £10 000. Appearances on Tuesday however were not very promising, for not more than 2,000 persons had passed through the turnsilies at the time of our visit. Park Royal is an excellent site for such an exhibition; it provides sufficient space for everything, and a very wids margin for magnificent crowds if they could but be obtained.

From an exhibition point of view, the event was a success, and the show of agricultural implements, over and beyond that of cattle, horses, and other live stock, offered to farmers a very wide field for inspection. We were particularly interested by an inspection of the exhibits in the Forestry section, which possessed considerable educational value. Most of the exhibits in this section were displayed in a building, but on one side of this several out-of-door. a building, but on one side of this several out-of-door collections were grouped, and a hed of sand was provided for the purpose of demonstrations in the use of German and other tools, and upon planting operations in general.

of the outdoor exhibits, the most interesting, perhaps, was one from the Hon. Mark Rolle, Stevenstone and Bicton, which consisted of seedling Conifers in the tiniest atages, but all of them in excellent condition and showing much care in cultivation. The collection included a large number of varieties. and in addition to the young seedlings there were some plants a couple of feet high, all of which bore the same evidence of careful culture. Some of the names suggested a doubt as to their correctness, e g., Pinus Heldreichli (?)

Mr. L. R. RUSSELL, Richmond Nurseries, Surrey, had a large bed furnished with pot plants, the pots of which were plunged below the surface of the ground. Most of the varieties shown were ornamental rather than strictly forest trees, and included a pretty tri-coloured Beech and Fraxious excelsion argentea, &c.

coloured Beech and Fraxious excelsior argentes, &c.

Messrs. Luttle & Baliantyne, Carlisle, furnished a
similar bed with young trees, chiefly Coniferous
species, the nomenclature in some cases being rather
out of date; and Messrs. Dicksons, Ltd., Chester,
had an excellent group of Conifers, consisting of
well-grown, sturdy young plants, showing amongst
other things the superlority over the common Larch
of L. leptolepis, L kuri'cusis, and of the Colorado

variety of the Douglas Fir over the crdinary form.

From the estate of the Duke of Northumberland,
Alnwick, was planted a hed with Oak seedlings and
Beech and Hornbeam to illustrate the French method of planting Oaks at the rate of 800 plants per acre. The system would hardly be remunerative in England, we suspect, but whether or not the plants should have

been cultivated in pots for purposes of illustration, as they presented a sorry spectacle with all their leaves in a drooping, withering condition as if it were winter.

a drooping, withering condition as it it were wineer. From the Earl of Yarborough's estate at Brockleshury Park, Liccolnshire, were sent specimens of timber, showing the preserving effect of creosofe. The timber had been naturally dried, and the oil was subjected to a pressure of 70 lbs. to 80 lbs. per square inch for a period of from three to four hours.

Upon entering the building one of the first exhibits noticed was one from Messrs. Jas. Vetten & Sons, Chelsea, who had herbarium specimens of a large number of Confers, including the species recently introduced from China by this firm, and which will probably have a considerable international consideration. probably have a considerable influence upon forest plant ng in Eogland in the future. Next to this exhibit was one from the Windsor Parks and Woods, including several interesting items.

From Tatton Park, Cneshire, came some polished specimens of British woods, but by far the most comprehensive collection of polished or varnished woods was contributed by the Earl of Yarborough's estate in Lincolnshire, consisting of 115 species and varieties. The Black Walnut and Cerasus serotina were specially

good samples. All had been cultivated on the estate.

The educational exhibits from the colleges were very instructive. Some of them dealt with one subject, others with another; hut all are important subjects to cultivators. The SOUTH-EASTERN AGRICULTURAL COLLEGE. Wye, contributed specimens of Coniferseeds herbsrium specimens of species of Conifer, including every part of the plant carefully mounted on sheets; also living specimens of fungi and of injurious insects that attack forest and fruit-trees—a very instructive exhibit.

From the Education Department of the ROYAL AGRICULTURAL SOCIETY were contributed very many exhibits, some of which illustrated careless planting, proper pruning, and consequent healing over by "occlusion," &c.; the Larch disease in six stages, typical forest insects and their ravages, soils and

The University College of Wales, and the Univer-SITY of READING made demonstrations of soils from different localities, the collection from Reading, in-cluding the analysed component elements of soil,

being very instructive.

The HARPER ADAMS Agricultural College at Newport, Shropshire, showed living spectmens of common agricultural weeds, and a representative was there anxious to explain to farmers and others the best

means of destroying each.

Seedling Potatos came from the Midland Agricul-TURAL AND DAIRY INSTITUTE. Among the growing plants were seedlings from Northern Star crossed with

plants were seedlings from Nothern Star crossed with the varieties Harbinger and Ninety-fold respectively. The effects of the use of sulphate of ammonia for exterminating Daisies on lawns were shown by samples from the ESSEX COUNTY COUNCIL TECHNICAL LABORATORIES. If applied in slight quantities this strong manure will kill the Daisies, and encourage the grasses; but if used too freely, it will kill the grasses also. The effects of different manures on Peas were also shown.

From the AGRICHIANIA, DEPARTMENT of CAMPRIDICE.

From the AORICULTURAL DEPARTMENT of CAMBRIDGE UNIVERSITY the samples of living pasture obtained from sowing in which the choice of seeds varied, were extremely interesting.

The question of the "big" and "little" loaf was raised by the exhibits from the ROTHAMSTED EXPERIMENTAL STREET

MENTAL STATION, which showed samples of different varieties of Wheat, and a loaf of bread made from each variety, the same quantity of Wheat being used in each instance. The American varieties of Wheat command the highest prices, nor is this to be wondered at, for the loaf made from the Manitoba Wheat was considerab'y larger than that made from English Wheat.

Most of the great commercial seed houses were represented by very attractive 'stands," which, although chiefly commercial in their aims, formed object-lessons to those whose husiness it is to raise farm crops from seeds.

Messrs. Sutton & Sons, Reading, greeted the visitors almost immediately upon entering at the main en-trance, and their agricultural produce was relieved by excellent exhibits of Gloxinias and other plants in flower, also Peas fruiting in pots, sample tubers of Potatos, and an attractive collection of Tomatos bearing

heavy crops of rips fruits in pots.

Next to this "stand" was another very smart structure, helonging to Messrs. J. Carter & Co., High Holborn, and this firm had also Gloxinias and many other plants in flower, as well as growing specimens of some of the best forage grasses and Clovers.

some of the best forage grasses and Clovers.

Messrs. E. Wedd & Sons, Wordsley, Stourbridge, although showing Gloxinias and other flowering plants, made a feature of their collections of vegetables, the samples of which were of choice quality.

Messrs. Dickson Brown & Tait, Manchester; Messrs. Dicksons, Ltd., Chester; The Agricultural and Horticultural Association, Ltd. London; Messrs. Garton & Co., Werrington; Messrs. J. K. King & Sons, Cogges hall and Reading; Messrs. Dickson & Robinson, Manchester; Messrs. Little & Ballantyne, Carlisle; Messrs. W. Horne & Sons, Cliffe, near Rochester, and other firms, had each a stand furnished with agricultural or horticultural exhibits. Lawn-mowers were on view from Messrs. Ransomes, Sims, & Jeffries, Ipswich,

and Messre. Green & Sons, London; horticultural glass-houses were shown by the well-known builder Mr. W. Duncan Tucker, of Tottenham, and Messrs. Skinner, Board & Co., Rupert Street, Bristol; spraying appliances by Messrs. Merryweather & Sons; and garden potters by Messrs. Liberty & Co., 28, Warwick Street Feagent Street London. Street, Regent Street, London.

BRITISH GARDENERS' ASSOCIATION.

THE Secretary has sent us the following copy of the form for application for membership, which will be supplied to anyone applying for it to the Secretary, whose address is given below :-

QUALIFICATION FOR MEMBERSHIP,

1. To be not less than 20 years of age.
2. If less than 23 years of age, to have had at least five years' training in good private, public, or commercial establishments.
3. If more than 23 years of age, to have had at least seven consecutive years' professional experience.
4. To be able to produce satisfactory testimony as to general character.

general character.

general character.

Candidates must obtain from the Secretary a form of application, which, when filled up, should be returned to him. If the Committee of Selection are satisfied that the candidate is qualified for membership, they will instruct the Secretary to forward him a certificate. The certificate will be renewed annually on receipt of subscription. The charge for registration and certificate will be 2s. 6d., and the annual subscription 2s. 6d. These two sums should be forwarded to the Secretary together with the form of application. Proof of membership will be the possession of the Association's certificate for the current year, Hon. Secretary (pro. 10m.), W. Wa'ton, Kew Road, Kew.

Confidential 1

THE BRITISH GARDENERS' ASSOCIATION.

APPLICATION FOR MEMBERSHIP.

Name
Nationality
Date of Birth
If Married or Single
Family
Professional experience (State here the place, position, and length of lime in each situation)
Present situation (State if Head, Foreman, or Journey-man)
Wages
Number of Gardeners. &c , employed
*References (From Employers or Head Gardeners) Date
* Originals will be returned.

Contributions towards a sum of £250 which is being raised are requested.

GARDENERS' DEBATING SOCIETIES.

CRAWLEY AND DISTRICT MUTUAL IMPROVE-MENT.—The members of the above Association and friends, to the number of about sixty, recently visited the beautiful grounds and gardens at Tilgale, by the kind permission of Mrs. Nix, and spent a most en-joyable and instructive time in the company of Mr. J. A. Nix, the President of the Association, who very courteously conducted the visitors over the estate. Mr. Joseph Cheal proposed a hearty vote of thanks to Mrs. Nix.

SCHEDULES RECEIVED.

RAYLEIGH AND DISTRICT HORTICULTURAL SOCIETY'S annual Horticultural Exhibition to be held at Rayleigh, on Wednesday, July 13, 1904.

LEIPZIG HORTICULTURAL SOCIETY'S Jubilee Show in the Crystal Palace, Leipzig, November 12 to 20,1904.

CAMERIDOESHIRE HORTICULTURAL SOCIETY'S Summer Stow, on Tuesday, July 12; and Autumn Show on Wednesday and Thursday, November 2 and 3, at Cambridge, Secretary, Mr. Arthur Matthew, 20, Trinity Street, Cambridge.

CEOYDON HORTICULTURAL SCCIETY'S Summer Show, to be held in the grounds of Brickwood House, Addiscombe Road, Croydon, on Wednesday, July 6, 1914.

TRADE NOTICES.

DE MOUILPIED & Co, LIMITED.—The abovenamed company has been registered, with a capital of £5,000 in £1 shares, to carry on the business of bulb-growers, nurserymen, market gardeners, florists, farmers, graziers, planters, cultivators, land, property, and estate owners and dealers, brickmakers, &c. No initial publicissue. The first directors are G. Corderoy and E. A. de Mouilpied (both permanent). Registered office: Sutton Green Nurseries, Worplesden Station, Surrey.

Messes. Corry & Co., Ltd., Finsbury Street, E.C., bave appointed Mr. William Austin to act as their representative in Scotland, the North of England, and the North of Ireland.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticuitural Society's Gardens at Wisley, Surrey. Height above sea-level 150 feet. The following are the "mean" readings for the week ending June 11, 1904.

1904.	TEMPERATURE OF THE AIR.				TRE ON	TEMPERA- TUREOFTHE SOILat9A.M.						
	At9	A. M.	DAY.	NIGHT.	TEMPERATURE GRASS.	deep.	deep.		RAINFALL,		JNSH1NE.	
JUNE 12 TO JUNE 18,	Dry Bulb.	Wet Bulb.	Highest.	Lowest.	LOWEST T	At 1-foot deep.	At 2-feet deep.	At 4-feet deep.	ద	18		
	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	ins.	hr.	min.	
MEANS	50	54	66	52	48	59	58	55	Tot 0 :24	6	7	

THE WEATHER IN WEST HERTS.

Sea onable Weather .- The past week has been on the whole of about average warmth. At no time did the temperature in the thermometer screen rise higher than 69°, and on the two cold nights the exposed thermometer fell to within 7° of the freezing point. The ground is now of about seasonable warmth at 2 feet deep, but about a degree colder than the average at 1 foot deep. At the beginning of the week there occurred a welcome fali of rain measuring about a f of an inch, but since then no rain has failen. This moderate rainfali, however, had apparently no effect on the bare soil gauge, through which no measurable quantity of rain-water has now passed for more than a fortnight. The sun shore on an average for six and a half hours a day, which is about a quarter of an hour a day longer than is usual at this season. The winds, which came exclusively from some southerly or westerly point of the compass, were as a rule high, but at no time did the mean velocity for any single hour exceed twelve miles. The mean amount of moisture to the air at 3 PM. was six percent below the average quantity for the month at that hour. E. M., Berkhamsled, June 21, 1904.

MARKETS.

COVENT GARDEN, June 22.

PLANTS IN POTS, &O.: AV	ERAGE WHOLESALE PRICES.
s.d. s.d.	s.d. s.d.
Aralias, per doz. 6 0-12 0	
Arbor Vitæ, per	dozen 30-40
dozen 9 0-18 0	Marguerites, per
Aspidistras, per	dezen 30-60
dozen 18 0-36 0	- double yellow 4 0-6 0
Aucubas, per doz. 4 0-8 0	- single yellow 40-60
Calceolarias, per	- Etoile d'Or,
dozen 30-60	per dozen 10 0-15 0
Coces 12 0-18 0	Mignonette, per
Crassula 8 0-12 0	dozen 40-80
Crotons, per dez. 12 0-24 0	Musk, per dozen 20-40
Cyperus, per doz. 3 0- 4 0	Orange-trees, each 3 6-10 6
Dracenas, variety,	Palms, var., each 3 0-20 0
dozen 6 0-18 0	Pansies, in boxes 1 3- 2 0
Ericas, per dozen 9 0-24 0	Pelargoniums,
Euonymus, vars	per dozen 4 0-10 0
per dezen 4 0-10 0	- double scarlet.
Ferns in var., per	par doz 2 0- 4 0
dozen 4 0-30 0	- pink 20-60
Ficus elastica, per	— Jacoby 30-40
dozen 9 0-24 0	- white 20-60
Fuchsias, per	Petunias in boxes 1 3- 2 0
dozen 30-60	Pteris tremula, p.
Heliotropes, per	dozen 40-80
dozen 30-60	Rose - trees, per
Herbaceous piants	dczen 80180
and perennials,	axifrages, p.doz. 8 0-10 0
per box 10-20	boliæa, per doz 5 0-8 0
Ivy Peiargoniums,	Stocks, per dezen 3 0- 6 0
per dcz 3 0- 4 0	Troj goium, per
Li ium Harrisii,	gczen 30-40
per tozen 8 0-10 0	Veibina, per doz. 4 0- 8 0

OUT FLOWERS, &c.: AVERAGE WHOLESALE PRICES. s.d. s.d.)

Arums, per dez.	1 0- 3 0	Orchids: Odonto-				
Bouvardias, per		glossums, per				
dozen	4 0- 6 0	dozan bicoms	20-40			
Canterbury Bails.		- Cattleya, doz.	10 0-12 0			
dez. bunches	3 0- 4 0	- various, doz	20-60			
Carnations, Mal-		Pæooles, per doz.				
maison. 12 blms.	3 0- 6 0	bunches	20-86			
- per bunch	0 6-26	Pelargeniums,				
Cornflower, buch.	10-30	zonal, dozen				
Ferns, Asparagus,		bunches	30-60			
per bunch	0 6- 1 6	- white, dozen				
- French 12 bun.	03-04	bunches	40-66			
- Maidenhair,		- double scariet,				
dez. bunches	60-80	per dozen				
Gardenias, box	10-20	bunches	30-40			
Gypsophila, doz.		Pinks, dozen bun.	10-36			
bunches	20-40					
Gladioius, Blush-		dozen buaches	30-69			
ing Bride, per		Pyretbrum, per				
doz. bunchas	4 0-10 0	doz. bunohos	2 0- 3 0			
- white, 14 bun.	20-60	Roses, Mermet,				
- various, dcz.		per bunch	1 0- 2 6			
bunches	4 0-15 0	- Moss, dezen.	4 0- 6 8			
Iris, doz bun	30-60	- white, bunch	10-20			
lxia, per doz. bun.	20-30	- pink, bunch	1 0- 3 0			
- (French), bun.	16-20	- red. bunch	0 4- 1 6			
Lilium auratum		- Safranos, bch.	1 0- 2 0			
per bunch	16-30	Smilax, 12 bunch.	16-3 to			
- Harrisii, per		Spiræas bunch	0 4- 0 6			
bunch	1 0- 2 0	Siephanotis	1 0- 2 0			
— iancifoiium	16-26	Stocks, per doz	20-46			
Lily of the Valley,		Sweet Peas, per				
p. doz. bunches	6 0-12 0	_ doz. bunches	1 6- 3 0			
Marguerites, yel-		Tuberoses on				
10w, dozen bun.	1 0- 2 0	atem, bunch.	0 9- 1 0			
- white per doz.		- short. p. doz.	0 3- 0 4			
bunches	3 0- 4 0	Violas, doz. hun.	0 9- 1 6			
VEGETABLES: AVERAGE WHOLESALE PRICES.						

s.d. s.d. Artichokes, Giohe, per dozen ... Asparagus, Home, bundle ... Beans, Broad, per

bundle ... 10-16
Beans, Broad, per
slave ... 20 —
dwarf, per lb. 04-06
Beetroots, bushel 26-36
Cabbages, per
dozen ... 06-10
Carrots, per doz.
bunches ... 10-20
Calliflowers, per
dozen ... 16-30
Ceiery, per dozen
bunches... 18 0 —
Cress, doz. pun. 09 —
Cucumbers, doz. 16-29
Endive, per doz. 13-26
Garlic, per ib. ... 03 —
Herseradish, foreign, p. bunch
Leeks, per dozen
bundles ... 10-16
Lettuces, Cabbage,
per dozen ... 06-09
— Cos. per score 04-13
Mint, doz... ... 16-20

FRUIT: AVERAGE Wi - New Teneriffe, per cwt. ... 8 0 -- Radiah es, per dozen bunches 0 8-16 Salad, small, punnets, per dozen bunches 0 8-16 Spiach, p. hush. 2 0-2 6 Deps... ... 2 0-2 6 Deps... ... 2 0-2 6 Deps... ... 0 4-0 5 Tenglish, doz. 4 6-5 6 Tenglish, doz. 4 6-5 6

FRUIT: AVERAGE WHOLESALE PRICEL

FRUIT: AVERACE WHOLESALE PRIORI s.d. s.d. Apples, Austraiian, in cases ... 50-10 0

— Tas manian Cases ... 20-40 0
— ioose, dozen 10-16 5 [gs, per doz. 20-40 0] Melons, each ... 10-20 Melons, each ... 10-20

POTATOS.

St. Malo, cwt, 5.; Charbourg, 4s. 6d. 10 5c.; Jersey, s. to 5s. John Bath, 32 & 34, Wellington Street, Covent Garden.

COVENT GARDEN FLOWER MARKET.

Trade in pot plants continues fairly good, but most growers are disposed to accept lower prices. Some good zonal Palargoniums in 5-inch pots are selling for 2s. and 2s. 6d. per dozen, but there must not be regarded 2s. and 2s. 6d. per dozen, but these must not be regaided as the current market press. Some varieties are getting scarce; whites sell tetter; scarlets and pinks are most abundant. Ivy-leaved Pelargoniums Madame Crousse, Galileo, and Souvenir de Ch. Turner are very abundant in good plants, and prices are lower. The later batches of good Mignonette are now coming in, and sell well. Fuchsias are plentiful. Show Felargoniums are good from teveral growers, and tuoplies are more than equal to the demand. Hydrat gas flor ensia is selling well, at from 9s. to 18s. per dezen, and the variety Thomas Hogg is now seen again in the market. Several growers have H. paniculata, and the plants fetch from 13s. to 3's. per dozen. Some very good Roses in pots are now seen; they are mostly of pink-coloured varieties. There are some good white Moss Roses in bud. Crimson Rambler is still seen, but is not so good as it was earlier. Yellow Marguerites are more abundant. Heliotrope is good and plentiful. Yellow Calceolarias in dwarf well-flowered plants are abundant. Crassula jasminea and the hybrid varieties are very good from several growers. Verbena "Miss Willmott" and "King of Scarlets" are now seen in good condition on several stands, and they sell fairly well, particularly the first named variety. Liliums and Spiræss are not quite so plentiful. Ornamental follage plants include Coditeums (Crotons), Cordylines (Dracenas). Asparagus Sprengeri (including some fine specimens in large baskets), A. plumosus nanus, and A. tenuissimus, Asplenium nidus, Adiantums, Nephrolepis, &c. A. Sprengeri being used for window-boxes and other outdoor purposes sell very freely.

CUT FLOWERS.

CUT FLOWERS.

Salesmen complain that the trade for cut flowers is dull. The supply of Pyrethrums from some growers is enormous. Spanish Iris continue plentiful, also Sweet Peas. Carnations are now much chasper, some very good flowers being sold at about 6s. per dozen hunches. Some fine pink-coloured Malmaisons are seen, and these command good prices. In Roses, although pink is a favourite colour, there are too many of them, and good "reds" sell better. Lilium longiflorum is not quite so plentiful, but quite equal to the demand. Double Pæonies are plentiful in various colours, and some very fine whites are seen. Gladiolus the Bride. some very fine whites are seen. Gladiolus the Bride, also the blush and salmon colours, are good. Gypsophila elegans from the open ground is abundant. A.H.,

UNIVERSITY COLLEGE, READING. - In connection with the announcement we made last week, the Registrar of the College informs us that the Horticultural Department is under the direc-tion of Mr. F. Keeble, M.A., and Mr. C. Foster is Instructor in Practical Horticulture. Mr. Percival, M A., is Director of the Agricultural Department.

ANSWERS TO CORRESPONDENTS.

CALCEOLARIAS: G. S. Your plants have gone off in the same way as others all over the country have done for the last few years. It is probably due to some fungus. Destroy the plants by fire. See next issue.

CARNATION: J. C. There are many as good, but as a border plant it may be commended.

CATERPILLARS ON APPLE-TREES: W. H., Delph. You should have syringed the trees earlier with Paris-Green, a very poisonous liquid. We fear it is too late now, for the fruits being of considerable size, the substance might not be thoroughly washed off, and in that case it would be precided in the property of the control of would be exceedingly injurious to consumers of the fruit.

FERNS: E. T. The pest is that known as thrips, Vaporise the house containing the plants occasionally with nicotine, but do not use it too severely. The application should be mild, and may be repeated when necessary.

FUNGUS: F. W. The young state of Phallus impudicus. When older the stench of this fungus is atrocious.

GRAPES: T. P. Your Grapes are spotted with the fungus Gloesporium. Burn the affected berries, and spray the rest with liver-of-sulphur, ½ oz. to 1 gallon of rain-water.

Malmaison Carnation: J. G. G. They have gone wrong at the collar, perhaps from injudicious watering or lack of drainage. We can find no fungus.

MELON LEAVES: H. A. P. Your plants are attacked with the Cercospora melonis, a fungus. Try syringing with ½oz. liver-of-sulphur to 1 gallon of water. See Gardeners' Chronicle, October 4, 1902, for full details.

NAMES OF PLANTS: Correspondents not an-AMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.— Joshe.

1, Iceland Poppy; 2, Spiræa sorbifolia; 3, Sorbus Aucuparia; 4, Centaurea montana; 5, Spiræa Ulmaria; 6, Ranunculus acris, double-flowered.—A. J. K. 1, Cystopteris fragilis; 2, not recognised; 3, Asplenium ruta-muraria; 4, Applenium trichamenes; 5, Sanchiara corpopuls. Asplenium trichomanes; 5, Senebiera coronopus;

6, Dictamnus Fraxinella; 7, Ceterach officinarum. -S. H. M. Apparently some Vetch, or Tares, the seeds of which have become mixed with the Sweet Peas.—J. C. Buddleia globosa.—B. B. 1, Geranium pratense, pink variety; 2, Lychnis viscaria, double-flowered; 3, Armeria, we cannot tell which one; 4, Gnaphalium luteo-album. —A. A. Weigela rosea in flower; the other is a Lonicera, perhaps L. tatarica.—F. C. Habenaria bifolia, the Butterfly Orchis. Take care naria bifolia, the Butterfly Orchis. Take care not to exterminate it.—Novice. 1, Veronica Teucrium; 2, Bocconia cordata; 3, Veronica spicata; 4, Hieracium aurantiacum; 5, send when in flower; 6, Lilium Martagon; 7, Heuchera sanguinea; 8. Buddleia globosa.—Alba. Hemerocallis flava.—G. N. N. G. 1, Escallonia Philippiana; 2, Skimmia japonica; 3, Gaul theria Shallon.—W. W. 1, Selaginella, not recog-

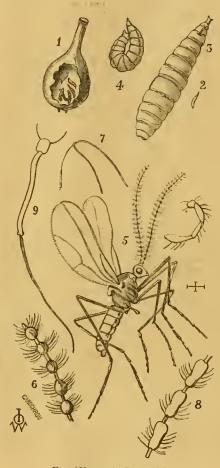


FIG. 178.-THE PEAR MIDGE.

1. a young blackened Pear cut open, showing hollow made by the five enclosed larvæ; 2, the larva, of the natural size; 3, the same, magnified; 4, the same, preparing to leap; 5, the male midge, natural size, indicated by the small crossed lines, the jointed process at the right of the antennærspresenting one of the palpl; 6, five of the terminal joints of the male antennæ; 7, apex of the wing, showing the thickened margin continued into the extremity of the main veln of the wing; 8, three of the middle joints of the female antennæ; 9, the elongated telescope-like ovlpositor of the female.

(From Westwood.) (From Westwood.)

nised; 2, Sedum album; 3, Saxifraga hypnoides; 4, Sedum reflexum; 5, Rhamnus frangula.-Brassia. 1, Oncidium obryzatum; 2, Cattleya Mendeli; 3, Brassia maculata; 4, Lilium pyrenaicum = L. pomponium var.; 5, Calycanthus floridus.—Didymus. 1, Hoffmannia Ghiesbreghtii variegata; 2, Flowers of Medlar, Mespilus grafted on a Thorn; 3, Abelia trifolia?; 4, Hymenanthera crassifolia; 5, an Aconite, poisonous; 6, Stachys lanata.—A. J. B. Maxillaria tenuifolia.—V. M. 1, Oncidium varicosum; 2, O. Forbesii; 3, O. Marshallianum; 4, Masdevallia infracta; 5, Odontoglossum Lind-Masdevalha infracta; 5, Odontoglossum Lind-leyanum; 6, Pleurothallis rubens. — J. K., Sevenoaks. Caladium Cannarti. — R. W. B. Stanhopea insignis.—J. W. T. Pavia flava.— S. G. S. Rhinanthus crista galli. We are not aware that it is poisonous, but some of its relatives are dangerous.—E. H. 1, Escallonia

macrantha; 2, Thuya orientalis variety; macrantha; 2, Thuya orientalis variety; 3, Cephalotaxus pedunculata fastigiate variety; 4, Skimmia japonica; 5, Potentilla variabilis; 6, Campanula glomerata—R. G. H. 1, Arrhenatherum avenaceum; 2, Holcus mollis; 3, Festuca pratensis; 4, not recognised; 5, Aira cæspitosa; 6, Phleum pratense.

New Wall: F. J. P. You might keep the wall damp by syringing it. We are not aware that the butter-milk would do any good.

PEACH-LEAVES: W. O. and W. M. The leaves are affected with the shot-hole fungus. Burn the affected leaves, and syringe the healthy plants with liver-of-sulphur ½ oz., rain-water 1 gallon.

PEARS: R. H. Your trees are badly cankered from fungus coming after frost or injury from insects.—E. A. J. The grubs are those of the insects.—E. A. J. The grubs are those of the Pear Midge, Diplosis pyrivora, very common this season (see fig. 178). The trees should have been sprayed with Paris-Green, directly the fruits had set. It would be dangerous to health to use this now the fruits have advanced

PINK: Comrie. Nothing unusual. Grass, next week.

PLUM LEAVES: E. P. D. & Sons. Probably the larva of some fly, but we do not see the culprit.

POTATO: W. E. N. This is a typical case of "scab," usually caused by using stable-manure or other nitrogenous fertiliser. The corrective or other nitrogenous fertiliser. The corrective is lime. The Potatos are not seriously injured by scab, but their market value is depreciated.

POTATOS: G. W. W. & Co. The Potatos are attacked at the base of the stems by the fungus called Sclerotinia sclerotiorum. It would be advisable to bury deeply or burn the diseased plants, otherwise the land will become infected with the fungus, which attacks nearly all kinds of cultivated crops.

PRONUNCIATION OF LATIN NAMES: J. L. M. See the section on this subject in Nicholson's Gardeners' Dictionary. It is impossible for us to publish a Latin grammar in the Gardeners' Chronicle.

Roses: Constant Reader. It would be as well to replant the beds in autumn. Read the advice respecting manures for Roses given on p. 403, of this issue.

The British Gardeners' Association: B. W.
The institution of this Association having become an accomplished fact, there appears less reason than formerly for printing letters either for or against such an object. We will forward your letter to the Committee, and possibly they will reply to you. The rules, if objected to, can always be modified.

Tomatos: J. B. Too common, as you must have noticed from the frequent illustrations in the Gardeners' Chronicle and other publications. Burn them, and spray the healthy plants with liver-of-sulphur, half-an-ounce to a gallon of rain-water. The Cucumbers have received a check, from what cause we cannot tell.

VINE: T. Down. There is no disease present that can be attributed to a fungus. The appearance of the foliage suggests insufficient ventilation, especially early in the morning.

VINE LEAVES: T. T. The leaves are scorched. See if some of the panes of glass are not defec-tive. The leaves are also studded on the under surface with warts from too stuffy an atmosphere and deficient ventilation.

VINES: W. G. The reason the growth was not satisfactory last year may have been that the young rods were not sufficiently "ripened" in the previous season, or it may be that the soil of the border was unsuitable. It is impossible at this distance to form a definite opinion.

COMMUNICATIONS RECEIVED.—C. S. F. (photographs).—W. B. H.—E. V. E.—W. C. S.—J. S. (photo.)—C. P. R. (photo with thanks).—S W. W. (photo).—J. C. & Sons, Rocheater, U.S.A.—Barr & Sons.—W. E. G.—H. H.—Max Leichtlin, Baden.—W. G.—E. W.—M. van den Bossche, Tirlemont.—Standard Manutacturing Co.—R. P. B.—F. Moore—Laxion Bros.—P. W., Mülhelm—Prof. Schroter, Zurich—J. W. McH. E. L.—M. B. Middelhurg—H. Low & Co.—W. G. S.—A A. Y.—T. A.—Curlous—L. L.—J. H. P.—H. H.—X. O. Y.—H. S.—Southampton Royal Horticultural Society—R. P. B.—W. J. T., Jamaica—F. H.—W. B. B.—W. W.—S. H.—An Apprentice—J. V.—A. K.—G. W. T.—J. H.—R. N. H



Supplement to the "Gardeners' Chronicle."

A GROUP OF SHIRLEY POPPIES.

