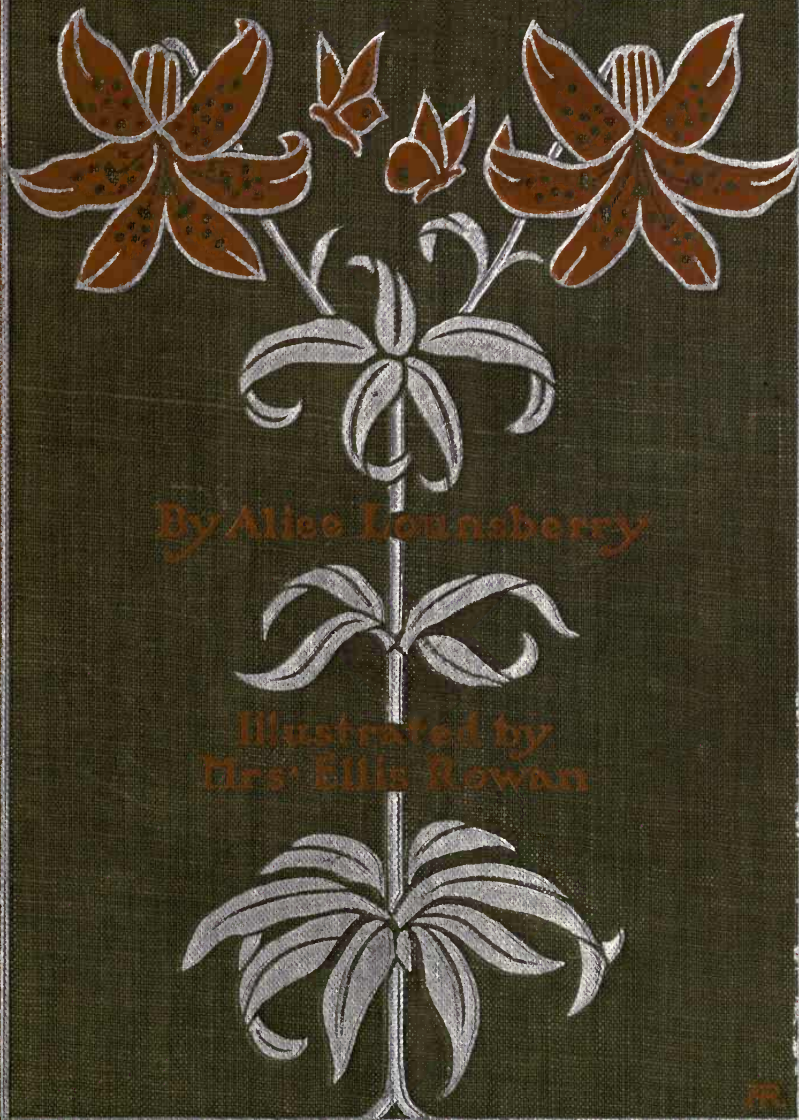


UC-NRLF



B 4 315 110

A GUIDE TO THE WILD FLOWERS



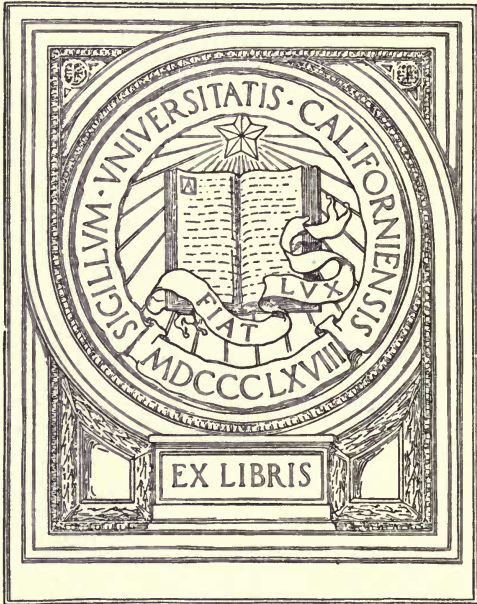
By Alice Lounsberry

Illustrated by
Mrs. Ellis Rowan

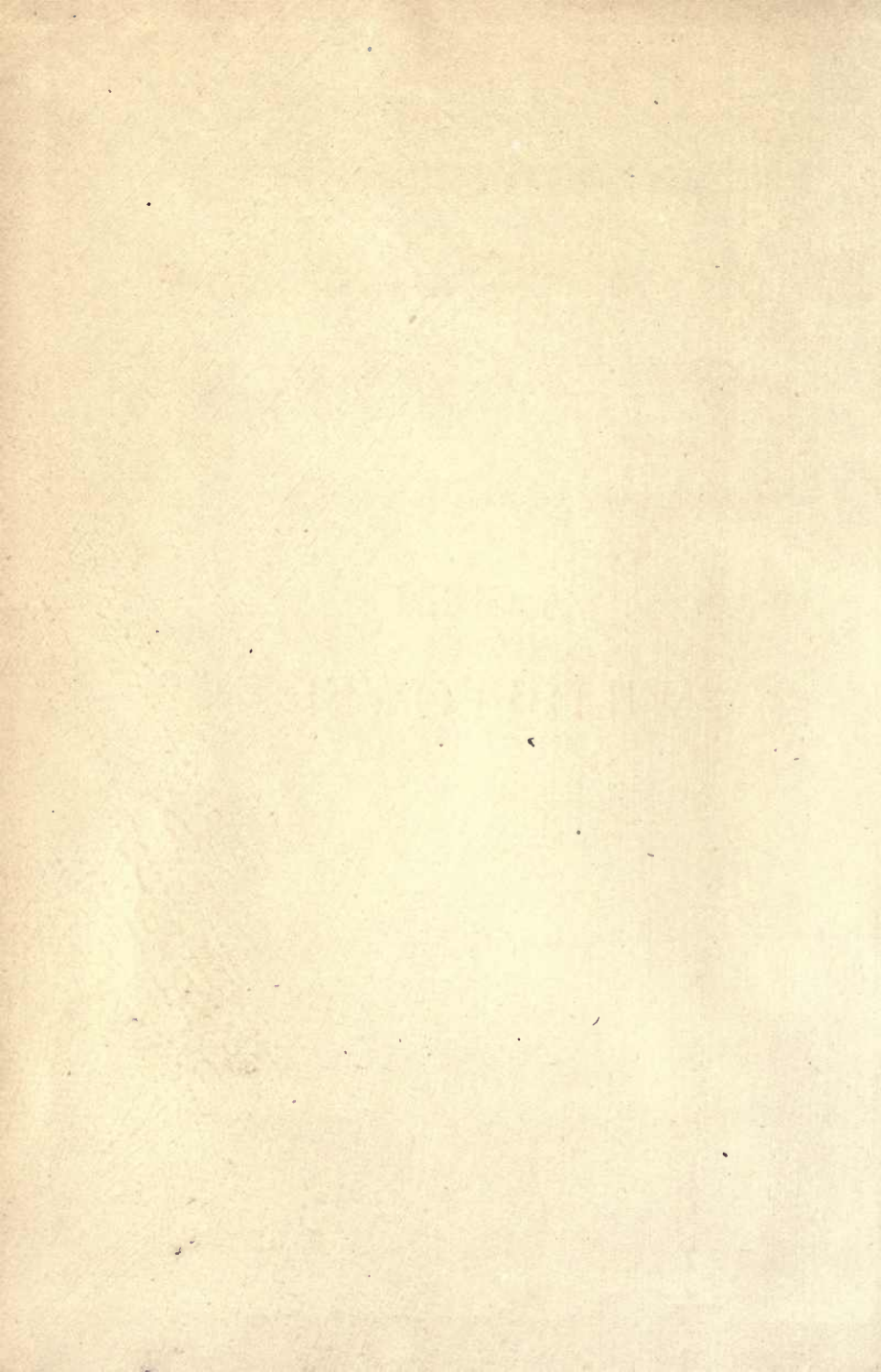
FR

200
al

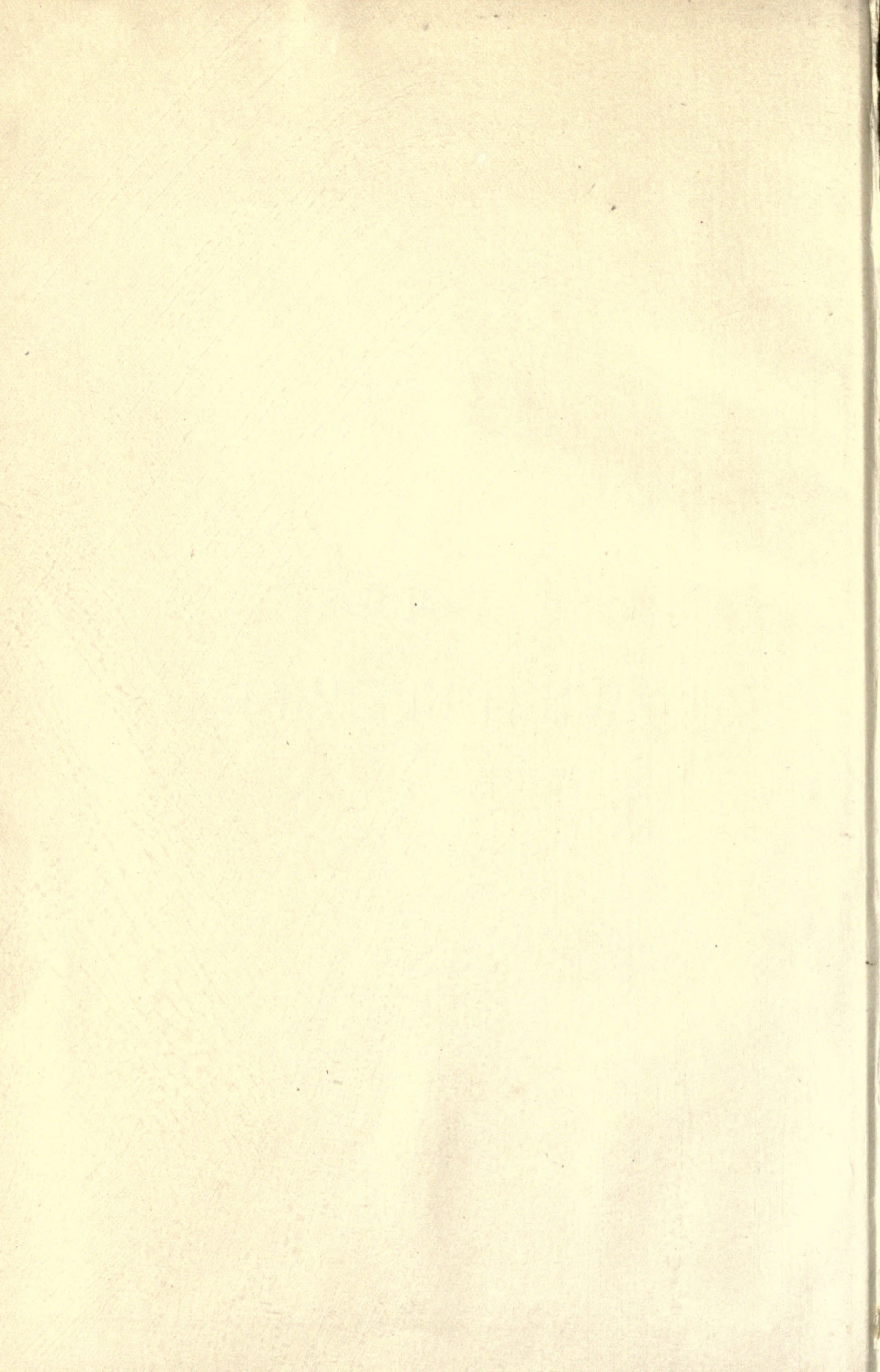
GIFT OF
A. F. Morrison



BIOLOGY
LIBRARY



A GUIDE
TO THE
WILD FLOWERS



Handwritten text in a cursive script, likely a list or index, located in the upper right corner of the page. The text is arranged in several columns and includes various characters and symbols, possibly representing a catalog or a set of instructions. The handwriting is dense and somewhat difficult to decipher due to its cursive nature.

1777



PLATE XX. WILD HONEYSUCKLE. *Azalea nudiflora*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

A GUIDE
TO THE
WILD FLOWERS

BY
ALICE LOUNSBERRY

WITH SIXTY-FOUR COLOURED AND ONE HUNDRED BLACK-AND-
WHITE PLATES AND FIFTY-FOUR DIAGRAMS

BY
MRS. ELLIS ROWAN

With an Introduction

BY
DR. N. L. BRITTON

*Emeritus Professor of Botany, Columbia University, Author of "An Illustrated
Flora," and Director of the New York Botanical Garden.*



NEW YORK
FREDERICK A. STOKES COMPANY
PUBLISHERS

QK118

L67

BIOLOGY
LIBRARY

COPYRIGHT, 1899,
BY FREDERICK A. STOKES COMPANY

GIFT OF

A. F. Morrison

TO THE
LIBRARY

PH

Contents.

	PAGE.
PREFACE,	iv
LIST OF ILLUSTRATIONS,	ix
INTRODUCTION BY DR. NATHANIEL LORD BRITTON,	xv
A CHAPTER TO STUDY,	I
FIVE CONSPICUOUS PLANT FAMILIES,	15
PLANTS GROWING IN WATER,	21
PLANTS GROWING IN MUD : BOGS, SWAMPS AND MARSHES,	43
PLANTS GROWING IN MOIST SOIL : LOW MEADOWS AND BY RUNNING STREAMS,	79
PLANTS GROWING IN RICH OR ROCKY SOIL : DEEP WOODS AND HILLSIDES,	139
PLANTS GROWING IN LIGHT SOIL : OPEN WOODS,	203
PLANTS GROWING IN SANDY SOIL,	231
PLANTS GROWING IN DRY SOIL : UPLAND PLACES, THICKETS AND MEADOWS,	256
PLANTS GROWING IN WASTE SOIL : ROADSIDE BANKS AND LANES,	296
INDEX TO COLOUR,	326
INDEX TO ENGLISH NAMES,	333
INDEX TO LATIN NAMES,	340
INDEX OF TECHNICAL TERMS,	346

M95624

Preface.

THE love of flowers is one of the earliest of passions, as it is one of the most enduring. Children with the bees and butterflies delight in the opening of the spring; and a bright boy that is reared in the country follows the season by its flowers. He it is that knows when to push aside the snow and dried leaves to find the first sweet blossoms of the trailing arbutus; nor does he mistake the dell where the white violet peeps shyly out for the spreading patch of blue violets to which he returns every year. He knows the hillside where the mountain laurel and the lambkill grow, and drives away the foolish cows that would eat of their fresh, green shoots. The precious haunt of the pink orchis and the rocky crag over which droops the lovely columbine is to him an unravelled mystery. A stream of fishing he marks by the stately cardinal flower or the coy jewelweed.

His knowledge of them all is intimate and loving—one that he has acquired by his own skill and observation, and through this close friendship with them he feels proudly that they are his very own. The swamps and the woods, the hills and the roadsides, are his especial domain.

The great poets of America have shown a profound appreciation of their incomparable wild flowers. In fact, the impersonal love of flowers is one of the characteristics of modern poetry. But this has not always been so. The Persians made use of their flowers as mouthpieces to express their own sentiments and from them the idea radiated very generally. They served the ancient Greeks mostly as tombstones to commemorate their sorrows: and although the Greek boy knew where to find them and honoured them as favourites of his gods, he had not the

same sentimental fondness for them as has our little American friend. A wild rose would never say to him : " I despise you ; " nor does he expect a black-eyed Susan to blush from shyness.

The wild flowers have their own unique personalities. They exist as individuals and reproduce themselves. Every plant is a member of a family and has its relatives quite as well as those of the animal world. To know them it is necessary that we should seek them in their homes : they seldom come to us.

It is for this reason that a classification according to the soil in which they grow is feasible. It is a tangible point of which to take hold. And although there are some fickle-minded plants that appear to flourish in different kinds of soil, they may be regarded rather as those straying away from family tradition, than as trustworthy examples. As a rule they are partial to particular kinds of soil and do not thrive nearly so well in other than that allotted to them by Dame Nature. The marsh marigold, with which most of us are familiar, when it reaches the sunny, warmer south retires to the wet, cool woods in search of a soil similar to that of its home marshes. The harebell, that is with us a shy plant, hiding itself in shady places and rooting in moist soil, in England ventures out into the meadows and highways. It has there not our midsummer heat with which to contend and finds the soil of the fields not unlike that of our shaded banks.

It would therefore seem that, putting aside an analysis of their minuter parts, the different species of plants could be most readily known by their locality. With one exception the great family of golden-rods are yellow ; but they do not all grow in the same kind of soil. The knowledge, therefore, that one inhabits a swamp will be of more value to identify it than to know its colour. For the convenience of those, however, that are accustomed to a classification by colour, an index, in which the plants are arranged under the dominant colour of the blossoms, has been provided.

With the knowledge of this point and knowing also the soil

in which they grow, little difficulty should be encountered in determining the position of any plant in the book.

It has seemed most natural to make the divisions of soil according to a gradation from plants that grow in water through those of mud and those of moist, rich, rocky, light and sandy soils respectively to those that flourish in dry and waste ground. Under this classification the primary idea in grouping the genera has been to keep the families together, and so far as is consistent with this plan they have been arranged according to their seasons of blooming.

The common English name, or several common names, when they exist, and the scientific names of the plants are first given. Accents have been placed upon the latter as being an assistance to their correct pronunciation. Then follow, so that they may be seen at a glance, the family, colour, odour, range and time of bloom. A simple analysis is also given, from which the manner of their growth and the form and number of their parts can be learned. From the routine order of placing first the root, or stem, a deviation has been indulged in by beginning with a description of the flowers. It is thought to be more considerate to allow the novice to satisfy his enthusiasm over the blossom before claiming his attention for the root, stem, and leaves.

The technical terms that have been used will not be found difficult to conquer by a little patience and study of the next chapter. The student will then be armed with a vocabulary from which two words will serve him for twenty of his own that he might otherwise employ. Every science has its phenomena that individuals are ready to master; but for some strange reason botany has, until recently, been so enwrapped in the gloom of technical expressions that it has been declared impossible. Happily this idea has become a phantom of history. The change undoubtedly is greatly owing to the many delightful books that have been written on this subject. It is these books that make naturalists.

Modesty, we learn from the flowers, is one of the winsome virtues. It is therefore said with much modesty that what has been formerly lacking to make these books thoroughly useful and practicable to the student is supplied in the present volume. It is COLOUR. To the development of science we owe the existence of the sixty-four coloured plates that are here reproduced. They and the pen-and-ink sketches are from original studies from nature and show us many of our familiar as well as rare wild flowers. In the selection of them the range has not been limited ; simply from America's great wealth of bloom those have been chosen that have some especial claim on our attention. This work has been greatly facilitated by the most kind and generous aid of Dr. Britton.

Mrs. Rowan received invaluable assistance from Mr. Beadle, the well-known botanist of Baltimore ; and while in Asheville was enabled, through his courtesy and that of his colleagues, to get many rare specimens of native plants from the mountains of North Carolina.

Besides accuracy, Mrs. Rowan has a particularly happy faculty of transmitting to paper the atmosphere of the plants, so that in looking at them we almost feel their texture and sense a whiff of the salt marsh in which they grew, or the cool, spicy odour of the pine thickets. How differently these coloured plates impress us from those that gave dreary pleasure to our ancestors, when a patch of colour and a bit of green that was taken on faith as the accompanying leaves caused them to exclaim mechanically, "It is a flower."

That the book introduces many new friends among the wild flowers and that it adds colour constitutes its claim upon the reader.

About the flowers grave lessons cling,
Let us softly steal like the tread of spring
And learn of them.

List of Illustrations.

The mark * * * which appears in the list designates the plates that are produced in colour. The number of the page given for each of these coloured plates is that of the printed page *faced* by the coloured plate in each case.

PLATE.	PAGE.
I. WATER-ARUM. <i>Calla palustris</i> ,	* * * 20
II. GOLDEN CLUB. <i>Orontium aquaticum</i> ,	23
III. YELLOW POND-LILY. <i>Nymphaea advena</i> ,	25
IV. YELLOW NELUMBO. <i>Nelumbo lutea</i> ,	27
V. COMMON WHITE WATER CROWFOOT. <i>Batrachium trichophyllum</i> ,	29
YELLOW WATER CROWFOOT. <i>Ranunculus delphinifolius</i> ,	29
VI. WATER HEMLOCK. <i>Cicuta maculata</i> ,	31
VII. WATER-HYACINTH. <i>Piaropus crassipes</i> ,	* * * 32
VIII. COMMON BLADDERWORT. <i>Utricularia vulgaris</i> ,	35
IX. ARROW-HEAD. <i>Sagittaria latifolia</i> ,	37
X. WATER-PLANTAIN. <i>Alisma Plantago-aquatica</i> ,	39
XI. AMPHIBIOUS KNOTWEED. <i>Polygonum amphibium</i> ,	40
XII. FLOATING-HEART. <i>Limnanthemum lacunosum</i> ,	42
XIII. AMERICAN CRINUM. <i>Crinum Americanum</i> ,	* * * 44
XIV. SWAMP PINK. <i>Helonias bullata</i> ,	45
XV. PITCHER-PLANT. <i>Sarracenia purpurea</i> ,	* * * 46
XVI. MARSH MARIGOLD. <i>Calla palustris</i> ,	49
XVII. GOLD THREAD. <i>Coptis trifolia</i> ,	51
XVIII. SWAMP ROSE. <i>Rosa Carolina</i> ,	52
XIX. LIZARD'S TAIL. <i>Saururus cernuus</i> ,	54
XX. WILD HONEYSUCKLE. <i>Azalea nudiflora</i> ,	* * * <i>Frontispiece.</i>
XXI. WHITE SWAMP HONEYSUCKLE. <i>Azalea viscosa</i> ,	* * * 54
XXII. AMERICAN CRANBERRY. <i>Oxycoccus macrocarpus</i> ,	58

LIST OF ILLUSTRATIONS.

XXIII.	CALOPOGON.	<i>Limodorum tuberosum</i>,	. . . . .	***	60
XXIV.	SNAKE-MOUTH.	<i>Pogonia ophioglossoides</i>,	. . . . .		61
XXV.	SMALL PURPLE-FRINGED ORCHIS.	<i>Habenaria psychodes</i>,	. . . . .		63
XXVI.	WHITE-FRINGED ORCHIS.	<i>Habenaria blephariglottis</i>,	. . . . .	***	64
	YELLOW-FRINGED ORCHIS.	<i>Habenaria ciliaris</i>	. . . . .	***	64
XXVII.	MARSH CLEMATIS.	<i>Clematis crispa</i>,	. . . . .		66
XXVIII.	HORNED BLADDERWORT.	<i>Utricularia cornuta</i>,	. . . . .		68
XXIX.	ROSE MALLOW.	<i>Hibiscus Moscheutos</i>,	. . . . .	***	70
XXX.	BUCKBEAN.	<i>Menyanthes trifoliata</i>,	. . . . .		71
XXXI.	SEA PINK.	<i>Sabbatia campanulata</i>,	. . . . .		73
XXXII.	VENUS'S FLY-TRAP.	<i>Dionæa muscipula</i>,	. . . . .	***	74
XXXIII.	MILKWEED.	<i>Asclepias lanceolata</i>,	. . . . .	***	76
	ASHY MILKWEED.	<i>Asclepias cinerea</i>,	. . . . .	***	76
XXXIV.	LARGER BLUE FLAG.	<i>Iris versicolor</i>,	. . . . .	***	80
XXXV.	CRESTED DWARF-IRIS.	<i>Iris cristata</i>,	. . . . .		81
XXXVI.	POINTED BLUE-EYED GRASS.	<i>Sisyrinchium angustifolium</i>,	. . . . .	***	82
XXXVII.	YELLOW-ADDER'S TONGUE.	<i>Erythronium Americanum</i>,	. . . . .	***	84
XXXVIII.	CAROLINA LILY.	<i>Lilium Carolinianum</i>,	. . . . .	***	86
XXXIX.	STOUT STENANTHIUM.	<i>Stenanthium robustum</i>,	. . . . .		85
XL.	FOUR-WINGED SNOWDROP TREE.	<i>Mohrodendron Carolinum</i>,	. . . . .		87
XLI.	CHOKE CHERRY.	<i>Prunus Virginiana</i>,	. . . . .		89
XLII.	TALL WILD BELLFLOWER.	<i>Campanula Americana</i>,	. . . . .	***	90
XLIII.	COLORADO SHOOTING-STAR.	<i>Dodecatheon Meadia frigidum</i>,	. . . . .		92
XLIV.	TRUMPET FLOWER.	<i>Tecoma radicans</i>,	. . . . .	***	94
XLV.	BUTTON BUSH.	<i>Cephalanthus occidentalis</i>,	. . . . .	***	96
XLVI.	BLUETS.	<i>Houstonia cœrulea</i>,	. . . . .		99
XLVII.	TALL MEADOW RUE.	<i>Thalictrum polygamum</i>,	. . . . .		103
XLVIII.	MONKSHOOD.	<i>Aconitum uncinatum</i>,	. . . . .	***	104
XLIX.	MOCK APPLE.	<i>Micrampelis lobata</i>,	. . . . .		105
L.	WHITE-FLOWERED SIDALCEA.	<i>Sidalcea candida</i>,	. . . . .		107
LI.	CARDINAL MONKEY-FLOWER.	<i>Mimulus cardinalis</i>,	. . . . .	***	108
LII.	TURTLE-HEAD.	<i>Chelone glabra</i>,	. . . . .		111
LIII.	TURTLE-HEAD.	<i>Chelone Lyoni</i>,	. . . . .		113
LIV.	HEDGE-HYSSOP.	<i>Gratiola aurea</i>,	. . . . .		115

LIST OF ILLUSTRATIONS.

xi

LV.	MEADOW BEAUTY.	<i>Rhexia Virginica,</i>	. . .	***	114
	LARGE-FLOWERED MILKWORT.	<i>Polygala grandiflora,</i>	. . .	***	114
LVI.	SLENDER DAY FLOWER.	<i>Commelina erecta,</i>	. . .		117
LVII.	SPIDERWORT.	<i>Tradescantia montana,</i>	. . .		119
LVIII.	JEWEL-WEED.	<i>Impatiens biflora,</i>	. . .	***	120
LIX.	CARDINAL FLOWER.	<i>Lobelia cardinalis,</i>	. . .	***	122
	RATTLESNAKE GRASS.	<i>Panicularia Canadensis,</i>	. . .	***	122
LX.	GREAT LOBELIA.	<i>Lobelia syphilitica,</i>	. . .		123
LXI.	ROUND-LEAVED PSORALEA.	<i>Psoralea orbicularis,</i>	. . .		125
LXII.	OSWEGO-TEA.	<i>Monarda didyma,</i>	. . .	***	126
LXIII.	OBEDIENT PLANT.	<i>Physostegia Virginiana,</i>	. . .	***	128
LXIV.	FRINGED GENTIAN.	<i>Gentiana crinita,</i>	. . .	***	130
LXV.	CLOSED GENTIAN	<i>Gentiana Andrewsii,</i>	. . .		129
LXVI.	SNEEZEWEED.	<i>Helenium autumnale,</i>	. . .		131
LXVII.	BLUE STOKESIA.	<i>Stokesia cyanea,</i>	. . .		133
LXVIII.	JOE-PYE-WEED.	<i>Eupatorium purpureum,</i>	. . .		135
LXIX.	GOLDEN-ROD.	<i>Solidago juncea,</i>	. . .	***	136
LXX.	JACK-IN-THE-PULPIT.	<i>Arisæma triphyllum,</i>	. . .	***	138
LXXI.	STROPHILIRION.	<i>Strophilirion Californicum,</i>	. . .		139
LXXII.	TWISTED STALK.	<i>Streptopus roseus,</i>	. . .		141
LXXIII.	LARGE-FLOWERED WAKE-ROBIN.	<i>Trillium grandiflorum,</i>	. . .	***	144
LXXIV.	PAINTED TRILLIUM.	<i>Trillium undulatum,</i>	. . .		145
LXXV.	PANICLED BELLFLOWER.	<i>Campanula divaricata,</i>	. . .		147
LXXVI.	DALIBARDA.	<i>Dalibarda repens,</i>	. . .		149
LXXVII.	EARLY WHITE ROSE.	<i>Rosa blanda,</i>	. . .		151
LXXVIII.	COLUMBINE.	<i>Aquilegia truncata,</i>	. . .	***	154
	LONG-SPURRED COLUMBINE.	<i>Aquilegia cærulea,</i>	. . .	***	154
LXXIX.	BLACK COHOSH.	<i>Cinificuga racemosa,</i>	. . .		155
LXXX.	BUNCH-BERRY.	<i>Cornus Canadensis,</i>	. . .		157
LXXXI.	FLOWERING DOGWOOD.	<i>Cornus florida,</i>	. . .		159
LXXXII.	SOURWOOD.	<i>Oxydendrum arboreum,</i>	. . .	***	158
LXXXIII.	MOUNTAIN LAUREL.	<i>Kalmia latifolia,</i>	. . .	***	160
LXXXIV.	SHEEP LAUREL.	<i>Kalmia angustifolia,</i>	. . .	***	162
LXXXV.	GREAT RHODODENDRON.	<i>Rhododendron maximum,</i>	. . .	***	164

LXXXVI.	SHIN LEAF. <i>Pyrola elliptica</i>,	. . . . .	165
LXXXVII.	CREEPING WINTERGREEN. <i>Gaultheria procumbens</i>,	. . . . .	167
LXXXVIII.	CREEPING WINTERGREEN. <i>Gaultheria Shallon</i>,	. . . . .	169
LXXXIX.	INDIAN PIPE. <i>Monotropa uniflora</i>,	. . . . .	*** 170
	FALSE BEECH-DROPS. <i>Hypopitys Hypopitys</i>,	. . . . .	*** 170
XC.	NEVINS'S STONE CROP. <i>Sedum Nevii</i>,	. . . . .	171
XCI.	AMERICAN ORPINE. <i>Sedum telephioides</i>,	. . . . .	173
XCII.	SMOOTH RUELLIA. <i>Ruellia strepens</i>,	. . . . .	175
XCIII.	YELLOW LADY'S SLIPPER. <i>Cypripedium hirsutum</i>,	. . . . .	*** 178
XCIV.	MOCCASIN FLOWER. <i>Cypripedium acaule</i>,	. . . . .	179
XCV.	STRIPED CORAL-ROOT. <i>Corallorhiza striata</i>,	. . . . .	181
XCVI.	RATTLESNAKE PLANTAIN. <i>Peranium repens</i>,	. . . . .	183
XCVII.	BLOOD-ROOT. <i>Sanguinaria Canadensis</i>,	. . . . .	185
XCVIII.	GROUND OR MOSS PINK. <i>Phlox subulata</i>,	. . . . .	*** 186
XCIX.	HOBBLE-BUSH. <i>Viburnum alnifolium</i>,	. . . . .	*** 188
	C. TRUMPET HONEYSUCKLE. <i>Lonicera sempervirens</i>,	. . . . .	189
	CI. TWIN-FLOWER. <i>Linnæa borealis</i>,	. . . . .	191
	CII. WHITE ABRONIA. <i>Abronia fragrans</i>,	. . . . .	193
	CIII. WHITE BEARD'S TONGUE. <i>Pentstemon Digitalis</i>,	. . . . .	195
	CIV. WHITE BEARD'S TONGUE. <i>Pentstemon Newberryi</i>,	. . . . .	197
	CV. WOOD-SORREL. <i>Oxalis Acetosella</i>,	. . . . .	*** 200
	CVI. TRAILING ARBUTUS. <i>Epigæa repens</i>,	. . . . .	205
	CVII. SPOTTED PIPSISSEWA. <i>Chimaphila maculata</i>,	. . . . .	*** 206
	FIRE PINK. <i>Silene Virginica</i>,	. . . . .	*** 206
CVIII.	WIND-FLOWER. <i>Anemone quinquefolia</i>,	. . . . .	209
CIX.	THIMBLE-WEED. <i>Anemone Virginiana</i>,	. . . . .	211
CX.	CAROLINA LARKSPUR. <i>Delphinium Carolinianum</i>,	. . . . .	*** 212
CXI.	PARTRIDGE VINE. <i>Mitchella repens</i>,	. . . . .	*** 215
CXII.	WILD PINK. <i>Silene Caroliniana</i>,	. . . . .	*** 218
CXIII.	STARRY CAMPION. <i>Silene stellata</i>,	. . . . .	219
CXIV.	GROUND-NUT. <i>Panax trifolium</i>,	. . . . .	221
CXV.	WILD GERANIUM. <i>Geranium maculatum</i>,	. . . . .	*** 222
CXVI.	PROSTRATE TICK-TREFOIL. <i>Meibomia Michauxii</i>,	. . . . .	225
CXVII.	WOOD-BETONY. <i>Pedicularis Canadensis</i>,	. . . . .	227

LIST OF ILLUSTRATIONS.

xiii

CXVIII.	DOWNY FALSE FOXGLOVE, <i>Dasystoma flava</i>,	. . . . .	***	228
	SMOOTH RUELLIA. <i>Ruellia strepens</i>,	. . . . .	***	228
CXIX.	FERN-LEAF FALSE FOXGLOVE. <i>Dasystoma pedicularia</i>,	. . . . .		229
CXX.	SPANISH BAYONET. <i>Yucca filamentosa</i>,	. . . . .	***	230
CXXI.	BIRD'S-FOOT VIOLET. <i>Viola pedata</i>,	. . . . .		233
	BIRD'S-FOOT VIOLET. <i>Viola pedata bicolor</i>,	. . . . .		233
CXXII.	ST. ANDREW'S CROSS. <i>Ascyrum hypericoides</i>,	. . . . .		237
CXXIII.	SHRUBBY ST. JOHN'S-WORT. <i>Hypericum prolificum</i>,	. . . . .	***	238
CXXIV.	GOAT'S RUE. <i>Cracca Virginiana</i>,	. . . . .		239
CXXV.	WILD SENNA. <i>Cassia Marilandica</i>,	. . . . .	***	242
	PARTRIDGE PEA. <i>Cassia Chamæcrista</i>,	. . . . .	***	242
CXXVI.	BEACH PEA. <i>Lathyrus maritimus</i>,	. . . . .		243
CXXVII.	BUSH CLOVER. <i>Lespedeza procumbens</i>,	. . . . .		245
CXXVIII.	HYSSOP SKULLCAP. <i>Scutellaria integrifolia</i>.	. . . . .		247
	HAIRY SKULLCAP. <i>Scutellaria pilosa</i>,	. . . . .		247
CXXIX.	HORSE-MINT. <i>Monarda punctata</i>,	. . . . .		249
CXXX.	CAROLINA CALAMIINT. <i>Calamintha Caroliniana</i>,	. . . . .		251
CXXXI.	PURPLE GERARDIA. <i>Gerardia purpurea</i>,	. . . . .	***	252
CXXXII.	FLOWERING SPURGE. <i>Euphorbia corollata</i>,	. . . . .		253
CXXXIII.	SMOOTH ASTER. <i>Aster lævis</i>,	. . . . .	***	254
	WHITE WREATH ASTER. <i>Aster multiflorus</i>,	. . . . .	***	254
	LATE PURPLE ASTER. <i>Aster patens</i>,	. . . . .	***	254
CXXXIV.	SHAD-BUSH. <i>Amelanchier Canadensis</i>,	. . . . .	***	256
CXXXV.	VIOLETS. <i>Viola blanda</i> , <i>Viola Canadensis</i> , <i>Viola pubescens</i> ,			
	<i>Viola palmata</i>,	. . . . .	***	258
CXXXVI.	CRANBERRY TREE. <i>Viburnum opulus</i>,	. . . . .		259
CXXXVII.	SHRUBBY CINQUEFOIL. <i>Potentilla fruticosa</i>,	. . . . .		263
CXXXVIII.	VIPER'S BUGLOSS. <i>Echium vulgare</i>,	. . . . .	***	266
CXXXIX.	LARGE-FLOWERED VERBENA. <i>Verbena Canadensis</i>,	. . . . .		269
CXL.	SCAPOSE PRIMROSE. <i>Pachylophus cæspitosus</i>,	. . . . .		271
CXLI.	PASSION FLOWER. <i>Passiflora incarnata</i>,	. . . . .	***	272
CXLII.	CALIFORNIA POPPY. <i>Eschscholtzia Californica</i>,	. . . . .	***	274
	CALIFORNIA POPPY. <i>Eschscholtzia cæspitosa</i>,	. . . . .	***	274
CXLIII.	BUTTERFLY PEA. <i>Clitoria Mariana</i>,	. . . . .		277

CXLIV.	COMMON MILKWEED.	<i>Asclepias Syriaca,</i>	.	.	.	.	279
CXLV.	BUTTERFLY-WEED.	<i>Asclepias tuberosa,</i>	.	.	.	***	280
CXLVI.	MOTH-MULLEN.	<i>Verbascum Blattaria,</i>	.	.	.	.	283
CXLVII.	STRIPED GENTIAN.	<i>Gentiana villosa,</i>	.	.	.	.	285
CXLVIII.	TICK SEED.	<i>Coreopsis lanceolata,</i>	.	.	.	***	288
CXLIX.	ROBIN'S PLANTAIN.	<i>Erigeron pulchellus,</i>	.	.	.	.	289
CL.	WHITE DAISY.	<i>Chrysanthemum Leucanthemum,</i>	.	.	.	***	290
	BULBOUS BUTTERCUP.	<i>Ranunculus bulbosus,</i>	.	.	.	***	290
CLI.	BLACK-EYED SUSAN.	<i>Rudbeckia,</i>	.	.	.	***	292
CLII.	PURPLE-FLOWERING RASPBERRY.	<i>Rubus odoratus,</i>	.	.	.	***	298
CLIII.	SPREADING DOGBANE.	<i>Apocynum Androsæmifolium,</i>	.	.	.	.	301
CLIV.	CYPRESS-VINE.	<i>Quamoclit coccinea,</i>	.	.	.	.	303
CLV.	BOUNCING BET.	<i>Saponaria officinalis,</i>	.	.	.	.	304
CLVI.	DOUBLE BOUNCING BET.	<i>Saponaria officinalis,</i>	.	.	.	***	304
CLVII.	TRAVELLER'S JOY.	<i>Clematis Virginiana,</i>	.	.	.	.	307
CLVIII.	MUSK MALLOW.	<i>Malva moschata,</i>	.	.	.	***	306
CLIX.	WHITE ALDER.	<i>Clethra alnifolia,</i>	.	.	.	.	309
CLX.	HOG-PEANUT.	<i>Falcata comosa,</i>	.	.	.	.	313
CLXI.	SUNFLOWER.	<i>Helianthus mollis,</i>	.	.	.	***	318
CLXII.	IRON-WEED	<i>Vernonia Noveboracensis,</i>	.	.	.	.	321
CLXIII.	COMMON YARROW.	<i>Achillea millefolium,</i>	.	.	.	.	323
CLXIV.	CHICORY.	<i>Cichorium Intybus,</i>	.	.	.	***	324

Introduction.

ONE of the first questions a botanist asks about a plant is, "Where did it grow," and the next is, "When and where did you get it." Yet it is surprising how seldom these points are noted, and how many collections are preserved without sufficient data to guide us in the identification of the specimens. If this book does nothing more than emphasize the importance of observing these points it will do good.

It will also aid in the appreciation of that new development of botanical study, the science of Plant Ecology. It will teach the novice how altitude, latitude, soil and environment affect the vegetation of certain areas; how certain plants are found growing together because of the nature of the soil and of their surroundings. If it also leads to the understanding of their gradual adaptation to changed conditions it will give a broader and more comprehensive view of plant morphology and lead away from the mistaken idea that plants must and should conform to our artificial definitions, and make clearer the laws of evolution.

To feel that plants are living things, that individuality and heredity are constantly struggling in them for ascendancy, bringing about modifications which in course of time are sufficient in amount and importance to create specific differences, these are the underlying principles of the study of plants.

That the love of Nature is gaining ground among us is shown in many ways. The number of books and magazines dealing with natural-history subjects in a popular way, increases yearly to meet an increasing need. A constant demand exists which

calls upon our specialists in Science to tell what they know in plain readable language, and expects them to illustrate their meaning in the best and most modern manner. The public calls for increased facilities for learning. Popular lectures, beautifully illustrated, have become the order of the day, and the labour of the brain may be had cheaper than the labour of the hands. Biology and Nature Study have taken their places in the courses of instruction both in private and public schools and the teachers are struggling to fit themselves to meet the new requirements ; in fact, the supply does not equal the demand. Parents are seeking for companions for their children in their hours of recreation and vacation who can answer questions on natural objects and phenomena ; if they cannot find the right person, they want correct books and magazines.

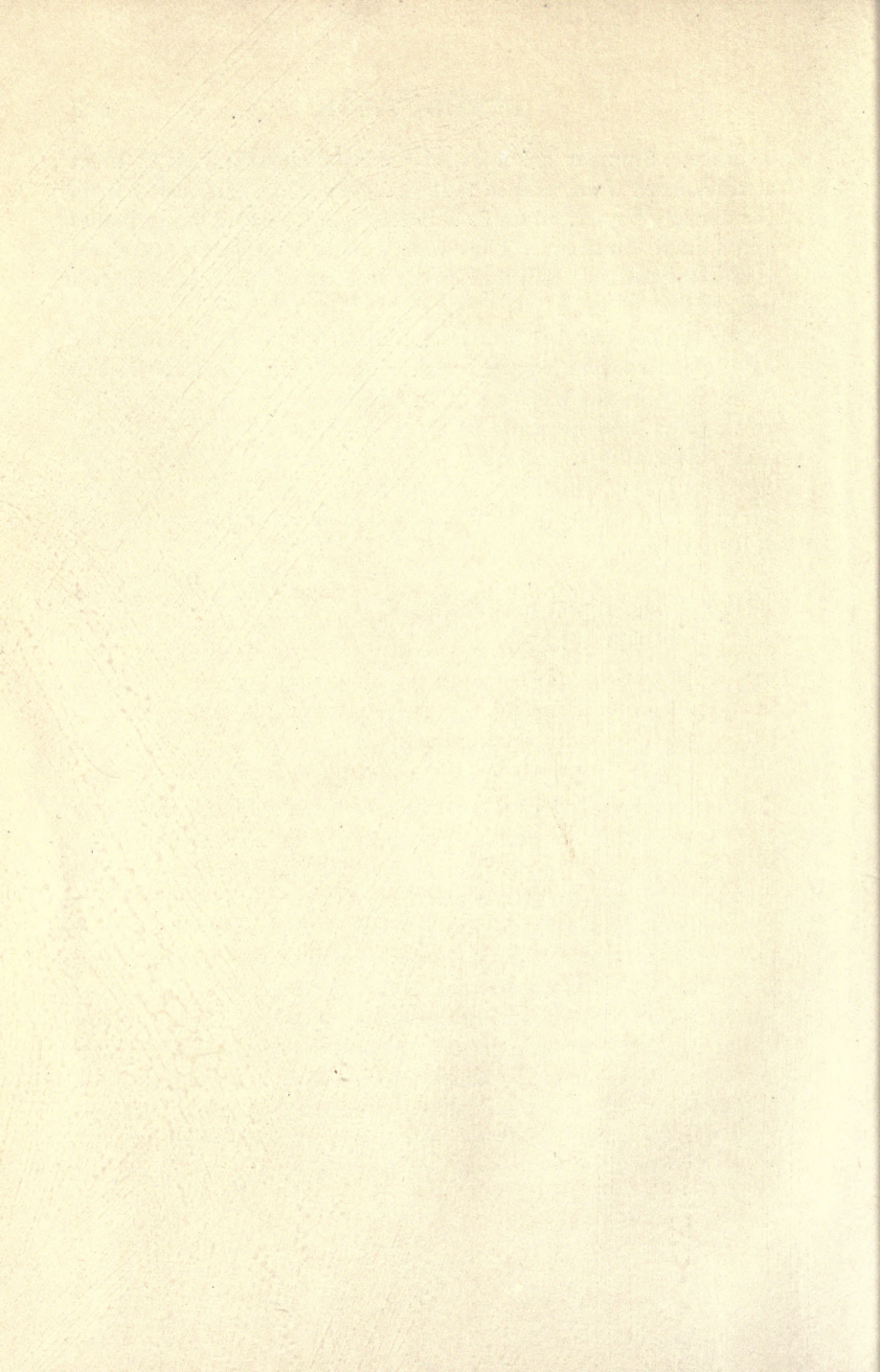
That the true love of Nature imposes certain moral responsibilities is also beginning to be recognised. First and foremost a respect and care for living things will do away with that spirit of wanton destruction which permits the killing of any animal or the uprooting or trampling of a living plant, just for the fun of it. It will also promote a spirit of unselfishness which can enjoy the beauties of Nature and leave them as we found them for some one else to enjoy after us. It also promotes an appreciation and love of truth which fosters exactness and precision. From a pedagogic standpoint nature studies are of the utmost importance, as they bring the mind to the consideration of the objective rather than the subjective methods. That they call for greater individuality and latitude of presentation is one of the reasons why it has been difficult to secure the right methods. Our schools cannot be bound by hard and fast rules and requirements ; the teacher must meet the needs and opportunities of the students and these are very diverse in different schools and places. She must be ready to make use of any facilities and accomplishments that individual scholars may afford for the benefit of the others, and to bring drawing, photography and poetry, as well as prose, to her as-


sistance. Summer schools and vacation classes seem to meet a widespread want, and to take teachers and pupils away from the densely populated cities is better than to bring living plants and animals to them. Therefore a book that leads searchers to know what they will find in the country is the best kind of a book.

Our thanks are due to Miss Lounsberry and Mrs. Rowan for having contributed a work which cannot fail to advance Nature Study in quite the way that it should be advanced. Mrs. Rowan's figures have been drawn from plants growing in their natural surroundings and they are accurate and elegant. The new process by which it has been made possible to reproduce her coloured paintings is a most valuable addition to methods of illustration.

N. L. BRITTON.

NEW YORK BOTANICAL GARDEN,
February 20, 1899.





A Chapter to Study.

No attempt has been made in the following chapter to acquaint the student with every term that it is possible to use in describing the organs of a plant ; but enough have been explained and used throughout the book to give a comprehensive vocabulary of the subject and to lead one up to the enjoyment of an altogether scientific work on botany.

The existence of the plant and that of the animal are so closely linked together that it would be rather difficult to prophesy the fate of one were the other to withdraw itself from the earth. It is a pleasure to see that they seldom encroach upon each other's mission in life ; but are generously helpful by the most amicable arrangements.

The plants absorb from the atmosphere carbonic-acid gas, which, unless this were so, would become abundant in the air and be injurious to animal life. They exhale oxygen, which is the animal's necessary food. The opposite course is pursued by animals. They inhale oxygen and exhale carbonic-acid gas. In this way they return the plants' compliment : by taking from them what they do not want and giving them as food what they do want.

Again, plants are almost altogether dependent upon animal life to perform for them the service of cross-fertilization, page 7. The birds, the butterflies and Master Bee and his family are all ceaselessly busy as their messengers. But there is nothing mean about the flowers. In return, they are quite aware of, and cater to, the tastes of all. When a bird carries the seeds of a flower to some distant place and deposits them, it is only a slight remuneration for the delicious luncheon of red

berries that he has enjoyed. If Master Bee follows the road that is plainly marked out for him by a deep, rich veining and sips to satiety of a gland of nectar ; it is but fair that the anthers should load him well with a cargo of pollen to carry off to the pistil of another flower. In fact, as we become more friendly with the flowers we will cease to look upon them so much as luxurious creatures but rather as those that have solved the deep problems of domestic economy.

The plant's individual mission in life is the reproduction of itself.

The flower and its products, the fruit and the seeds, are the organs of reproduction.

The root, the stem and the leaves are the organs of vegetation.

The **Inflorescence** is the manner in which the flowers are arranged upon the stem.

When but one flower grows upon the end of the stem or flower-stalk, it is said to be **TERMINAL, SOLITARY**.

It is **Axillary** when the flower, or flowers, grow from the axils of the leaves, or in the angle formed by the leaf, or leaf-stalk, and the stem. (FIG. 1.)



FIG. 1.



FIG. 2.



FIG. 3.

A **Pedicel** is the individual stalk of a flower borne in a cluster.

A **Peduncle** is the stalk of a solitary flower, or the general stalk that bears a cluster.

Sessile is the term used when the flowers grow closely to the stem and are without either pedicel or peduncle.

A **Raceme** is when the flowers grow on pedicels about equally long that are arranged along the sides of a common stalk. (FIG. 2.)

A **Panicle** is a compound raceme. (FIG. 3.)



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7.

A **Spike** is like a raceme, only the flowers are sessile. (FIG. 4.)

A **Spadix** is a fleshy spike that is usually enveloped by a leaf-like bract called a **SPATHE**. (FIGS. 5 and 6.)

A **Head** or **Capitulum** is a short, dense spike that is globular in form. (FIG. 7.)



FIG. 8.



FIG. 9.



FIG. 10.

A **Corymb** is a raceme in which the lower pedicels are elongated so that the flowers all reach about the same height. (FIG. 8.)

An **Umbel** is like a corymb, only the pedicels branch from the same central point, suggesting the ribs of an umbrella. It may be simple, or compound. (FIG. 9.)

A **Cyme** is a flat-topped inflorescence, differing from an umbel in that its innermost flowers are the first to open. (FIG. 10.)

A **Complete** flower is one that is provided with the essential organs of reproduction, the **STAMENS** and **PISTIL**; and the protecting organs, the **CALYX** and **COROLLA**. As an example of a complete or typical flower we may take the one illustrated in FIG. 11 and 12.



FIG. 11.

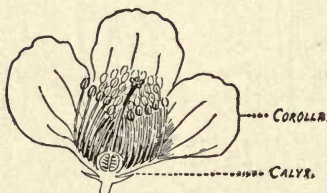


FIG. 12.



FIG. 13.

The **Calyx** is the lower, outer set of leaves at the base of the flower that rests upon the receptacle, or end of the flower-stalk. It is usually green, but not always. At times we find it brilliantly coloured and conspicuous. (See FIG. 12.)

The **Sepals** are the leaves of the calyx when it is divided to the base.

The **Calyx** is **GAMOSEPALOUS** when the sepals are wholly or partly grown together.

The **Corolla** is the next inner and upper set of leaves. It is the alluring part of the flower, and attracts the bees and butterflies to its whereabouts that its pollen may be carried through their agency. (FIG. 12.)

The **Petals** are the leaves of the corolla when it is divided to the base.

The **Corolla** is said to be **GAMOPETALOUS** when the petals are wholly or partly grown together.

The **Calyx** and **Corolla** are spoken of as **PARTED** when they are divided nearly to the base. When they are divided about one-half they are said to be **CLEFT**, or **LOBED**. They are **TOOTHED** when the lobes are very small.

When the parts of the **Calyx** or **Corolla** are united, the terms used to express their different forms are:

Salver-Shaped: when the border is flat and spread out at right angles from the top of the tube. (FIG. 13.)

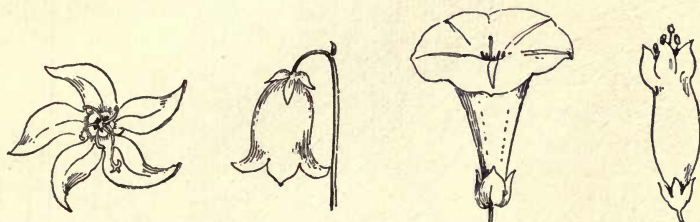


FIG. 14.

FIG. 15.

FIG. 16.

FIG. 17.

Wheel-Shaped: when the border suggests the diverging spokes of a wheel and spreads out at once, having a very short tube. (FIG. 14.)

Bell-Shaped, or **Campanulate**: when the tube expands towards the summit and has no border, or only a short one. (FIG. 15.)

Funnel-Formed: when the tube is narrow below, and spreads gradually to a wide border. (FIG. 16.)



FIG. 18.

FIG. 19.

FIG. 20.

FIG. 21.

Tubular: when the tube is prolonged, and does not widen much towards the summit. (FIG. 17.)

Ligulate: when appearing strap-shaped, as in the dandelion and chicory. (FIG. 18.)

Labiate : when there is an apparently two-lipped division of the parts. In this form of corolla usually two petals grow together and make the upper lip ; the remaining three petals join together and form the lower lip. These divisions appear mostly as lobes, and it is not always noticed that the flowers are of five lobes instead of two. (FIG. 19.)

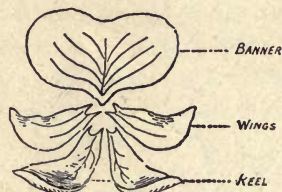


FIG. 22.



FIG. 23.



FIG. 24.

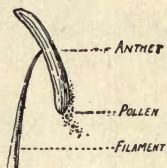


FIG. 25.

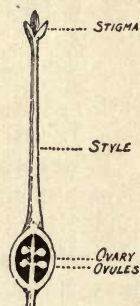


FIG. 26.

When the petals are not grown together but are wholly separate, the corolla is said to be **polypetalous**. Different forms are :

Rosaceous : when the petals are distinct and without claws, as in the rose.

Cruciferous : when there are four clawed petals in the form of a cross. (FIG. 20.)

Papilionaceous, or butterfly-shaped. (FIG. 21.) Such flowers are usually described in three parts: the **banner**, or **standard**, which is the large upper petal ; the **wings**, or the two side petals, and the two anterior petals that, commonly united in a shape something like the prow of a boat and enclosing the reproducing organs, are called the **keel**. (FIG. 22.)

Regular Flowers are those that have the parts of each set, the sepals and petals, alike in size and form. (FIG. 23.) **Irregular Flowers** are the reverse of **regular**. (FIG. 24.)

It is sometimes found that only one set of floral leaves is present. It is then regarded as the **Calyx**. Collectively the floral envelope, or the protecting organs, is spoken of as the **Perianth**; but the word is mostly used in cases where the calyx and corolla run into each other so that it is difficult to distinguish them apart. The lily family have a perianth.

The **Stamens**, or **Fertilizing Organs**, of the plant are composed of two parts: the **Filament**, or stalk, which is useful to uphold the **Anther**; and the **Anther**, a tiny two-celled box which contains the **Pollen**. The **Pollen** is the yellow fertilizing powder which is the essential product of the stamens. (FIG. 25.)

Exserted Stamens are those that protrude from the corolla.

Included Stamens are those that are within the corolla.

The **Pistil**, or **Seed-Bearing Organ**, is divided into three parts: the **Ovary**, the **Style**, and the **Stigma**. (FIG. 26.)

The **Ovary** is the lower expanded part of the pistil that contains the **Ovules**, or undeveloped seeds. (FIG. 26.)

The **Style** is the slender stalk that usually surmounts the ovary. (FIG. 26.)

The **Stigma** is the flat or variously formed body that terminates the style. (FIG. 26.) Unlike the other organs of the plant, it is not covered by a thin skin or epidermis. Its surface is therefore moist and rough so that it readily receives and holds the pollen when it is deposited upon its surface.

Each tiny pollen grain that alights on the stigma sends out a minute tube that pierces down through the style until it reaches an ovule below, which it quickens into life. This is known as the process of **Fertilization**. The ovules then develop into **Seeds**, and the ovary enlarges into the **Fruit**, or **Seed Vessel**.

Cross-Fertilization is when the pollen of one flower is

carried to the stigma of another by some extraneous agency, such as the wind or animal life.

Self-Fertilization is when the stigma receives the pollen from the stamens in the same flower-cup as itself. To prevent this catastrophe the plants are ever upon the alert, experience teaching them that the result is not good. Often either no seeds at all mature or their progeny is a weakling.



FIG. 27.



FIG. 28.

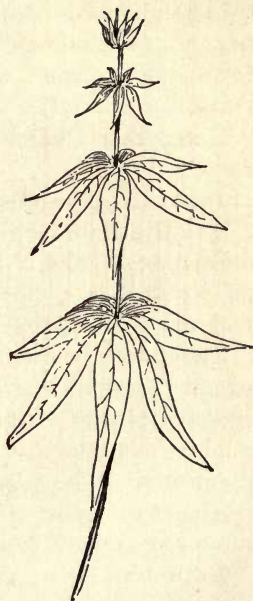


FIG. 29.



FIG. 30.



FIG. 31.



FIG. 32.

A **Perfect Flower** is one that has both stamens and pistil. The reverse is called an **Imperfect Flower**.

A **Neutral Flower** is one that has neither stamens nor pistils.

Staminate Flowers are those that have stamens but are without pistils.

Pistillate Flowers are those that have pistils but no stamens.

The terms **MALE** and **FEMALE** that are sometimes employed instead of **STAMINATE** and **PISTILLATE** are used wrongly and should be avoided by even those that have no pretention to botanical knowledge. It is the product of these organs and not they themselves that should be so called if the terms are used at all ; but staminate and pistillate are the correct and accepted expressions.

Cleistogamous flowers are those small, inconspicuous blossoms of the late season that usually grow near the ground and never open. They are, however, fruitful, being self-fertilized within themselves. Violets bear them abundantly.

Leaves may be looked upon as appendages of the stem. They are the digestive organs of the plant and assimilate the sap into material for sustaining its tissues.

The **Blade** is the usually broad, flat part of the leaf.

Stipules are the two small blade-like parts at the base of the petiole. They are often inconspicuous, or absent.

Bracts are the modified leaves of an inflorescence or those that are under a flower. Usually they are green and of different size and shape than the rest of the foliage ; sometimes, however, they are highly coloured and petal-like.

The three principal ways in which leaves are arranged upon the stem are :

Alternate : that is when one leaf appears just above the other on another side of the stem. (FIG. 27.)

Opposite : when two appear at each joint, having the semi-circle of the stem between them. (FIG. 28.)

Whorled : when they grow at intervals in a circle around the stem. (FIG. 29.)

The **Veining** of the leaves is classed under two divisions : **Netted-Veined** and **Parallel-Veined**.

Netted-Veined leaves are those in which the veins branch

off from the midrib and branch again into veinlets that run together and form a network, or mesh. (FIG. 30.) Netted-veined leaves are said to be **Feather-Veined** when the secondary veins all start from the sides of the midrib, running from the base to the apex of the leaf. (FIG. 31.) They are called **Palmately-Veined** when several veins of equal size start from the same point at the base of the leaf and spread out towards the margin.

Parallel-Veined leaves are those in which the main veins run side by side, without branching or running together. (FIG. 32.)

The veining of the leaves is always in complete harmony with their shape, so that much can be learned by noticing this feature carefully.



FIG. 33.



FIG. 34.



FIG. 35.



FIG. 36.

Leaves vary greatly in general outline, and the following terms are used to designate some of their common forms :

Linear : the narrowest form of a leaf—several times longer than broad : grass-like. (FIG. 32.)

Lanceolate : long and narrow, slightly broader at the base and tapering towards the apex. (FIG. 30.)

Oblanceolate is a reversed lanceolate.

Oblong : when two or three times broader than long. (FIG. 31.)

Elliptical : oblong but tapering at both ends. (FIG. 33.)

Oval : broadly elliptical. (FIG. 34.)

Ovate : when the outline is similar to the shape of an egg, the broader end downward.

Obovate : the reverse of ovate.

Spatulate : like a spatula, rounded at the apex and tapering towards the base. (FIG. 35.)

Orbicular, nearly circular or rounded in outline. (FIG. 41.)

Cordate or **Heart-Shaped** ; when the outline is ovate, the sides forming a notch at the base. (FIG. 37.)



FIG. 37.

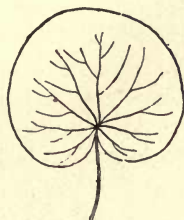


FIG. 38.



FIG. 39.



FIG. 40.

Obcordate : the reverse of cordate.

Reniform, or **Kidney-Shaped** : when the indentation is deeper and the leaf more rounded than heart-shaped. (FIG. 38.)

Auriculate : when the sides of the leaf are prolonged at the base into two ears or lobes. (FIG. 39.)

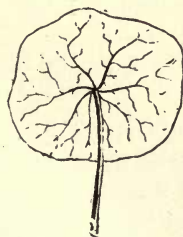


FIG. 41.



FIG. 42.



FIG. 43.

Sagittate, or **Arrow-Shaped** : when these lobes are acute and pointed backward. (FIG. 40.)

Peltate, or Shield-Shaped: when the leaf is orbicular, with the petiole attached to the middle. (FIG. 41.)

Entire Leaves are those in which the margins form an unbroken line. (FIG. 35.)

Undulate Leaves have margins that are wavy. (FIG. 33.)

Serrate Leaves have margins with short, sharp teeth that point forward. (FIG. 30.)

Crenate, or Scolloped: when the teeth are rounded. (FIG. 31.)

Incised: when the teeth are coarse and jagged and extend deeper into the leaf. (FIG. 34.)



FIG. 44.



FIG. 45.



FIG. 46.

Lobed: when the incisions extend about half way to the midrib; and in which case the leaf is spoken of as three lobed, five lobed, or according to the number of lobes formed. (FIG. 42.)

Cleft: when the incisions reach more than half way to the midrib. (FIG. 43.)

Divided: when the incisions extend to the midrib.

Compound Leaves have the blade split into separate parts, the little blades forming leaflets. When the leaflets are arranged similarly to feather-veins they are said to be **Pinnate**. When arranged as the veins in a palmately-veined leaf they are **Palmate**.

Abruptly Pinnate Leaves are those in which the main stalk is terminated by a pair of leaflets. (FIG. 45.)

Odd-Pinnate : when an odd leaflet terminates the stalk. (FIG. 46.) Sometimes this end leaflet is changed into a tendril, which aids the plant in climbing.

Leaves may be twice, thrice or more times compound. (FIG. 47.) The leaflets are subject to all the variations and may be described after the manner of simple leaves. In fact, the expressions here given are applicable to any flat part of the plant, the petals or sepals as well as the leaves.

Glaucous : when any part of the plant is covered with a powdery substance called a bloom.

Glabrous : when the parts are without bristles or hairs.

Pubescent : when covered with fine hairs or downy.

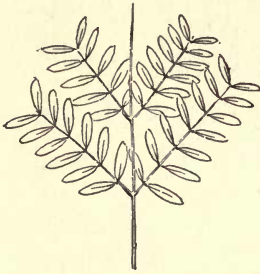


FIG. 47.



FIG. 49.



FIG. 48.



FIG. 50.

The **Stem** is that part of the plant that grows upward to the light and air, supports the foliage and makes it possible for the leaves to expand and present as large a surface as possible to the sunlight. Its manner of growth is described as being :

Erect : when growing up vertically.

Decumbent : lying on the ground but raising itself at the end. (FIG. 48.)

Procumbent : lying flat on the ground. (FIG. 49.)

Creeping : running along the ground and rooting at the joints. (FIG. 50.)

A **Simple Stem** is one that is not branched.

It is interesting to notice the wisdom with which stems ac-

commodate themselves to the necessities of the plant. We find some stems growing entirely underground and storing up nourishment for the plant's growth during the next season. These stems are called the **Rootstock** and are distinguishable from the root by bearing scales, which are not found on roots proper. (FIG. 51.)

The **Tuber** is the end of a rootstock that is thickened or enlarged. The enlarged part is possessed of eyes (buds). The common potato is a familiar illustration of tubers. (FIG. 52.)

The **Corm** is a rounded, compact rootstock. (FIG. 53.)

The **Bulb** is a corm mostly made up of fleshy scales. (FIG. 54.)



FIG. 51.



FIG. 52.

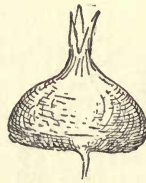


FIG. 53.



FIG. 54.

The **Scape** is a leafless peduncle, or the flower-stalk of a plant that has no stem.

The **Root** proper grows downward in the ground and bears nothing but rootlets and root-branches. Its principal function in life is to absorb the nourishment from the soil.

Aerial Roots are produced in the open air and serve the plant by acting as holdfasts, or helping it to climb.

Parasites intermingle their roots with the roots or stems of other plants and drain from them their sustenance.

Thorns are modified branches. Their purpose is to guard the plant from animals that would strip it of its stem and bark.

Five Conspicuous Plant Families.

We find, much to our encouragement, that there are a few plant families with which we at once become familiar ; and their marked features impress us as those of unusual faces that have to be seen but once to be clearly remembered. The greater number of families, however, and their branches are not so readily known. The least little variation in a plant's manner of growth will cause it to be separated from its relatives, even if it has to be regarded as a new species.

The first Latin or Greek word of a plant's scientific name is the name of its genus : its family name. The second word is an adjective that denotes its species and is usually significant of some characteristic or history with which it is connected. These names are too valuable to be overlooked, and as much as possible they should be memorised. The world over, a plant's scientific name is the same, while the common English names often change not only with country, but with state and town. Following are a few traits of families that are among those most easily recognised :

THE ARUM FAMILY.

Aracææ.

Although one of the smallest in numbers, the arum family comprises some of our most quaint and interesting flowers. Its characteristics are strongly marked and its tastes appear to be most patrician. We may believe that it does not concern itself about the fashions, as it makes no attempt to follow the

modes of other noted families ; but continues its own conservative way of bearing its flowers closely packed on a thick spadix and usually sheathing them with a handsome spathe.

These tiny flowers are often imperfect and sometimes naked,—that is, without calyx or corolla. When the latter are present they are seldom highly coloured. Under the microscope they are excellent studies and sometimes very beautiful.

As a family they show a keen appreciation of harmony in the exquisite blending of colours in the spathe, or by its appearing spotlessly white.

The white calla, the stately queen of the greenhouses, Jack in the pulpit and the skunk cabbage are all conspicuous members. The golden club is the wayward exception, in having no spathe. All are widely dissimilar in appearance and hold different positions in life, and yet they bear so strongly the marks of this exclusive family as to be at once recognisable. The leaves are mostly rather netted-veined and the plants contain an acrid, pungent, watery juice. Many of them are also known as yielding an edible farina, or starch.

THE LILY FAMILY.

Liliacæ.

The lily family is one that is distinctly marked by its regular, symmetrical flowers. Its floral envelope is a perianth that is sometimes white or gaily coloured, but very rarely green. Almost invariably it is of six equal parts. There are six stamens with two-celled anthers, and a three-celled ovary that is free from the receptacle. The style is undivided. The leaves are entire and parallel-veined, or sometimes netted-veined.

The word lily would probably form as many different pictures in the mind as there were individuals to whom it had been presented. Some would at once recall the greenhouse calla, which, as has already been said, is no lily at all and a member of the arum family. Others would think of the pure resurrection lily and again others would think of the swarthy, upright

tiger lily of the fields. The fragrant, drooping bells of the lily-of-the-valley would cling to the minds of many. But whatever the form of the lily that its name is associated with, it is invariably graceful and beautiful. As a family it is singularly without obnoxious qualities.

THE PULSE FAMILY.

Papilionaceæ.

The butterfly-shaped or papilionaceous corolla serves readily to identify a member of the pulse family. It is almost as un-failing as the nose of the Hohenzollerns. But we poor mortals may not flatter ourselves that it has been thus considerate to facilitate our study of the genus. The family has a very subtle way of achieving its ends in this world.

It has been observed that flowers that are dependent upon insects for cross-fertilization have usually an irregularly shaped corolla. It is so with the pulse family.

They offer no comfortable seat or resting place for Master Bee and therefore force the poor fellow to let the weight of his whole body knock against the blossom as he thumps about in search of nectar. It is for this little push that the flower has been planning. The stigma that was enclosed in the keel is knocked out, and the pollen grains that were already on the style from early-maturing anthers are dropped upon the bee's back. Little suspecting the trick that has been played upon him, he saunters off to another member of the family, as he is again allured by the irregular corolla and the purplish pink that is his favourite colour. As before, he knocks about for a seat and pushes out the stigma, which then greedily receives the pollen with which his back is covered from his last visit. In this way the pulse family manages the little matter of cross-fertilization. It has the true method of allowing others to do its work. And that its system is good is proved by the vigour and freshness of its growth.

The flowers are always arranged in fives, or multiples of five.

The stamens do not exceed ten and are usually united by their filaments. The leaves are mostly compound, with entire leaflets. Papilionaceæ is the name that is now used as distinctive of this family and in preference to that of Leguminosæ, under which they were formerly known.

THE PRIMROSE FAMILY.

Primulacææ.

We may look upon the primrose family as a group that shows us regular, perfect flowers. And after having tried our patience over the unexpected developments of other families it is certainly a pleasure to come upon one of these straightforward little blossoms, whose motto seems to be, to jog along as comfortably as possible and to make no mystery of its ways. There is no lack of originality, however, among the primroses. The shooting star is a very different-appearing flower from the spreading poor-man's weather-glass, or the yellow loosestrife. It is not a very large family and may be known on the whole as gamopetalous herbs that are arranged in divisions of five, rarely six or seven. There are as many stamens as there are lobes of the corolla, which are inserted on and opposite the latter. The stigma and style are undivided. In fruit the ovary, which is one-celled, enlarges into a pod; and in different species the number of seeds varies greatly. The leaves may be generally said to be simple. The generic name, *Primula*, is from *primus*, spring. Bryant says of the primrose :

“ Emblem of early sweetness, early death,
Nestled the lowly primrose.”

THE COMPOSITE FAMILY.

Compositææ.

The composite family, like the majority of mortals, has its good and its bad characteristics; but if we drink deep enough of knowledge of the family and put ourselves in friendship with

it, we will probably find that we are tipped in the scale of its favour.

We must first resign a natural feeling of resentment at its aggressiveness and its habit of flaunting itself from every available space. Its children, we must remember, have been a little neglected in education and know no better. They arrive at a season of the year when the dear preacher has retired from his pulpit and they have not the advantage of hearing his good doctrine. The violet is busy rooting its runners for the next season's growth and no longer raises its head to teach them about modesty. So being born with rather bold tastes, the poor composites think that they are doing quite a fine thing in puffing themselves up and topping over everything.

If they were much spoken about in the good old-fashioned times it must have been with the expression that there was not a lazy hair in one of their heads. The energetic way in which they set about dispersing their seeds is truly wonderful, and, as has been already hinted at, their moral character not being fully developed, they have no compunction whatever in using some very extraordinary means. But this might possibly be explained by their agreeing with Loyola in doctrine. The unkind way many of them have of covering sheep, the only animal without a weapon of defense, with their hooked fruits is alluded to in this connection.

To those that complain of their downright maliciousness in retaliation for the hay fever, the composites answer calmly: "We are a family that does not invite intimacy. View us from a distance, *en masse*, and many of our failings will be overlooked." Evidently this lesson of avoiding familiarity is what they wish us to learn.

And who does not delight in the fields that are radiant with their rich autumn colouring? They visit the earth when the more delicate blossoms have passed bloom, and they find things dry and dusty, showing the wear and tear of the summer. Then what can be more natural than that they should say to

themselves : "Brighten up the earth, appear in every waste corner, wave and bend with the breeze. Things are looking humdrum here ; make the earth a merry carnival of dancing colour."

The flowers are rather difficult for a beginner to analyse with reference to their species, of which there are over ten thousand. It is, however, not so much what one learns in books about them as it is what one finds out. They may be easily recognised by bearing in mind that the flowers are closely packed together in heads that are surrounded by an involucre. The individual flowers are tubular or ligulate, as in the thistle and dandelion, and again both tubular and ligulate flowers are arranged in the same head. In this case they are called ray and disk flowers. The common field daisy is a well-known illustration of the latter.

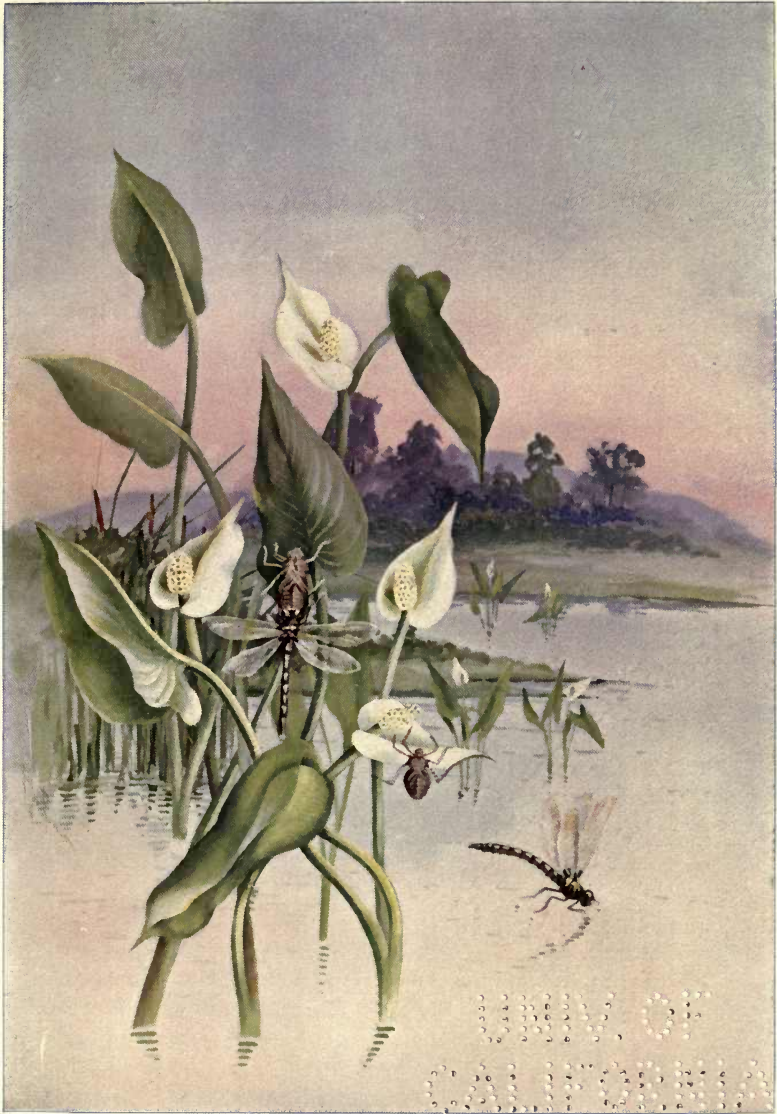


PLATE I. WATER-ARUM. *Calla Palustris*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

THE
LIBRARY OF THE
MUSEUM OF NATURAL HISTORY
AND
ZOOLOGY
OF THE
SMITHSONIAN INSTITUTION
WASHINGTON, D. C.

Plants Growing in Water.

Almost hidden under the benevolent shade of an overhanging bough a little pond is lying. It has awaked from its long winter sleep of apathy and is upholding its world of life to the sunshine. The pale, apple-green growth that clings about the edges, the tall spikes of water-weed, the darting, skipping beetles and fishes and the graceful lilies floating about are all in love with the iridescent, opal tints of the water.

Here we may think of them together ; for it would be a queer sight to see the bullfrog or the lily gambolling upon the sunny hillsides.

WATER-ARUM. WILD CALLA. (Plate I.)

Calla palustris.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Arum.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Penn. northward.</i>	<i>June.</i>

Inflorescence : terminal ; solitary. The flowers clustered upon a thick, fleshy spadix about which a milk-white spathe, one and one-half inches at base, is wrapped. *Filaments* : slender. *Anthers* : two-celled. *Leaves* : on long petioles, rather heart shaped. *Rootstock* : creeping.

This little plant wafts across the mind visions of an underworld garden. And if there is such a place the flowers there must surely glance upward and think of the wild callas as fairies that have flown above ; for much mystery lies in their dainty whiteness. They have luxurious relatives living in green-houses, and although the calla-lily has snobbishly disowned this

little dweller of the ditches and watery places, the family resemblance is very striking. The quarrel came about the anthers of the Egyptian, which have no filaments and are sessile, and because of a difference in the cell division of the ovary. So our little plant has been separated from it.

Linnæus tells us that the rhizomes, which we find intensely acrid and caustic, are made by the Laplanders into a kind of bread that by them is most highly relished.

GOLDEN CLUB. (*Plate II.*)

Oróntium aquaticum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Arum.</i>	<i>Golden.</i>	<i>Scentless.</i>	<i>Mass. southward.</i>	<i>May.</i>

Flowers: very small; crowded on a spadix. *Leaves:* on long petioles; floating; oblong. *Scape:* naked; slender.

Of all the aquatics the golden club is perhaps the most curious. It is a simple member of its family. The Arums have been most careful to envelope their flowers in a generous spathe, that they might appear before the world in a seemly garment. The wild calla, Jack-in-the-pulpit, even the skunk cabbage, have all adhered most closely to this little conventionality. It must be something of a shock to their sense of propriety to have the golden club dispense with this clothing and flaunt itself before the world with no protection whatever for its poor little flowers. Whether the plant is more advanced in its theories and at some future time we shall see all the members of this lovely family without their spathes, we do not know. But if wishes are powerful we may sincerely hope that it shall not come to pass.

Writers that are familiar with the diet of the Indians tell us that the plant is known to them as Taw-kee and that they find the dried seeds very good when boiled like peas. They eat the roots, also, after they have been roasted. The red man, with his instinct for scenting the properties of herbs, does not need the botanist to caution him that when raw they are very poisonous.



Flower. Stamen.

PLATE II. GOLDEN CLUB. *Orontium aquaticum*.

WATER-SHIELD.*Brasenia purpurea.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Water-lily.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: small; axillary. *Calyx* and *Corolla*: of three or four divisions. *Stamens*: twelve to eighteen. *Pistils*: four to eighteen. *Leaves*: on long petioles, peltate, two or three inches wide, floating. *Rootstock*: creeping.

One of our interesting little aquatics that is fond of sluggish streams and ponds and not over careful about soiling its appearance on muddy shores. The lower side of its leaves and stems is covered with a sticky substance like jelly.

WHITE WATER-LILY. WATER NYMPH.*Castalia odorata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Water-lily.</i>	<i>White or rose.</i>	<i>Fragrant.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: large; solitary. *Calyx*: of four to six sepals. *Corolla*: of numerous petals in many concentric circles, the innermost passing gradually into stamens. *Stamens*: numerous. *Pistil*: one, having a many-celled ovary, the rounded top of which produces radiate stigmas around a central projection. *Leaves*: floating; orbicular, or rounded. *Stems*: hollow; long and round. *Rootstock*: thick; fleshy.

The white water-lily is the most beautiful of the aquatics. Over the calm surface of the ponds it moves by means of its long, free stems as gracefully as many an animal. In fact, the habits of this lovely flower are not unlike those of the snails and beetles with which it dwells in its watery home. One of the most interesting features of aquatic life is the way that the plants care for themselves during the cold weather. In summer, the lily floats upon the surface of the water so as to attract the attention of the aquatic insects on which it relies for fertilization. Being untrammelled by space, it spreads its leaves out roundly to the sunshine and drinks in abundantly of life. The water serves well to float the leaves instead of the stalks that are necessary to aerial foliage.

When the air is chilly with forebodings of frost and ice, the lily, having fulfilled its mission of reproducing itself and storing

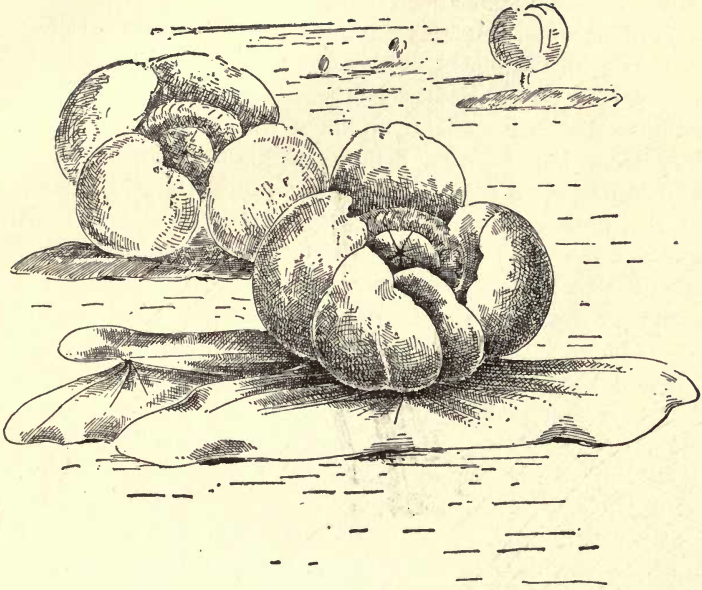


PLATE III. YELLOW POND-LILY. *Nymphaea advena*.

up vigour, for there is never any procrastination about the flowers, sinks to the bottom of the pond and nestles in the mud. The warmer water, which is heavier than ice, also remains at the bottom. This considerate arrangement of nature's laws makes it, therefore, possible for the fair lily to spend the winter very comfortably and no doubt enjoying itself with the water nymphs to whom it has been dedicated.

The plant also illustrates the gradation of sepals into petals and petals into stamens, or the metamorphosis of the flower. The sepals or transformed leaves are green without but white within, so that it is difficult to know with any amount of certainty to which set they belong. An inner row of petals is found to be tipped with a suggestion of an anther. In the next row the anther becomes more pronounced and the petal assumes more the shape of a filament. This gradation is continued until a perfect stamen is developed. At least, this is the manner in which we are apt to regard the transformation. Many writers, however, of whom Mr. Grant Allen is one, consider that the gradation is in the reverse order and that petals are transformed stamens.

At the close of day the lily folds up its petals, gathers its leaves and stems together, and disappears under the water. Not a trace of its whereabouts is left: like the Arab it has silently stolen away. Moore alludes to this fact in comparing the lily to virgins that bathe in the water all night and appear more fresh and beautiful in the morning.

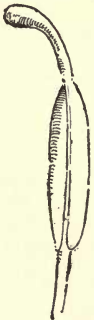
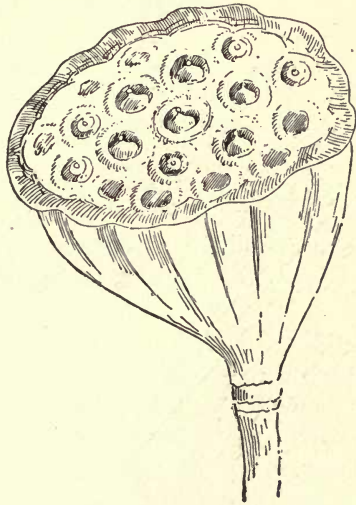
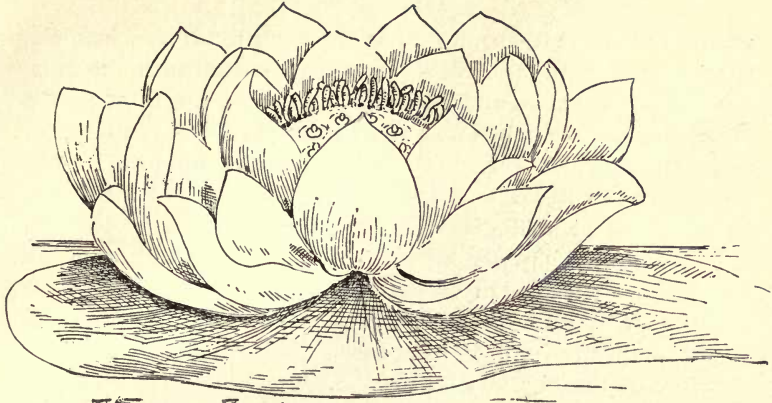
YELLOW POND-LILY. SPATTER DOCK. (Plate III.)

Nymphaea advena.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Water-lily.	Yellow, centre tinged with crimson.	Unpleasant.	General.	May-August.

Flowers: unattractive; solitary. *Calyx:* of six to eight unequal sepals that vary in colour from yellow to green. *Corolla:* of coarse, fleshy petals that are shorter than the stamens. *Stamens:* numerous. *Pistil:* one, the stigma spreading like a many-rayed disk. *Leaves:* rising out of the water and having a deep space between the rounded lobes.

The yellow pond-lily is not pretty, and we have no especial



Stamen.

Seed Vessel.

PLATE IV. YELLOW NELUMBO. *Nelumbo lutea.*

reason to believe that nature has compensated it by bestowing the virtue of goodness. It has caused disappointment to many a young seeker that, allured from afar by the brightness of its colouring, has sighed to find it without charm or fragrance on a nearer acquaintance. The initiated have learned to bow politely to this flower and to pass on ; leaving it to the insects to be entrapped within its crimson centre.

It is almost impossible not to fancy that the pure white water-lily exhales a sigh at the uncultivated preference of this member of its family for stagnant water. In England their rather suggestive odour has caused them to be called by the country people, "brandy bottles."

YELLOW NELUMBO. SACRED BEAN. WATER CHINQUEPIN. (*Plate IV.*)

Nelumbo lutea.

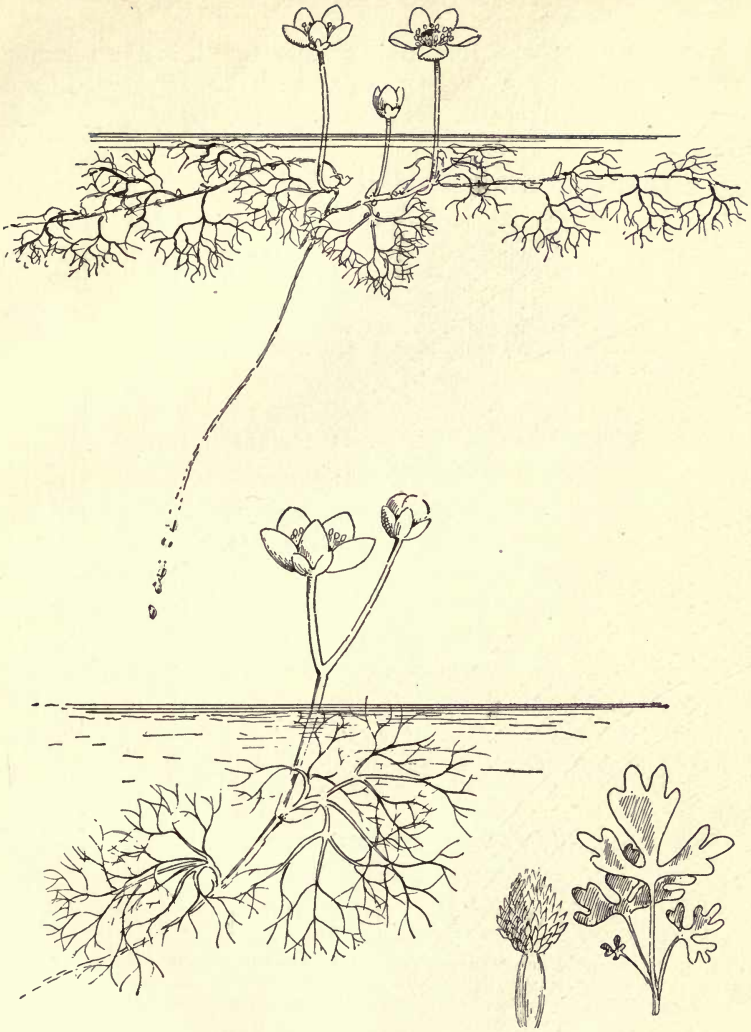
FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Water-lily.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Middle states, west and south.</i>	<i>July, August.</i>

Flowers: one to five inches in diameter ; growing singly on long, naked scapes. *Calyx* and *Corolla*: appear like those of the white water-lily. *Stamens*: numerous. *Pistils*: numerous and hidden in a concave receptacle. *Leaves*: twenty inches in diameter ; growing well out of the water, or floating ; peltate ; veined. *Rootstock*: thick ; tuberous.

Of all the family the nelumbo has the most interesting and careful manner of growing its fruit. Evidently it has determined upon giving the seeds every advantage. The receptacle is enlarged into a flat, top-shaped body, in which the pistils are systematically sunken. Here the ovaries grow into one-seeded nuts that are about the size of chinquepins. They and the tubers are quite edible.

The flowers of the native plant are always pale yellow. The gorgeous, showy pink and white variety is the introduced plant and the one that should properly be called sacred bean.

It is this flower that the old Egyptians dedicated to Osiris, the god of life and light, and it was from the shape of its seed vessels that they originated cornucopias. The seeds were sown by enclosing them first in clay and then throwing them in the



Head of Pistils. Floating Leaves.

PLATE V. COMMON WHITE WATER CROWFOOT.

Batrachium trichophyllum.

YELLOW WATER CROWFOOT. *Ranunculus delphinifolius.*

river. Many believe from this custom that it is the nelumbo that is alluded to in Ecclesiastes xi. 1: "Cast thy bread upon the water: for thou shalt find it after many days."

COMMON WHITE WATER CROWFOOT. (Plate V.)

Batrachium trichophyllum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: small; terminal. *Calyx*: of five sepals. *Corolla*: of five white, rounded petals that turn yellow at the base. *Stamens*: numerous. *Pistils*: numerous, arranged in a head. *Styles*: short and broad. *Leaves*: submerged; finely dissected.

YELLOW WATER CROWFOOT. (Plate V.)

Ranunculus delphinifolius.

The yellow water crowfoot is very similar in appearance to the white one, only its bright petals are larger. In fact, they closely resemble those of the field buttercup. The submerged leaves are cleft into hair-like segments; those above the water are reniform and parted into from three to five divisions.

The slow, shallow water of ponds and ditches is the home of these pretty plants. At the approach of cold weather they sink to the bottom and lie dormant until the warm sun of May coaxes them to raise their tender blossoms to the surface.

WATER HEMLOCK. (Plate VI.)

Cicuta maculata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Parsley.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly north, west and south.</i>	<i>All summer.</i>

Flowers: minute; numerous; growing in loose, compound umbels. *Leaves*: compound, the leaflets deeply toothed, or lobed; veined. *Stem*: three to eight feet high; hollow; streaked with purple. *Roots*: highly poisonous.

It is unfortunate that so many common names have been bestowed upon this unworthy plant, which is known as spotted cowbane, beaver poison, musquash root, sneezeweed and children's bane. They serve rather to prevent its becoming generally



PLATE VI. WATER HEMLOCK. *Cicuta maculata*.

(31)

recognised as the deadly water hemlock. Its appearance also is such that it is frequently mistaken for the wild carrot and sweet cicely. The stem, which is streaked with purple, not spotted, as its name, spotted cowbane, would suggest, should be remembered as a means of identification.

Of all the members of the parsley family it is the most poisonous. An aromatic, oily fluid is found in the root and in smaller quantities in the leaves, stems and seeds. Its chemical nature is not exactly known. Every year a large number of human victims falls a prey to this plant, for which there is no known antidote. Growing, as it does, in shallow water, its roots are washed and exposed to view, when it is gathered in error as horse-radish, artichokes, parsnips and other edible roots.

WATER-PARSNIP.

Sium cicutafolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Parsley.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly north, west and south.</i>	<i>All summer.</i>

Flowers : small ; numerous ; growing in umbels. *Leaves* : alternate ; pinnate ; with many pairs of linear, or lanceolate leaflets that are sharply serrate. *Roots* : dwindled, acrid and poisonous.

This wild plant is commonly found in shallow water. To know it is to avoid it, as it is also a very poisonous member of the family.

PICKEREL-WEED.

Pontederia cordata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pickerel-weed.</i>	<i>Purplish blue.</i>	<i>Unpleasant.</i>	<i>General.</i>	<i>All summer.</i>

Flowers : irregular ; growing in a dense spike. *Perianth* : labiate ; the three upper lobes marked with a greenish-yellow spot ; the three lower ones being more spreading. *Stamens* : six ; the three lower ones in the throat, the three upper ones shorter and imperfect. *Pistil* : one. *Leaf* : one only ; borne at the top of the stem ; lanceolate to arrow-shape. *Stem* : rising one to two feet above the water ; stout ; erect.

The pickerel-weed, we may fancy, is the reckless, dashing Kate of the underground garden. Evidently she has run away



PLATE VII. WATER-HYACINTH. *Piaropus crassipes*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.

from home and her playmate, the pickerel, to take a peep through a serene lake border or a smooth stream which she has enticed into upholding her in her naughtiness. She comes with a troop of her companions, all gay, ragged and pert as she. Many are allured to the lake border by her brightness, and she would often be carried away to see more of the world but the cool, calm water is her protector. Perhaps the upper world is a disappointment to our young visitor : she lifts up her head for only one day, then withers and dies.

WATER STAR GRASS.

Heteranthera dubia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pickerel-weed.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>Summer.</i>

Flowers : perfect; solitary. *Perianth* : salver-shaped, of six equal divisions that terminate in the tube. *Stamens* : three. *Pistil* : one. *Leaves* : submerged; grass-like. *Stem* : two to three feet long; branching; floating; and rooted at the lower joints.

When we notice these small, bright flowers as they come to the surface of some stream, we are reminded of a little waif that has strayed far from home. The plant is one that is rather uncommon.

WATER-HYACINTH. (Plate VII.)

Piarópus crassipes.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pickerel-weed.</i>	<i>Pinkish blue.</i>	<i>Scentless.</i>	<i>Mostly in Florida.</i>	<i>Summer.</i>

Flowers : growing in thick clusters on a flower stalk. *Perianth* : labiate; the upper lip three-lobed and beautifully marked with turquoise and sapphire blue, having also a yellow spot in the centre. The lower lip three-lobed and spreading. *Stamens* : six; the three lower ones in the throat; the three upper ones shorter and imperfect. *Pistil* : one. *Leaves* : on petioles; roundish; tipped with a little point and floating in a rosette one to two feet high on the surface of the water. The base of the petiole swollen and filled with air, which keeps the plant from sinking and aids it in resisting both wind and waves. *Roots* : two feet long; dense, bushy, attaching themselves to the ground where the water is shallow, otherwise floating.

Lining the shores of the St. Johns River and many of the lakes and sluggish streams in Florida, the water-hyacinth may be seen in masses varying from fifty to several hundred feet wide.

The plant is a native of Brazil, and it is thought that it was in about 1890 that it was introduced into Florida. It had been formerly cultivated in northern greenhouses, as it had the potent charm of beauty. So congenial to its tastes did it find the sunny shores of the St. Johns River and the yellowish water that abounds in humid acid and organic matter that it soon laid aside all the customs of a guest, and determined upon dabbling in the political economy and affairs of the country. In streams where sulphur or other distasteful acids are prevalent it is not able to survive.

In 1896 the War Department at Washington was asked to exert its influence with this unruly plant, which was becoming a serious menace to navigation. It has also destroyed bridges, interfered with the timber industry, and affected the health of the region by upholding objectionable organic matter. Great floating masses of the water-hyacinth are moored to the shore by those that have rooted in the shallow water. But at times the wind tears them loose and then large blocks of it go floating about with the current. At one time a strong wind drove it northward until it closed the river for twenty-five miles.

The plant reproduces itself by stolens or leafy shoots and in such numbers that its increase is most alarming. The problem of controlling the water-hyacinth is very interesting. Mechanical means entail such great and continuous expense that it is thought a natural enemy to breed disease amongst it will have to be introduced.

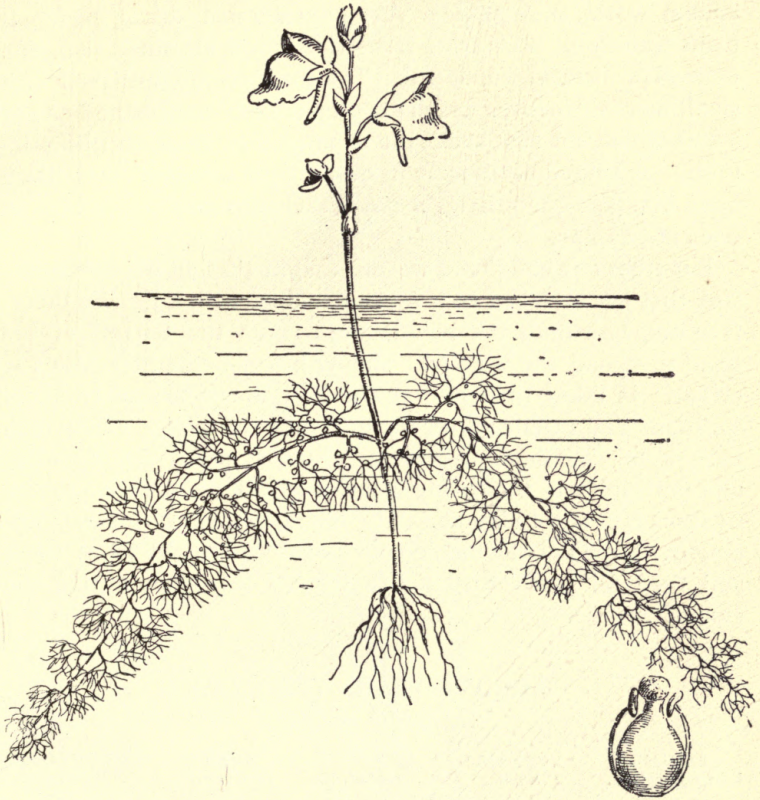
COMMON BLADDERWORT. (*Plate VIII.*)

Utricularia vulgaris.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bladderwort.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: several growing on each scape. *Calyx:* labiate or two-lipped. *Corolla:* labiate, the spur shorter than the lower lip. *Stamens:* two, with anthers that meet in the throat. *Pistil:* one; stigma two-lipped. *Leaves:* under water, many-parted, bearing rather large bladders. *Stem:* immersed.

This aquatic herb, which we find in still, slow water, is hardly one to inspire us with affection. It belongs to the strange



Pistil and Stamens.

PLATE VIII. COMMON BLADDERWORT. *Utricularia vulgaris.*

group of insectivorous plants, those that are so formed as to entrap insects, which they digest and assimilate as food. In this way, by taking advantage of defenseless members of the animal world, they show a very unprincipled disregard of all plant tradition. But aside from the moral consideration, this little plant is most wonderful. The bladders are furnished with small hairs or bristles which keep up a wavy motion and create a sort of current that sucks the unsuspecting creature within its folds. A hinged arrangement, or lid then closes sharply down upon him, and the bristles make it their business to see that he does not escape.

But from our childhood we are taught that an object cannot sink that has attached to it a bladder filled with air. We therefore ask, how does the bladderwort reach the bottom of the pond to spend the winter? Simply because the little plant is clever. It takes time by the forelock, ejects the air from its bladders, and calmly allows them to fill with water. They then bear it below, where it remains while its seeds are ripening, and until it feels the spring sunshine thrilling it with a desire to rise again and to bloom. The bladders then, with small ceremony, throw out the no longer useful water; the plant rises, and they fill again with air that floats the plant during the summer.

ARROW-HEAD. (*Plate IX.*)

Sagittaria latifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Water-plantain.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: growing in whorls of three on a leafless scape. *Calyx*: open; of three sepals that fall early. *Corolla*: open; of three rounded petals. *Stamens*: very numerous, on the receptacle. *Pistils*: distinct; very numerous. The flowers are imperfect: the pistillate ones being those of the lower whorls and the staminate ones those of the upper whorls. *Leaves*: sagittate; nerved. *Scape*: varying greatly in height.

The demure arrow-heads are surely the Quakers of the flower world; and that they do not condone frivolity, we may gather from the way in which they keep their pistillate and

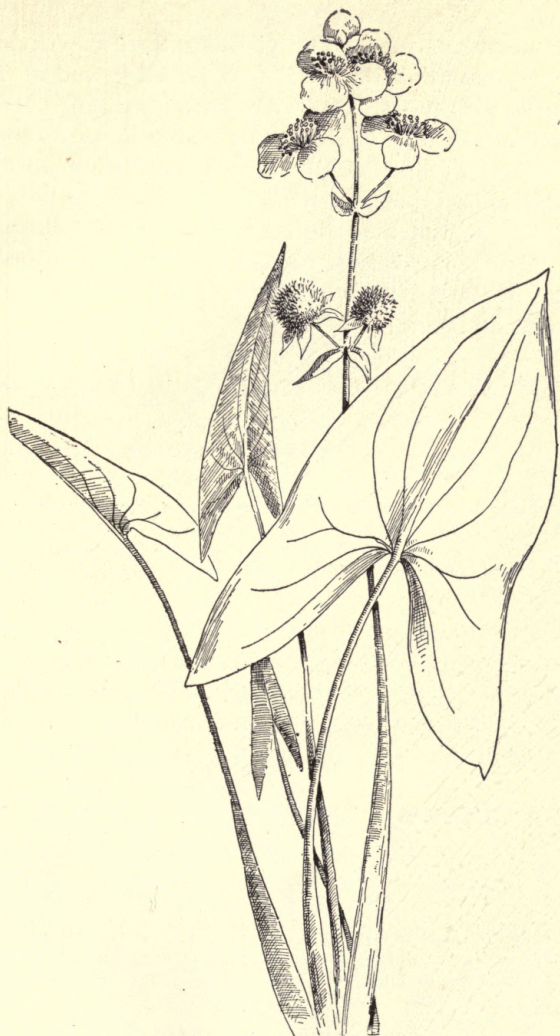


PLATE IX. ARROW-HEAD. *Sagittaria latifolia*.

(37)

staminate members apart. The pistillate ones also deck themselves in very seemly little petals that fall early and do not vie in comeliness with those of the staminate blossoms. It hardly seems possible that one of these little under-flowers would ever have the courage to call out boldly: Joseph, thou art keeping the sunshine from falling upon my head.

S. lancifolia is the arrow-head that grows southward from Virginia. Its lower whorls of flowers are better developed than those of its northern sisters, and the plant is, therefore, more showy and beautiful.

WATER-PLANTAIN. (*Plate X.*)

Alisma Plantago-aquatica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Water-plantain.</i>	<i>Rose white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer.</i>

Flowers: small; numerous; whorled in panicles. *Calyx*: of three persistent sepals. *Corolla*: of three deciduous or falling petals. *Stamens*: four to six. *Pistils*: numerous. *Leaves*: from the base; on long petioles; rather lanceolate; ribbed; closely resembling those of the door-yard plantain. *Scap*e: varying greatly in height.

One would at once discover the kinship between the water plantain and the arrow-head, although the latter is a much more pleasing flower. But, if plain, our little plant is generous. It distributes itself very widely, and its corm-like tubers are said to be greatly enjoyed as an article of food by the Kalmucks.

AMPHIBIOUS KNOTWEED. (*Plate XI.*)

Polygonum amphibium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Buckwheat.</i>	<i>Rose.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>July, August.</i>

Flowers: rather showy; massed in a dense spike. *Calyx*: of five petal-like, parted sepals. *Corolla*: none. *Stamens*: five, exserted. *Pistil*: one; style, two-cleft. *Leaves*: on long petioles; cordate; oblong; floating. *Stem*: submerged, rooting in the mud. *Rootstock*: corm-like.

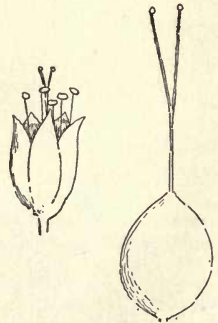
This little aquatic sometimes strays from its home, and is found flourishing upon the land. But we may imagine that it is always glad to return and add its delicate grace to brighten the slow-running streams.



Seed.

Enlarged flower.

PLATE X. WATER PLANTAIN. *Alisma Plantago-aquatica*.



Single flower.

Pistil.

PLATE XI. AMPHIBIOUS KNOTWEED. *Polygonum amphibium*

FLOATING-HEART. (*Plate XII.*)*Limnánthemum lacundsum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Buckbean.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Maine to Florida.</i>	<i>July, August.</i>

Flowers: growing in an umbel near the top of the stalk from under the leaves. *Calyx:* five-parted. *Corolla:* wheel-shaped, the border in divisions of five, fringed and incurved at the edges. *Stamens:* five. *Pistil:* one. *Fruit:* a capsule with numerous seeds. *Leaves:* growing on slender, long, twining petioles; ovate-orbicular; purplish beneath.

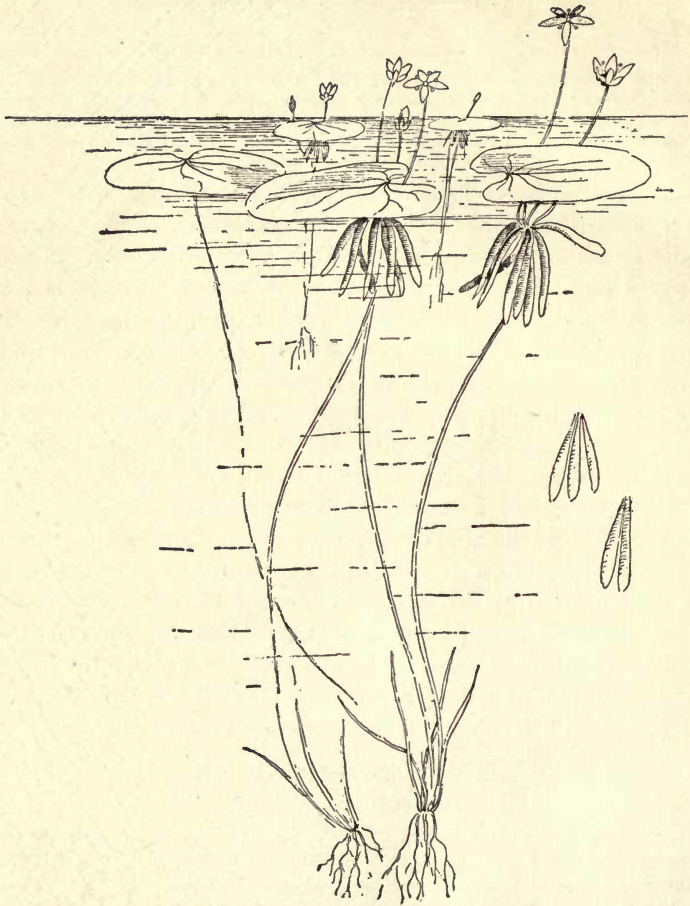
The floating-heart has never inspired the poets with any of the ardour that they have felt for members of the gentian family to which it is related; and yet it would seem as though its name alone should awaken some drowsy muse. It is true that the flower is far from being such a raving beauty as the fringed gentian; but it is very interesting. Its parts alternate in a systematic way that shows it understands good government. The petals alternate with the sepals and the stamens with the petals, while alternating with the stamens are five glands. These glands, it is supposed, were originally another set of stamens that have been absorbed at an early stage by the petals. The root-like tubers that start out near the flowers at the end of the petiole, show a similar form of reproduction as the strawberry does with its leafy shoots at the end of runners. At the approach of cold weather they detach themselves from the main plant and sink to the bottom of the pond, where they root in the mud. With the return of the spring they are thus ready to send above vigorous, renewed stock.

AMERICAN BROOKLIME.*Verónica Americana.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>April-September.</i>

Flowers: growing loosely in axillary, slender racemes. *Corolla:* wheel-shaped, of four lobes. *Calyx:* four-parted. *Stamens:* two. *Pistil:* one. *Leaves:* on petioles; opposite; oblong or lanceolate; serrated. *Stem:* smooth; slightly curving and branched.

It is mostly in brooks and watery ditches that we find this dear little plant. Children often mistake it for the wild forget-me-not and are invariably disappointed when they learn that it bears no more tender name than American brooklime.



Tubers.

PLATE XII. FLOATING HEART. *Limnanthemum lacunosum*.

(42)

Plants Growing In Mud: Bogs, Swamps and Marshes.

Over in the swamps life is gay and free; for why should they be dull when they may be merry, or why should they throw out sparingly their bloom when their soil tells them to send it out abundantly? In its time and place each lovely flower unfolds; the turtle travels slowly back from the nearest pond; the blackbirds pipe and the oriole matches the tint of his wing with the petals of the marigold. Grave willows have a fatherly care of the sweet community, and, although King Carnival pass up and down, disorder never reigns.

SKUNK CABBAGE.

Spathyèma fétida.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Arum.</i>	<i>Madder, purple, yellow and green.</i>	<i>Disagreeable.</i>	<i>Mostly north, sparingly west and south.</i>	<i>February-April.</i>

Flowers: inconspicuous; perfect; arranged upon an oval fleshy spadix that is enveloped by a spathe. *Spathe:* shell-shaped, veined with purple. *Fruit:* curious looking; the seeds form under the epidermis of the spadix, and drop later into the ground, like little bulbs. *Leaves:* one to three feet long; ovate; veined; appearing later than the flowers, from a short rootstock.

“Foremost to deck the sun-warmed sod,
The Arum shows his speckled coil.”

Dame Nature has truly a warm heart, and when she deprives us of one thing she usually bestows another. In her scheme of wisdom she certainly saw fit to deprive the skunk cabbage of fragrance; and to such an extent that it has been doomed to bear a rather unpoetical name. But it is a brave, powerful plant, which pushes itself forward without fear of rebuff from the frosts of February, or the biting March winds. Grim win-

ter has but to relax his hold of the season for a single day, or two, and the first folded buds of the skunk cabbage are among us; gladdening those that are weary of seeing the earth dried and pale, by announcing the nearness of spring. They are impetuous and sometimes hardly wait long enough to give their cheery message, as it is not unusual to find that they have been caught by Jack Frost. As soon as a thaw then sets in they quickly turn black and decay.

It is still a mooted question whether or not this plant is self-fertilized. The arums are thought to be cross-fertilized by the wind; as their pollen is dry and powdery, and their spathes are not so highly coloured as to attract the attention of insects. But the spathe of this plant has colour; and is so enwrapped about the flowers as to protect them from the wind. The pistil also matures long before the stamens. These facts would favour the theory of its being visited by insects. On the other hand, we have to remember that insects have not the indomitable courage of the skunk cabbage, and do not venture out at so early a season of the year. Flies about the first warm days of spring, so perhaps they, or others of which we know nothing, are their secret ambassadors.

Children—and at an early age it may be that the nostrils are not fully developed—are particularly fond of searching for this plant and kicking it over, when its odour becomes much more intensified.

AMERICAN CRINUM. (*Plate XIII.*)

Crinum Americanum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Amaryllis.</i>	<i>White.</i>	<i>Very fragrant.</i>	<i>Florida and westward.</i>	<i>May-September.</i>

Flowers: two to four, growing umbel-like at the top of a thick scape. *Perianth*: of six-pointed, narrow, recurved divisions with linear bractlets at the base of each. *Stamens*: six, with long, purple filaments; anthers attached at the middle; pinkish. *Leaves*: very long, narrow, pointed. *Scape*: one to two feet high. *Bulb*: globular.

When we sit down beside this giant flower and overlook some river swamp, we think our best thoughts, the earth seems



PLATE XIII. AMERICAN CRINUM. *Crinum Americanum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



Diagram of flower.

PLATE XIV. SWAMP PINK. *Helonias bullata*.

wonderfully fair. It is so noble and dignified in its bearing that we would not venture to pick it ; so we wander away, and the place where it grew forms a lasting picture in our memory.

It is the only one of its genus that has chosen to grow wild in the Southern part of the United States, instead of tropical regions.

SWAMP PINK. (*Plate XIV.*)

Helonias bullata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>New York, southward to Virginia.</i>	<i>April, May.</i>

Flowers: growing in a terminal, blunt raceme. *Perianth:* divided into six spreading, spatulate segments. *Stamens:* six. *Pistil:* one; with a three-branched stigma. *Leaves:* growing in a cluster at the base of the scape; long, tapering at the base; evergreen; parallel-veined. *Scape:* stout, with bracts below. *Rootstock:* tuberous.

A compact, vigorous plant that has a fondness for the state of New Jersey. In fact, it is there so great a feature of swamp and bog life that we find ourselves continually wondering if it is not in some way connected with the political economy of these places.

INDIAN POKE. FALSE HELLEBORE. PUPPET-ROOT.

Veratrum viride.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>Greenish yellow, becoming more green as the flowers grow older.</i>	<i>Scentless.</i>	<i>Mostly east, south and west.</i>	<i>May-July.</i>

Flowers: growing in racemes along the branches. *Perianth:* of six oblong divisions. *Stamens:* six. *Pistil:* one, with a three-branched style. *Leaves:* clasping; broadly ovate; pointed; parallel-veined. *Stem:* two to seven feet high; stout; leafy.

Our attention is hardly held by the flowers of the false hellebore after we have learned to identify them ; as they are particularly lacking in beauty. It is to the leaves that we feel grateful for pushing through the earth at so early a season of the year and enlivening the swamps with foliage. They also appear along brooks and mountain streams, and are on very friendly terms with the skunk cabbage. As the plant's generic



PLATE XV. PITCHER-PLANT. *Sarracenia purpurea*

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

name indicates, it is poisonous. Chickens especially have fallen victims to eating its seeds, and the fatal mistake has been made by individuals of using the young leaves for those of the marsh marigold, in which case death has been the result.

**PITCHER-PLANT. HUNTSMAN'S-CUP. SIDESADDLE-
FLOWER.** (*Platè XV.*)

Sarracènia purpurea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pitcher-plant.</i>	<i>Crimson, green, or pink.</i>	<i>Fragrant.</i>	<i>Mostly north and east.</i>	<i>June.</i>

Flowers: nodding; solitary; growing on a naked scape about one foot high. *Calyx*: of five large, coloured sepals having three bractlets underneath. *Corolla*: of five incurved petals that close over the umbrella-like top of the style. *Stamens*: numerous. *Pistil*: one; branching at five angles like an umbrella, and five hooked stigmas. *Leaves*: the shape of pitchers, open, with an erect hood, and side wings, the margins folded together; conspicuously veined with purple.

It is only because we are ill-informed about plant-life that it ever surprises us; and to have passed beyond the brink of wonder at the actions of the pitcher-plant, argues a good amount of knowledge. It is one of the most stragetic of the insectivorous plants. The leaves have their margins united together, so as to form quaint little pitchers, closed at the bottom and open at the top. They are lined with a sticky, sugary substance that entices small insects to explore to their depths. Here the pitchers, with an absolute disregard of all Christian charity, have arranged innumerable little bristles, pointed downwards; and once entrapped the poor victim can escape in neither direction. The rain is also held by them, and serves to drown any mite that is unusually tenacious of life. We generally find them partly filled with water and drowned insects, which afford the plants an extra amount of nourishment. These leaves often remain a curious feature of swamp life until Jack Frost covers them with his white overcoat; but in the exquisite spring bloom is when the plants are most ravishing in their beauty. From a distance they appear like the mystic blending of colours in a Persian rug.

Children have a passion for the pitchers and sometimes play with them, using them as drinking cups. This is a most imprudent thing to do, as it is impossible to know with any amount of certainty that they are ever free from insects.

MARSH MARIGOLD. (Plate XVI.)

Calltha palustris.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Bright yellow.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>April, May.</i>

Flowers : growing in clusters on long petioles. *Calyx* : usually of five, but sometimes as many as nine, showy, petal-like sepals. *Corolla* : none. *Stamens* : numerous. *Pistils* : five to fourteen. *Leaves* : reniform; rounded; the upper ones nearly sessile; the lower ones on long petioles. *Stem* : erect; branching at the top; hollowed; furrowed. *Rootstock* : thick.

Unlike the majority of early wild flowers that prefer the shelter of the woods to test the season's temper, the marsh marigold boldly opens the spring in the marshes. It is well equipped for its mission, being clothed in the brightest of yellow, which is shown to advantage by its background of dark green leaves. The plant does not harrow itself with any intense feelings of patriotism. It is equally fond of the old and new worlds, and has a rare adaptability for accommodating itself to circumstances. It is Shakespeare's Mary-bud. In this country it is sometimes improperly called cowslip, which name belongs to a European species of primrose.

The leaves and young shoots are excellent when served as greens, and find especial favour among the country people in England.

WATER-PLANTAIN SPEARWORT.

Ranunculus obtusiusculus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Golden yellow.</i>	<i>Scentless.</i>	<i>North, sparingly south and west.</i>	<i>June-August.</i>

Flowers: growing singly, or clustered in panicles. *Calyx*: of five small sepals. *Corolla*: of five, seven, or more oblong petals. *Stamens*: indefinite in number. *Pistils*: numerous, forming a head. *Leaves*: lanceolate; the upper ones clasping, the lower ones on petioles. *Stem*: one to three feet high; hollow; glabrous.

A slender plant whose bright, cheery face shows its close kinship to the buttercup. It is one of the gay blossoms of the



Stamens and Pistils

PLATE XVI. MARSH MARIGOLD. *Caltha palustris*.

swamps, and keeps the carnival of colour from waning after the marigold has passed away.

GOLD THREAD. (Plate XVII.)

Cóptis trifólia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Scentless.</i>	<i>North, sparingly west and south.</i>	<i>May.</i>

Flowers: terminal; solitary. *Calyx*: of five to seven sepals that fall early. *Corolla*: of five to seven cup-shaped pointed petals, hollow at the apex. *Stamens*: numerous. *Pistils*: three to ten. *Leaves*: from the base; thrice divided into fan-shaped leaflets; evergreen. *Roots*: long; bright yellow; fibrous.

This fragile, sprightly little flower, with its wide-awake expression, withers away from us early in the season. Its pretty leaves nestle cosily among the bog marshes and remain green all winter. The curious, twining roots remind one of a bunch of copper wire that has been much tangled. New England country people boast greatly of their efficacy when stewed down for a spring tonic.

CHOKEBERRY.

Arónia arbutifólia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly along the coast.</i>	<i>May, June.</i>

Flowers: small, clustered. *Calyx*: of five cleft sepals. *Corolla*: of five rosaceous petals. *Stamens*: numerous. *Pistil*: one, with usually five styles. *Fruit*: a small, dark red, or purple, astringent berry. *Leaves*: alternate; oblong; serrated; hairy underneath.

In the late summer, when the fruit of this little shrub ripens, it causes a clinging grudge to take deep root in many a childish mind. It appears as though it might be so very good, and when tasted is so very bad.

SWAMP ROSE. (Plate XVIII.)

Rósa Carolína.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>Soft, crimson pink.</i>	<i>Slightly fragrant.</i>	<i>General.</i>	<i>June-August.</i>

Flowers: large; rarely solitary. *Calyx*: of five cleft sepals that terminate in a tube. *Corolla*: of five petals, sometimes found with more; in this respect the species is variable. *Stamens*: numerous. *Pistils*: numerous. *Leaves*:



PLATE XVII. GOLD THREAD. *Coptis trifolia*.

(51)

pinnate ; of three to nine serrate leaflets, unequal in size ; pale underneath.
Stem : erect ; smooth, with recurved prickles ; reddish.

“If Jove would give the fragrant bowers
 A queen for all their world of flowers,
 A rose would be the choice of Jove
 And blush the queen of every grove.”—*Moore*.

Pliny tells us that the many species of wild roses may be distinguished from each other by their colour, scent, roughness, smoothness, and the greater or smaller number of their floral leaves. The swamp rose, however, is one that is most readily recognised. It has a somewhat ragged appearance owing to its often unequal number of petals ; and it grows in great masses in the swamps. With the approach of autumn it changes the character of, rather than loses, its beauty. The leaves become a brilliant orange-red and the bushes glow with the graceful crimson fruit.

To walk by a swamp spread with these roses, makes us reflect longingly on the days of the ancients ; when the warriors, during their repasts, sat crowned with them and when, as Pliny tells us, their choice meats were covered with the petals, or sprinkled with their fragrant oil. The descriptions of the roses at the feast that Cleopatra gave to Antony make us cease to wonder that Venus herself has a rival in the rose.

WATER AVENS. PURPLE AVENS.

Geum rivale.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>North and west.</i>	<i>May-July.</i>

Flowers : large ; nodding ; terminal ; growing sparingly on the flower stems.
Calyx : top-shaped, with five spreading lobes. *Corolla* : of five obcordate petals. *Stamens* and *Pistils* : numerous. *Styles* : long ; curved. *Fruit* : a head of dry akenes. *Leaves* : pinnately-parted, the upper ones having usually three lobes. *Stem* : simple.

This is a pretty flower of the swamps and low grounds. Its purple colour is of a peculiar shade ; as though it had been mixed on a palette from which the chrome yellow had not been scraped.



PLATE XVIII. SWAMP ROSE. *Rosa Carolina*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

G. strictum, or yellow avens, has flowers that grow in panicles. They are innocent enough looking; but it is from their pistils that the prickles come out in the late season to test the temper of those wandering in their vicinity.

POISON SUMACH. POISON ELDER.

Rhus vernix.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Cashew.	Dull greenish white.	Sulphurous.	Florida northward.	June.

Flowers: axillary; many imperfect; growing in loose panicles. *Leaves*: pinnately divided into seven to thirteen oblong leaflets that grow on red leaf-stalks. A shrub, often approaching twenty feet high; of soft yellow-brown wood. *Juice*: resinous. *Fruit*: smooth; whitish.

The *Rhus vernix* is a native species and one of the most poisonous of our country. Fortunately there are many who are immune to its evil effects; but to those who are susceptible to such influences, even passing by the shrub is fraught with danger. Its beauty, when it is in the pride of its autumn foliage, acts as a snare to conceal its true nature. It is often gathered and carried home, being held close to the face. Insanity has been known to be an outcome of such recklessness. It takes particular hold upon the system when the pores of the skin are open, as in perspiration. All should study carefully its manner of growth, that when we go to the swamps we shall not mistake it for the harmless sumach that grows by the waysides, in dry soil.

AMERICAN JACOB'S LADDER.

Polemonium Van Bruntia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Phlox.	Bluish purple.	Scentless.	Vermont to Maryland.	May-July.

Flowers: loosely clustered in panicles. *Calyx*: five-lobed. *Corolla*: with five rounded lobes. *Stamens*: five, exserted. *Pistil*: one. *Leaflets*: opposite; ovate; almost sessile. *Stem*: erect; leafy to the top; glabrous. *Rootstock*: thick.

Prof. Britton, by whom this species was named, tells us that "it differs from the Old World *Polemonium cœruleum* in its



PLATE XIX. LIZARD'S TAIL. *Saururus cernuus*.

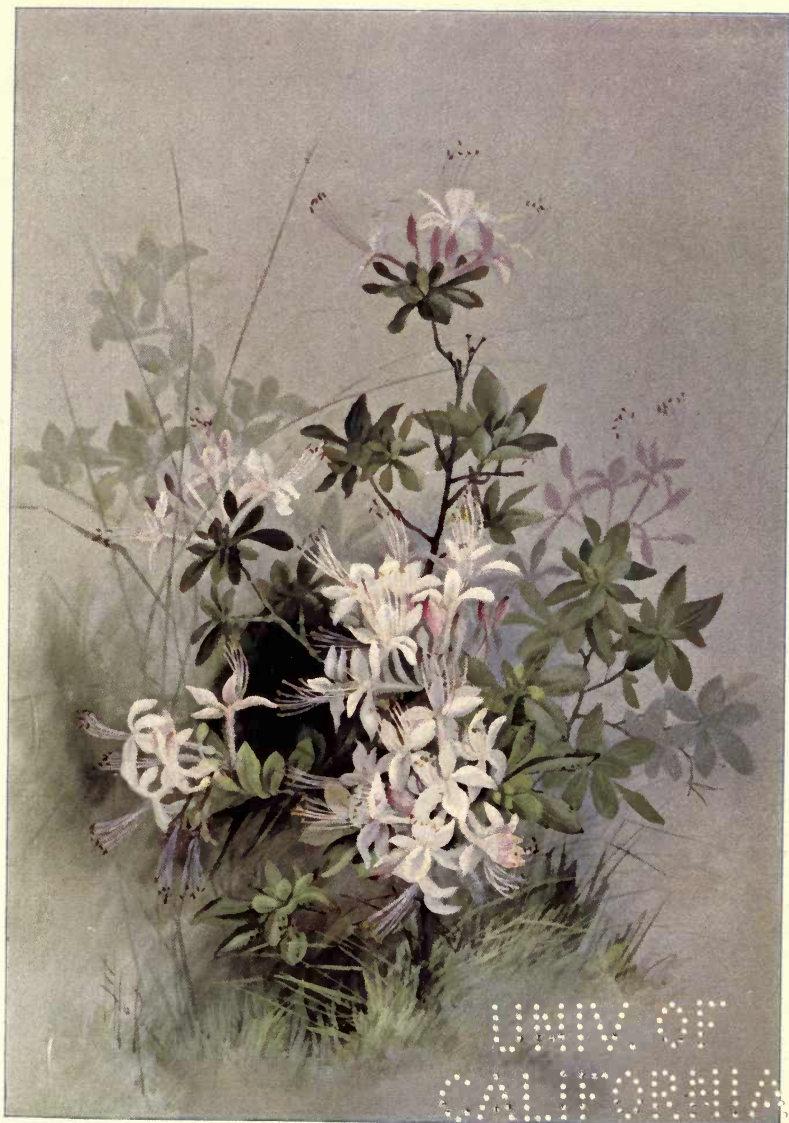


PLATE XXI. WHITE SWAMP HONEYSUCKLE. *Azalea viscosa*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

THE UNIVERSITY OF CHICAGO
PRESS

stout rootstock, more leafy stem, exerted stamens, and rounded corolla lobes." It is a pretty feature of the swamps and is also found along slow streams.

LIZARD'S TAIL. (Plate XIX.)

Saururus cernuus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Pepper.	White.	Fragrant.	Connecticut, southward along the eastern coast.	June-August.

Flowers: crowded in a tail-like, curving spike. *Stamens*: six to seven. *Pistils*: three, or four, united at the base. *Leaves*: alternate; on petioles; cordate. *Stem*: square; jointed.

The lizard's tail has a strange, incomplete flower. It is said to be naked because it has dispensed with, or never possessed, either calyx or corolla. The delicate organs of the flower, therefore, are without any proper envelope to afford them protection. We are mostly attracted to the plant by its fragrance, which is its chief charm, though when growing in masses it beautifies our swamps in midsummer.

WILD HONEYSUCKLE. PINXTER FLOWER. PINK AZALEA. (Plate XX, Frontispiece.)

Azalea nudiflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Heath.	Rose, or pinkish red.	Faintly fragrant.	Maine, southward along the coast.	May.

Flowers: clustered; developed with, or slightly before, the leaves. *Calyx*: of five small teeth. *Corolla*: funnel-form, with five recurved lobes. *Stamens*: five; exerted. *Pistil*: one, protruding with a black stigma. *Leaves*: elliptical; entire; in terminal groups. A shrub three to six feet high; branching, leafy.

WHITE SWAMP HONEYSUCKLE. CLAMMY AZALEA. (Plate XXI.)

Azalea viscosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Heath.	White, tinged with pink.	Very fragrant.	Maine, southward along the coast.	June, July.

Flowers: clustered; coming into blossom after the leaves. *Calyx*: of five small lobes. *Corolla*: tubular, clammy and hairy; with five recurved, deeply

cleft lobes. *Stamens* : five ; exerted ; the anthers highly coloured. *Pistil* : one ; protruding. *Leaves* : oblong ; in terminal groups. A shrub three to ten feet high.

Little can be imagined in plant-life which is more truly beautiful than the azaleas in the fullness of their bloom. The varieties here given resemble each other very closely ; and follow in continuous succession, so that the swamps and sometimes the moist woods are radiant with their variable colours until well on in the season. It would seem as though the warmer atmosphere of summer coaxed out a stronger fragrance than the cool air of spring ; as the *A. viscosa* lades the air for a great distance with its luscious, honey scent. On both species may be found those modified buds that are so dear to the heart of childhood and which are called May-apples. The plants are especially desirable for cultivation and we are familiar with seeing them come into bloom early in the year. The characteristics of each plant can be readily seen from the illustrations.

CREEPING SNOWBERRY.

Chiogenes hispidula.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White.</i>	<i>Fragrant.</i>	<i>Mostly north.</i>	<i>May.</i>

Flowers : small ; nodding ; axillary. *Calyx* : of four sepals with two large bractlets underneath. *Stamens* : eight. *Pistil* : one. *Fruit* : a small, globular, white berry. *Leaves* : ovate and, like the bractlets, bristly underneath ; evergreen. *Stem* : delicate and trailing.

It may be regarded as a matter of good fortune if we find this delicate little creeper spreading its carpet of snow-white berries, in the peat bogs. We then sit down and enjoy to the full its invigourating breath of spicy aroma ; and nibble at the leaves, which are uninjurious, and have the same pleasant taste as sweet birch and wintergreen. It is abundant in the Adirondacks and at times we find it straying to visit such cool, damp woods as the Alleghanies.

AMERICAN CRANBERRY. (Plate XXII.)

Oxycoccus macrocarpus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Heath.	Pale rose.	Scentless.	North Carolina, northward.	June.

Flowers : terminal ; nodding on long pedicels that are sometimes axillary. *Calyx* : of four short teeth. *Corolla* : of four deeply parted petals. *Stamens* : eight to ten ; protruding. *Pistil* : one. *Fruit* : a bright scarlet, acid, four-celled berry. *Leaves* : oblong ; entire ; evergreen ; the margins turned back. *Stem* : prostrate ; trailing.

So dainty and pretty is the little pink blossom of this plant that it invariably gives pleasure to those that find it in the peat bogs and marshy lands. Its mission in life, however, is to be the forerunner of the bright berry which is too well-known in connection with Thanksgiving turkey to need any description. The name cranberry is said by some authorities to have been chosen for the plant because the berries are the favourite food of the cranes, when they return in the spring to the shores of Holland. Others think it is owing to the curves of the branches, which are like the crooked neck of a crane.

MARSH ANDROMEDA. WILD ROSEMARY. MARSH HOLY ROSE.

Andr meda polifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Heath.	White, or pink tinged with red.	Fragrant.	Mostly north.	May, June.

Flowers : growing in umbel-like, drooping clusters. *Calyx* : of five sepals. *Corolla* : of five petals. *Stamens* : ten. *Pistil* : one. *Leaves* : lanceolate ; glaucous ; whitish beneath ; evergreen. A low shrub, rarely taller than eighteen inches.

This beautiful shrub is the namesake of the fair daughter of the Ethiopian King, Cepheus. Perhaps the bond of sympathy that Linn us recognised as existing between them, is that they both have had to contend with monsters. Like Andromeda of spotless purity, who was chained to the rock at sea, our little plant finds itself attached to some hillock in the swamp. The jumping, splashing frogs and sleek, twirling reptiles are no doubt quite as fearful to the gentle flower as the fiery dragon

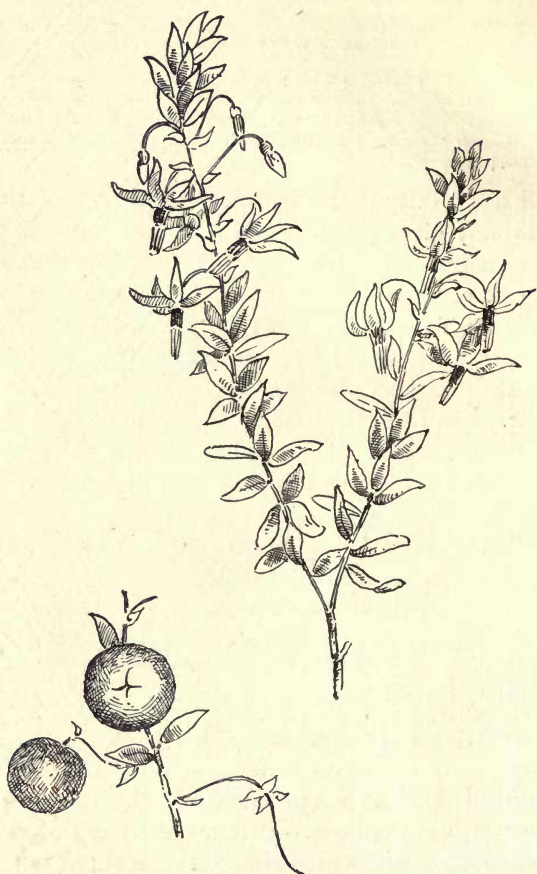


PLATE XXII. AMERICAN CRANBERRY. *Oxycoccus macrocarpus*.

was to Andromeda. And alas, no Perseus coming to slay them, it droops its head, grows pale and dies. Its place is taken by an erect little capsule, which has quite the air of being able to take care of itself.

CALYPSO.

Calypso bulbosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Pink, variegated with yellow.</i>	<i>Scentless.</i>	<i>Northern latitudes.</i>	<i>May.</i>

Flowers: large; terminal; solitary; drooping. The sepals and petals narrow and pointed; the lip inflated, sac-shaped; within woolly. *Leaves*: one only; slightly roundish, cordate at base; on a petiole sheathing the stem; thin. *Root*: a bulb.

It is when we least expect to find this lovely flower that some silken thread will probably guide us to its hiding place deep down in some mossy bog. It is very shy, very tremulous, and having feasted our eyes upon it we would fain creep away as softly as we came.

ARETHUSA.

Arethusa bulbosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Rose pink.</i>	<i>Fragrant.</i>	<i>Maine to Virginia.</i>	<i>May, June.</i>

Flowers: large; terminal; solitary; with two small scales underneath. The lip fringed, spotted with purple, and traversed by three white ridges. The other sepals and petals arching over the column. *Leaves*: one only; linear, appearing from the sheath of the scape after the flower. *Scape*: from a bulb; six to ten inches high.

The beautiful nymph Arethusa was first wrapped in a cloud by Diana and then changed into a fountain that she might escape the river god, Alpheus, who had fallen in love with her, as, overheated by the chase, she bathed in a clear, flowing stream. It seems not improbable that her namesake, our lovely flower, may have been placed by some protecting power in the swamps as a safeguard against her admirers; for surely no one could see the flower without loving it, and who loving it would have the hardihood to leave it upon its stem to be visited only by its butterfly sweethearts?

SHOWY LADY'S SLIPPER.

Cypripedium reginae.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Orchis.	White and pink.	Fragrant.	New England southward to North Carolina.	June, July.

Flowers: terminal; solitary. The sepals and petals pure white; the lip inflated, one and a half inches long, and shaded in front with pink and purple. *Leaves*: alternate; large; ovate; pointed; parallel-veined. *Stem*: erect; leafy; downy.

This shy and lovely orchid, which Dr. Gray regards as the most beautiful of the genus, is rather difficult to find; and although one of its haunts in some remote swamp is known, and the days numbered until the time has come to go eagerly forth and seek it, it is often sadly true that some one has been in advance and carried the blossom away. But those that are so fortunate as to be the first upon the scene, whether lovers of flowers or not, must delight in the possession of so sweet a nymph. *C. hirsutum* and *C. acaule*, page 120, are illustrated in plates xciii and xciv respectively.

CALOPOGON. GRASS PINK. (Plate XXIII.)

Limodorum tuberosum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Orchis.	Magenta pink.	Fragrant.	Northeast to Florida and westward.	June, July.

Flowers: growing loosely in varying numbers on a long scape. The flower has a peculiar expression, as though it were upside down, owing to the ovary being untwisted; and the lip remaining on the upper instead of the lower side of the blossom. The lip is most delicately bearded with white and yellow. *Leaves*: linear; grass-like; nerved and sheathed near the base of the scape. *Scape*: rising erect from a bulb.

We have no wild flower that is more patrician in its bearing than this handsome orchid. It suggests a high-bred individual with a taste for the eccentric who calmly persists in wearing his beard upside down. But its colouring is so regal, and its beard so very beautiful that we cannot wonder at its not conforming to fashion; which would certainly rob it of much of its unique bearing. Neither has this whim been allowed to interfere in any way with the domestic arrangements of the flower. In most orchids the lower lip is brought under, so as



PLATE XXIII. CALOPOGON. GRASS-PINK. *Limodorum tuberosum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

THE UNIVERSITY OF CHICAGO
LIBRARY
540 EAST 57TH STREET
CHICAGO, ILL. 60637

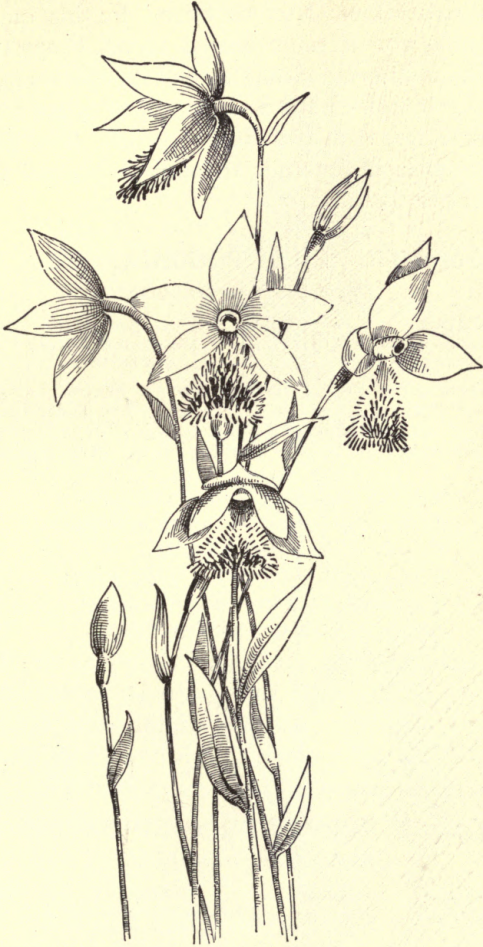


PLATE XXIV. SNAKE-MOUTH. *Pogonia ophioglossoides*.

(61)

to form a resting place for Master Bee ; as they are designed for insect fertilization. Not to offend by this omission, our lovely flower has one of the coloured sepals brought forward ; which suits the indiscriminating taste of its visitors quite as well. The flowers from which the accompanying plate was painted, were very little less than two inches broad. The plant is not nearly so rare as it is generally thought to be, and well repays the time spent in its quest.

SNAKE-MOUTH. ROSE POGONIA. (Plate XXIV.)

Pogonia ophioglossoides.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Pale pink, or greenish white.</i>	<i>Fragrant.</i>	<i>Northeast to Florida and westward.</i>	<i>June, July.</i>

Flowers : terminal ; solitary ; having the six unequal divisions of the perianth that are peculiar to the orchid family. The lower lip bearded and fringed. *Leaves* : ovate-elliptical ; one wrapped midway about each stem ; smaller bract-like leaves at the base of the flowers. *Flower-stalk* : erect from a bulb.

Why call this flower by such a name
 That makes it blush as though in shame ?
 A snake is e'er a frightful thing,
 Whose mouth gives forth a deadly sting ;
 While naught but sweetness ever blows
 From where this tranquil flower grows.

To those that think of an orchis simply as an aërial thing hanging in a greenhouse, it seems almost incredible that this modest plant should be a member of the same family. But if studied carefully it will be seen that it could not be successfully disowned by the proudest of its many relatives.

LARGE PURPLE-FRINGED ORCHIS.

Habenaria grandiflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Violet purple.</i>	<i>Fragrant.</i>	<i>New England southward and westward.</i>	<i>June, July.</i>

Flowers : clustered in dense raceme-like spikes. The large lip one and a half inches long ; three-parted ; fan-shaped, and extending into a long, slender spur ; deeply fringed and more highly-coloured than the other parts. The upper sepals and petals toothed. *Leaves* : alternate ; lanceolate ; becoming bracts as they approach the flower ; oval, pointed, and clasping at the base.

This most beautiful and showy of the purple-fringed orchids,



Seed.

PLATE XXV. SMALL PURPLE-FRINGED ORCHIS. *Habenaria psycodes.*

while apparently simple, is devised in the same profound manner that the family have chosen to aid them in securing the services of insects for cross-fertilization. In most orchids the perianth is in two sets, of three divisions each; the outer set answers to sepals, and the inner set, to petals. The sepals are highly coloured and harmonize with the petals. By a peculiar twist of the ovary, what would naturally be the upper petal is brought down and forms the lower one, or lip. It is the startling feature of the flower; and is rich in blandishments for Master Bee. In some varieties it appeals to his artistic sense by a delicate fringe, or a superb colour, and again it supplies him with a substantial meal of nectar. The internal structure consists of one stamen, formed like a column, and supported by the style or broad, glutinous stigma. In the cypripediums there are two stamens. Just above the stigma at either side are placed the two anther cells. Here the pollen grains are concentrated in little quantities, which are readily carried off by insects to other flowers.

The divergent anther cells of *H. grandiflora* suggest the two eyes of a moth, or butterfly, whose appearance the flower has tried to imitate.

SMALL PURPLE-FRINGED ORCHIS. (*Plate XXV.*)

Habenaria psycodes.

The small purple-fringed orchis is more faithful to the swamps than the larger one, which strays sometimes to the moist meadows. It comes into bloom a little later in the season, and is not so handsome a variety; but it has a delicate perfume.

FRINGELESS PURPLE ORCHIS.

Habenaria peramena.

Another more severe type of a purple orchis, which rarely comes further north than Pennsylvania and New Jersey. It is found in wet meadows, or seeking moisture by following the mountains. In size it is between that of the two preceding



PLATE XXVI. { WHITE-FRINGED ORCHIS. *Habenaria blephariglottis*.
 { YELLOW-FRINGED ORCHIS. *Habenaria ciliaris*.

Small, faint, illegible markings or text located at the bottom center of the page, possibly bleed-through from the reverse side.

species. The lip is not fringed ; but it is cut-toothed in a way that gives it a very stiff, prim expression. In July and August we may expect to find it in bloom.

WHITE-FRINGED ORCHIS. (*Plate XXVI.*)

Habenaria blephariglottis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Northward to Minnesota, and in New Jersey.</i>	<i>July.</i>

Flowers : crowded on a short, oblong spike and having slender spurs ; the lower lip heavily fringed. *Leaves* : alternate ; lanceolate ; passing gradually into bracts ; clasping at the base.

It seems, sometimes, that we hardly know what to say about a flower. Not because it is uninteresting, but because it is so very lovely that our sensations concerning it are silent. It is so with the white orchis. When found in some cranberry bog or swamp they are generally growing in great profusion. There is a milk-white purity about the blooms, and their swaying fairy fringe makes them very beautiful.

H. ciliaris, or the yellow-fringed orchis (*Plate XXVI*), is not so frequently found as the white one. It is taller, and of a deep, rich orange in colour. The two resemble each other so closely that there has been a question whether they were not simply different colours of the same species. It is now believed, however, that they are separate species. The yellow one is a little later in reaching the height of its bloom.

As will be seen from the illustration, the fringe of both of these orchids is wider than the lip it edges.

MOSS MILKWORT.

Polygala cruciata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkwort.</i>	<i>Pink or greenish.</i>	<i>Scentless.</i>	<i>Maine to Florida and westward.</i>	<i>August.</i>

Flowers : small ; growing in close, short spikes at the ends of the branches. *Leaves* : opposite ; whorled in fours ; linear. *Stems* : long ; angled ; spreading.

When a number of these low plants are found growing together, they have a mossy, soft appearance that is very pretty.



Section of flower. Stamen.

PLATE XXVII. MARSH CLEMATIS. *Clematis crispa*.

MARSH CLEMATIS. (*Plate XXVII.*)*Clématis crispá.*

Perhaps the most beautiful of our native species is the blue clematis of the marshes. Its large, solitary, nodding flowers, which are gracefully shaped, and silky styles, give it a delicate, quaint appearance that is full of charm. Unfortunately, it is little known outside of the territory between southeastern Virginia, Florida and Texas. It blossoms in May and June, and has a delightful fragrance.

MARSH ST. JOHN'S-WORT.*Triadènum Virgínicum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>St. John's-wort.</i>	<i>Flesh coloured, or pale purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July-September.</i>

Flowers : small ; axillary ; terminal ; in close clusters ; growing singly or in pairs. *Calyx* : of five, flesh-coloured sepals. *Corolla* : of five petals. *Stamens* : nine to twelve, in sets of three ; each set separated by a yellow gland. *Pistil* : one, with three styles. *Leaves* : opposite, in pairs united about the stem ; oblong ; not tapering at either end. *Stem* : erect ; brightly coloured. *Pod* : deep red.

Often in cranberry bogs and in the marshes we will find this pretty plant upholding the honour of the St. John's-wort.

HORNED BLADDERWORT. (*Plate XXVIII.*)*Utriculària cornùta.*

Among the aquatics (page 34, Plate VIII) we have already acquainted ourselves with a curious connection of this pretty plant. *U. cornuta* we find in peat bogs ; it does not bear any bladders and is therefore less extraordinary in its movements. On a slender pedicel it bears from two to four large flowers about one inch long, which have a helmet-shaped lower lip and long curved spur. They are bright yellow, delicate, and very fragrant. In fact, Mr. Burroughs regards this to be the most intensely fragrant wild flower of our country.



PLATE XXVIII. HORNED BLADDERWORT. *Utricularia cornuta.*

SMALL MAGNOLIA. SWEET BAY.*Magnolia Virginiana.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Magnolia.</i>	<i>White.</i>	<i>Fragrant.</i>	<i>Along the coast.</i>	<i>June, July.</i>

Flowers : solitary ; terminal at the end of the branches. *Calyx* : of three sepals on the receptacle. *Corolla* : of six to nine rounded petals. *Stamens* : numerous. *Pistils* : numerous ; arranged in the shape of a cone. *Fruit* : cone-like ; red, with one or two scarlet seeds. *Leaves* : alternate ; obovate ; pointed ; downy and whitish underneath. A shrub four to twenty feet high, leafy, branching.

As the summers return to us, the lovely, fragrant blossoms of the magnolia find their way back to the swamps. The shrub is one with which the children have hardly made a fair compact. With their ruthless little fingers, they strip it of its petals, which they put into bottles and cover with alcohol. A few shakes are all that is then necessary to transform the decoction into the "most delightful perfume," and they offer it to their friends at a price much below that of the market.

ROSE MALLOW. SWAMP MALLOW. (Plate XXIX.)*Hibiscus Moscheutos.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mallow.</i>	<i>Pink.</i>	<i>Scentless.</i>	<i>Along the coast.</i>	<i>August.</i>

Flowers : large ; seven to eight inches in diameter ; solitary. *Calyx* : of five green sepals surrounded by an under layer of twelve slender, pointed bracts. *Corolla* : of five pink petals that become magenta at the base. *Stamens* : innumerable ; growing out from all sides of a formation wrapped about the style. *Pistils* : five united into one. *Stigmas* : five ; resembling tiny mushrooms. *Leaves* : on petioles ; the larger and lower ones three-lobed ; the upper ones ovate ; downy underneath. *Stem* : erect ; high, reaching six and eight feet.

In late August, when the rose mallow rises to its stately height among the tall grasses of the salt marshes, the passer-by pauses and gives it the admiration it claims. Undoubtedly it is the most gorgeous of all the plants indigenous to the United States. An old gentleman who had loved it from childhood always said of it : "It is the flower that I take off my hat to." And he did not regard it as inferior to the Chinese rose hibiscus which is cultivated in our greenhouses. It is from the petals of the latter species that the women in China extract the black dye to colour their teeth with. Although at a great distance the

large flowers of our plant can be seen, it is often difficult of approach. Positive terror seizes hold of the timorous, and their ardour for it is often tossed in the balance with the fear of snakes. Once plucked, it fades quickly, closes its petals and droops its head as though in sorrow at the loss of its own environment.

Growing side by side with the rose mallow will often be found its white sister, whose centre is a deep crimson and whose stem is highly coloured. It is a common error to call these plants "marsh-mallow," which is properly, *Althea officinalis*, and which grows in the borders of salt marshes on the Eastern coast. It is a much more rare plant than the rose mallow and is possessed of medicinal properties. From its mucilaginous substance the famous confection of marsh-mallow is made.

SEA LAVENDER. MARSH ROSEMARY.

Limónium Caroliniànnum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Leadwort.	Lavender.	Fragrant.	Along the coast.	August, September.

Flowers : tiny ; growing in panicles along one side of the branches. *Calyx* : funnel-form ; five-cleft. *Corolla* : of five petals. *Stamens* : five. *Pistil* : one, with three, or five styles. *Root-leaves* : lanceolate, tapering into a petiole ; thick. *Stem* : naked ; much branched at the summit.

Where winds off the sea blow gaily
 And playfully kiss the land,
 Marsh rosemary sways and trembles
 And nods to the pallid sand.

The corolla of this little flower, which *en masse* suggests the filmy sea-spray, dries and remains bright throughout the winter. It is highly prized for bouquets and used by thrifty housewives to frighten away moths. About Shelter Island and Sag Harbor it tints the coast with its delicate bloom.

BUCKBEAN. (Plate XXX.)

Menyanthes trifoliàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Buckbean.	White, or reddish.	Scentsless.	Mostly north.	May, June.

Flowers : growing along a scape of about one foot high. *Calyx* : small ; five-parted. *Corolla* : gamopetalous ; five-cleft ; the upper surface covered with a



PLATE XXIX. ROSE MALLOW. *Hibiscus Moscheutos*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY
PRINTED IN AMERICA.

1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900



PLATE XXX. BUCKBEAN. *Menyanthes trifoliata*.

white beard. *Stamens*: five. *Pistil*: one. *Stigma*: two-lobed. *Leaves*: three oblong leaflets borne on a long petiole. *Rootstock*: creeping.

Hidden away in some secluded corner of a swamp we may chance upon the lovely white buckbean. Its racemes of star-like faces, covered with the soft fringe, have a sweet expression that is most attractive.

SEA-PINK.

Sabbatia stellàris.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Deep pink.</i>	<i>Scentless.</i>	<i>Mass. southward.</i>	<i>August.</i>

Flowers: large; solitary; terminal on the ends of the flower-stalks. *Calyx*: of five-parted linear lobes. *Corolla*: wheel-shaped; with five, deeply-parted lobes. *Stamens*: five. *Pistil*: one; style, two-cleft. *Leaves*: opposite; lanceolate; becoming linear as they ascend the stem. *Stem*: branching; slender.

We may picture to ourselves the sea-pinks by the side of a green marsh with the salt breezes blowing about us. There, spread out in brilliantly-coloured masses of great extent, they form a little world by themselves,—living and weaving out their own destiny. A bright, cheery lot they are too, with round yellow eyes that look at us frankly and without showing the slightest signs of drowsiness. There is very little sleep allowed in their households, hardly even forty winks; and yet they do not want for beauty. They are always fresh and bright and wide-awake.

S. dodecaudra, or large *sabbatia*, is a beautiful species, whose blooms are rosy pink, or white. The corolla is fuller than that of the preceding flower and often as much as two and a quarter inches broad. On the borders of brackish ponds, especially in southern New Jersey, it is found in great abundance.

S. campanulàta (*Plate XXXI.*) is readily known by the length of its sepals, which is unusually great, equal, in fact, to that of the petals.

Throughout Massachusetts, and especially about Plymouth, the *sabbatia* is held in great admiration, almost reverence. It is called the rose of Plymouth, and it is generally believed that its generic name is associated with the pilgrims having first beheld it on the sabbath day. Facts, however, that are often just a trifle



PLATE XXXI. SEA-PINK. *Sabbatia campanulata*.

disagreeable, tell us this is an unfounded notion which has been circulated within the last thirty years; and that the genus is named for an early botanist, Liberatus Sabbatia.

VENUS'S FLY-TRAP. (Plate XXXII.)

Dionæa muscipula.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Sundew.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Wilmington, N. C.</i>	<i>Spring.</i>

Flowers: growing on a scape in a flat-topped umbel. *Calyx*: of five sepals. *Corolla*: of five, obcordate petals. *Stamens*: fifteen. *Pistil*: one; stigma, fringed and lobed. *Leaves*: long and narrow; terminated by a bristly bordered trap; green or crimson inside.

Even the flowers must crane their necks and gaze in wonder at the uncanny actions of the Venus's fly-trap: a creature of most cunning devices. The trap-like appendage that terminates each leaf is set, so to speak, when the sun shines. Its brilliant lining piques the curiosity of small insects, which, unconscious of the wise maxim, to look with one's eyes and not with one's fingers, attempt to investigate for themselves. No sooner does one arrive and brush against the bristles that line the edge of the trap, than the latter closes and crushes the life out of the intruder. In adroitness it can well vie with the spider. The poor guileless fly is then prepared for digestion by a secretion from minute glands that line the inner surface of the leaves. His end is in assimilation and affording nourishment to the plant.

Should the fly by any chance effect an escape, the trap would then innocently open and again await its opportunity.

ROUND-LEAVED SUNDEW.

Drosera rotundifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Sundew.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Northern and eastern.</i>	<i>Midsummer.</i>

Flowers: small; growing on one side of a raceme like cluster at the end of a naked scape that uncoils as the flowers expand. *Calyx*: of five sepals. *Corolla*: of five petals. *Stamens*: five to fifteen. *Pistil*: one, with a deeply three or five parted style. *Leaves*: rounded; provided with leafstalks; the upper surface rough and sticky. The edge of the leaf fringed with reddish bristles.

When the sun shines upon the leaves of this little bog herb

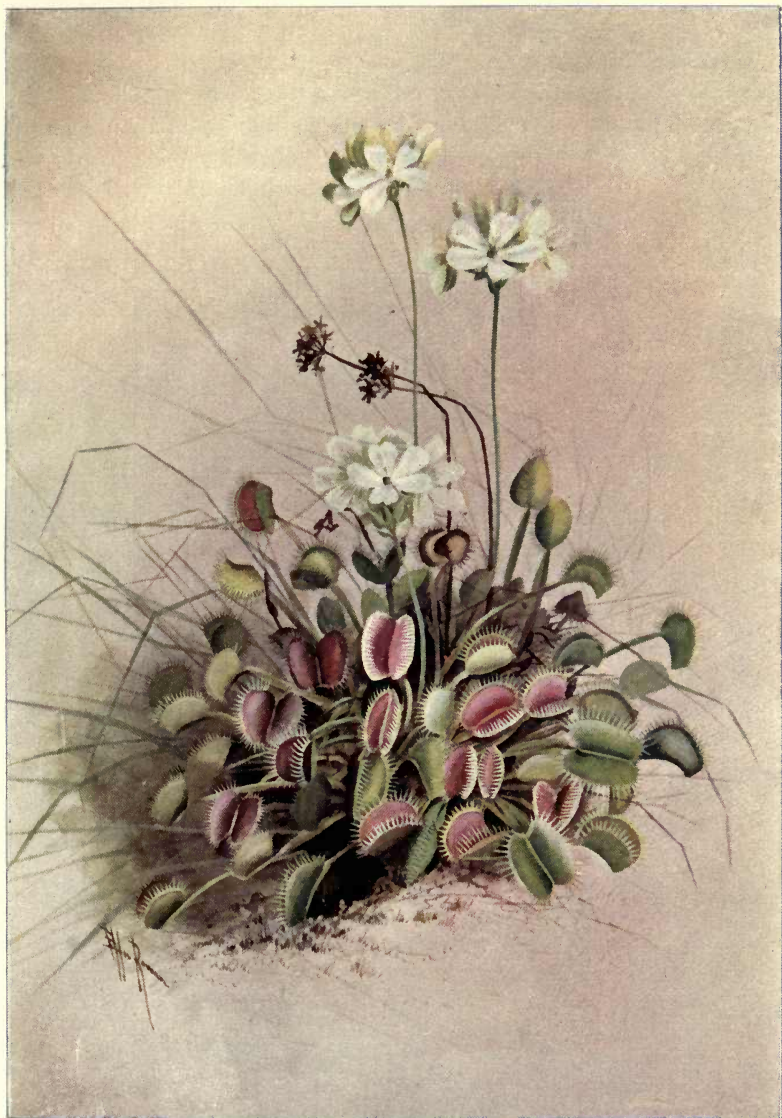


PLATE XXXII. VENUS'S FLY-TRAP. *Dionaea muscipula.*

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

they are, poetically speaking, covered with sparkling drops of dew ; but which in stern reality we find to be a glutinous exudation that serves to entice insects to visit them and then to hold them fast. The red bristles complete the capture by closing tightly over the victim ; and he is prepared for digestion very much in the same manner as is practiced by the Venus's fly-trap. The range of the sundew is not so restricted, and it is worth one's while to search it out and try the experiment of feeding it with flies, so as to put oneself on a plane beyond surprise at the actions of the insectivorous plants.

SOUTHERN LOBELIA.

Lobelia amœna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lobelia.</i>	<i>Blue or white.</i>	<i>Scentless.</i>	<i>Florida to South Carolina and westward.</i>	<i>September, October.</i>

Flowers : growing profusely in a close, one-sided raceme with many small bracts. *Calyx* : of five linear lobes ; the sinuses without appendages. *Corolla* : long, irregularly five-lobed. *Stamens* : five, the filaments united into a tube. *Pistil* : one ; stigma two-lobed, and about it a ring of hairs. *Leaves* : scattered ; oblong ; the lower ones on petioles ; the upper ones nearly sessile. *Stem* : two to four feet high ; erect.

In the rich soil of the southern swamps we find this lobelia. If it were colourless we would probably pass it by ; but its bright blue or pure white enchain us and we forgive it its happy-go-lucky, ragged, unkempt appearance. We feel quite sure that it has a kind, tender heart.

SALT-MARSH FLEABANE.

Plúchea camphordta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Pale lavender pink.</i>	<i>Strongly scented.</i>	<i>Along the coast.</i>	<i>September.</i>

Flower-heads : composed of small, tubular flowers arranged in a flat corymb. *Leaves* : sessile ; oblong ; toothed ; rough. *Stem* : with small, hairy glands.

It is not until the early autumn that this little plant unfolds its pale bloom in the marshes. We are strongly reminded of the everlastings by its manner of growth ; and if we try hard enough we may imagine its odour to be like that of camphor, as its generic name implies.

SWAMP MILKWEED.

Asclepias incarnata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkweed.</i>	<i>Crimson.</i>	<i>Scentless.</i>	<i>Maine to Louisiana.</i>	<i>July-September.</i>

Flowers: perfect; regular; growing in terminal umbels. *Calyx*: of five sepals, the tube very short. *Corolla*: funnel-form, with five reflexed lobes that nearly hide the sepals. The next inner row of upright bodies are hoods, or nectaries that enclose five little incurved horns; and under these horns are the stamens and pistils. *Stamens*: five, with fringed tips that are not the anthers; united and enclosing the pistils. *Anthers*: attached to the short filaments by their bases. *Pollen*: in distinct little masses; two being attached together by a thread. *Pistils*: two; united above into a flat, sticky disk. *Fruit*: a pair of pods with numerous seeds and soft, silky hairs; seldom more than one becoming fully developed. *Leaves*: narrow; oblong; somewhat heart-shaped at base. *Stem*: two to three feet high; very leafy; smooth, with little milky juice.

Of this very striking and handsome family Professor Britton says: "There are about 220 genera and 1900 species of very wide distribution."

The flowers are difficult, but not impossible, for the non-botanist to analyse; and the attempt will at all events pique one's curiosity enough to encourage him to pry closely into their intricacies.

The milkweeds are entirely dependent on insects for fertilization; as the pollen masses lie too low in the blossoms to reach the stigma. It is for this reason that they have provided themselves with the little hoods that hold the nectar, as it could not be retained by the reflexed corolla lobes. Bees, therefore, visit the plants gladly, and when their feet become entangled in the tiny thread that holds together the pollen masses they carry them off without complaining. A. Syriaca, page 280, Plate CXLIV.

A. lanceolata, (Plate XXXIII) is a brilliant variety of the swamps that occurs southward from New Jersey to Florida and Texas. The umbels have but few flowers, very large and showy, and are of an intense orange-red colour. It blooms in July and August.



PLATE XXXIII. { MILKWEED. *Asclepias lanceolata*.
 { ASHY MILKWEED. *Asclepias cinerea*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

ASHY MILKWEED. (*Plate XXXIII.*)*Asclèpias cinérea.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkweed.</i>	<i>Purple without, ash coloured within.</i>	<i>Scentless.</i>	<i>Florida to South Carolina.</i>	<i>July, August.</i>

Flowers : small ; growing in umbels. (See *A. incarnata*, page 76.) *Leaves* : opposite ; lanceolate, or linear narrowing into a petiole. *Stem* : one to two feet high ; erect ; slender ; somewhat pubescent.

This lovely species of milkweed is found mostly in wet barrens. It is one of our shy and well-bred weeds which must look with disdain upon the bad manners of the numerous European plants that have made their homes in this country.

GOLDEN-ROD.

Solidàgo ulignòsa is a golden-rod that we find in the peat bogs. It is one of the earliest of the genus to come into bloom, often budding out in July. The small flowers are closely crowded in long, narrow panicles ; and the leaves are lanceolate and pointed. Those of the root sometimes grow to a great length.

S. pátula, rough-leaved or spreading golden-rod, is a swamp species that has flower-heads growing in short racemes. The long leaves are noticeable from their very rough upper surface and being smooth on the under side.

S. juncea, page 136, Plate LXIX.

SWAMP ASTERS.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Purple, blue or white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer and early autumn.</i>

Flower-heads : composed of tubular and ligulate flowers ; or ray and disk flowers. The rays purple, blue or white and the disks yellow.

NEW ENGLAND ASTERS.*Aster Nòvæ-Angliæ.*

The rich soil of the swamps and low grounds can boast as lovely members of the aster family as any field, or roadside

bank. The common New England aster is tall and stately ; from four to eight feet high. It is heavily foliaged with clasping, lanceolate leaves and its flower-heads are arranged in large, dense corymbs. The many rays are a beautiful violet purple, or sometimes a soft magenta.

A. puniceus is an accompanying flower of the swamps. It also is tall, but cannot vie with the above, as its utmost height appears to be about seven feet. Its long, slender rays vary in colour from pale lilac blue to dark purple. The leaves are long with a projection like ears at the base. On the upper side they are quite rough.

Dœllingeria umbellata is the white representative of the swamps, and grows quite as tall as, if not taller than, the purple varieties. Its flower-heads are clustered rather flatly in compound corymbs : a mark by which it may be identified. The lower leaves are very long and the stem leafy to the top.

A. nemoralis, or bog aster, grows from one to two feet tall and has pretty lilac-rayed flowers. The leaves are sessile, long, rigid and distinctly marked by their margins that roll backwards. The plant is quite rough.

Sandy and dry-soil asters, Plate CXXXIII.

Plants Growing in Moist Soil: Low Meadows and by Running Streams.

“ Now when it flowereth,
 And when the banks and fields
 Are greener every day,
 And sweet is each bird's breath
 In the tree where he builds
 Singing after his way,
 Spring comes to us with hasty steps and brief,
 Everywhere is leaf,
 And everywhere makes people laugh and play.”
 Rinaldo D' Aquino.

LARGER BLUE FLAG. FLEUR-DE-LIS. (Plate XXXIV.)

Iris versicolor.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Iris.</i>	<i>Royal purple, variegated with white, yellow and green.</i>	<i>Scentless.</i>	<i>Southward to the Gulf.</i>	<i>May, June.</i>

Flowers: large; solitary; growing at the ends of the flower-stalks and branches. *Perianth*: of six divisions united below into a tube; the three outer ones spreading, with abundance of yellow; the three inner ones, erect and smaller. *Stamens*: three; inserted. *Pistil*: one, with a three-cleft, petal-like style that arches over its own stigmas. *Leaves*: equitant, or folded lengthwise; sword-shaped; mostly at the base of the stem. *Stem*: stout; leafy; branched above; glaucous.

Juno, as we must all agree, was a goddess of rare taste. For her favourite bird she chose the peacock, and her attendant, or messenger, was Iris, the goddess of the rainbow. In this regal

flower it would seem as though we have a touch of the spirit and pride of Juno. When it unfolds itself, with an almost conscious air of its own beauty, we are reminded of the bird that opens and parades his gorgeous tail, whenever he finds himself the centre of admiration. And a bit of Iris's scarf must have been wafted to it for its gown; for the colours blend together while being distinct, as in the rainbow. The ancients thought the iris a sacred flower and associated it with the future state of the blessed.

The graceful beauty is, however, not all fuss and feathers. It has the same wisdom as many unpretentious flowers and knows how to accomplish its mission in the world. By a deep central veining it informs the bee of the road he must travel to reach the land of nectar; and when he has sipped and raises his head from under the anthers, the careless fellow finds his back heavy with gold that he must carry off to the stigma of another flower. Indeed, of all politicians the bees are the most conscientious.

CRESTED DWARF-IRIS. (*Plate XXXV.*)

Iris cristata.

This is one of the sturdy dwarf irises, which follows the Alleghanies and chooses the rocky banks of streams for its dwelling place. It blossoms in April and May and is of a soft violet blue. The flower is spreading, with a much longer tube than that of the *I. versicolor*. Its outer divisions are prettily crested. The leaves are not conspicuous; lanceolate and clasping.

POINTED BLUE-EYED GRASS. (*Plate XXXVI.*)

Sisyrinchium angustifolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Iris.</i>	<i>Blue with yellow centre.</i>	<i>Scentless.</i>	<i>General.</i>	<i>May-August.</i>

Flowers: solitary; growing from a pair of green bracts. *Perianth*: of six divisions that terminate in a sharp point. *Stamens*: three. *Pistil*: one. *Leaves*: linear; grass-like; pale; glaucous.

These bright little peep-eyes that attract our attention among



PLATE XXXIV. LARGER BLUE FLAG. *Iris versicolor*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

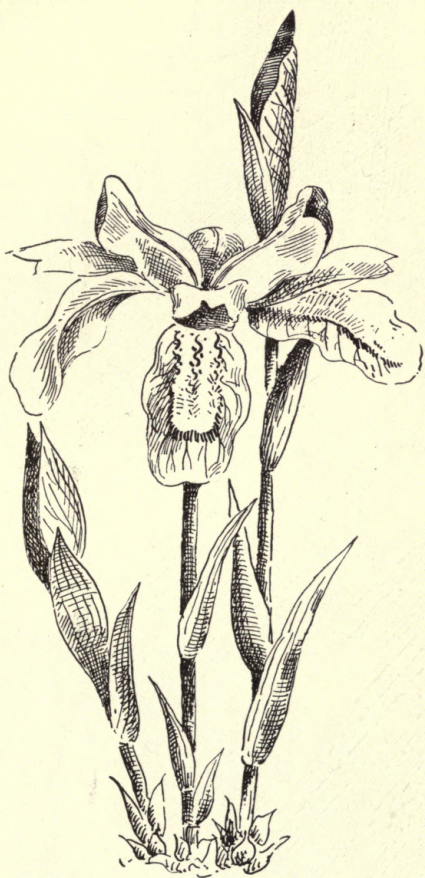


PLATE XXXV. CRESTED DWARF-IRIS. *Iris cristata.*

(81)

the summer grass in the moist meadows, impress us with the idea that they have come out to show us that all the grass could bloom as beautifully, if it had the mind to do so; and that if we were good, as it is said to the children, we might some day find our fields covered with their sparkling little faces. They dislike being picked, and after they have been severed from their stem, shrivel almost immediately.

YELLOW-ADDER'S TONGUE. DOG'S-TOOTH VIOLET.

(Plate XXXVII.)

Erythronium Americanum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Lily.	Pale yellow, tinged with purple.	Scentless.	Throughout the east.	March-May.

Flowers: terminal; solitary; nodding. *Perianth*: of six, slender, recurved divisions, streaked with, and the underside of, purple. *Stamens*: six. *Pistil*: one; style, club-shaped. *Leaves*: two only; oblong; pointed; spotted with dark purple and white. *Stem*: rising from a corm.

The names of this beautiful flower are rather confusing, and bring to the mind objects of entirely different aspect from that of the one to which they relate. "Dog's-tooth," we are told, refers to a supposed resemblance of the roots of the plant to the canine teeth of a dog; but this would not help the wanderer by the woodland brook to any great extent, as the roots are commonly hidden. Why the name of violet was ever attached to it, is rather a mystery; and in any case must have been from a purely imaginative idea. If one of its names must be used, it were better to choose yellow-adder's tongue, which at least gives a clue to its colour; and the marking of its leaves is not dissimilar to an adder's skin. But how much prettier and more appropriate are the names of fawn lily, or trout lily, which have been suggested by Mr. Burroughs. At night the flower gently closes.

E. albidum, the white species, is similar in appearance. It bears a bluish-white flower and the leaves are not nearly so spotted. It is commonly found farther west than Pennsylvania.



PLATE XXXVI. POINTED BLUE-EYED GRASS. *Sisyrinchium angustifolium*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

THE UNIVERSITY OF CHICAGO
PRESS

WILD YELLOW LILY. MEADOW LILY.

Lilium Canadense.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Lily.	Yellow, spotted with rich brown.	Scentless.	New England, southward and westward.	June, July.

Flowers: terminal; solitary, or a few; nodding. *Perianth*: of six, deeply parted divisions that curve towards the base, where there is a honey-bearing spot. *Stamens*: six. *Pistil*: one; stigma, three-lobed. *Leaves*: whorled about the stem; narrowly oblong; parallel-veined. *Stem*: erect, from a scaly bulb.

When we walk in the meadows and read the aristocracy of the flowers we find that the golden lilies are very noble. They seem to have none of the democratic, bohemian instincts of our pretty chicory and its playmates. They are so grave and dignified. No doubt fate has whispered to them that they were only to nod their heads through the ages of poetry, or to encourage the beautiful in art. And their influence is very far reaching; sometimes whole meadows will be radiant with them as they extend their way down to the marshes.

Of about fifty species of the north temperate zone, the meadow lily is one of the five that are native to the eastern United States.

L. Caroliniànum, or the Carolina lily, (*Plate XXXVIII.*) is very slight in its variations from the meadow lily; although a still more gorgeous flower. The leaves are broader and its orange-red colour is tipped with a highly brilliant crimson. The spots that colour the longitudinal anthers are of the darker brown.

TURK'S-CAP LILY.

Lilium superbum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Lily.	Orange, spotted with purple.	Scentless.	Maine to Minnesota, and southward.	July, August.

Flowers: nodding; growing in a pyramidal cluster of three to forty blossoms arranged in rows. *Perianth*: of six, recurved divisions. *Stamens*: six; anthers, linear, attached at the middle. *Pistil*: one; stigma, three-lobed. *Leaves*: whorled; sessile; lanceolate. *Stem*: often eight feet high.

Perhaps we have no other flower so truly majestic in its bearing as the Turk's-cap lily. It is very generous of its bloom and is

most gorgeous in the sunshine, when the slanting rays of the sun upon the petals appear like a luminous maze of changing colours.

About Cape Cod it is very common, and all along the New England coast it grows in great profusion.

BLAZING STAR. DEVIL'S BIT. DROOPING STAR-WORT.

Chamætrium luteum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly south and west.</i>	<i>May-July.</i>

Flowers: small; staminate and pistillate; nodding; growing in a spike-like raceme. *Leaves:* lanceolate; becoming linear; sessile. *Basal leaves:* spatulate; tapering into a long petiole.

These wand-like racemes of inoffensive little flowers make us wonder what mischief they could ever have indulged in to have been connected with the devil. In fact, it is even inconsiderate of that individual not to have chosen for him a bit of more substance.

STOUT STENANTHIUM. (Plate XXXIX.)

Stenanthium robustum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>White, with green centre.</i>	<i>Scentless.</i>	<i>Penn. southward and westward.</i>	<i>July, August.</i>

Flowers: clustered in a long, paniced, light raceme. *Perianth:* of six lance-like, pointed divisions. *Stamens:* six, short. *Pistil:* one. *Leaves:* linear; grass-like; nerved. *Stem:* erect; high.

A lovely, high, waving plant which bends and sways with the cool breezes on the lonely prairie, or in the moist meadows. Its stately air and soft colouring recall to mind a fair débutante in spotless tulle with long streamers of green satin ribbon. No less than she is the flower a belle of the prairies.

FOUR-WINGED SNOWDROP TREE. (Plate XL.)

Mohrodendron Carolinum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Storax.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly south and west.</i>	<i>March, April.</i>

Flowers: growing in loose racemes along the branches. *Calyx:* short; four-toothed. *Corolla:* bell-shaped; drooping; four, or five parted. *Stamens:*



PLATE XXXVII. YELLOW-ADDER'S TONGUE. *Erythronium Americanum*.

COPYRIGHT, 1899 BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.



PLATE XXXIX. STOUT STENANTHIUM. *Stenanthium robustum*.

eight to sixteen. *Pistil*: one. *Fruit*: oblong; two to four-winged. *Leaves*: ovate-oblong; toothed; slightly pubescent underneath. A shrub or small tree with soft wood.

This beautiful tree is one of the very few species that are natives of southeastern North America. It is not so chary of its snowdrops as those dear little plants that we see about country dooryards; and which tell us so plainly that the spring is coming. The blossoms appear in abundance with, or before, the leaves and cover the tree with gems of pure beauty. We are sometimes so fortunate as to chance upon it in moist woods, but more often by the side of some sparkling stream.

CHOKE-CHERRY. (Plate XLI.)

Prunus Virginiana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Plum.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England south to Georgia and west to Colorado.</i>	<i>April, May.</i>

Flowers: clustered in short, close racemes. *Calyx*: tubular; bell-shaped; five-lobed. *Corolla*: of five tiny petals. *Stamens*: numerous. *Pistil*: one. *Fruit*: a beautiful, bright red berry which turns to dark crimson as the season advances. The stone and kernel of the fruit have the flavour of, and contain prussic acid. *Leaves*: alternate; oval; pointed; sharply serrate. A tall shrub, or small tree with dark, greyish bark.

The beautiful drooping bunches of fruit that ripen in July or August are even more attractive by the side of some running stream than the choke-cherry's closely packed racemes of dainty bloom. One should not, however, be tempted to test their beauty by tasting, as the flavour is most astringent.

MEADOW-SWEET. QUEEN-OF-THE-MEADOWS.

Spiræa salicifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>Pink or white.</i>	<i>Scentless.</i>	<i>New England southward.</i>	<i>June, July and August.</i>

Flowers: small; clustered in panicles. *Calyx*: of five cleft sepals. *Corolla*: of five rounded petals. *Stamens*: very numerous. *Pistils*: five to eight. *Leaves*: alternate; lanceolate; toothed; veined with a much lighter colour and single small leaflets at their bases. *Stem*: rather smooth; highly coloured.

The sweet, fleecy daintiness of the meadow-sweet which greets us in the low, moist meadows must have been the inspiration that gave it its common name, as it is unfortunately with-



PLATE XXXVIII. CAROLINA LILY. *Lilium Carolinianum*.

COPYRIGHT, 1899. BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.



PLATE XL. FOUR-WINGED SNOWDROP TREE. *Mohrodendron Carolinum*.

out fragrance. It is when we find so lovely a flower scentless that we realise how great a charm that of perfume is, and how much we are appealed to through fragrance. In fact, in delight of sweetness of smell we are veritable bees and butterflies.

Many flowers use the means of casting out fragrance to inform the insects of their whereabouts; and it has been observed, as in the case of the meadow-sweet, that those that are sufficiently showy to attract the bee's eye seldom appeal as well to his sense of smell.

STEEPLE-BUSH. HARDHACK.

Spiræa tomentosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Peach-blow pink.	Scentless.	New England southward.	Summer.

Flowers : small; thickly clustered in a pyramidal spike. *Calyx* : of five sepals. *Corolla* : of five, rosaceous petals. *Stamens* : numerous. *Pistils* : five to eight. *Leaves* : alternate; small; ovate; toothed and downy underneath. *Stem* : erect; slender; downy.

We are impressed by the steeple-bush very much as we are by the dainty beauty of the meadow-sweet. Its fleecy spikes lighten the low grounds, and we would miss them sorely from the bunch of late summer flowers that we gather shortly before the great family of composites invades the fields. According to the custom of perennial herbs, these plants die down to the ground every year at the approach of frost. The live stem with its buds hovers near the root and sends up the young shoots of the next year.

SMALLER FORGET-ME-NOT.

Myosòtis laxa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Borage.	Pale blue.	Scentless.	From the north to Virginia and Tennessee.	May-July.

Flowers : small; growing in a raceme. *Calyx* : five-lobed; hairy. *Corolla* : salver-shaped; five-cleft. *Stamens* : five; included. *Pistil* : one; slender. *Leaves* : alternate; oblong; sessile; hairy. *Stem* : leafy; slender.

Perhaps the prettiest legend about the little forget-me-not is that of the Persians.



PLATE XLI. CHOKE-CHERRY. *Prunus Virginiana*.

(89)

One day an angel that had fallen from grace stood weeping outside the door of Paradise. His fault had been that he loved a daughter of earth as she sat by the bank of a stream arranging forget-me-nots in her hair; and not until she whom he loved had sown the blossoms all over the earth, could his fault be forgiven.

He returned to her, and together they went planting the flowers; nor did they cease their labour until the task was accomplished. Then they entered Paradise; the woman not tasting of death.

BLUEBELLS. VIRGINIA COWSILP. LUNGWORT.

Mertensia Virginica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Borage.	Light blue.	Scentless.	New York southward and westward.	April, May.

Flowers: hanging from slender pedicels in a raceme-like cluster. *Calyx*: small; five-cleft. *Corolla*: tubular; salver-shaped; the lobes scarcely divided. *Stamens*: five. *Pistil*: one. *Leaves*: large; obovate. *Stem*: smooth.

The *Mertensia Virginica* has quite the air of belonging to one of the first families. Its colour is so pure and its form so perfect that it is ever a delight to the eye of the artist. By its drooping poise it cleverly protects its pollen from the rain and dew.

COMMON HAREBELL.

Campanula rotundifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Bellflower.	Blue.	Scentless.	Mostly north and west.	June, July.

Flowers: growing in a raceme on slender flower-stalks. *Calyx*: tubular; with five, narrow, spiked lobes. *Corolla*: campanulate, or bell-shaped; five-lobed. *Stamens*: five. *Pistil*: one with style that protrudes like a miniature clapper. *Leaves*: those from root on slender petioles, cordate, or rounded, as the name implies; those on the stem, almost linear. *Stem*: five to twelve inches high; spreading; slender; smooth.

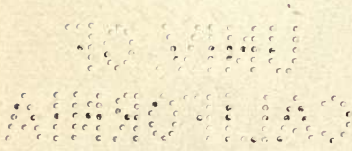
The harebell has been the sweetheart of many a bard. They have loved and celebrated its tall gracefulness, its exquisite fairness, and its brilliant blue, of a purity that must have dropped from a summer sky. It has all the fragile, bright



PLATE XLII. TALL WILD BELLFLOWER. *Campanula Americana.*

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



beauty of a plant of cold, crisp climates, and is said to be identical with the bluebell of Scotland. It is a native of North America, Europe and Asia, and circles the northern pole. With us it prefers to hang from a ledge of rocks over some river, where it may breath the cooling vapours of the water.

TALL WILD BELLFLOWER. (*Plate XLII.*)

Campanula Americana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bellflower.</i>	<i>Light blue.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>June, July.</i>

Flowers: borne thickly on a long spike. *Calyx*: tubular; of five sepals. *Corolla*: almost wheel-shaped; of five pointed petals. *Stamens*: five. *Pistil*: one with a long curved style. *Leaves*: alternate; lanceolate; finely toothed. *Stem*: three to six feet high; erect.

Perhaps one of the loveliest of our native plants is the tall wild bellflower. There is a vigour attached to its clinging beauty that is very attractive. The coloured illustrations will bring it clearly to the minds of those to whom it is not already familiar.

COLORADO SHOOTING-STAR. AMERICAN COWSLIP.

(*Plate XLIII.*)

Dodecatheon Meadia frigidum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Primrose.</i>	<i>Lilac, or pink terminating in yellow.</i>	<i>Spicy, like cinnamon.</i>	<i>The Rocky mountains.</i>	<i>April, May.</i>

Flowers: two to twenty growing in a terminal umbel, and on pedicels that curve within the flower. *Calyx*: reflected; five-parted. *Corolla*: of five rather linear divisions; strongly reflexed. *Stamens*: commonly five, the linear anthers forming a cone. *Pistil*: one, protruding. *Leaves*: from the root; obovate to lanceolate. *Scape*: three to fifteen inches high; erect.

Those that write concerning the primroses must acknowledge that this one is the most pert, the most saucy looking, and the most attractive of them all. Its common name of shooting-star appears well adapted to it; and although it is not a widely-known plant, it is one that once seen seldom passes out of the remembrance. There are several species of Dodecatheon, which vary greatly. The one growing in the Central States is known as Pride of Ohio.

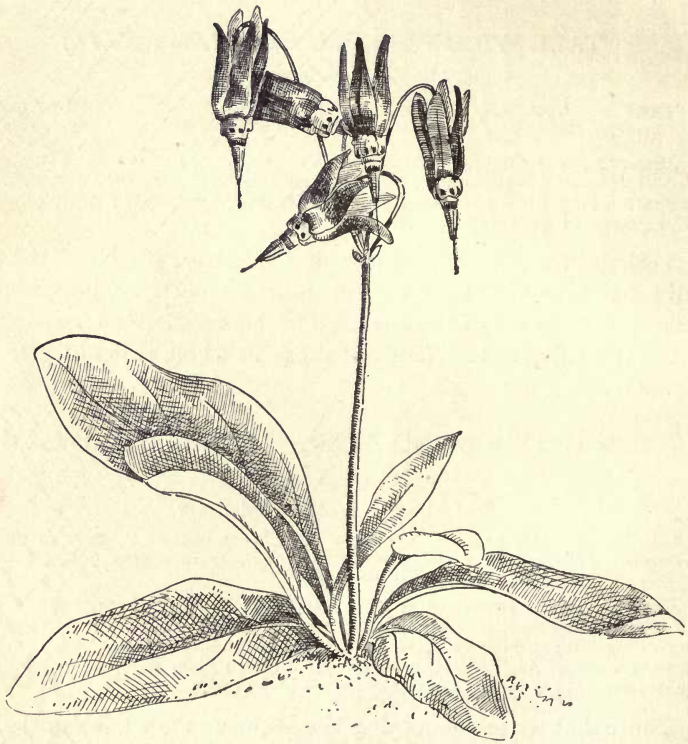


PLATE XLIII. COLORADO SHOOTING-STAR. *Dodecatheon Meadia frigidum*.

BULB-BEARING LOOSESTRIFE.*Lysimachia terrestris.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Primrose.	Yellow, marked with brownish red.	Scentless.	Common north and south.	June, July.

Flowers: growing on long pedicels in a terminal, leafy raceme. *Calyx*: of five, or six sepals. *Corolla*: wheel-shaped; of five oblong segments. *Stamens*: four or five, with united filaments. *Pistil*: one. *Leaves*: abundant; opposite; long; pointed at each end; darkly spotted. *Stem*: upright; leafy; branching

This bright, cheery plant, with others of its family, has the reputation of having a peace-loving heart. Ancient superstition that clings about it tells us it is particularly disposed to exercise its soothing influence upon cattle that are quarrelling, when a spray of it laid upon their yokes will cause them to become as gentle as the proverbial lamb. But unless the farmer has, in case of emergency, provided himself with this loosestrife, we may imagine he would have some difficulty in guiding his fractious beasts to search for it by the brooks, or in the wet meadows that lead to the marshes.

FRINGED LOOSESTRIFE.*Steironema ciliatum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Primrose.	Yellow, with dull red centre.	Scentless.	Mostly south and west.	June, July.

Flowers: axillary; on long peduncles. *Calyx*: of five green sepals, sharply pointed. *Corolla*: wheel-shaped; of five segments. *Stamens*: five. *Pistil*: one. *Leaves*: opposite; lanceolate; wavy on the edges. *Stem*: two to four feet high; upright; rather rough.

During the summer these pretty flowers may be found in the moist soil of thickets. It is owing to a close resemblance to the loosestrifes that their English name has been bestowed on them.

S. lanceoldtum, or lance-leaved loosestrife, is a similar species. Its leaves are on petioles, or almost sessile, and from their axils arise the slender stalks that bear the flowers.

SMALL WILLOW HERB.*Epilobium coloratum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>Pale magenta.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Summer.</i>

Flowers : small; slightly nodding; growing in terminal corymbs. *Calyx* : of four parted sepals. *Corolla* : of four spreading petals notched at the apex. *Stamens* : eight. *Pistil* : one; stigma, club-shaped. *Seeds* : tufted with brown hairs. *Leaves* : opposite; lanceolate; toothed and veined with purple. *Stem* : tall; rather smooth.

We can hardly venture into any meadow during the summer that is moist enough to wet our feet without seeing this little herb. Its relative, the great willow herb, is found mostly along the roadsides and on clearings that have been burned over.

HAIRY WILLOW HERB.*Epilobium hirsutum.*

The hairiness of this plant serves to distinguish it from the preceding one. It also grows to a greater height and its petals are a lovely, rosy pink. The uncultivated, moist soil of waste places is its favourite dwelling place.

COMMON FRINGE TREE.*Chionanthus Virginica.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Olive.</i>	<i>Snow white.</i>	<i>Scentless.</i>	<i>Penn. southward.</i>	<i>Late spring and early summer.</i>

Flowers : growing in loose panicles. *Calyx* : very small; tubular. *Corolla* : of four petals, three quarters of an inch long, which barely unite at the base. *Stamens* : two; very short. *Pistil* : one. *Fruit* : bluish purple; glaucous. *Leaves* : large; ovate; the lower part downy. A shrub, or low branching tree.

The pure loveliness of this shrub is one of the things that must be seen and come into close contact with before it can be fully appreciated. When along the river banks the cool zephyrs play through its snow-white, slender petals and we sit down beside it; we long for its soft, gentle swaying never to cease, and think lovingly of our castles in the air and the fairy tales that enchanted us in childhood.



PLATE XLIV. TRUMPET FLOWER. *Tecoma radicans*.

COPYRIGHT, 1899. BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930

TRUMPET-FLOWER. TRUMPET-CREEPER.*(Plate XLIV.)**Técoma radicans.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bignonia.</i>	<i>Orange, yellow and scarlet.</i>	<i>Scentless.</i>	<i>New Jersey southward and westward.</i>	<i>July, August.</i>

Flowers : very showy; axillary; growing in terminal corymbs. *Calyx* : five-toothed. *Corolla* : two and a half inches long; trumpet-shaped with five lobes, veined on the inside. *Stamens* : four, in pairs, two shorter than the others. *Pistil* : one. *Leaves* : odd-pinnate; opposite; with four or five pairs of ovate pointed, toothed leaflets. *Stem* : woody, climbing by aërial rootlets. *Pod* : long, a little flattened.

To watch the way in which this bold vine climbs by means of the aërial rootlets that spring from the stem, is a good lesson in moral philosophy. It appears to take vigorous delight in its upward course, and in showing us its belief in the survival of the fittest, by crushing out any weaker plant that comes within its reach. We almost take a step backward to view it from a safer distance.

Its abundant growth and the difficulty in extirpating it makes it a rather troublesome weed in some of the western states. In the east it is cultivated as one of our most beautiful climbers.

WILD RED-OSIER DOGWOOD.*Córnus stolonifera.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogwood.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>June, July.</i>

Flowers : small; growing in spreading cymes. *Calyx* : tiny; four-toothed. *Corolla* : of four oblong petals. *Stamens* : four. *Pistil* : one. *Fruit* : nearly white. *Leaves* : ovate, with rounded bases, whitish beneath; rough. A shrub of stocky growth; conspicuous from its bright red branches.

PANICLED CORNEL, OR DOGWOOD.*Córnus candidissima.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogwood.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Maine to North Carolina and westward.</i>	<i>June, July.</i>

Flowers : small; growing in loose cymes. *Calyx*, *Corolla*, *Stamens*, and *Pistil* : as in the preceding species. *Fruit* : white. *Leaves* : lanceolate, the under part white. A shrub about six or eight feet high with smooth branches, the colour of ashes.

Both of these dogwoods are conspicuous among the shrubbery

that borders streams and damp thickets ; and we sometimes find the *C. stolonifera* also sauntering towards the swamps in its desire to quench its thirst for moisture. The little flowers are very similar in arrangement to those of *C. Flórida*, page 112, Plate LXXX. We cannot but lament, however, that they are without the petal-like involucre that is the beautiful feature of the dogwood family.

BULBOUS CRESS.

Cardamine bulbosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mustard.</i>	<i>White or pinkish.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>April, May.</i>

Flowers : rather large ; growing in terminal clusters. *Calyx* : of four spreading sepals that fall early. *Corolla* : of four cruciferous petals. *Stamens* : six, of which two are shorter than the others. *Pistil* : one. *Pod* : flat ; lanceolate. *Leaves* : roundish ; cordate ; becoming ovate, or lanceolate as they ascend the stem ; toothed. *Stem* : erect ; slender. *Rootstock* : tuberous.

This is perhaps the prettiest of our cresses. It has an agreeable bitter taste which appeals to us as being particularly refreshing when we find it beside the trickling, sparkling stream that it loves so well.

CUT-LEAVED TOOTHWORT. PEPPER-ROOT.

Dentària laciniàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mustard.</i>	<i>White or pinkish purple.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>April-June.</i>

Flowers : growing in a terminal raceme. *Calyx* : of four sepals that fall early. *Corolla* : of four cruciferous petals. *Stamens* : six, of which two are shorter than the others. *Pistil* : one. *Pod* : lance-shaped. *Leaves* : in whorls of threes ; each leaf being divided into linear, gash-toothed divisions. *Stem* : erect ; simple. *Rootstock* : tuberous.

The cut-leaved toothwort is a near relative of the toothwort of the rich woods. Its taste for water, however, has induced it to stray from the family environment to the banks of streams. Here, no doubt, it has further offended its family by putting on style, or, to be explicit, by adding another leaf to its stem. And those of the woods cannot cry out against it, for its rootstock is quite as edible as their own.



PLATE XLV. BUTTON-BUSH. *Cephalanthus occidentalis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



DWARF CASSANDRA. LEATHER-LEAF.*Chamædaphne calyculata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Madder.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Throughout the middle states.</i>	<i>Early spring.</i>

Flowers: small; growing in one-sided, open leafy racemes. *Calyx*: of five sepals, having a pair of bracts at the base. *Corolla*: cylinder-shaped, with a five-lobed border. *Stamens*: ten. *Pistil*: one. *Leaves*: oblong; in texture like leather; glossy above and dull beneath. An evergreen, branching shrub; two to four feet high.

The English name of these plants is suggestive of the texture of the leaves, which is like leather. We find them in swamps and bogs as well as in the moist soil of low meadows.

**BUTTON-BUSH. RIVER-BUSH. GLOBE FLOWER.
HONEY-BALLS. (Plate XLV.)***Cephalanthus occidentalis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Madder.</i>	<i>White.</i>	<i>Very fragrant.</i>	<i>General.</i>	<i>July, August.</i>

Flowers: small; clustered in a spherical head. *Calyx*: four-lobed, *Corolla*: tubular; four-lobed; within hairy. *Stamens*: four. *Pistil*: one, protruding, with a button-like stigma. *Leaves*: opposite, or whorled in threes; oval; on petioles; stipules between the leaves. A shrub five to ten feet high, with rough, grey bark.

The button-bush is like the children that cannot believe they are by the water until they have taken off their shoes and stockings and gone in paddling. It has usually its lowest stems and roots immersed in some brook or river; and we are invariably delighted with the curious, quaint effect of its bloom. The flower-heads are like little pin-cushions full of pins. Their perfect symmetry and the beauty of each flower when examined separately makes them a pleasing study.

BLUETS. QUAKER LADIES. (Plate XLVI.)*Houstonia cærulea.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Madder.</i>	<i>Blue, with yellow centre.</i>	<i>Scentless.</i>	<i>Nova Scotia to Michigan and southward.</i>	<i>May, June.</i>

Flowers: terminal; solitary. *Calyx*: four-cleft. *Corolla*: salver-shaped, with four oval, pointed lobes. *Stamens*: four. *Pistil*: one; style compound.

Leaves : opposite ; sessile ; oblong ; entire ; glabrous. *Stem* : erect ; branching ; glabrous.

There are no paupers among the Quakers ; and surely this sameness of principle must have suggested the common name of these little ladies. For to travel through the moist meadows that are aglow with their quaint faces and bright eyes suggests the most lavish luxury of bloom. In New England and about Trenton, New Jersey, they are especially beautiful. In fact, during the season, they gladden almost every spot that is sunshiny and moist. Besides their sprightly, crisp appearance they have an added charm in not closing up and fading quickly after they have been plucked.

Under a microscope it can be seen that the flowers are dimorphous, occurring in two forms. In some blossoms the pistil is long and the stamens short and in others the reverse is the case. To effect fertilization it is necessary that the tall pistils should receive the pollen from the tall stamens of another flower ; and the short pistils, the pollen from the short stamens. This is one of the very interesting guards against self-fertilization.

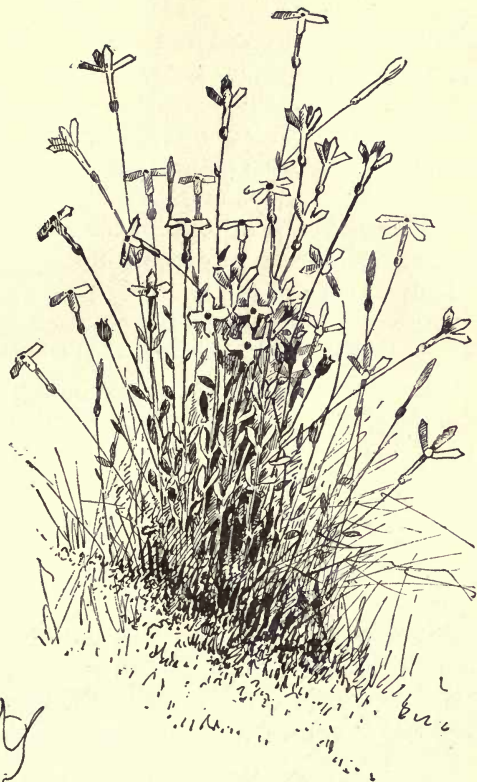
PURPLE SPIKED LOOSESTRIFE.

Lýthrum Salicària.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Loosestrife.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>General in middle states.</i>	<i>Late summer.</i>

Flowers : whorled in a terminal, wand-like spike, tipped a little at the end. *Calyx* : circular, with five to seven toothed points. *Corolla* : of five, six or seven long, narrow, petals ; slightly puckered. *Stamens* : twelve, in two sets of different lengths. *Pistil* : one ; varying in length in the different blossoms. *Leaves* : opposite ; lanceolate ; sessile ; the lower ones heart-shaped at base. *Stem* : tall ; smooth.

Professor Darwin wrote to Doctor Gray about these flowers : " I am almost stark, staring mad over lythrum. If I can prove what I really believe it is a grand case of trimorphism, with three different pollens and three stigmas. I have fertilized above ninety flowers, trying all the eighteen distinct crosses which are possible within the limits of this one species. For



Single
Flower.

Calyx and
Fruit.

PLATE XLVI. BLUETS. *Houstonia cœrulea*.

the love of Heaven, have a look at some of your species and if you can get me some seed, do."

Professor Darwin did prove successfully what he believed. In each flower the two sets of stamens and the pistil are of different lengths; and in order to effect fertilization, the stigma must receive the pollen from stamens that are the same length as itself. As in dimorphous flowers, this is one of the most ingenious devices to guard against self-fertilization.

The plant is not related, as its common name would imply, to the other loosestrifes, which are members of the primrose family. It is a European, very lovely in appearance, which has taken kindly to our wet soggy soil.

CARRION-FLOWER. CAT-BRIER.

Smilax herbacea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Smilax.</i>	<i>Greenish, with yellow.</i>	<i>Foul.</i>	<i>General.</i>	<i>April, May.</i>

Flowers: small; imperfect; growing in umbels. *Perianth*: bell-shaped, of six divisions. *Stamens*: six. *Pistil*: one, with three diverging stigmas. *Fruit*: a blue-black berry; glaucous. *Leaves*: almost round at the base, pointed at the apex; nerved. *Stem*: smooth; erect; climbing.

In the season of its bloom the odour of this plant serves to identify it with one of its common names. As the flowers fall, however, it becomes less obnoxious and is one of the first to foretell by its rich, changing colouring the approach of the autumn. Its near relative, *S. rotundifolia*, is not so partial to moist soil and is well-known along the roadsides and fields.

MEADOW PARSNIP.

Thaspium barbinode.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Parsley.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Northward to Minn. South to Arkansas.</i>	<i>May, June.</i>

Flowers: very small: growing in umbels, or compound umbels. *Leaves*: alternate; twice or thrice compound, with long, narrow, coarsely toothed leaflets. *Stem*: tall; hollow; with soft, fine hairs along the joints.

The parsleys are a family that we should all learn to know, if for no other reason than that the root and seeds of many of

101

PLANTS GROWING IN MOIST SOIL.

them are extremely poisonous. This is true of the water-hemlock illustrated in Plate VI. Again, we cannot avoid all of them on this account, as among them they number the vegetables, celery, carrots, parsnips and parsley. They are readily recognised as a genus by their umbels and umbellets of minute flowers, compound leaves, and generally hollow stems. In size and colour they are very variable.

A powerful microscope and a lifetime of patience is necessary to study them in the detail of their individual parts, and many of the species can only then be recognised by the difference in their fruit ; but they can be broadly known according to locality. Insects are necessary to them, as self-fertilization is prevented by the stigma developing some time before the stamens.

MOCK BISHOP-WEED.

Ptilimnium capillaceum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Parsley.	White.	Scentless.	Middle states.	June-October.

Flowers : very small ; clustered in compound umbels with finely divided bracts underneath. *Leaves* : compound ; the divisions fine and threadlike. *Stem* : varying greatly in height ; branching ; smooth.

To thrive well this plant is one that requires the constant washing of its roots with water. We find it by running streams, in wet meadows, and sometimes in brackish marshes. The flowers are fluffy and pretty ; but that the bishops would ever agree to the supposed likeness between the bracts and their caps is greatly to be doubted.

SWEET WHITE VIOLET. (Plate CXXXV.)

Viola blanda.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Violet.	White ; the lower petals veined with purple.	Delicately fragrant.	Northward from the Alleghanies.	May.

Flowers : small ; terminal ; solitary ; growing on a scape. *Calyx* : five-eared at the base. *Corolla* : of five unequal beardless petals, one being spurred at the base. *Stamens* : five ; short ; united about the pistil. *Pistil* : one ; short. *Leaves* : from the root on petioles ; reniform. *Stem* : erect ; not leafy.

Oh, dearest, sweetest little thing,
 What message do you bring
 To us from other lands than ours
 And other worlds of flowers?
 We bend our ears to listen, dear,
 Our hearts grow mute with fear
 Lest such a dainty, fairy sprite
 Should vanish from our sight.

It must be a cold heart that does not love the sweet white violet. In its turn it loves the mossy, moist places that shield it so carefully and from where it sends out its faint perfume.

LANCE-LEAVED VIOLET.

Viola lanceolata.

This white violet has larger flowers than the preceding species; and the lance-shaped leaves that taper into long petioles are the mark by which it can be distinguished. The two are often found growing together; and belong to the class of so-called stemless violets. These have no true stems: but bear their leaves from the root-stock, and the flowers upon scapes. In the late season, near the root may be found cleistogamous blossoms, closed buds that never open, but are within themselves self-fertilized.

TALL MEADOW RUE. (*Plate XLVII.*)

Thalictrum polygamum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>June, July and August.</i>

Flowers: growing in large compound panicles. *Calyx*: of four to ten petal-like sepals that blow off early. *Stamens*: very numerous and giving a ball-like feathery effect. *Pistils*: four to fifteen, mostly borne on different plants than the stamens. *Leaves*: alternately compound; leaflets numerous, small, rounded, sometimes lobed at the top. *Stem*: tall; erect; branching.

A tall, graceful beauty that drinks of the cooling vapours beside the sparkling streams, or rears itself in the moist meadows where the yellow field lilies are in bloom. There is a certain luxury about the fleecy daintiness of the flowers and the growth



PLATE XLVII. TALL MEADOW RUE. *Thalictrum polygamum*.

of the fine small leaves. The plant is also an interesting study from the difference in the pistillate and staminate blossoms.

MONKSHOOD. WOLF'S BANE. FRIAR'S CAP.

(Plate XLVIII.)

Aconitum uncinatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Blue purple.</i>	<i>Scentless.</i>	<i>Virginia, northward to New Jersey.</i>	<i>June-September.</i>

Flowers : growing on upcurved pedicels in loose panicles. *Calyx* : of five sepals strangely fashioned like a monk's hood. The helmet, one and a half inches long, broad and high, with turned-down vizor. *Corolla* : of two small petals that look like chin-tabs. *Pistils* : three to five. *Leaves* : on petioles; parted into three to five lobes. *Stem* : slender, bending at the top. *Root* : tuberous; containing a virulent poison.

We cannot grieve over the irregularity of feature of this flower, as it affords us an excellent study of one that is unsymmetrical, and delights us by the way in which it represents a monk's hood. Somewhere we imagine it has hidden a mischievous face that is longing to cast an eye out at the merry forbidden world. For we cannot believe much in its piety, it has had too varied an experience and has roved about in too many lands.

In Norse mythology, it is credited with the power of making one invisible at will, and is called Odin's helm, or Thor's hat. It was when the Benedictines invaded the domain of Thor that it became monkshood. The Dutch term is friar's cap; and in Germany it belongs exclusively to the devil, and is called devil's herb. It has been on most intimate terms with all the ancients, and witches have even used it for concocting their wicked spells. Our own Indians call it *ativishâ*, the supreme poison; and children, who are really the wise-acres of the generation, pluck from it its petals and fancy that the remaining bloom and exposed nectaries resemble a car drawn by doves. It is then called Venus's chariot.



PLATE XLVIII. MONKSHOOD. *Aconitum uncinatum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

CCCCCCCC
CCCCCCCC
CCCCCCCC
CCCCCCCC

CCCCCCCC
CCCCCCCC
CCCCCCCC
CCCCCCCC



PLATE XLIX. MOCK APPLE. *Micrampelis lobata*.

NIGHTSHADE. BITTER SWEET. SCARLET BERRY.*Solanum dulcamara.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Nightshade.	Purple, dotted with green.	Scentless.	Maine westward.	June-September.

Flowers : growing in drooping cymes on slender flower-stalks. *Calyx* : five-parted. *Corolla* : wheel-shaped; five-parted. *Stamens* : five; protruding; *Pistil* : one. *Fruit* : a small, egg-shaped, red berry. *Leaves* : alternate; on petioles; the lower one heart-shaped and pointed at the apex; the upper ones divided into three, rarely five, unequal leaflets, the centre one long, slightly heart-shaped, the other two small and wing-like at base. *Stem* : three to eight feet high; climbing; woody; smooth.

Seldom can a more exquisite study in colour and outline be found than the berries of the nightshade as they droop from their zig-zag peduncles. They are also among those that can boast of a perfect background. Their rich, fantastically shaped leaves hover about them much as the night droops upon and protects the earth. This, however, is purely imaginary, as one is apt to become when gazing at the nightshade.

The plant has been classed among the moderately poisonous ones and owes the peculiar taste of its twigs and roots, first bitter then sweet, to the presence of dulcamarin.

MOCK APPLE. WILD BALSAM APPLE. (Plate XLIX.)*Micrampelis lobata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Gourd.	Greenish white.	Scentless.	Maine southward and westward.	July-September.

Flowers : small; the staminate ones closely crowded in a raceme; the pistillate ones growing singly. *Fruit* : large; ovate; green; covered with slender spines. *Leaves* : three to seven lobed, the middle lobe longest; deeply cordate at base; serrated; rough on both sides. *Stem* : grooved; branching; climbing by tendrils that are three-forked.

Unlike most of our climbers, we find this one in flower and fruit at the same time. In its wild state it follows the rivers, but throughout the east we find it mostly cultivated for ornament.



Calyx and fruit.

*Vertical section of column,
ovary, etc.*

PLATE L. WHITE-FLOWERED SIDALCEA. *Sidalcea candida.*

SMALLER ST. JOHN'S-WORT.*Hypericum ellipticum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>St. John's-wort.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>Midsummer.</i>

Flowers : not many ; growing in a cyme. *Calyx* : of five sepals. *Corolla* : of five petals. *Stamens* : numerous. *Pistil* : one. *Leaves* : elliptical ; clasping at the base ; thin. *Stem* : simple, not very high.

Hypericum mutilum.

Is another of the smaller St. John's-worts which is found everywhere in low, moist ground. It is especially to be noticed because of its stamens, from five to twelve, being so much fewer than those of other members of the genus. *H. adpressum* and *H. maculatum* are also varieties that thrive best in moist soil. *H. prolificum*, Plate CXXIII.

WHITE-FLOWERED SIDALCEA. (Plate L.)*Sidalcea candida.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mallow.</i>	<i>White or cream.</i>	<i>Scentless.</i>	<i>Colorado southward.</i>	<i>Summer and early autumn.</i>

Flowers : growing in a terminal raceme. *Calyx* : of five ovate sepals ; bristly on the outside. *Corolla* : of five obcordate petals. *Stamens* : numerous, capitate at the top of the style. Style and ovary bristly on the outside. *Fruit* : flat, depressed. *Leaves* : alternate ; the upper leaves three, five, or seven-parted, with entire, lanceolate segments ; the lower ones seven-parted, with segments coarsely three and five toothed. *Stem* : erect.

Following the water-courses in the southern and Rocky mountains we find this pretty member of the mallow family. Its numerous stamens uniting into a tube serve readily to place it, although it is without the involucre that is commonly associated with this family.

BLUE-EYED MARY. INNOCENCE.*Collinsia verna.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Blue and white.</i>	<i>Scentless.</i>	<i>Western New York southward and westward.</i>	<i>Early spring.</i>

Flowers : growing on long slender peduncles that are whorled in the axils of the upper leaves. *Calyx* : five-cleft. *Corolla* : tubular ; deeply two-lipped ;

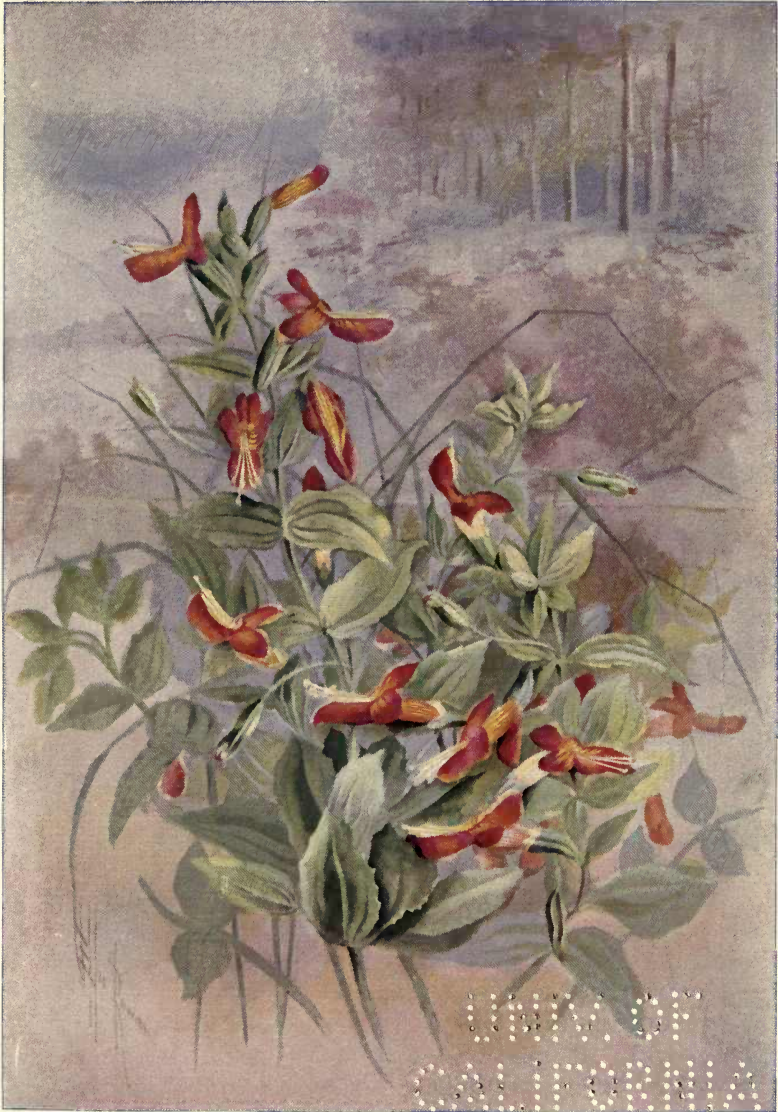


PLATE LI. SCARLET MONKEY-FLOWER. *Mimulus cardinalis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page, possibly bleed-through from the reverse side.

the upper lip two-cleft and blue; the lower lip three-cleft and white; the middle lobe folded like a pocket and enclosing the stamens and style. *Stamens*: four. *Pistil*: one. *Leaves*: opposite; ovate; clasping by a heart-shaped base as they ascend the stem. *Stem*: erect; branching.

The name of blue-eyed Mary harmonizes well with her sweet personality; although in her blue eye there is a quiet gleam that makes us fancy she is neither so meek nor so innocent as she would have us believe. She is rather a stay-at-home, and unless we persuade her it is to be doubted whether she will ever spread herself over the moist meadows of the eastern states as she does now over those of the west and south.

MONKEY-FLOWER.

Mimulus ringens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Pinkish, deep violet.	Scentless.	Eastern and middle states.	July, August.

Flowers: solitary; axillary; hanging from slender peduncles. *Calyx*: of five-toothed sepals. *Corolla*: tubular; the upper lip divided into two recurved lobes; the lower ones into three spreading lobes. *Stamens*: four. *Pistil*: one. *Leaves*: opposite; lanceolate; sessile; toothed. *Stem*: four-angled; erect; very slender.

Mimulus is the Latin for a little buffoon and *ringens* means showing the teeth. Hardly a more appropriate name could have been chosen for this plant, which vexes and charms us simultaneously by its inanimate drollery. Its pert little face has a look of intelligent mockery and its manners are very bad. In the late summer, when the botanist sallies forth to seek some new specimen that grows in moist soil, his eye encounters the saucy face of the *M. ringens*. To him it is an old friend; he nods to it and passes swiftly on to pursue a gleam of deep purple, too deep, he fancies, for the monkey flower, that attracts him from behind a thicket. Eagerly he stoops to pluck some new treasure, and the well known, grinning little face peers up at him. "They are like the book agents," he sighs, "I will show them that I am supplied," and he places one in his buttonhole. From low grasses a patch of pale lilac next causes him to turn out of his direction—pictures of long-

sought-for specimens that it may be, gladden his mind ; but on approaching it he finds the little buffoon. Fooled again, he laments, and the one in his buttonhole has dropped off from its stem. For all of these are the pranks of the monkey-flower.

CARDINAL MONKEY-FLOWER. (Plate LI.)

Mimulus cardinalis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Bright, brick red.	Scentless.	West of Minnesota.	Summer.

Flowers : solitary ; axillary. *Calyx* : prism-shaped ; five-toothed. *Corolla* : funnel-formed ; two-lipped. *Stamens* : four. *Pistil* : one. *Leaves* : opposite ; clasping ; oblong ; serrated. *Stem* : one to two feet high ; rather clammy.

If possible, the *M. cardinalis* is even more impertinent than the *M. ringens*. It is not quite so prankish, as its vermilion red could not easily be mistaken for that of any other flower ; but it has its lower lip thrust out as though it were making faces at one. In fact, its manners in this respect are so bad that we have quite a mind to pry into its up bringing. Then we remember that it is one of the figworts and they are a family that look as they please.

TURTLE-HEAD. SNAKE-HEAD. (Plate LII.)

Chelone glabra.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Pinkish white.	Scentless.	General.	Late summer.

Flowers : axillary ; growing in spike-like racemes on a leafy flower-stalk. *Calyx* : of five overlapping, green sepals with similar bract-like leaves underneath. *Corolla* : two-lipped ; inflated ; slightly open ; shaped like a turtle's head ; the upper lip slightly notched at the apex ; the lower lip three-cleft with the centre division appearing like a small tongue ; delicately bearded in the throat. *Stamens* : four, perfect with hairy filaments and united by woolly anthers that when touched let fly a misty pollen. A shorter, sterile stamen is also present. *Leaves* : opposite ; long ; lanceolate ; serrated. *Stem* : smooth ; square ; branching.

The only thing that detracts from the turtle-like appearance of these blossoms is their waxy, pinkish colouring. If they had better imitated their patron in this respect it would have been an excellent safeguard, as no one would have ventured his fingers within reach of their snappish little tongues. They



Style.

Capsule.

Calyx.

Bracts.

PLATE LII. TURTLE-HEAD. *Chelone glabra.*

(III)

have also quite a vixenish look which would lead one to suppose, in spite of their pure whiteness, that they are rather fond of having their own way, and are not too amiable in seeing that their wishes secure attention.

Chelone Lyoni. (Plate LIII.)

Is the lovely purple species of turtle-head of the south which blooms until the early autumn. The accompanying illustration will serve to readily distinguish it from the *C. glabra*.

HEDGE-HYSSOP. (Plate LIV.)

Gratiola aurea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Golden.</i>	<i>Scentless.</i>	<i>Mostly east and south.</i>	<i>All summer.</i>

Flowers: growing at the end of, and along the flower-stalks. *Calyx*: of five sepals with a pair of bractlets underneath. *Corolla*: tubular; two-lipped; the upper lip two-cleft; the under one three-cleft. *Stamens*: two only that have anthers; included. *Pistil*: one. *Leaves*: opposite; small; linear; entire. *Stem*: leafy.

It is not until we examine this little flower closely that we realise its two-lipped formation. At a glance we are rather inclined to think it funnel-form with an unequally lobed border. The plant is small and insignificant. It is found mostly in wet, sometimes sandy, soil.

MEADOW BEAUTY. DEER GRASS. (Plate LV.)

Rhexia Virgtnica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Melastoma.</i>	<i>Magenta pink.</i>	<i>Scentless.</i>	<i>Common north.</i>	<i>Summer and early autumn.</i>

Flowers: large; solitary, or clustered. *Calyx*: urn-shaped; four-cleft and turning dull red later in the season. *Stamens*: eight, with long, graceful, curving anthers. *Pistil*: one. *Leaves*: opposite; lanceolate; sessile; ribbed; finely toothed and hairy. *Stem*: six to twelve inches high; square.

In beauty few of our meadow flowers can compare with this one, which is truly a belle among all others. Perhaps its companions smile a little and shrug their shoulders at its having the same delicacy and grace of a tropical, carefully tended plant. But it is one that should never be taken away from the



PLATE LIII. TURTLE-HEAD. *Chelone Lyoni*.

(113)

setting that it has chosen for its own loveliness. It withers and turns black almost immediately after being plucked. As it uproots easily, it is often the case that those seeing it for the first time and being overcome with delight, tear it up ruthlessly and carry great quantities of it away. This thoughtlessness can hardly be denounced too strongly; and it is on the high road to exterminating some of our choicest species.

LARGE FLOWERED MILKWORT. (*Plate LV.*)

Polygala grandiflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkwort.</i>	<i>Rose purple.</i>	<i>Scentless.</i>	<i>Mostly south.</i>	<i>Late summer.</i>

Flowers: clustered in long racemes on flower-stalks. *Calyx*: of five very unequal sepals, three small at the base of the flower and two rising, coloured and petal-like, at each side, appearing like little wings. *Stamens*: six or eight. *Pistil*: one. *Leaves*: alternate; lanceolate. *Stem*: much branched; hairy.

As these quaint little blossoms grow older,—and one would never associate the idea of age with them did they not rebel so openly themselves,—their rosy hue forsakes them, and they turn rather greenish. They retain, however, their lively, fly-away expression, which even old Father Time is unable to subdue.

PURPLE POLYGALA.

Polygala viridescens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkwort.</i>	<i>Rose lavender, white or greenish.</i>	<i>Scentless.</i>	<i>New England south to N. Carolina and westward.</i>	<i>Summer.</i>

Flowers: growing in a dense oblong head, or spike. *Calyx*: of five unequal sepals, the two inner ones being larger than, and coloured like, the petals. *Corolla*: of three united petals, the lower one shaped like a keel. *Stamens*: six, or more. *Pistil*: one. *Leaves*: numerous; alternate; linear. *Stem*: four to eight inches high; upright; leafy; branched.

An odd little flower that we all know in the moist meadows and by the roadsides, but which few of us can call by name. Purple polygala seems such a pretentious title for so fragile a blossom. Eye-spy would suit it better as it is always peeping out from unexpected places.



PLATE LV. { MEADOW BEAUTY. *Rhexia Virginica*.
LARGE-FLOWERED MILKWORT. *Polygala grandiflora*.

1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900



PLATE LIV. HEDGE-HYSSOP. *Gratiola aurea*.

SLENDER DAY FLOWER. (*Plate LVI.*)*Commelina erecta.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Spiderwort.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>Penn. southward and westward.</i>	<i>August, September.</i>

Flowers: terminal; solitary; irregular; growing from an upper spathe-like leaf. *Calyx*: unequal; the larger sepals being united. *Corolla*: of three unequal petals; one very inconspicuous. *Perfect stamens*: three; one incurved with large anther. *Sterile stamens*: three; small. *Pistil*: one. *Leaves*: alternate: lanceolate; clasping. *Stem*: erect; leafy.

In the generic name of the day flowers, Linnæus has perpetrated a scathing invective on all that are so unwise as to be indifferent to the claims of botany. Of the three Commelyn brothers, who were Dutch botanists, two were very scientific and published works on the subject. They are designated by the two large petals of the flowers. The third brother was less studious and published nothing. It has been his fate to be ever afterwards associated with the small, insignificant petal.

COMMON DAY FLOWER.*Commelina Virginica.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Spiderwort.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>New York to Florida.</i>	<i>Summer.</i>

Flowers: terminal; solitary; irregular; growing from an upper spathe-like leaf. *Calyx*: unequal; the larger sepals being united. *Corolla*: of three unequal petals; one very inconspicuous. *Stamens*: six; both sterile and fertile; three of which project beyond the petals. *Pistil*: one. *Leaves*: lanceolate; contracted at the base; becoming spathe-like as they approach the flower. *Stem*: branching; smooth. *Juice*: mucilaginous.

The day flower is exactly what one would suppose to be a happy, innocent blossom. Its blue is so pure and it remains with us for such a short time that it is not affected by the levity and frivolity of the world. For just one day it opens its bright countenance to the sunshine, when its work in life is done and its petals most curiously melt into a sort of jelly, where we can no longer follow their doings.



PLATE LVI. SLENDER DAY FLOWER. *Commelina erecta*.

(117)

SPIDERWORT. (*Plate LVII.*)*Tradescantia montana.*

FAMILY	COLOR	ODOUR	RANGE	TIME OF BLOOM
<i>Spiderwort.</i>	<i>Blue, with orange-yellow anthers.</i>	<i>Scentless.</i>	<i>South and west.</i>	<i>May-August.</i>

Flowers: growing in a loose umbel at the end of the flower-stalks. *Calyx*: of three sepals. *Corolla*: of three, rounded, irregular petals; the odd one very small. *Stamens*: six; the filaments prettily bearded; anthers conspicuous. *Pistil*: one. *Leaves*: opposite; lanceolate to linear; clasping. *Stem*: erect; fleshy; mucilaginous.

The spiderwort is a fair blue flower, and its golden anthers have such a lively expression that we are constantly expecting them to say something funny to us; but they never do. Perhaps they have not the time, as like the day flower they live but for a single day.

Just before the recurved buds in the umbels make up their minds to bloom, they erect themselves and remain in that position until their petals have faded, when they bend down again and the seeds mature. Under a microscope the jointed hairs of the stamens and the miraculously attached anthers reveal a world of unexpected and interesting beauty.

CRANBERRY TREE. WILD GUELDER-ROSE.*(Plate CXXXVI, page 259.)**Viburnum Opulus.*

FAMILY	COLOR	ODOUR	RANGE	TIME OF BLOOM
<i>Honeysuckle.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England westward.</i>	<i>Spring.</i>

Flowers: fertile flowers, with parts arranged in fives and clustered in a cyme; neutral flowers with large flat corollas that grow in a border about the others. *Fruit*: juicy, acid; often used as a substitute for cranberries. *Leaves*: three to five lobed; pointed; netted-veined; toothed; with two glands at the summit of the petiole. A shrub with greyish, smooth bark.

The primary law of the viburnum household is to keep things separate. The neutral flowers which are arranged about the fertile ones of the centre are for the purpose of attracting the bee's eye. To look pretty and to be seen is their only care in life. It seems as though the unattractive little fertile flowers had begged them to play this role for them, as they themselves are busy with the weight of reproducing their species upon



PLATE LVII. SPIDERWORT. *Tradescantia montana*.

their shoulders. In cultivation they resign this burden into the hands of the gardener, and the whole cyme becomes composed of neutral flowers. It is then known as the snowball tree, or the guelder rose, *V. Alnifolio*, Plate XCIX.

ELDER. ELDERBERRY.

Sambucus Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	White.	Sweet, like honey.	General.	June, July.

Flowers: minute; growing in large flat cymes. *Calyx*: tubular, with small teeth. *Corolla*: urn-shaped; five-lobed. *Stamens*: five. *Pistil*: one, with three stigmas. *Fruit*: a purple berry, juicy with the flavour of wine. *Leaves*: pinnate; of five to eleven, oblong, pointed, serrate leaflets. *Stem*: five to ten feet high; woody with white pith.

Our grandmothers loved the elder, and as religiously as they wove their linsey woolseys and worked their samplers they made elderberry wine. Probably they found it, as we do, extremely good to the taste, and it is besides supposed to possess a considerable amount of virtue. Along streams and in moist soil by the roadsides the bloom and berries of the plant are very noticeable. Every country child knows the elder, and little boys are on most friendly terms with it. They push out the white pith from the stems, light the ends, and initiate themselves into the mysteries of that more soothing weed which they hope to know later.

JEWEL-WEED. TOUCH-ME-NOT. (Plate LVIII.)

Impatiens biflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Jewel-weed.	Orange yellow spotted with reddish brown.	Scentless.	Common southward.	Summer.

Flowers: clustered; axillary; nodding from thread-like flower-stalks. *Calyx*: of four petal-like, unequal sepals; the larger one extending backwards into a sac which tapers into a little spur. *Corolla*: of two petals that are two-lobed. *Stamens*: five; cohering about the ovary. *Pistil*: one. *Leaves*: alternate; on petioles; ovate; smooth and serrated. *Stems*: much branched; smooth; tender.

The jewel-weed and a bright running stream have come to be about as closely associated in the mind as the dear old white horse and the red-haired girl. Now there is no doubt whatever



PLATE LVIII. JEWEL-WEED. *Impatiens biflora*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.

but that they do at times appear singly, only the chances are all in favour of finding them together. Probably they are linked by some bond of sympathy far too subtle for the perceptions of common-place mortals. The flower is more beautiful than many of our choicest exotics; and the gracefulness of its growth cannot be exceeded. Early and late its leaves are hung with dew drops as though they and the water were having some friendly chat. The jewel-like marking of velvet brown is undoubtedly for the purpose of catching Master Bee's eye, as these showy flowers are dependent upon insects for fertilization. Their pollen falls long before the stigma is ready to receive it. The plant also bears cleistogamous flowers, those inconspicuous blossoms of the later year that are self-fertilized before the bud opens.

The pods are particularly sensitive to the touch, and if handled will burst open and throw the seeds to a considerable distance. To this fact is due the significance of the name touch-me-not, or *n'y touchez pas*, as the French say.

Smerinthus Yenimatus is the name of the moth hovering about the flowers in the illustration.

PALE JEWEL-WEED.

Impatiens aurea.

This species is more common throughout the north than the *I. biflora*. Its jewel-like marking is very slight, and its colour is a pale, greenish yellow. The flowers are often an inch and a half long. Both species fade very quickly after being plucked.

CARDINAL FLOWER. (Plate LIX.)

Lobelia cardinalis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lobelia.</i>	<i>Cardinal.</i>	<i>Scentless.</i>	<i>General.</i>	<i>August.</i>

Flowers: growing in long, terminal racemes and favouring one side of the stem. *Calyx*: five-pointed. *Corolla*: a long and narrow tube divided into five irregular lobes; two that are upright and three that are spreading, or drooping. *Stamens*: five with red filaments united into a tube. *Anthers*: bluish and slightly fringed with white. *Pistil*: one, with a long style and red

stigma. *Leaves* : alternate ; on short petioles ; lance-oblong ; serrated ; becoming bract-like among the flowers. *Stem* : two to four feet high ; erect ; grooved ; almost smooth.

As the cardinal flower rises from the border of some stream it appears not unlike the unknown red-robed dignitary of the Roman church after whom it was named ; and its bearing is no less proud, we may imagine, than his when about to be consecrated. It was of this plant that a Frenchman said : " I saw the flower, my admiration is forever."

The corolla is cunningly fashioned to allow humming birds to sip of its nectar, and by the thoughtfulness of Dame Nature the long, slender bill of the humming bird is exactly made to suit the corolla. The drooping of the lip invites the bird to search for nectar as cordially as an open door invites a guest to step within. It is not necessary to offer the bird a seat or platform to stand upon as Master Bee requires ; for he poises himself on the wing. Sometimes roguish, unprincipled bees steal the nectar from a slit at the base of the flower and so avoid their duty of carrying the pollen for fertilization.

Panicularia Canadensis is the name of the beautiful rattle-snake grass which accompanies the illustration.

GREAT LOBELIA. BLUE CARDINAL FLOWER.

(Plate LX.)

Lobelia syphilitica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lobelia.</i>	<i>Pinkish purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Summer and early autumn.</i>

Flowers : growing closely in a leafy panicle. *Calyx* : of five very sharply pointed petals. *Corolla* : tubular ; two-lipped ; the upper lip divided into two pointed lobes ; the lower one three-lobed. *Stamens* : five ; coloured ; united about the pistil and apparently splitting open the tube of the corolla. *Pistil* : one ; curved ; stigma fringed. *Leaves* : alternate ; lanceolate ; toothed ; the upper surface smooth. *Stem* : one to three feet high ; erect ; leafy ; angular.

When by some leafy, shady brook-side we find this flower, it appeals to us as very striking and pretty ; and it seems almost cruel to place it by the side of its relative, the cardinal flower, as it must naturally pale greatly by comparison. It is a tall,



PLATE LIX. { CARDINAL FLOWER. *Lobelia cardinalis*.
RATTLESNAKE GRASS. *Panicularia Canadensis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



PLATE LX. GREAT LOBELIA. *Lobelia syphilitica.*

hairy plant, and its blue, although fading to almost white, is sufficiently noticeable to attract the insects' attention. Both of these flowers are cleverly designed for cross-fertilization. The generic name *lobelia* has become so familiar to us that we use it freely and are unconscious of its being more difficult to manage than the common name. In this connection it comes to the mind to ask if not all botanical names would become equally simple if we would but put ourselves on closer terms of intimacy with them.

L. spicata is also found in moist, open places. Its stem is high; but its flowers are considerably smaller than those of the species described above.

ROUND-LEAVED PSORALEA. (Plate LXI.)

Psoralea orbicularis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Purplish.</i>	<i>Scentless.</i>	<i>Western and southern states.</i>	<i>Early summer.</i>

Flowers: growing in a dense, pyramidal spike. *Calyx*: deeply parted; of five, nearly equal teeth; hairy. *Corolla*: papilionaceous; the standard rather oblong. *Stamens*: ten; united by their filaments. *Leaves*: three-foliate; orbicular; entire; hairy; on long peduncles. *Stem*: prostrate; creeping.

This herbaceous plant, with its creeping stem, is a native of California. There is a vigour and energy about its growth which is very pleasing. One also fancies that like John Gilpin's wife it is blessed with a frugal mind.

WILD MINT.

Mentha Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mint.</i>	<i>Pinkish lavender.</i>	<i>Like pennyroyal.</i>	<i>Mostly north.</i>	<i>August, September.</i>

Flowers: tiny; growing in round clusters in the axils of the leaves. *Calyx*: five-toothed. *Corolla*: tubular; four-lobed; the upper lobe being larger and cleft at the top. *Stamens*: four; exerted. *Pistil*: one; style, two-lobed. *Leaves*: opposite; ovate-lanceolate, pointed at both ends; veined; serrated; rough underneath. *Stem*: four-angled; nearly erect.

The usefulness of a magnifying glass is well illustrated by the wild mint; as its two styles and the tiny notch of one of its corolla-lobes are hardly perceptible to the naked eye. M. Can-



PLATE LXI. ROUND-LEAVED PSORALEA. *Psoralea orbicularis*.

adensis is the only species of the mint family that is a native of the Eastern United States. It has in common with its numerous relatives little glands in the leaves in which is hidden a volatile oil and wherein lies the strong flavour and fragrance of the plants. It is one of their most attractive features and a ready means of identification.

The name *Mentha* is of mythological origin. According to the story, a too attractive nymph, Mintha, the daughter of Cocytus, was transformed by Proserpine, the wife of Pluto, into these plants that now bear her name.

OSWEGO-TEA, BEE BALM. (Plate LXII.)

Mondrda didyma.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mint.</i>	<i>Brilliant cardinal.</i>	<i>Pleasantly fragrant.</i>	<i>Throughout the north.</i>	<i>Summer.</i>

Flowers: clustered in a rounded head. *Calyx*: five-toothed; reddish; naked in the throat. *Corolla*: tubular; two-lipped. *Stamens*: two; exserted. *Pistil*: one; style, two-lobed, protruding. *Leaves*: opposite; ovate; on petioles; those nearest the flower reddish in colour. *Stems*: erect; square.

Some day when the inclination prompts us to bend our steps to a leafy, green spot where perhaps hides a trickling stream we shall be enchanted by the appearance of the bee balm. Its brilliant colouring is rather a surprise, as we are not nearly so familiar with red wild flowers as with those of other shades.

A troop of children that had gone for a picnic to a spot in their neighbourhood called the glen, found this flower and twirled a wreath of it to place upon the head of a dark-haired little girl. When they returned to the village and the wreath was laid aside, the children complained that their playmate was no longer pretty. They missed the magical effect of the bee balm about her head.

MAD DOG SKULL CAP.

Scutellaria lateriflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mint.</i>	<i>Blue, or violet.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>Summer.</i>

Flowers: small; growing in axillary, one-sided leafy racemes on spike-like branches. *Calyx*: of five pointless sepals covered by a little cap. *Corolla*: two-



PLATE LXII. OSWEGO-TEA. *Monarda didyma*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



lipped, with long ascending tube ; the upper lip helmet-shaped and curving over the lower lip, which is flaring and indented at the apex. *Stamens* : four ; in pairs of unequal length. *Pistil* : one ; stigma two-lobed. *Leaves* : opposite ; lanceolate ; toothed. *Stem* : smooth and branching.

The family of scutellariæ are domestic in their tendencies, and give their best thoughts and attention to their children ; for it must be remembered that the seeds are the children of the flowers. On the upper lobe of the calyx there is attached, as though by a little hinge, a sort of concave appendage, or cap. It appears quite superfluous when the bloom is fresh ; but as soon as the corolla fades and falls this little cap closes tightly down over the mouth of the calyx, and so prevents the escape of the seeds. The *S. lateriflora*, which is quite a consequential little inhabitant of wet places, was at one time considered an unfailing cure for hydrophobia.

S. galericulata is a more handsome flower that is found farther north. It has single flowers which grow from the axils of the leaves. Plate CXXVIII illustrates the scutellaria of sandy soil.

OBEDIENT PLANT. FALSE DRAGON HEAD. (Plate LXIII.)

Physostegia Virginiana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Pinkish crimson.	Scentless.	New York southward and westward.	Summer.

Flowers : growing closely in a dense spike on axillary flower-stalks. *Calyx* : bell-shaped, of five-toothed sepals. *Corolla* : funnel-form ; inflated ; two-lipped, the upper lip arched and broad ; the lower one of three spreading lobes, the centre lobe pale and dotted with a deep colour. *Stamens* : four ; in pairs. *Pistil* : one ; style two-lobed. *Leaves* : opposite ; lanceolate ; serrated. *Stem* : square ; one to four feet high ; slightly branched.

When a little fish comes to the surface of the water and opens his mouth his expression is not unlike that of these flowers. They have, however, none of the darting, evasive tendencies of the fish. The flower is most docile. Strangely enough, it appears to be without any elasticity, and will remain in exactly the position in which it is placed for an indefinite time. From this characteristic the plant quite carries off the palm of obedience among the flowers.

FRINGED GENTIAN. (Plate LXIV.)*Gentiana crinita.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Brilliant blue, or white.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>September, October.</i>

Flowers : terminal; solitary. *Calyx* : of four unequal, pointed sepals. *Corolla* : funnel-form; two inches broad; with four rounded lobes exquisitely fringed at the edges. *Stamens* : four; with glands at the bases of the filaments. *Pistil* : one, with two stigmas. *Leaves* : opposite; lanceolate; clasping; sharply pointed. *Stem* : one to two feet high.

Something preliminary is almost necessary before venturing to speak of the fringed gentian; and even then it should be done with bated breath, for is it not the flower that has inspired poets and statesmen to such an extent that they have barely been able to write soberly about it? And truly it is a heavenly flower. But to those that are a bit worldly and have not the poetical soul it must always suggest that it has been gowned by nature's Worth; it is so *chaussée à ravir*. The beautiful fringe is but the latest conceit of fashion; and the soft green of its calyx, blending with its incomparable blue, is an example of the most ravishing taste. If we could indulge in such levity, we would almost look up its sleeves for *hors de combat*. That it enjoys its good clothes we may be sure. It is a gay, delightful creature and sheds about its blandishments in the most open-hearted manner. It is fond of wandering, too, and though we mark the spot where it grows we may seek in vain for it in the same place the next year. This characteristic, however, it owes to being a biennial. At night the fair flower closes.

CLOSED GENTIAN. (Plate LXV.)*Gentiana Andr wsiiz.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Deep blue.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>Autumn.</i>

Flowers : terminal and clustered in the axils of the leaves. *Calyx* : of four or five-cleft sepals. *Corolla* : about an inch in length; closed at the top. *Stamens* : four or five. *Pistil* : one, with two stigmas. *Leaves* : opposite; lanceolate and enveloping the terminal flowers. *Stem* : one to two feet high; smooth; erect.

The closed gentian always appears as though it had the sulks.



PLATE LXIII. OBEDIENT PLANT. *Physostegia Virginiana*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



PLATE LXV. CLOSED GENTIAN. *Gentiana Andrewsii*.

Its colour and setting are lovely, and one cannot but fancy it might open its petals and be pleasant and chatty if it would. But it won't ; its mood is selfish and its lobes are not fashioned in the orthodox way. Of course there is a great deal of theory in its closed corolla ; it protects its delicate organs from the cold of the late season, and all other evils to which they might be exposed. Happily, we can turn to the fringed gentian, which is more considerate of our feelings. A strong suspicion is afloat that if the closed gentian did let out its petals they would not be so beautifully fringed as those of its relative, and this is the reason, perhaps, that it is so sulky.

SNEEZEWEED. SWAMP SUNFLOWER. (Plate LXVI.)

Helénium autumnàle.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer and autumn.</i>

Flower-heads : growing singly, or clustered loosely in a corymb and composed of both ray and disk flowers ; the rays three to five-cleft at the summit. *Leaves* : alternate ; lanceolate ; thick. *Stem* : one to six feet high ; smooth ; angled ; branched.

The swamp sunflower, while greatly pleasing the eye by illuminating the low fields and swamps in the autumn, is on the high road to making itself a most disagreeable member of the floral world. The flowers of the older plants are very poisonous to animals. Usually their instinct prevents them from eating of them ; but the plant is one of those insidious things for which a taste can be cultivated. Cows have been known to cultivate this fatal taste, when their milk and meat were made bitter. If the plant be eaten in great quantities the animal dies. In a dried and powdered form it causes violent sneezing, for which purpose it is well known in medicine. Once that it has established itself in a field it is most difficult to exterminate and adds one more to the trials of the poor farmer.

H. nudiflorum, purple-head sneezeweed, grows in the south and west. It blossoms from June until October. The name purple-head alludes to the disk flowers, as the rays are yellow with a brownish base.



PLATE LXIV. FRINGED GENTIAN. *Gentiana crinita*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.



PLATE LXVI. SNEEZEWEED. *Helenum autumnale*.

(131)

BLUE STOKESIA. (*Plate LXVII.*)*Stokesia cyanea.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Blue.</i>	<i>Sweetly scented.</i>	<i>S. Carolina, Georgia and Louisiana.</i>	<i>Late summer and autumn.</i>

Flower-heads : large ; terminal ; individual flowers all tubular, the marginal ones much larger than those of the centre, irregular, ray-like and split deeply on the inside. The summit also deeply cleft. Scales of the involucre imbricated in several rows, the outer one becoming bristly and leaf-like. *Leaves* ; alternate ; lanceolate ; entire ; glabrous ; the upper one sessile and fringed at the base like the bracts. *Stem* : nearly two feet high ; erect ; downy.

Very lovely is the blue stokesia, and when we come to inquire into its life history we find that it is no less interesting than beautiful. Our curiosity is piqued concerning it because it is the only member of its genus and seems not to be closely related to any other. Now, as the theory is that every plant is evolved from some other, we begin to wonder about the missing links between this flower and its antecedents. How has it appeared among us without showing any trace of its passage here ? Has it, like Topsy, "just come ?" It also pursues its own course indomitably, without showing the slightest inclination to vary, or produce new species. From this might be argued that the stokesia has reached its height of development and is about to die out. As yet we need not grieve too deeply over its loss, however ; evolution is very considerate and would hardly effect so great a change in much less than a million years.

The gradation of the leaves on the stem into bracts also illustrates the theory of plant morphology almost more than is done by any other one of the composites. Whether the stokesia believes these theories of which it is so good an example is, unfortunately, like its antecedents, wrapped in mystery.

WILD LETTUCE.*Lactuca Canadensis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Chicory.</i>	<i>Pale yellow, purple or reddish.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer.</i>

Flower-heads : growing in leafy panicles ; composed of strap-shaped flowers. *Leaves* : very large, sometimes a foot long ; lanceolate ; the lower ones fre-



Flower, laid open. Pistil.

PLATE LXVII. BLUE STOKESIA. *Stokesia cyanea.*

(133)

quently being lobed ; pale underneath. *Stem* : tall ; from five to ten feet high ; leafy.

A common plant in moist soil along the roadsides and thickets. Its great height and large leaves make it conspicuous, especially in the autumn. From it the humming birds gather down to make their nests.

JOE-PYE-WEED. TRUMPET-WEED. (Plate LXVIII.)

Eupatorium purpureum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Crimson purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer.</i>

Flowers : small ; growing in dense, compound corymbs at the end of the stem and branches. *Corolla* : tubular ; with long protruding styles of a light lavender colour which give the flower-head its soft, fluffy appearance. *Leaves* : whorled in groups of four to six, lanceolate, rough ; toothed and deeply veined, sometimes with purple. *Stem* : occasionally twelve feet high ; rough ; purple.

“ Old Joe-Pye’s in the pasture again,” the farmer cries ; and his wife nods sympathetically without, perhaps, turning her head to look across the lowlands at the soft tint lent to the landscape by this handsome weed. It received its quaint name from a New England Indian doctor who is said to have cured typhus fever by its use.

CUT-LEAVED GOLDEN ROD. (Plate LXIX.)

Solidago arguta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Greenish yellow.</i>	<i>Scentless.</i>	<i>New Hampshire to Pennsylvania.</i>	<i>Late summer.</i>

Flower-heads : growing on stalks in a dense pyramidal raceme. *Rays* : six to seven, large, spreading. *Leaves* : lanceolate ; thin ; serrated. *Stem* : angled ; smooth.

Many books might be written about the golden rods and the story then be only partly told. We know them as a brilliant family which gradually appear among us, sending up first green stems from their perennial roots, then opening sparingly a few buds ; and before we can realise that they have returned to us, they have thrown out a mass of bloom that illuminates almost every field and waste corner. Their message to us is hardly as



PLATE LXVIII. JOE-PYE-WEED. *Eupatorium purpureum*.

cheery as that of the skunk cabbage ; for they bid us get ready for the winter, when everything is pale and cold and the wind sighs sadly through the trees. But they deliver it gaily and remain with us until they themselves are withered down to the ground by the frost.

In manner of growth they are very dissimilar, some forming heavy, dense racemes, as can be seen from the illustration of *S. juncea*, and others branching and sub-branching into light, feathery clusters ; but to whatever variations they are subject, there is something about a golden rod that could never be mistaken for any other flower.

They are weeds, and with the exception of *S. bicolor*, a silvery, slender variety which grows on the borders of dry woods, yellow in colour. Of the attempts to cultivate them very few have been successful ; they cling rather to the fields and waysides for their homes, where as true rods of gold they are a beautiful feature of the American autumn.

S. fistulosa, pine barren golden rod, is found, as its common name implies, in wet pine barrens, especially those of New Jersey and as far south as Florida. The leaves are sessile, lanceolate and rough. The small flower-heads grow on the recurved branches of panicles.

S. juncea, Plate LXIX, is a well-known golden-rod that is commonly found in dry soil along the roadsides and sometimes in more moist places. Its myriads of flowers with small rays grow in drooping, heavy panicles. The upper leaves are delicately coloured, narrow and entire. The lower ones are sharply toothed and have a distinctive mark in their fringed petioles. It is but seldom that the plant is found over two feet high.

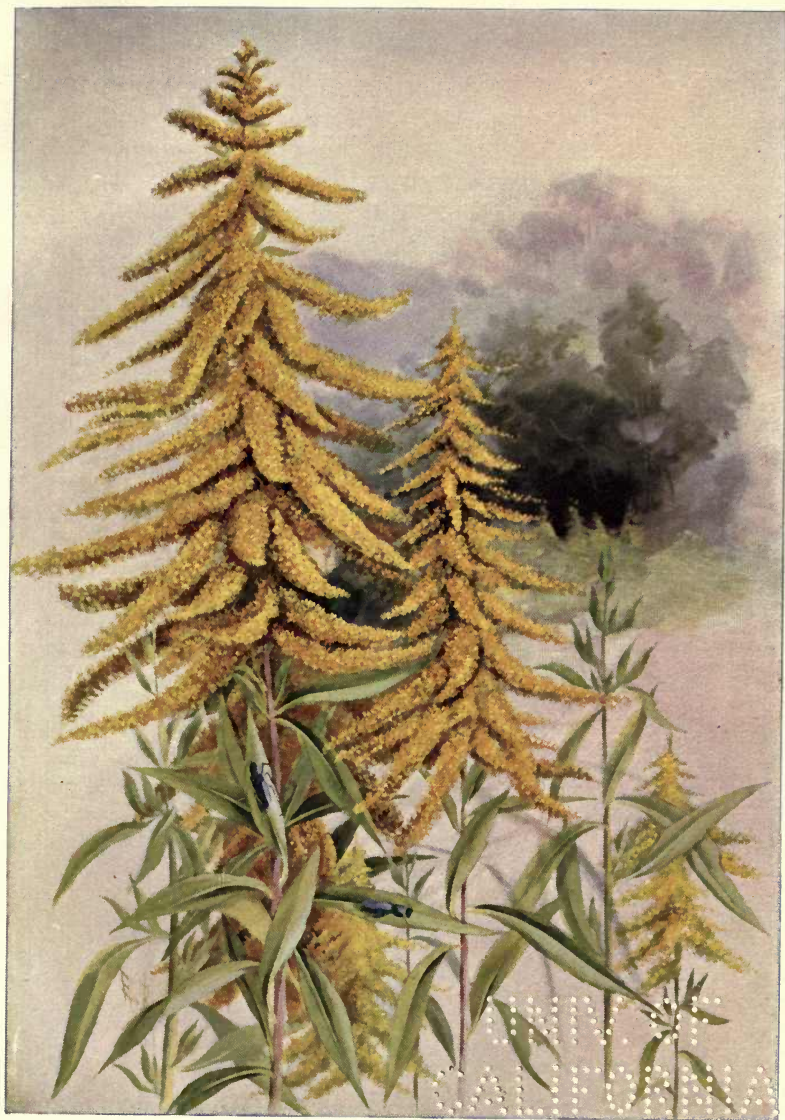


PLATE LXIX. GOLDEN ROD. *Solidago juncea*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Plants Growing in Rich or Rocky Soil: Deep Woods and Hillsides.

In the deep woods spring is not proclaimed by the blasting of trumpets and the waving of gaudy banners. The inhabitants creep in softly and gravely and take their places; for the timid, the elfish, the proud and the solemn are all alike in their love of the silence and shadows of their home. They shrink from rather than attract the attention of passers by; and when seeking them we are impressed with the idea of intrusion. We are not invited to their revels. It is the buzzing bee, the singing birds and the bright little animals that make merry with them. And when they are sorrowful and the seasons are dark, so that gleams of sunshine come but feebly through the tree tops; the dripping moisture is Nature's lamentation with them.

JACK-IN-THE-PULPIT. INDIAN TURNIP. (Plate LXX.)

Arisæma triphýllum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Arum.</i>	<i>Green and pinkish purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>April, May.</i>

Flowers: tiny; clustered at the base of a fleshy spadix, which is enveloped by a spathe, the point curving gracefully over the spadix. *Leaves*: two only; of three ovate, pointed leaflets that rise far above the spathe. *Scape*: erect; pinkish. *Corm*: turnip-shaped and abounding in farinaceous matter. *Fruit*: a mass of scarlet berries.

“Jack-in-the-pulpit
Preaches to-day,
Under the green trees
Just over the way.

Squirrel and song-sparrow,
 High on their perch,
 Hear the sweet lily-bells
 Ringing to church."

Spring has hardly thrown her green mantle over her shoulders when the quaint preacher rises in his pulpit, and in language soft and solemn speaks to the rustling elves and spirits of the woodlands. He is a sturdy fellow, and we believe what he says must be thoroughly orthodox ; although we lament that we have not the quickened perceptions to understand him better. But we know he is beloved by his people, or they would not so familiarly dub him Jack, nor would he return among them so faithfully. The preacher has a rustic grace about him that is quite inimitable ; and the magic he exercises on the children is only equalled by the charms of the wily Piper of Hamelin town.

"Jack-in-the-pulpit has come," they cry, "Jack-in-the-pulpit has come."

"Come, hear what his reverence
 Rises to say
 In his low painted pulpit
 This calm Sabbath day.
 Fair is the canopy
 Over him seen,
 Pencilled by Nature's hand,
 Black, brown and green.
 Green is his surplice,
 Green are his bands ;
 In his queer little pulpit
 The little priest stands."

STROPHILIRION. (*Plate LXXI.*)

Strophilirion Californicum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily.</i>	<i>Rose.</i>	<i>Scentless.</i>	<i>In the Sierra Nevadas and California.</i>	<i>May.</i>

Flowers : growing in a many-flowered umbel with a row of bracts underneath. *Perianth* ; short funnel-form, contracted at the throat of four or five oblong lanceolate segments. *Stamens* : three, on the throat, alternating with three sterile filaments that are very short and have a lanceolate wing on each side.

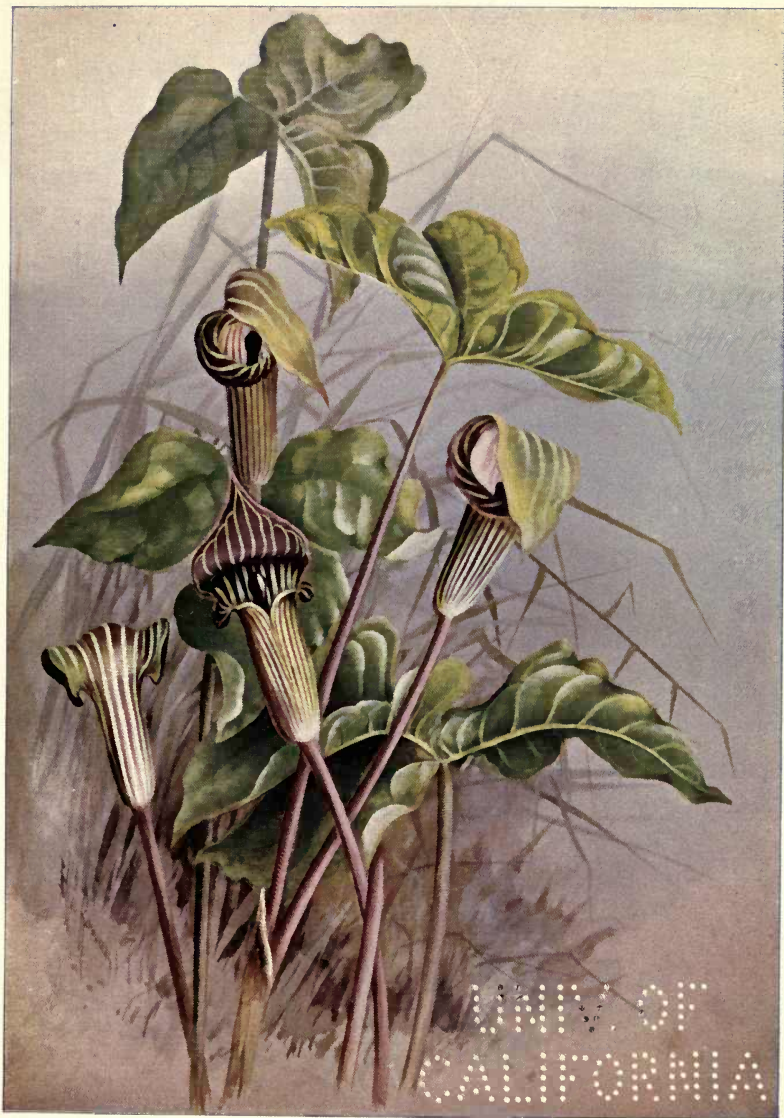


PLATE LXX. JACK-IN-THE-PULPIT. *Arisæma triphyllum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



Pistil. Corolla.

PLATE LXXI. STROPHILIRION. *Strophilirion Californicum*.
(139)

Pistil: one. *Leaves*: from the root; more than a foot long; broadly linear. *Scapè*: two to four, or even twelve feet long; twining; rough. *Corm*: an inch in diameter.

What might become of us if this strange plant should ever mingle in floral cultivation a good Providence only knows. It grows rapidly, and has a way of twining itself over bushes, so that when one stoops to pick the handsome blossoms it is sometimes a matter of amusement to try and trace the stem to its root. That is, if one is ambitious and intends planning a novel maze. There is very little hope of following its course, or of knowing just where the flowers will crop out. It is especially well known in the valley of the Sacramento.

WOOD LILY. WILD RED LILY.

Lilium Philadelphicum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily.</i>	<i>Orange red.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>July, August.</i>

Flowers: terminal; solitary; erect. *Perianth*: of six divisions, spotted with purple and narrowing into claws at the base, where a sac of nectar may be found. *Stamens*: six; anthers, conspicuous. *Pistil*: one; stigma, three lobed. *Leaves*: lanceolate; parallel-veined; scattered, or whorled about the top of the stem. *Stem*: two to three feet high.

Like a sudden gleam of colour does this bright flower startle us, as we wander through the shaded, rich woods. Its distinctive feature is the way in which the divisions of the perianth narrow into the base. *L. Catesbæi*, a southern sister of the lily, has also this peculiarity; but it is not so with several other species that are natives of America.

TWISTED STALK. (Plate LXXII.)

Stréptopus rôseus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>Rose purple.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>Late spring and summer.</i>

Flowers: small; axillary; hanging on thread-like flower-stalks and hidden under the leaves. *Perianth*: bell-shaped, with six divisions. *Stamens*: six. *Pistil*: one; stigma, three-cleft. *Fruit*: a round, handsome, red berry. *Leaves*: alternate; clasping; parallel-veined; pointed; the edges surrounded with tiny hairs. *Stem*: much twisted.

Even more pleasing than the hidden flower-bells are the



PLATE LXXII. TWISTED STALK. *Sirex roseus*.

(141)

beautiful red berries of this plant, which in August can be found hanging from thread-like peduncles, and following gracefully the curves of the stalk. In the avoiding of angles, the plant has as truly the artistic instinct as though it had been bred in a French school of design. It resembles somewhat the Solomon's seal, of which it is a connection.

SOLOMON'S SEAL.

Polygonatum biflorum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>Dingy yellow.</i>	<i>Scentless.</i>	<i>New England southward.</i>	<i>May, June.</i>

Flowers : growing singly, or in pairs on slender pedicels that droop from the axil of each leaf. *Perianth* : bell-shaped ; six-toothed. *Stamens* : six. *Pistil* : one. *Fruit* : a small, globular, blue berry. *Leaves* : alternate ; broadly ovate ; almost sessile ; growing on the upper side of the stem ; covered with soft hairs and whitish underneath. *Stem* : curving gracefully ; glabrous. *Rootstock* : jointed ; scarred.

There is no doubt but that the round scars left on the rootstock of the Solomon's seal by the dead stalks of the preceding year, do resemble the impressions made by seals upon wax ; but wherein these seals resemble those used by Solomon must ever remain a mystery to those that have not had some private information on the subject.

FALSE SOLOMON'S SEAL. WILD SPIKENARD.

Vàgnera racemòsa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>Greenish white.</i>	<i>Slightly fragrant.</i>	<i>Mostly north.</i>	<i>May.</i>

Flowers : tiny ; growing in a compound panicle. *Perianth* : of six divisions. *Stamens* : six. *Pistil* : one. *Fruit* : a crimson berry speckled with purple. *Leaves* : alternate ; oblong ; pointed at both ends ; parallel-veined ; fluted on the edges ; slightly hairy. *Stem* : ascending two to three feet high.

If the common name of the above plant is a mystery to us, this one is no less so ; as its manner of growth and fruit are so very different from those of the Solomon's seal. In fact, the latter is the more striking plant of the two and has an elusive, sweet perfume. A warm friendship, however, exists between them and they are often found growing closely together on the rocky hillsides, or in the cool, deep woods.

FALSE LILY-OF-THE-VALLEY. TWO-LEAVED SOLOMON'S SEAL.

Unifolium Canadense.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>White or faint yellow.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>May, June.</i>

Flowers : small ; clustered in a terminal spike. *Perianth* : four-parted. *Stamens* : four. *Pistil* : one ; stigma two-lobed. *Fruit* : a round, red berry. *Leaves* : similar to those of the true lily-of-the-valley ; long, pointed, heart-shaped at base. *Stem* : short ; five inches high ; bearing two leaves.

The name of this little plant is most misleading, as its leaves alone suggest any resemblance to the lily-of-the-valley. The flowers are more like those of a small Solomon's seal. It is found abundantly on the edges of mossy, deep woods and is very gentle and sweet. In the late summer its spikes of red berries are also extremely pretty.

INDIAN CUCUMBER-ROOT.

Medeola Virginiàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>Greenish yellow.</i>	<i>Scentless.</i>	<i>Rather general.</i>	<i>June.</i>

Flowers : small ; clustered on short reflexed pedicels at the summit of the stem. *Perianth* : of six reflexed segments. *Stamens* : six, of deep, rich brown. *Pistil* : one with three recurved, long, brown stigmas. *Leaves* : in two sets of whorls ; the lower set of seven to nine ovate-lanceolate, netted-veined leaves ; the upper set of three to four smaller leaves. *Stem* : erect ; and covered, as the leaves, with a cottony fuzz, apparently quite loose. *Rootstock* : thick ; somewhat suggesting in taste and appearance a cucumber.

When Columbus discovered America and the Indians, he must also have discovered the cucumber-root. They are alike characteristic of the soil of North America. Like the primitive people it loves so well, the plant is a model of erectness and symmetry of form. It has also the Indian's love of seclusion and the silence of the forest.

Owing to its being possessed of medical properties, the generic name *Medeola* is after the sorceress Medea. She it was who mixed the potion for the sleepless dragon that guarded the golden fleece ; and enabled Jason to carry it off, as well as

Medea herself, in his wonderful ship the *Argo*. Little did she then suppose that a plant of a strange people would serve to recall the story.

LARGE-FLOWERED WAKE-ROBIN. (*Plate LXXIII.*)

Trillium grandiflorum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>White, turning later to pink.</i>	<i>Scentless.</i>	<i>Vermont to Penn. and westward.</i>	<i>May, June.</i>

Flowers : terminal ; solitary. *Calyx* : of three, long, pointed, green sepals. *Corolla* : of three pointed petals ; sometimes three inches long. *Stamens* : six. *Pistil* : one ; stigma having three branches. *Fruit* : a red or purple berry. *Leaves* : whorled in threes below the flower ; ovate ; triple-veined. *Stem* : erect ; simple. *Rootstock* : rather tuberous.

The trilliums are among the choicest wild flowers of North America ; and with the exception of a few Japanese and Himalayan species are peculiar to the country. *T. grandiflorum* is possessed of a chaste, dignified beauty, but is without fragrance. We especially lament this, as the greater number of large, white flowers are heavily scented.

In support of the theory that all petals were originally leaves, those of the trilliums have a curious way of occasionally turning into leaves.

PAINTED TRILLIUM. (*Plate LXXIV.*)

Trillium undulatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>White, veined with crimson and purple.</i>	<i>Scentless.</i>	<i>Following the Alleghany Mountains to Georgia.</i>	<i>Spring.</i>

Flowers : terminal ; solitary. *Perianth* : of three green sepals and three white, pointed petals. *Stamens* : six. *Pistil* : one, with three curving stigmas. *Fruit* : a beautiful, ovate, rather angled, red berry, an inch and a quarter in length. *Leaves* : large ; ovate ; triple-veined ; in whorls of three on the stem, at times almost hiding the flower. *Stem* : brownish at the top. *Roots* : poisonous.

Perhaps the most delicately beautiful member of the family is the painted trillium ; although the marking of the white, or pink petals with wine colour has given rise to the suspicion that the fair lady paints her face. The name, however, is no



PLATE LXXIII. LARGE-FLOWERED WAKE-ROBIN. *Trillium grandiflorum*.

COPYRIGHT, 1899 BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



PLATE LXXIV. PAINTED TRILLIUM. *Trillium undulatum*.

doubt an injustice, as her nature is shy, and she hides herself in the cool, moist woods.

In the south there is a sessile trillium which has lemon-coloured petals and a delicious fragrance.

ILL-SCENTED WAKE-ROBIN. BIRTHROOT.

Trillium erectum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily-of-the-valley.</i>	<i>Reddish purple.</i>	<i>Unpleasant.</i>	<i>Mostly north.</i>	<i>April-June.</i>

Flowers : terminal ; solitary ; slightly inclined to be nodding. *Perianth* ; of three green, pointed sepals and three large, recurved petals. *Stamens* ; six. *Pistil* : one, having three stigmas. *Fruit* : a large, angled, red berry. *Leaves* : broad ; ovate ; netted-veined ; whorled in threes on the flower-stalks a little below the flower. *Stem* : stout ; simple ; smooth. *Rootstock* : tuberous.

In the early spring this beautiful young creature begins its career in the woods. We cannot, however, be very sympathetic with it, in spite of its good looks, as it repels us by its almost fetid odour. Its common name, also, while pretty, is rather deceptive. The plant does not wake the robins, because they have been chirping and hopping about on lawns long before the flower came into bloom ; and they are not especially fond of the dark woods that the trillium loves best. So altogether we are inclined to believe that the plant has too great an idea of its own importance, and that it does not possess the innate qualities of virtue which it would have us believe.

BELLWORT.

Uvularia sessilifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>Straw colour.</i>	<i>Scentless.</i>	<i>New England to Georgia.</i>	<i>May, June.</i>

Flowers : one or two that droop from slender peduncles. *Perianth* : bell-shaped, of six separate divisions. *Stamens* ; six. *Pistil* : one ; styles-three-cleft. *Leaves* ; lance-oblong and sessile, as the name indicates. *Stem* : angled.

The flowers of this pretty plant are usually described as drooping modestly, and no doubt it is only to those of perverted eyesight that they appear like a naughty little girl who might be good if she would ; but from lack of the wish is continually



PLATE LXXV. PANICLED BELLFLOWER. *Campanula divaricata*.

constrained to hide herself under her nurse's apron. It would be so much pleasanter for everybody if the bellwort would not hide away under its leaves quite so much.

PERFOLIATE BELLWORT.

Uvulària perfoliàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Bunch-flower.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>New England southward to Florida.</i>	<i>May, June.</i>

The principal difference between the perfoliate bellwort and the preceding species is that the leaves of the latter are united at their bases about the stems. This gives a pleasing effect, as though the stems had pierced through the leaves for the purpose of throwing the flowers more into prominence. Both varieties are found rather generally in rich woods.

PANICLED BELLFLOWER. (Plate LXXV.)

Campanula divaricàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Beltflower.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>Southern Alleghanies.</i>	<i>June-August.</i>

Flowers : small ; one-third of an inch long ; nodding ; growing in spreading panicles. *Calyx* : five-lobed. *Corolla* : bell-shaped ; five-lobed. *Stamens* : five. *Pistil* : one, protruding, with three stigmas. *Leaves* : scattered ; lanceolate ; coarsely toothed. *Stem* : erect ; branching.

When on some mountain-top these little bells are freshly washed by a thunder-shower, and the sun shines out to dry them off as the breeze sways them gaily to and fro, we fancy we have found the enchanted land of the little people. They are too tiny and gentle to belong to the world of grown-up folk.

Oh, sweetly nodding little bells
That ring sweet chimes for the fairies' dell.

CANADA VIOLET. (Plate CXXXV.)

Viola Canadènsis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Violet.</i>	<i>White, the two upper petals purple underneath.</i>	<i>Fragrant.</i>	<i>North and west.</i>	<i>Summer.</i>

This is the largest and boldest of our wild violets, often



PLATE LXXVI. DALIBARDA. *Dalibarda repens.*

(149)

reaching a height of two feet. It blooms throughout the season and has its home in rich woods, or on mountain-tops. In the early season its fragrance is hardly perceptible, but it becomes stronger as the summer advances. The leaves are heart-shaped, toothed, and they have stipules. The stems are leafy. It can readily be recognised in the coloured-plate illustration.

V. rotundifolia, or round-leaved violet, also has its home in cool, northern woods. It is a pale-yellow variety with a very short spur and lateral petals that are veined with brown. The roundish, crenate leaves lie flat on the ground and grow very large and shiny during the summer. The plant is not leafy stemmed.

HAWTHORN. SCARLET-FRUITED THORN.

Cratægus cocctnea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Apple.	White, pink, or reddish.	Unpleasant.	Newfoundland to Manitoba, S. to Florida and Texas.	Spring.

Flowers: large; clustered in a corymb. *Calyx*: five-cleft. *Corolla*: of five rosaceous petals. *Stamens*: numerous. *Pistil*: one. *Fruit*: bright scarlet; not eatable. *Leaves*: on petioles; roundish ovate: often lobed; serrate. A low tree or shrub, the branches beset with sharp thorns.

The hawthorn division of the apple family abounds in a number of small trees that unfold an abundance of bloom in the early spring. The blossoms blend with all the pale green and pink tones that first cover the dull grey of the winter.

The dwarf thorn, *C. uniflora*, which is found in sandy places, is one of the few that can be properly called shrubs.

DALIBARDA. (Plate LXXVI.)

Dalibárda repens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Pure white.	Faintly sweet.	North.	June, July.

Flowers: one or two borne upon slender scapes. *Calyx*: of five or six unequal divisions, the three larger ones closing over the fruit. *Corolla*: about an inch broad; of five, delicate, spreading petals. *Stamens*: numerous. *Pistils*: five to ten. *Leaves*: from the base; spreading in a tuft; on long petioles; cordate; toothed and mottled with a lighter shade of green. *Rootstock*: creeping.



PLATE LXXVII. EARLY WHITE ROSE. *Rosa blanda*.

(151)

A sweet little flower that cannot but cast a spell of enchantment over those that linger near it in its woodland home. Its characteristics remind us strongly of the violet family; but a taste for numerous stamens has caused it to be classed among the roses. It seems unfortunate that no English or pet name has ever been bestowed upon the flower, which would endear it to us by a feeling of closer friendship.

EARLY WHITE ROSE. (*Plate LXXVII.*)

Rosa blanda.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>White.</i>	<i>Slightly fragrant.</i>	<i>Mostly north.</i>	<i>Late spring.</i>

This beautiful wild rose of rocky banks and woods has endeared itself to all that are friends of the flowers. Its petals are large and wavy, and it is very leafy. Unfortunately, *R. blanda* is rather rare, and unless we know of some quiet spot where it blows, we may search for it in vain throughout a season. It is native to America only.

EARLY MEADOW RUE.

Thalictrum dioicum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Purplish pink.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>April, May.</i>

Flowers: growing in loose panicles. *Calyx:* of four or five petal-like sepals that fall early. *Corolla:* none. *Stamens:* indefinite in number. *Pistils:* four to fifteen, on different plants from the stamens. *Leaves:* alternate; much divided into three to seven-lobed leaflets, the upper ones smooth and pinnate.

This plant is frequently cultivated on account of its graceful foliage, fern-like sprays of which mingle very prettily with other flowers. The bloom is rather unattractive from the point of beauty, but it is a most interesting study botanically.

T. purpurascens, purplish meadow rue, comes into bloom a little later than the preceding species. Its compound panicles are composed of feathery staminate or pistillate blossoms. On the delicate leaflets are often found hairs which are tipped with minute glands.

T. polygamum, *Plate XLVII.*

COLUMBINE.

Aquilegia Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Red and yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>April, May.</i>

Flowers : terminal ; solitary ; nodding from thread-like flower-stalks. *Calyx* : of five, red, ovate sepals. *Corolla* : of five, united, tubular, spurred petals ; red on the outside and within yellow. *Stamens* : numerous ; projecting. *Pistils* : five ; the styles very slender. *Leaves* : the lower ones on petioles and divided twice, or thrice into lobed leaflets ; the upper ones nearly sessile, entire or lobed. *Stem* : twelve to eighteen inches high ; branching ; glaucous.

“ Is it not afraid ? ” asked a little child who saw the columbine as it was bent and swayed by the wind over a rocky cliff, and appeared to cling so lightly to the crumbled soil. “ No, ” was the answer, “ the columbine has a fearless heart and a spirited courage : it is never afraid. ”

Recently we have been hearing considerable about its patriotism ; and it has been shown to us as “ the peace that makes for power, and the power that makes for peace. ” This significance is found in the resemblance of various parts of the flower to an eagle and a dove. The generic name *aquilegia*, or in Latin *aquila*, an eagle, is from the curved spurs that in certain forms of the flower suggest the bird’s five talons. *Columbine*, or *columba*, was chosen for it because in another position can be seen a ring of doves, or two turtle doves, according to one’s clearness of vision. In our childhood we invariably see the latter.

“ O columbine, open your folded wrapper,
Where two twin turtle doves dwell ! ”

Looking at the front view of the flower we can picture a five-rayed star. A single nectarie imitates a liberty cap ; and in the long spurred forms we have the horn of plenty. Some one of its species can be found throughout the country ; and it blooms in all of our national colours, red, white and blue. The plant is indigenous to our soil and one that is in no sense a weed. To be used for decorative designs it is also peculiarly well adapted.

And if authorities do differ with each other a little about the exact significance of these emblems, we do not mind very much ; because we have them all in the imagination, where we hold fast to them as part of this beautiful flower.

A. truncàta, (Plate LXXVIII.) is another red and yellow variety which has petals as though cut off at the top, or truncate. It is extremely variable in size and foliage ; but is firm in its preference for shaded places, often by streams.

A. cærùlea, (Plate LXXVIII.) or the long-spurred columbine, is an exquisite flower. It is a native of the Rocky Mountains, where on shady slopes it blooms abundantly. The illustration shows it in its blue gown : it is also fond of white and occasionally pinkish ; but never red. The ovate sepals with their slender spurs are spreading and double the length of the round lighter-coloured petals with which they alternate. In size it is quite three inches broad. The beauty of the species has encouraged enthusiastic horticulturists to introduce it into gardens.

“So did the maidens with their flowers entwine
The scented white, the blue and flesh-like Columbine.”—BROWN.

WHITE BANEERRY.

Actæa alba.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward.</i>	<i>April, May.</i>

Flowers : small ; in a dense, terminal raceme. *Calyx* : of four to six sepals that fall early. *Corolla* : of four to ten petals with claws. *Stamens* : numerous ; with white filaments. *Pistil* : one ; stigma, two-lobed. *Fruit* : a roundish, oval, white berry with a dark eye at the apex ; glabrous ; poisonous. *Leaves* : compound with ovate leaflets in threes ; the upper ones often sharply cleft. *Stem* : smooth ; high ; the flower-stalk a conspicuous, bright red.

A very old friend to those that visit the woods is the white baneberry. Its curious late summer fruit lingers perhaps better in the memory than the soft white bloom of early spring.

A. rùbra, the red baneberry, is very handsome and is readily distinguished by its cherry-coloured berries. It comes into bloom a little earlier than the above and is partial to a cooler soil. The berries are also said to be poisonous.



PLATE LXXVIII.

{ COLUMBINE. *Aquilegia truncata*.
{ LONG-SPURRED COLUMBINE. *Aquilegia cœrulea*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.





PLATE LXXIX. BLACK COHOSH. *Cimicifuga racemosa*.

(155)

BLACK COHOSH. BLACK SNAKEROOT. BUGBANE.*(Plate LXXIX.)**Cimicifuga racemosa.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Disagreeable.</i>	<i>General.</i>	<i>Summer.</i>

Flowers: growing in racemes one to three feet in length. *Calyx*: of four or five early falling sepals. *Corolla*: very irregular, two of the petals appearing like transformed stamens. *Stamens*: numerous; with protruding filaments that give the whole a feathery appearance. *Pistils*: one, two or three. *Leaves*: alternate; pinnately-divided, the leaflets deeply toothed. *Stem*: three to eight feet high.

It is well that the Indians have given this plant the reputation of being efficacious for snake-bite; and that its generic name, signifying to drive away bugs, endues it with the power of expelling plant vermin. Otherwise we might be inclined to shower anathemas upon it, as a deceitful thing that beckons us to its presence by its wand-like racemes and then treats us to such an unpleasant odour that we are prone to hasten away as swiftly as possible. It may truly be classed among those objects to which, from the standpoint of frail humanity, distance lends enchantment.

EARLY SAXIFRAGE.*Saxifraga Virginiensis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Saxifrage.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Northeast to Georgia westward to Tennessee.</i>	<i>March-June.</i>

Flowers: small; densely clustered in cymes upon the ends of hairy scapes. *Calyx*: of five very short sepals. *Corolla*: of five petals. *Stamens*: ten. *Pistil*: one, with two styles. *Fruit*: a many seeded, purple capsule. *Leaves*: clustered at the root; obovate; toothed. *Scape*: three to nine inches high; clammy.

All the timorous, hesitating beauty of the early spring bloom clusters about the saxifrage. It slips into the woods quietly, as though fearful that if it made a noise or attracted too much attention, Jack Frost might send some one, or come himself, which would be worse, and punish it by retarding its growth. We find it on the top, or in the clefts, of rocks, which it has



PLATE LXXX. BUNCH-BERRY. *Cornus Canadensis*.

(157)

been known to break asunder. In fact, to watch this little plant is a moral lesson in the achievements that can be brought about by quiet will power.

FOAM FLOWER. FALSE MITRE-WORT.

Tiarella cordifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Saxifrage.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>April, May.</i>

Flowers: growing in a raceme on a high scape. *Calyx:* of four parted sepals. *Corolla:* of five clawed petals. *Stamens:* ten; long, with orange-red anthers. *Pistil:* one, with two styles. *Leaves:* from the base; cordate; lobed; very mottled. *Scape:* about a foot high; hairy. The plant is from a rootstock and is reproduced by runners that spread in summer.

A little boy whose sister ran to him with her hands full of the delicate foam-flower that she had gathered in the woods, threw it down in disgust and said: "Sister, it has forgotten its clothes." He missed the leaves that he had been accustomed to seeing on flowers and was indignant at the long, naked stem.

MITRE-WORT. BISHOP'S CAP.

Mitella diphylla.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Saxifrage.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward.</i>	<i>May.</i>

The mitre-wort is very similar in effect to the foam-flower, although its beauty is of a much more fragile type. Its stems are low and hairy and it protects itself with a few stem leaves which are opposite and sessile.

BUNCH-BERRY. DWARF CORNEL. (Plate LXXX.)

Cornus Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogwood.</i>	<i>White and green.</i>	<i>Scentless.</i>	<i>New York westward.</i>	<i>June.</i>

Flowers: very small, greenish and wrapped about by an involucre that appears like four pointed sepals. *Calyx:* tiny; four-cleft. *Corolla:* of four spreading petals. *Stamens:* four. *Pistil:* one. *Fruit:* a bunch of closely clustered, round, red berries. *Leaves:* ovate; pointed; nerved; the upper ones whorled and apparently forming a resting place for the flowers. *Stem:* erect; bearing below a number of scale-like leaves.

A proud little thing is the bunch-berry, and although it is



PLATE LXXXII. SOURWOOD. *Oxydendrum arboreum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.



PLATE LXXXI. FLOWERING DOGWOOD. *Cornus florida.*

(159)

the smallest member of the family, it has wrapped about itself a white petal-like involucre that is only indulged in by a few other dogwoods, as is the case with the largest and most important of them all, the *C. florida*. It has probably found out that size is not such an essential matter. "Bigness," Bishop Potter says, "is not greatness."

After the bloom has passed, the flower-stalk stretches upward and bears a bunch of attractive red berries. They are quite edible. In the rich woods of New Jersey the plant grows prolifically.

FLOWERING DOGWOOD. (Plate LXXXI.)

Cornus florida.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogwood.</i>	<i>White and green.</i>	<i>Scentless.</i>	<i>Rather general.</i>	<i>May, June.</i>

Flowers: tiny; perfect; green; growing in a cluster and surrounded by a showy involucre of four obcordate petal-like bracts, notched at the apex. *Leaves:* elliptical; netted-veined; simple; glabrous. A shrub or tree twelve to twenty feet high; woody; branching; leafy.

Almost too well known to need any description is this shrub or tree. Like the little bunch-berry it is provided with a beautiful white involucre and it can be seen at a great distance. Hardly any one of our shrubs contributes more to the beauty of the spring woods.

The pity is that when at the height of its bloom it is so often stripped of its flowers, and great branches of it are broken off by ruthless hands that seem to be quite ignorant of the harm they are doing.

Its home is in the rocky woods, and according to the tradition of the people, it blooms just at the proper time for planting Indian corn.

ROUND-LEAVED DOGWOOD.

Cornus circinata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogwood.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>June.</i>

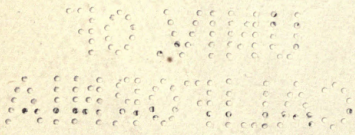
Flowers: small, in a flat open cluster having no involucre. *Calyx:* of four minutely toothed sepals. *Corolla:* of four petals. *Stamens:* four. *Pistil:*



PLATE LXXXIII. MOUNTAIN LAUREL. *Kalmia latifolia*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.



one. *Fruit*: a light blue berry. *Leaves*: opposite; oval, pointed; downy underneath. A shrub three to ten feet high, the branches streaked with white or green; warty.

Although rather faithful in its love of the woods, where it settles itself by the paths and roadways so as to nod to the passers by, this pretty shrub is not as discriminating as it might be in the matter of soil. To rich or poor, rocky or sandy, it appears to be alike indifferent. From its bark is extracted cornine, a powerful extract that is used for a tonic. It is similar to quinine.

SOURWOOD. SORREL-TREE, (Plate LXXXII.)

Oxydéndrum arbóreum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White.</i>	<i>Sweet, like honey.</i>	<i>Florida to Mississippi and westward.</i>	<i>April, May.</i>

Flowers: growing in terminal clusters. *Calyx*: five-parted; pubescent. *Corolla*: five-toothed; pubescent. *Stamens*: ten. *Pistil*: one. *Leaves*: alternate; ovate; pointed; sour. A tree fifteen to forty feet high.

It would be a very queer world indeed if we should ever lose our faith in the compensations of Dame Nature; and yet when we see the *O. arboreum* covered with its sprays of exquisite bloom, we cannot but wonder about those poor little shrubs that have cared so tenderly for their buds and are after all so very plain. Every good gift, it seems, has been showered upon this lovely tree. It has the sweet fragrance, the delicate beauty of the lily-of-the-valley; and combined as it is in masses, it gives all the strong effect of a bolder bloom.

The only difficulty is that one is tempted to sit down beside it and never go away.

MOUNTAIN LAUREL. CALICO-BUSH. SPOONWOOD.

(Plate LXXX III.)

Kalmia latifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White or pink deepening into red.</i>	<i>Very fragrant.</i>	<i>Inland and middle states.</i>	<i>May, June.</i>

Flowers: terminal; axillary; growing in rich umbel-like clusters. *Calyx*: of five sepals; clammy and covered with hairs. *Corolla*: wheel-shaped; five-

lobed. *Stamens*: ten; the anthers of each one held by a depression of the corolla. *Pistil*: one. *Leaves*: alternate; elliptical; entire; evergreen and shiny. *Stem*: ten to thirty feet high; woody.

All flowers are lovely, but the beauty of the laurel has placed it where it stands quite alone; and by many lovers of flowers it is thought to be the most beautiful of those native to America. It is also endeared to us by its many virtues. It is very domestic, and has a strong love for its own home. Its mind is blessed with a rare contentment. In fact, it will seldom endure transplanting; unless care has been taken to provide for it soil of the same quality as that of its chosen groves.

The construction of the flower is on the plan of a wheel, and the stamens correspond to the spokes. Each filament is held and slightly arched by the anther, which is caught in a pouch of the corolla. The device of this little trap is most ingenious and the mechanism very fine. It is set for Master Bee and patiently awaits his coming. When he brushes against it, or jostles it the least little bit, the anthers become dislodged, spring up and let fly from their cells right in his face, or over his back, such a volley of pollen that the poor, old, drowsy thing is quite disconcerted. Thinking himself inhospitably received, he then betakes himself to the next flower, only to find that his back is made heavier by another cargo of pollen, while the protruding stigma is busy relieving him of his first load. The clamminess of the calyx and stems is undoubtedly to prevent such small insects as would be unable to carry the pollen for cross-fertilization, from climbing up into the flower and interfering with its arrangements.

Children that are in sympathy with the bees know of this trap, and will invariably knock the blossoms with their little fingers for the pure pleasure of seeing the anthers spring up and the pollen fly. As yet, the bees have not taught them the after labour of carrying the pollen.

The leaves of the plant are unfortunately poisonous. A crystalline substance that is readily dissolved out of them by cold water, is said to be more deadly than strychnine. Cattle and



PLATE LXXXIV. SHEEP LAUREL. *Kalmia angustifolia*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page, possibly a stamp or bleed-through.

sheep fall victims annually to eating the shrub. Unprincipled people have also made use of the leaves to increase the intoxicating effect of liquors.

Long ago the red man knew of this poison. It was dear to him. For when he became unhappy, it lulled him into the long sleep, and hastened his footsteps to his happy hunting ground.

SHEEP LAUREL. LAMBKILL. WICKY. (*Plate LXXXIV.*)

Kalmia angustifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>Rich, deep, pinkish crimson.</i>	<i>Scentless.</i>	<i>Newfoundland to Georgia.</i>	<i>June.</i>

Flowers: axillary; clustered in corymbs. *Calyx*: of five sepals. *Corolla*: not quite half an inch broad, with five lobes. *Stamens*: ten; the anthers dark-coloured and nestling in the pouches. *Pistil*: one. *Leaves*: narrow; in whorls of three; pale. A shrub growing about a foot high.

Such a wealth of witchery clusters about lambkill that we are very, very lenient to its failings and almost prone to forgive them altogether. It is, unhappily, the most poisonous of the laurels, and exercises this power over poor, dumb animals, which, to say the least, is not very sportsmanlike of lambkill. But, on the other side, it is most stupid of the brute world to attempt to feast upon this lovely shrub when it is so evidently intended to please another sense; for a hillside, or low ground, that is covered with it, is about as fair a sight as can be seen.

GREAT RHODODENDRON. AMERICAN ROSE-BAY.

GREAT LAUREL. (*Plate LXXXV.*)

Rhododendron maximum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White, spotted with red and yellow.</i>	<i>Scentless.</i>	<i>New York to Georgia.</i>	<i>July.</i>

Flowers: clustered together in great bunches; the flower-stalks clammy. *Calyx*: of five very short, cleft sepals. *Corolla*: tubular; almost bell-shaped; five parted and greenish in the throat. *Stamens*: ten. *Pistil*: one with a red stigma. *Fruit*: a pod with small seeds. *Leaves*: broadly elliptical; entire; glabrous; evergreen; in texture like leather. *Stem*: six to twenty feet high; woody; fibrous; leafy.

To come upon one of the haunts of the great laurel in the moist shady woods of summer, is to get an inspiration that can be recalled with pleasure during the whole lifetime. For the

imagination can picture no more glorious burst of nature than that which will then be spread out before one. It were, however, well for us not to try to follow our pathway through the waxy flowers, but to imitate the custom of the sheep and go around ; as the intermingling, close manner of their growth is in places so great as to make the way quite impassable.

The shrub is well adapted for cultivation, when the flowers become very large, and are most effective as decorations in parks. The sweetest sight that Liverpool has to show to the unsteady traveller from over the sea is the rhododendrons that there grow so luxuriously. A feeling of pride inevitably takes possession of him, and he is sure to inform the first person with whom he comes in contact that they are from his own country, America.

In the south, where the rhododendrons are common, they sometimes reach a height of twenty-five feet.

SMOOTH OR TREE AZALEA.

Azalea arborescens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>Rose.</i>	<i>Sweetly fragrant.</i>	<i>Georgia northward.</i>	<i>June.</i>

Flowers : growing in terminal clusters, and appearing after the leaves. *Calyx* : five-toothed ; conspicuous. *Corolla* : funnel-form ; of five somewhat irregular lobes that are viscid. *Stamens* : five. *Pistil* : one. *Leaves* : alternate ; obovate ; glaucous ; pale underneath. A shrub that varies greatly in height.

Spreading over the mountains of Georgia and stretching to the northward may be found this exquisite rosy species that has, besides its beauty, a rare perfume. It seems when in endowing this shrub as though Nature had been in one of her lavish, sunshiny moods. It can be taken as a type of those that have been collected so extensively to adorn greenhouses.

SHIN-LEAF. (*Plate LXXXVI.*)

Pyrola elliptica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White with a green tint.</i>	<i>Fragrant.</i>	<i>Mostly north.</i>	<i>June, July.</i>

Flowers : growing on a scape in a long, wand-like raceme ; nodding at the end. *Calyx* : of five sepals. *Corolla* : of five ovate, wax-like petals. *Stamens* : ten. *Pistil* : one, protruding and curved ; stigma, five-divided. *Leaves* : clustered at the base of the plant ; rather oval petiolate ; evergreen ; thin ;



PLATE LXXXV. GREAT RHODODENDRON. *Rhododendron maximum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page, possibly bleed-through from the reverse side.

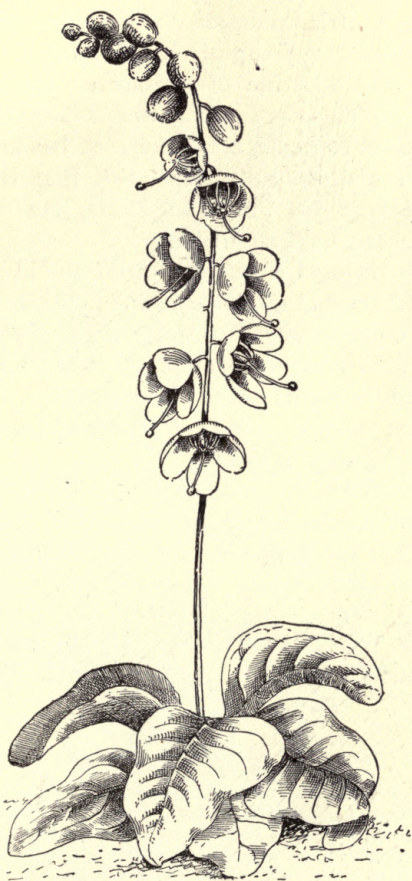


PLATE LXXXVI. SHIN-LEAF. *Pyrola elliptica*.

(165)

marked with a dull, flesh colour. *Scape*: upright, with one, or two scaly bracts.

To name this sweetly pretty plant, shin-leaf, is very much like christening a little, dimpled baby, Nehemiah. It would seem as though both were slightly inappropriate. But according to the dear old doctrine of signatures, plants should be called for their visible uses; and as the leaves of these plants were long ago used to assuage the hurt of bruises, they came to be associated with shin-plasters. Not that these plasters were held in reserve for the shins alone, but were applied quickly wherever the hurt might be.

It is therefore owing to the efficacy of the leaves that the gentle blossoms have had attached to them so plebeian a name.

P. rotundifolia, round-leaved wintergreen is a sister plant of the shin-leaf, and is almond scented. It has numerous bracts on the scape and its leaves are thick and shiny. It is found in rather more open woods. There is another variety which is rose-coloured and grows in bogs.

P. secunda, serrated wintergreen is noticeable on account of its small, green flowers, which turn to one side of the stem. It is less evergreen than the preceding species and has the thin, dull leaves of the shin-leaf.

CREEPING WINTERGREEN. MOUNTAIN TEA. CHECKERBERRY. (Plate LXXXVII.)

Gaulthèria procumbens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Eastern United States.</i>	<i>July-September.</i>

Flowers: usually one or more; axillary; nodding. *Calyx*: of five sepals. *Corolla*: bell-shaped, with five points. *Stamens*: ten. *Pistil*: one, to the ovary of which the calyx adheres and grows fleshy into the fruit, which appears like a berry. It is very pretty, round and red. *Leaves*: alternate; oval; evergreen; shiny. *Stem*: creeping on or under the ground and sending up erect branches.

Down deep in every heart must be a remembrance of the days when it was a great event to go to the moist meadows for the first bunch of violets, and later into the woods for a handful of wintergreen. The delicate bloom and bright berries



PLATE LXXXVII. CREEPING WINTERGREEN. *Gaultheria procumbens*.

(167)

grow together in the late season. They have, in common with the leaves, a pleasant taste and afford many a merry meal to animals and birds. When fate decrees that they shall blush unseen and no one comes by to pick them, they simply dry upon the stem until their innate wisdom tells them that the ground is ripe for sowing. The seeds are then let loose and drop into the ground. The Indian knew that from this plant he could extract something to soothe his aching bones; and the white man is now doing the same thing, as the oil of winter-green is considerably used for rheumatism.

G. Shallon, (*Plate LXXXVIII*) is a small wintergreen shrub that is not very generally known, as it confines itself to the pine woods of the far west. It spreads gaily over the ground as though it had no other object in life than to make the air spicy and fresh. The waxy flowers grow in graceful racemes; and the glossy, ovate leaves appear to be the very essence of healthful vigour.

SPICE-BUSH. BENJAMIN-BUSH. FEVER-BUSH.

Bénzoin Bénzoin.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Laurel.</i>	<i>Greenish yellow.</i>	<i>Spicy.</i>	<i>Massachusetts southward and westward.</i>	<i>March, April.</i>

Flowers: both staminate and pistillate, with a four-leaved involucre underneath; clustered along the branches and appearing before the leaves. *Calyx*: of six sepals. *Corolla*: none. *Stamens*: nine, in the sterile blossoms. Pistillate flowers with a rounded ovary. *Fruit*: an oblong, red berry. *Leaves*: alternate; oblong; on short petioles; hairy along the margins and having an aromatic flavour. A shrub four to fifteen feet high, with brittle branches.

A valuable bush of the moist woods and thickets and one of the earliest to come into bloom. Its leaves and berries, as its name spice-bush implies, have often performed kindly services for housewives that live at a great distance from "the store."

INDIAN-PIPE. GHOST FLOWER. CORPSE PLANT.

(*Plate LXXXIX.*)

Monótropha uniflora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Indian-Pipe.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>June, July.</i>

Flowers: terminal; solitary; nodding; in fruit erect. *Calyx*: of two to four



PLATE LXXXVIII. *Gaultheria Shallon.*

(169)

scales. *Corolla* : of four or five usually bract-like petals. *Stamens* : eight or ten with anthers attached horizontally to the filaments. *Pistil* : one ; stigma, five-rayed. *Fruit* : a capsule, which after flowering, erects itself. *Leaves* : white and smooth ; more truly scales than leaves. *Stem* : round ; smooth ; waxy ; about eight inches high. *Roots* : fibrous.

Few plants are uncanny, and we therefore shiver slightly when we take hold of the ghost-flower, which is so clammy and white. It further annoys us by turning black and decomposing almost instantly after having been touched. Children and Indians, whose nerves are perhaps more hardy than those of ordinary mortals, delight in the plant. The former play with it, and the latter have some way of using it supposedly to strengthen the eyesight.

The whiteness of the plant is owing to the absence of all chlorophyll grains, or green colouring matter ; and it may not be inappropriate to mention here that it is through the chemical change of these grains that we have the varied tints of the autumn foliage.

FALSE BEECH-DROPS. PINE SAP. (Plate LXXXIX.)

Hypópitys Hypópitys.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Indian-Pipe.</i>	<i>Écru or tawny, occasionally red.</i>	<i>Fragrant.</i>	<i>General.</i>	<i>June, July.</i>

This is a closely allied plant to the Indian-pipe. The difference between them is that the false beech-drops have more flowers. They grow in a one-sided raceme and their hue is variable. Both plants are conspicuous in the deep, cool woods of summer.

WILD GINGER.

Ásarum Canadéense.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Birthroot.</i>	<i>Yellowish, spotted with brown-purple.</i>	<i>Scentless.</i>	<i>Throughout the northern states.</i>	<i>April, May.</i>

Flowers : solitary ; growing towards the ground on a slender peduncle in the fork of the tall leaves. *Calyx* : bell-shaped ; three-lobed ; the lobes spreading ; acute. *Corolla* : none. *Stamens* : twelve. *Pistil* : one, with six spreading stigmas. *Fruit* : a fleshy capsule that bursts and scatters many seeds.



PLATE LXXXVI.

{ INDIAN-PIPE. *Monotropa uniflora*.
{ FALSE BEECH-DROPS. *Hypopitys hypopitys*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

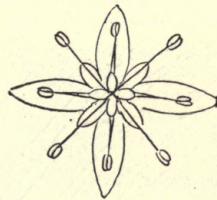


Diagram of flower.

PLATE XC. NEVINS'S STONE CROP. *Sedum Nevii.*

(171)

Leaves : on long petioles ; broadly and deeply reniform ; veined ; velvety ; pubescent. *Rootstock* : thick ; creeping, with an aromatic flavour, like ginger.

Like the idolatrous Jews that buried their images in the earth, where they had to be dug for to be detected, does this plant hide its flower from the sight of men. No doubt, it has some theory in so doing that we have not been able to discover ; but in any case, it has not kept the secret of its hiding place very well, as every country child knows where it is to be found. They call it, moreover, "little brown jug," and this is perhaps what has offended the dignity of the tall, solemn-looking leaves. When it is taken up from under the dried leaves of the winter, it is seen to be very pretty. Owing to its buried growth, its colouring is not brilliant, but the tones are those that are always termed genteel. Naturally, we are much interested in the blossoms as a quaint little character of marked originality.

NEVINS'S STONE CROP. HOUSELEEK. (*Plate XC.*)

Sedum Nevii.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orpine.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mts. of Virginia to Alabama.</i>	<i>April, May.</i>

Flowers : sessile and scattered along the recurved branches of the cyme. *Calyx* : of five linear sepals. *Corolla* : of five petals. *Stamens* : ten, shorter than the petals, with brownish, purple anthers. *Pistils* : five. *Leaves* : those of the stem, alternate ; linear ; scattered ; those about the base, obovate, forming a rosette ; glabrous.

The dear houseleek has not come down to us through the ages with only a thought of its own pleasure. It has ever had it in mind to assuage the ills of mankind. Nosebleed is arrested when a few of the bruised leaves are laid upon the crown of the head ; and if applied to the temples severe headaches are greatly soothed. It is also excellent to relieve the stings of insects. In a prim little manner it may be found sitting upon the top of rocks in warm, exposed places, where the sun can pour down upon it as generously as it pleases.



PLATE XCI. AMERICAN ORPINE. *Sedum telephioides*.

(173)

AMERICAN ORPINE. LIVE-FOR-EVER. (Plate XCI.)

Sedum telephioïdes.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orpine.</i>	<i>Flesh colour.</i>	<i>Scentless.</i>	<i>Georgia northward.</i>	<i>June.</i>

Flowers : growing in many-flowered, compact cymes. *Calyx* : of four or five sepals. *Corolla* : of four or five lanceolate, or linear petals. *Stamens* : ten. *Pistils* : five. *Leaves* : alternate ; obovate ; entire ; the lower ones tapering into a petiole ; the upper ones sessile. *Stem* : erect ; leafy ; branching.

In common with its relative of the garden, which was so cherished by our grandmothers and so disliked by the farmers, the wild orpine is almost indestructable. The price of land enters very little into the calculations of the garden variety and it has imbibed, perhaps from the farmer, the love of owning all adjoining territory. It is very difficult of extermination, as it lives more by its leaves and stalks than by its roots. The wild variety, however, chooses mostly to cover rocks on high hills, which property we do not begrudge it, as the bloom is extremely fresh and pretty, and so it saves itself from the reputation of being a troublesome weed.

DUTCHMAN'S BREECHES. WHITE HEARTS. SOLDIERS' CAPS.

Bicucùlla Cucullària.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Fumitory.</i>	<i>White and yellow.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>April, May.</i>

Flowers : growing in a one-sided raceme on a naked scape. *Calyx* : of two scale-like sepals. *Corolla* : somewhat heart-shaped, of four closed, cohering petals ; the inner ones enclosing the anthers and stigma ; the two outer, larger ones extending into widely spreading spurs that suggest its name. *Stamens* : six. *Pistil* : one. *Leaves* : from the base ; growing on slender petioles ; thrice compound and irregularly cut. *Scape* : slender ; smooth. *Rootstock* : a scaly bulb ; slightly tuberous.

When the soft, warm days of spring load the air with a subtle fragrance, those among us that are so fortunately placed as to make it possible, wander to the woods in search of its early bloom. And there we find the Dutchman's breeches. Staid old soul as the Dutchman is, he must really have been surprised at the naming of this ethereal plant after his trousers. It is true that under mitigating circumstances they have gained an



PLATE XCII. SMOOTH RUELLIA. *Ruellia strepens*.

(175)

entrance into art, but never before have they been known to mingle with the sweet world of flowers. The plants, however, would scorn any idea of snobbery; and it is said with much trepidation that the name of white hearts is infinitely prettier, and it would seem a trifle more appropriate.

We know that we ought not to pick these quaint blossoms; every botany in the land will tell us so. We should leave them to be visited by their own insects and to be cross-fertilized, that the species may continue among us. But we sometimes resist doing just what is right; and sad though it be, it is certainly true that few among us have sufficient hardihood to wander back from the spring woods without just one little spray of this flower. It nods to us all the way home; it stimulates our interest in all that grows; and it looks so pretty in the little vase that suits it well.

SQUIRREL CORN.

Bicucúlla Canadénsis.

These little pink and green blossoms are nearly related to the Dutchman's breeches. The rootstock bears small tubers that are not unlike grains of corn. The bloom has a delicate, hyacinth-like fragrance. Their home is in the northern woods.

PALE CORYDALIS.

Capnoides sempérvirens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Fumitory.</i>	<i>Rose pink and yellow.</i>	<i>Scentless.</i>	<i>North and south.</i>	<i>May-August.</i>

Flowers: growing in loose terminal clusters. *Calyx:* of two scale-like sepals. *Corolla:* of four closed, cohering petals; the upper one extending into a short spur. *Stamens:* six. *Pistil:* one. *Pod:* long and slender. *Leaves:* divided into fine leaflets; pale green; glaucous. *Stem:* curving; leafy.

There is a strong family resemblance between these blossoms and those of the Dutchman's breeches; and the corydalis is, perhaps, a little more delicate species. The flowers appear like a number of strange sprites that have come from somewhere, nobody knows where, and intend resting awhile on the slender stem.

SMOOTH RUELLIA. (*Plate XCII.*)*Ruellia strepens.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rue.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>Penn. southward and westward.</i>	<i>May-July.</i>

Flowers : solitary, or a few together growing in the axils of the leaves. *Calyx* : five-parted with narrow segments. *Corolla* : salver-shaped, five-lobed. *Stamens* : four. *Pistil* : one, with a recurved style. *Leaves* : opposite; long; oblong; petioled. *Stem* : erect; four-sided; often branched; glabrous.

This large, bold flower is one of the very effective ones found in the thickets. It appears to be quite conscious of its beauty, and we feel that it intends to hold fast to its position as guardian of the leaves no matter what should come to pass. Unfortunately, its range is not farther east than Pennsylvania.

It is represented in colour in Plate CXVIII.

BLUE COHOSH.*Caulophyllum thalictroides.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Barberry.</i>	<i>Yellowish green or purple.</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>April, May.</i>

Flowers : small; growing in a panicle at the summit of the stem. *Calyx* : of six sepals, having four short bractlets underneath. *Corolla* : of six kidney-shaped petals that terminate in short claws. *Stamens* : six. *Pistil* : one. *Fruit* : membranous, with a pair of blue, berry-like seeds on thick stalks, which are fleshy when ripe and glaucous. *Leaves* : one large leaf, thrice compound; and one or two smaller ones above. *Leaflets* : twice, or thrice lobed; whitish underneath. *Stem* : smooth; erect. *Rootstock* : thick.

There are numerous plants that we pass by unheedingly in the spring-time of their bloom, and that, as if in retaliation for the slight, thrust themselves upon our attention in the autumn, by the brilliancy of their colouring and the graceful drooping of their fruit. The blue cohosh is among the number. And when, towards the end of the summer, the leaves turn yellow, they call loudly with the blue berries for the admiration that was denied to the plant earlier in the season. It is fond of rich living, and seeks its home in dense woods where the leaf mold covers the ground.

The Indian herb doctors know well the blue cohosh and call

it pappoose-root, which rather suggests that a special decoction of it is held in reserve for the black-eyed little copper-skins.

YELLOW LADY'S SLIPPER. (*Plate XCIII.*)

Cypripedium hirsutum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Mostly north and east.</i>	<i>May, June.</i>

Flowers: terminal; nodding and subtended by a leaf-like bract. *Sepals*: long, slender. *Lip*: one and a quarter inches broad, veined with brown and forming an inflated pouch, the opening to which is a rounded orifice. The two side petals also streaked with brown; long and curling. *Leaves*: alternate; ovate; clasping; parallel-veined; pubescent. *Stem*: one to two feet high; leafy; downy. Orchis construction page 64.

The colour of this orchis is above all enchanting, while the coyness of its shape and the twirling side strings breathe out the essence of coquetry. There is an alertness, a crispness of expression about the out-turned toe which makes us fancy it is only awaiting the waving of some fairy's wand to spring out with its companions and mingle in a gay woodland dance.

On the wooded hillsides where we may have the good fortune to find it, there is often growing in close proximity to it the smaller lady's slipper, *C. parviflorum*. It is of a deeper, richer shade of yellow and has the added charm of fragrance.

The name *Cypripedium* is from two Greek words which mean Venus's buskin.

MOCCASIN FLOWER. PINK LADY'S SLIPPER.

(*Plate XCIV.*)

Cypripedium acaule.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Pink.</i>	<i>Fragrant.</i>	<i>Along the coast and westward to Minn.</i>	<i>May, June.</i>

Flowers: large; terminal; nodding and subtended by a leaf-like bract. The lip forms a drooping sac an inch and a quarter broad. It appears to be split down the middle, but is nearly closed; much veined with a darker shade of pink. The sepals and petals vary from green to purple. *Leaves*: two at the base; sheathing the leafless flower-stalk; ovate; many-veined. *Rootstock*: thick.

The pink lady's slipper shows very plainly its kinship to the pampered darlings of the conservatory. It is a more languid



PLATE XCIII. YELLOW LADY'S SLIPPER. *Cypripedium hirsutum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.



PLATE XCIV. MOCCASIN FLOWER. *Cypripedium acaule*.

beauty than the yellow species and we may fancy of a more sensitive and retiring disposition. It is shy of approaching the haunts of men but rather hides in the seclusion of some deep wood or forest, where its loveliness is seen by the croning bee and the sougling wind only.

As the lip resembles a moccasin much more than a slipper, it would seem that while we claim the yellow one for our own, we should resign this orchis to the people that have loved it so well. Like the Indian, it is becoming rarer every year, and unless we respect its love of freedom and cease from carelessly picking it, we shall soon find that like him it has vanished from us forever.

SHOWY ORCHIS.

Orchis spectabilis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Purplish pink.</i>	<i>Fragrant.</i>	<i>New York to Georgia and westward.</i>	<i>April, May.</i>

Flowers: growing loosely in a terminal spike. The sepals and petals united and forming a sort of crimson purple hood. The lip white and projecting backward into a short spur. *Leaves*: two; large, from the base of the scape; ovate; shiny.

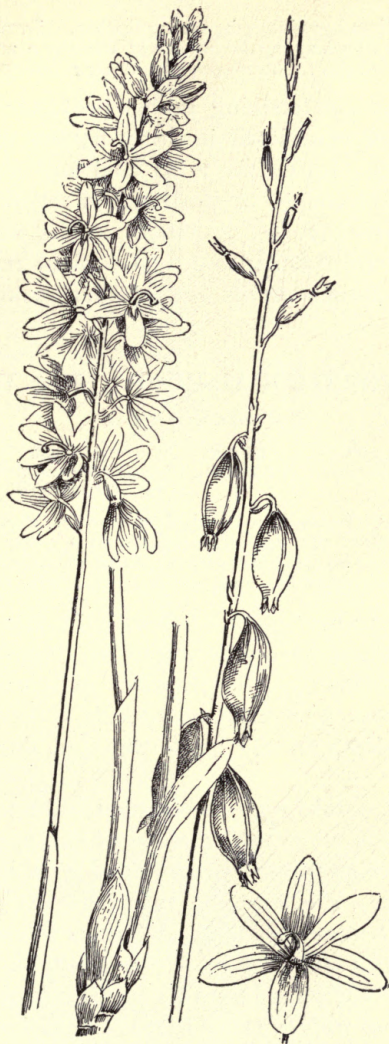
When the air is soft and sweet in the early spring woods and, looking first to one side and then to the other, we follow some shaded pathway; it may be that we shall find a number of the showy orchids. They are not, however, showy as the name would have us believe but very quaint and pretty. The blossoms have queer little expressive faces, and we feel like making friends with them at once and not standing on ceremony as would be most natural with many of the more pretentious members of their family.

GREAT GREEN ORCHIS.

Habenaria orbiculata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Green and white.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>July.</i>

Flowers: clustered loosely in a long spike. *Corolla*: two-lipped; the lip white, almost linear, drooping and without a fringe; the spur one and a half



Single flower.

PLATE XCV. STRIPED CORAL-ROOT. *Corallorhiza striata*,
(181)

inches long, curved and gradually becoming thicker. *Leaves*: two only; very large, sometimes a foot long, at the bottom of the scape and lying flat on the ground; almost orbicular; parallel-veined. *Scape*: one to two feet high.

This peculiar and striking orchis protests strongly against the July sun and rears itself in the evergreen woods, or on the shaded hillsides. Its colour is so cool and tranquil that we wonder it has not chosen to dwell by the side of a brook, where it could occasionally dip its roots in the water. Darning-needles have a warm friendship for the plant and guard it well, as one finds sometimes to his sorrow when seeking to gaze at it more closely.

STRIPED CORAL-ROOT. (*Plate XCV.*)

Corallorhiza striata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>Dark purple.</i>	<i>Scentless.</i>	<i>Northward across the continent.</i>	<i>June.</i>

Flowers: growing closely in a terminal raceme on a stout scape. Sepals and petals almost alike, the lip being broader than either of them. *Leaves*: none. *Stem*: one to two feet high with a number of scale-like appendages at the base. *Rootstock*: much branched and toothed, similar to that of coral.

Unless we were well acquainted with the family traditions of the orchids it would hardly be suspected that the coral-root is a member of the family. But intimacy with it reveals much, as is usually the case with most plants. It is far from being well known and chooses for its home the cool, deep woods of the north.

C. Multiflora, coral-root, is a common and unattractive member of this genus which is found in rather open woods. The flowers are small, purplish or yellow, and grow in a raceme. As the above species, it is without green foliage.

Simply that a plant is called an orchis will sometimes cast abroad the impression that its bloom must be beautiful. But the orchis family is no different from other families. It has its plain members as well as those that are beautiful. Each one is possessed of its own individuality and weaves out its own destiny.

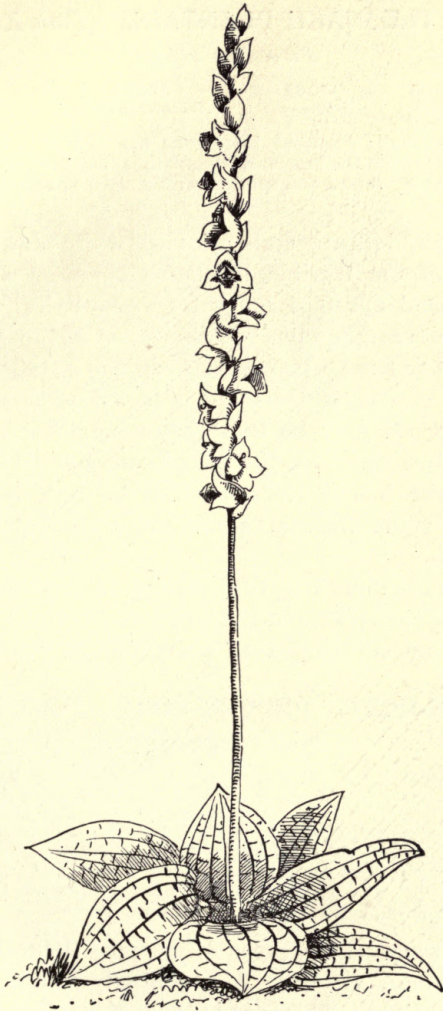


PLATE XCVI. RATTLESNAKE PLANTAIN. *Peraniam repens*.

RATTLESNAKE PLANTAIN. (*Plate XCVI.*)*Perànium repens.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Orchis.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Atlantic states.</i>	<i>Late summer.</i>

Flowers: very small; arranged loosely on one side of a tall spike. Lip, inflated. *Leaves*: from the base and lying flatly about the ground in a circle; ovate; conspicuously veined and spotted with a light shade of yellow, almost white.

This upright, delicate stalk of tiny white flowers suggests little to us of the terrible, brilliantly-coloured monster with flaming eyes and upraised fangs for which it has been named. But it springs from the same root as its curious leaves, and they are supposed to have a peculiar efficacy in curing the bites of rattlesnakes. The Indians are credited with placing great faith in them. It may be that they have a soothing effect on the wound; but once let the two honey-like drops of venom that the snake has at the bottom of his fang be interjected, and the little white blossoms would prove as effectual in restoring the victim.

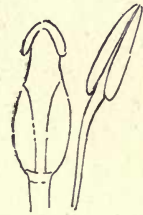
P. pubescens is a more beautiful variety, as its flowers grow less on one side of the spike and the singular mottling of the leaves is more pronounced, being with white and dark green.

CRINKLE-ROOT. PEPPER-ROOT. TOOTHWORT.*Dentària diphylla.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mustard.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Maine southward.</i>	<i>May.</i>

Flowers: rather large; growing in a terminal corymb. *Calyx*: of four sepals that fall early. *Corolla*: of four cruciferous petals. *Stamens*: six; of which two are shorter than the others. *Pistil*: one. *Pod*: flat; lanceolate. *Leaves*: two, on the stem, whorled and divided into three toothed leaflets. *Rootstock*: long; fleshy and similar in taste to water-cress.

There is always a crispness and freshness about the mustards, meet them where we will. Undoubtedly among themselves they are very witty. This one is fond of rooting in leaf mold and we would sadly miss it from the May woods if some day it should learn the trick of wandering and stray from us far away



Stamen. Pistil.

PLATE XCVII. BLOOD-ROOT. *Sanguinaria Canadensis*.
(185)

HAIRY ROCK-CRESS.*Arabis hirsuta.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mustard.	White tinted with green.	Scentless.	Mostly northward.	May, June.

Flowers: small; clustered. *Calyx*: of four sepals that fall early. *Corolla*: of four cruciferous petals. *Stamens*: six, two of which are shorter than the others. *Pistil*: one. *Leaves*: numerous; saggitate. *Stem*: quite tall; erect; rough. *Pods*: linear.

Another little flower that is readily recognised as one of the mustards. It is not as luxurious in its taste as the preceding species and is content with the less rich soil of rocky places and hillsides.

BLOOD-ROOT. INDIAN PLANT. (Plate XCVII.)*Sanguinaria Canadensis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Poppy.	White with yellow centre.	Scentless.	General.	April, May.

Flowers: terminal; solitary; growing on a naked scape. *Calyx*: of two sepals. *Corolla*: of eight to twelve petals. *Stamens*: numerous. *Pistil*: one. *Fruit*: an oblong pod. *Leaf*: one only, from the base; rounded; palmately-lobed; veined. *Rootstock*: fleshy and, as the stalks, containing a blood-red juice.

The blossom of the blood-root is one of the most carefully guarded of Nature's children. Its sweet loveliness is not thrust ruthlessly upon the world to make its way the best it can. The leaf is carefully wrapped about the flower bud, and not until the former is assured of the temperature and the fitness of the surroundings, does it unfold and allow the scape to stretch upward bearing the beautiful flower. And how fair it is only those can know that have seen it unfold its pure, spotless petals. Indeed, it is too fragile for the rocky hillsides. The winds carry off its petals and those that seek it often sigh to find it has already perished.

It seems strangely incongruous that the fluid of this plant with its unusually pure blossom should have been used so extensively by the Indians to decorate their faces.

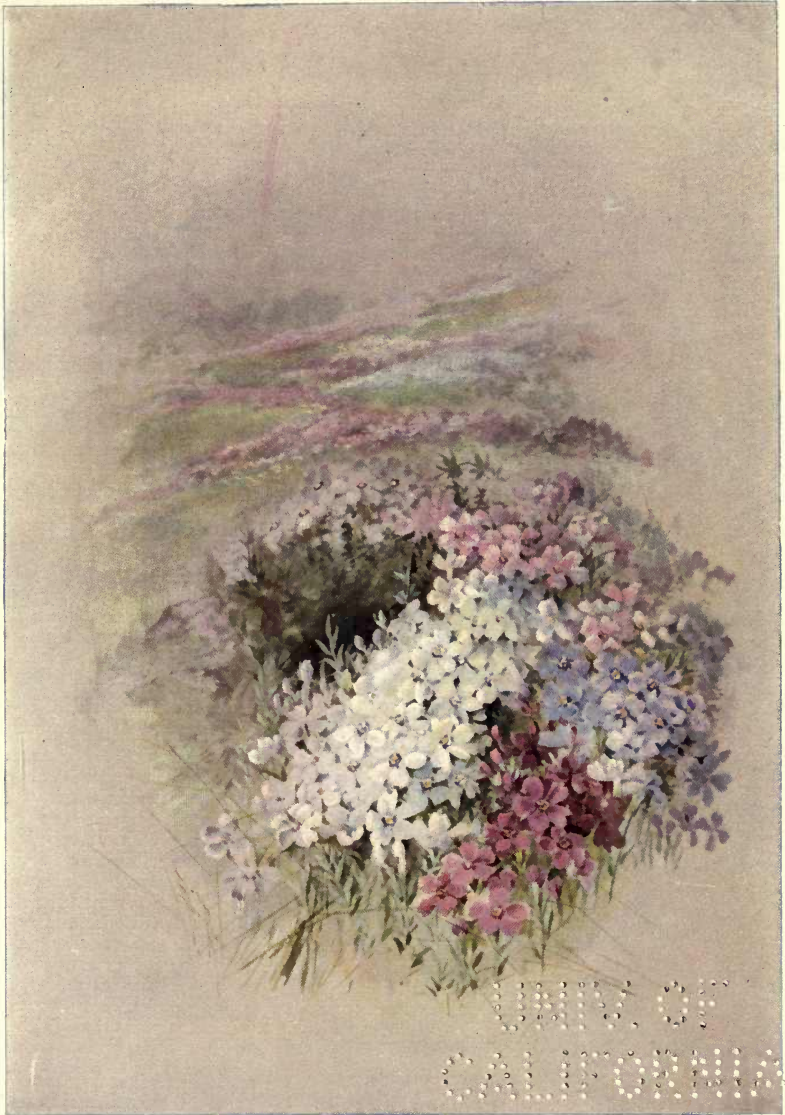


PLATE XCVIII. GROUND, OR MOSS, PINK. *Phlox subulata*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

C C C G A B A
C C C A B A
C C C A B A
C C C A B A

C C C A B A
C C C A B A
C C C A B A
C C C A B A

WILD PHLOX.

Phlox divaricata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Polemonium.</i>	Pale lilac or blue.	Slightly fragrant.	New York westward and southward.	April, May.

Flowers: large, over an inch broad; terminal, in loose cymose clusters. *Calyx*: of five pointed sepals. *Corolla*: salver-form; of five round lobes that extend into a slender tube, and have an eye of a darker colour. *Stamens*: five; unequal, in the tube of the corolla, with deep orange anthers. *Pistil*: one; stigma, three-lobed. *Leaves*: lanceolate; opposite; entire. *Stem*: a foot to eighteen inches high; erect; spreading.

There is so great a similarity between the wild phlox and the cultivated forms of the plant that when we meet it in the moist woods we are just a little surprised, and feel inclined to ask if it is enjoying its stroll away from the garden. It has such a complacent expression, however, that we hesitate and pursue our own way feeling sure that if it has strayed away from home it will find its way back again, unaided.

P. maculata, or wild sweet william, as it is commonly known, is a purplish-pink variety. Its flowers grow in panicles and the leaves are rather heart-shaped at the base. The stem is conspicuously dotted with purple. It grows in rocky ground and blooms a little later in the season than the above species.

GROUND OR MOSS PINK. (*Plate XCVIII.*)*Phlox subulata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Polemonium.</i>	Pink, purple or white.	Scentless.	New England southward and westward.	April-June.

Flowers: on pedicels; growing in terminal racemes. *Calyx*: of five narrow lobes. *Corolla*: with five obovate lobes, notched at the apex. *Stamens*: five, unequal, in the throat of the corolla. *Pistil*: one; stigma, three-lobed. *Leaves*: scattered; lanceolate; pubescent. *Stem*: creeping; rising slightly from the ground.

It may be imagined how lovely is the hillside where this little plant spreads a carpet of its soft bloom. The mingling of the many colours and the dark eyes that peep out coquettishly seem as though they were coaxing one to stop and play with them awhile.

The plant requires little moisture, and in a time of a

drought, when the earth was almost cracking for want of rain, they were noticed to be the only flowers on a sterile, rocky hillside that were not languishing.

HOBBLE-BUSH. AMERICAN WAYFARING-TREE.

(Plate XCIX.)

Viburnum alnifolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	White.	Scentless.	New England to North Carolina.	May.

The blossoms of this large shrub are similar to those of *V. Opulus*, page 118, and very like those of the garden hydrangea. The neutral flowers with large flat corollas are arranged about the fertile ones within the centre. The bright scarlet fruit is not edible.

The leaves are orbicular, pointed and heart-shaped at the base, serrated; pinnately-veined, and covered with a rough, reddish scurf.

The name wayfaring-tree is appropriate, as it is very wandering in its manner of growth, the outstretched branches often forming loops and rooting themselves in the ground. In the cold, moist woods of the north the tree is well known.

FLY-HONEYSUCKLE.

Lonicèra ciliàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	Greenish yellow.	Scentless.	North and westward to Minnesota.	May.

Flowers: growing in pairs on slender peduncles from the axils of the leaves. *Calyx*: of five short teeth. *Corolla*: funnel-form; five-lobed; spurred at the base. *Stamens*: five. *Pistil*: one. *Fruit*: a red, egg-shaped berry. *Leaves*: on petioles; ovate; sometimes heart-shaped at the base, the margins slightly fringed with hairs. A shrub; branching, with bark of a dull grey colour.

Evidently the fly-honeysuckle has not been brought up on the old adage that blood is thicker than water; as it has recklessly cast off its family resemblance. The regularity of the corolla and its wide mouth are quite different from the slender, tubular, two-lipped forms of the cultivated species to which it is nearly allied. It has, moreover, a very pert and saucy look and flourishes best in the rocky woods of the north.



PLATE XCIX. HOBBLE-BUSH. *Viburnum alnifolium*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page.

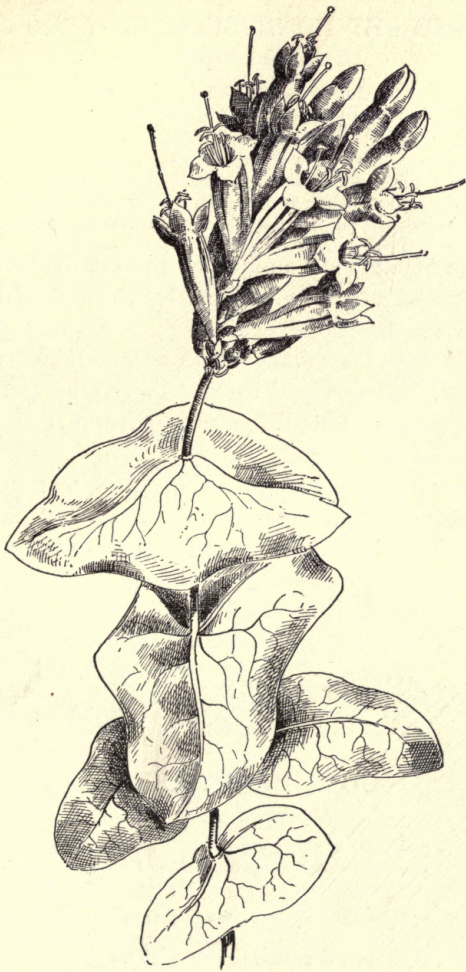


PLATE C. TRUMPET HONEYSUCKLE. *Lonicera sempervirens*

(189)

TRUMPET HONEYSUCKLE. (*Plate C.*)*Lonicera sempervirens.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	Red, without; yellow within.	Scentless.	Mass. southward.	May-October.

Flowers: axillary; clustered in spiked whorls. *Calyx*: five-toothed. *Corolla*: trumpet-shaped; five-lobed. *Stamens*: five. *Pistil*: one. *Fruit*: a round, red berry. *Leaves*: opposite; oval; clasping at the base, the upper ones united about the stem; glossy; thick; nearly evergreen. A shrub; climbing.

This is one of the most unique of the family. The clasping leaves seem to be a series of difficulties through which the blossoms have triumphantly passed.

L. Japonica, Japanese honeysuckle, or woodbine, is the variety that is most frequently chosen for cultivation. Its blossoms are white, or yellow, and the tubular corolla is long, with protruding stamens and style.

Few flowers can vie with it in delightful fragrance, and this has no doubt had much to do with the fondness that poets have felt for it. The name woodbine alludes to the way it has of entwining itself with some near object, "as though in wedlock." It gives freely as well as receives; for the rock or tree that gives it support is made by it a bower of beauty. In climbing it turns from east to west, and for its home chooses the quietude of the rocky woodlands.

BUSH HONEYSUCKLE.*Diervilla Diervilla.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	Yellow, sometimes tinged with red.	Fragrant.	New England south- ward and westward.	May, June.

Flowers: axillary; growing in groups of threes at the summit of the stems. *Calyx*: small, with five very short teeth. *Corolla*: funnel-form; of five unequal, recurved lobes, the larger one having a rich nectar-bearing gland at the base and being more highly coloured than the others. *Stamens*: five; protruding. *Pistil*: one; style, long; protruding. *Leaves*: opposite; on petioles; elliptical; serrated; smooth. A shrub two to four feet high; with highly coloured bark.

We may hardly flatter ourselves that the lower lobe of the co-

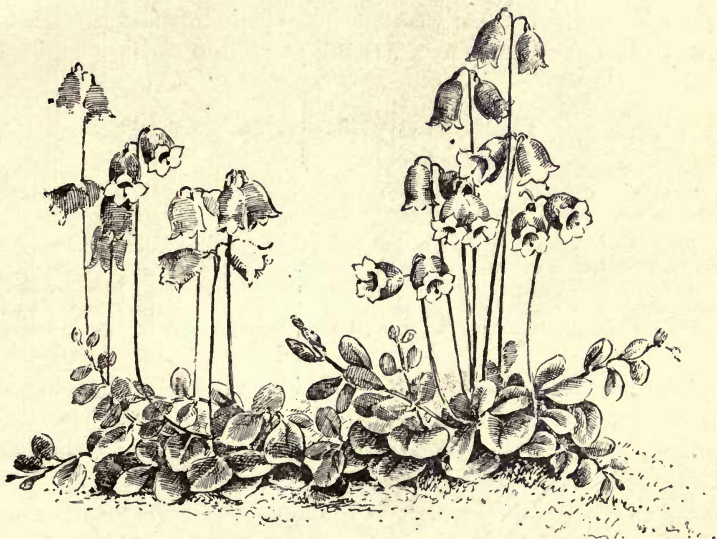


PLATE CI. TWIN-FLOWER. *Linnaea borealis.*

(191)

rolla of D. Diervilla has been so highly coloured simply to please our artistic sense. It is to inform Master Bee that they are a rich family worthy of his attention, and that they have a gland full of nectar awaiting him. Of course, in inviting him thus cordially to their feast, he is supposed to return the civility by leaving for them a little package of pollen at a friend's house on his way home. But Master Bee, like the rest of us, has his moods, and when he is feeling very wicked he just pierces the gland from the outside with his sharp little bill, and calmly sips away without so much as a "thank you" in return.

TWIN-FLOWER. (Plate CI.)

Linnæa borealis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	Rose.	Fragrant, like almonds.	Mostly north.	June.

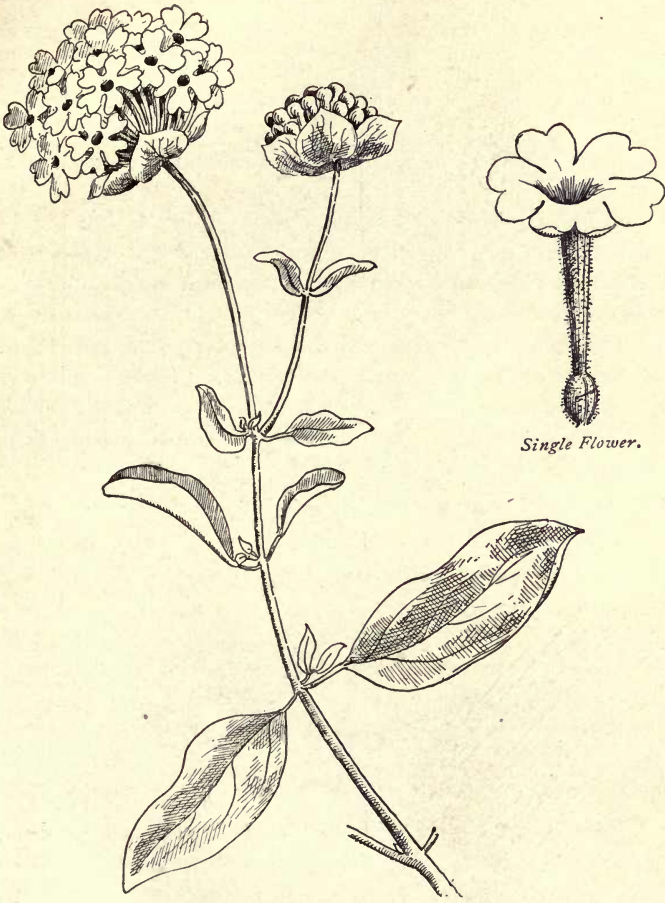
Flowers: terminal in pairs; nodding; borne on individual thread-like flower-stalks that terminate in a common peduncle. *Calyx*: small; five-toothed. *Corolla*: bell-shaped, with five rounded lobes; hairy within. *Stamens*: four; two longer than the others. *Pistil*: one; protruding. *Leaves*: opposite; on petioles; round; shining, evergreen; rising from the stem. *Stem*: trailing; decumbent.

The serene sweetness of these little twin blossoms has attracted to them many lovers. Linnæus, with his abundant knowledge of the flowers, loved them better than any other and Gronovius bestowed upon them his family name. It would seem as though they exhaled the helpful love of a brother and sister which blooms with refreshed vigour every springtime.

The following tale is told of Linnæus in connection with his fondness for them.

A friend gathering a small flower on the shore of a Swedish lake asked the great botanist if it were *L. borealis*.

"Nay," said the philosopher, "she lives not here, but in the middle of our largest woods. She clings with her little arms to the moss, and seems to resist very gently if you force her from it. She has a complexion like the milk-maid; and oh! she is very, very sweet and agreeable."



Single Flower.

PLATE CII. WHITE ABRONIA. *Abronia fragrans*.

SMOOTHER SWEET-CICELY.

Washingtonia longistylis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Parsley.</i>	<i>White.</i>	<i>Root, scented like anise.</i>	<i>North, southward and westward.</i>	<i>May, June.</i>

Flowers: small; growing in umbels with bracts underneath. *Calyx*: five-toothed. *Corolla*: of five petals. *Stamens*: five. *Pistil*: one, with two long styles. *Leaves*: thrice-compound; leaflets; ovate; deeply toothed; downy. *Stem*: one to three feet high; hairy. *Root*: aromatic; sweet-scented; edible.

The sweet-cicely has a rather hard lot in life. It is a graceful, delicate plant, and the gifts of its rootstock are those that please mankind rather than do him harm; and yet, indirectly it has been the cause of much suffering. Unfortunately it bears so strong a likeness to the deadly water-hemlock (Plate VI) that the latter is being constantly mistaken for it, with fatal results. A close comparison of the two, however, will show that in character they are quite different. The sweet-cicely is found mostly in the rich woods.

Its generic name commemorates George Washington.

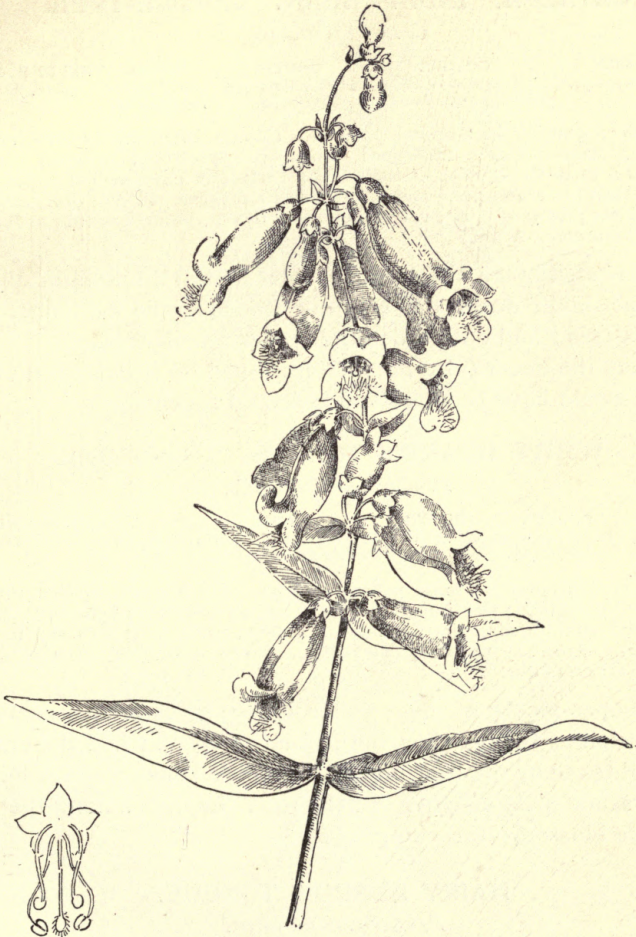
WHITE ABRONIA. (Plate CII.)

Abronia fragrans.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Four o'clock.</i>	<i>White.</i>	<i>Fragrant, like vanilla.</i>	<i>The Rocky Mountains.</i>	<i>June, July.</i>

Flowers: growing in dense umbel-like clusters. *Involucre*: of five heart-shaped, whitish bracts, thin and dry. *Calyx*: salver-form; the tube long, and spreading into a petal-like border; the lobes notched at the apex. *Corolla*: none. *Stamens*: two to five, included. *Pistil*: one. *Leaves*: opposite; lance-ovate, with a pair of stipules at the base. *Stem*: branching.

The scientific name of this flower when translated is "delicate fragrance"; and we may fitly associate the words with it in connection with its English title. In appearance it suggests much more the growth of the greenhouse than that of a hardy dweller of the Rockies. The flower opens at sunset only, when it ladens the air with its luscious perfume.



Calyx, Stamens and Pistil.

PLATE CIII. WHITE BEARD'S TONGUE. *Pentstemon Digitalis.*

CATALPA. INDIAN BEAN. CANDLE-TREE.*Catalpa Catalpa.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Trumpet-creeper.	White, dotted with yellow; purple inside.	Leaves, strongly scented.	Gulf states, northward.	June, July.

Flowers: growing in terminal panicles. *Calyx*: irregular, or two-lipped. *Corolla*: campanulate; two-lipped, with five spreading, crimped lobes. *Stamens*: three short, or occasionally four perfect in pairs, two of which are shorter than the others; and one sterile stamen present. *Pistil*: one. *Pods*: long; linear; hanging. *Leaves*: on petioles; ovate; pointed; entire or three-lobed; glabrous. A tree.

It was said by an old darkey: "dat he felt all de light ob de heavens shinin' down fru his head whenever he sat under de catalpa tree; and dat all de other times was darkness."

Surely the beautiful tree could have had no tribute paid to it which would have been more sincere and touching.

WHITE BEARD'S TONGUE. (Plate CIII.)*Pentstemon Digitalis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	White, tinged with purple.	Scentless.	New York to Virginia and westward.	Late spring and summer.

Flowers: clustered in a loose panicle. *Calyx*: of five green, pointed sepals. *Corolla*: bell-shaped; two-lipped; the upper lip, two-lobed, the lower one, three-lobed and slightly spreading; inflated. *Stamens*: five. *Pistil*: one; stigma, two-lobed. *Leaves*: opposite; lanceolate. *Stem*: sometimes growing very high; erect; smooth.

The open mouth of these pretty flowers gives them a comical expression as though they were about to speak; and the effect is heightened by the bearding of the sterile stamen, which looks like a saucy little tongue. In the west they are among the attractive blossoms of rocky places.

HAIRY BEARD'S TONGUE.*Pentstemon hirsutus.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Lilac and white.	Scentless.	Northward from the south.	Summer.

Flowers: nodding; growing in a panicle. *Calyx*: of five sepals. *Corolla*: two-lipped; dilated; similar to that of the above. *Stamens*: four fertile and one sterile which is heavily bearded with yellow. *Pistil*: one. *Leaves*: opposite; lanceolate. *Stem*: one to two feet high; rather clammy.



*Flower laid open
showing stamens.*

PLATE CIV. *Pentstemon Newberryi.*

(197)

Although not a common plant, we are sometimes so fortunate as to find the beard's tongue on rocky hillsides, or in the wood borders. Its beard is even handsomer than that of the western variety.

P. Newberryi (Plate CIV) is a pretty variety that is found growing on rocks in the far west. It is clearly presented by the illustration.

CULVER'S ROOT.

Septandra Virginica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	White.	Scentless.	Vermont westward and southward.	June-September.

Flowers: growing in terminal, dense, spike-like racemes. *Calyx*: four or five-toothed. *Corolla*: tubular; the tube long, four or five-lobed. *Stamens*: two; protruding. *Pistil*: one. *Leaves*: on short petioles; lanceolate; whorled; serrate. *Stem*: three to eight feet high; erect; stiff.

The height to which this plant grows is always a source of wonderment. It is not an inherited trait, as none of the members of its immediate family is so tall. Perhaps it simply longs to peep over the top of the trees that grow near it in the cool woods or to call attention to itself when it blooms in the meadows. The plant is also called Culver's physic and Black-root.

WILD BERGAMOT.

Monarda fistulosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Rose purple, or white.	Leaves, fragrant.	Mass. southward and westward.	June-August.

Flowers: growing in a terminal head. *Calyx*: tubular; five-toothed; hairy in the throat. *Stamens*: two, protruding. *Pistil*: one; style, protruding, two lobed at the apex. *Leaves*: opposite; lanceolate; slightly heart-shaped at the base; toothed and veined. As they approach the flower they take the colour of the corolla.

Unlike the Oswego tea, the whole of which plant is delightfully fragrant even down to the roots, and which will emit a strong scent after the bloom and leaves have dried away, the foliage alone of the wild bergamot is fragrant. The plant is a rather coarse one, but very effective. It blooms luxuri-

antly in its tufted heads, and when picked will remain fresh in water for a long time. How often it has been the fate of these leaves to be tossed in a bottle with a little alcohol; and afterwards as perfume to have added to the charms of a village belle. Oswego tea, Plate LXII.

BITTER-BLOOM. ROSE-PINK.

Sabbatia angularis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Rose pink.</i>	<i>Scentless.</i>	<i>New York southward and westward</i>	<i>July, August.</i>

Flowers: large; growing in paniced clusters. *Calyx*: of five linear sepals. *Corolla*: five-parted. *Stamens*: five. *Pistil*: one; style, two-cleft. *Leaves*: opposite; ovate; clasping at the base; rather heart-shaped. *Stem*: four-angled; much branched at the top.

Growing abundantly in the rich soil of the thickets these bright, rosy blossoms appeal to us as very beautiful. There is, however, a straight laced, angular expression about their petals which may have been the cause of their choosing a dwelling so far away from their charming relatives of the swamps. *S. stellaris*, *S. dodecandra* and *S. campanulata*, page 72, (Plate XXXI.)

STIFF GENTIAN. FIVE-FLOWERED GENTIAN.

Gentiana quinquefolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>North and west, southward to Florida.</i>	<i>September.</i>

Flowers: growing in panicles at the summit of the stem and branches. *Calyx*: of five, linear lobes. *Corolla*: funnel-form; with five lobes, terminating in a little point or bristle. *Stamens*: five. *Pistil*: one; stigmas, two. *Leaves*: opposite; ovate; slightly heart-shaped at the base; clasping. *Stem*: slender; branching.

We always welcome any one of the gentians with pleasure; for they are a family of rare taste and beauty. How bright and cheery they look to us in the late season, when the slight chill in the air begins to remind us that the summer has passed. They then seem to spring up and say, "No, not yet."

G. quinquefolia resembles somewhat the closed gentian in its manner of growth; but it has opened its lobes a little way and

it is a smaller, more delicate variety. It is very partial to the mountains for its home, although it visits sometimes in the wood borders.

WOOD-SORREL. (*Plate CV.*)

Oxalis Acetosella.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Oxalis.</i>	<i>White, veined with deep pink.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>June, July.</i>

Flowers : terminal ; solitary ; growing on slender scapes. *Calyx* : of five green sepals. *Corolla* : of five obcordate petals with a deep magenta eye and yellow centre. *Stamens* : ten. *Pistil* : one, five-divided. *Leaves* : from the root ; of three obcordate leaflets ; glabrous. *Scape* : slender. *Rootstock* : scaly ; toothed ; creeping.

One of the beauties of the deep woods is the fresh, bright clusters of wood-sorrel which seem to delight in the shady coolness. Happy, complacent little flowers they are with no disturbing elements about either their bloom or their leaves. Probably this is because they do not subject themselves to any of the evils of dissipation. Early in the evening their leaves fold backward and they sleep until bright gleams of sunlight pierce through the treetops and remind them that the day has come.

The plants bear cleistogamous blossoms which are fruitful.

VIOLET WOOD-SORREL.

Oxalis violacea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Oxalis.</i>	<i>Violet.</i>	<i>Scentless.</i>	<i>Southward.</i>	<i>June.</i>

Flowers : several ; growing on a scape. *Calyx* : of five sepals. *Corolla* : of five petals. *Stamens* : ten ; of different lengths. *Pistil* : one ; styles, five. *Leaves* : from the root ; divided into three rounded, obcordate leaflets. *Scape* : leafless ; from a bulbous rootstock.

Even after the bloom has passed, the leaves of these plants are so extremely pretty that they are frequently sought for to be potted and kept in the house throughout the winter. They are found in more rocky woods than the *O. Acetosella*, and are fond of a balmy, warm climate.



PLATE CV. WOOD SORREL. *Oxalis Acetosella*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

HERB ROBERT.*Geranium Robertianum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Geranium.</i>	<i>Purplish pink.</i>	<i>Strong fragrance.</i>	<i>Common north.</i>	<i>June-October.</i>

Flowers : growing singly, or in clusters at the ends of the flower-stalks. *Calyx* : tubular ; of five sepals. *Corolla* : small ; salver-form ; of five spreading lobes. *Stamens* : ten. *Pistil* : one ; styles, five. *Leaves* : pinnately divided twice or thrice into deeply incised leaflets ; hairy. *Stem* : highly coloured ; hairy.

This plant came prominently to the notice of royalty during the time of Robert's plague. It was then supposed to achieve many cures, and was named after Robert of Normandy.

It is one that by the bursting of its pods scatters its seeds to a very great distance.

WITCH-HAZEL.*Hamamelis Virginiana.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Witch-hazel.</i>	<i>Yellow.</i>	<i>Slightly fragrant.</i>	<i>New England to Florida and westward.</i>	<i>September-November.</i>

Flowers : few ; growing in an axillary cluster on short peduncles ; sessile. *Calyx* : four-parted, with bractlets underneath. *Corolla* : of four almost linear petals ; often twisted. *Stamens* : eight ; four perfect ; the others without anthers. *Pistils* : two. *Fruit* : an edible nut that matures the next season. *Leaves* : alternate ; oval ; wavy on the edges ; slightly downy. A shrub with several branching, crooked trunks from the root.

Whether the witch-hazel has simply forgotten to provide itself with a calendar, or whether it has the revolutionary spirit which would turn the world topsy-turvy, is still an open question. But to those that are bent on investigation a gentle hint may be given that the evidence is all in the latter direction. Otherwise why should it allow the spring and lovely summer to glide by without making them any greeting and wait until the late autumn, when the leaves are falling, to put out its pale yellow bloom. The seeds mature the next summer, which is nothing more than an audacious reversal of the orthodox order of things. The witch-hazel makes a plaything of the seasons.

It is well charged with ammunition too, and once fired it at Mr. Hamilton Gibson, who has told most amusingly of his ren-

contre with the shrub. When standing lost in admiration of it, he found himself wounded first on the cheek and then in the eye. In alarm he looked about for a hidden adversary and discovered it was the seeds of the witch-hazel which were bursting out from their coverings and shooting in all directions, he noticed to a distance of forty feet.

Again there is supposed to be some latent mysterious power about the twigs, which in remote parts of the country are still used as divining rods and to locate the presence of water underground. We feel a little more comfortable about the shrub when we remember that the extract from it is very domestic. In fact, we are occasionally informed that no household without it can possibly exist.

Plants Growing in Light Soil: Open Woods.

Perhaps it is the lively spring wind that wakes the flowers in the open woods, and laughs loudly while they take their places. They creep in as quietly as spirits, and seek the spots where they will be warm in the sunshine that falls through the trees and stains them with a ruddy richness. The dew absorbs their fragrance and lingers lovingly about as though loth to seek the sky. Knowing birds weave their nests beside them and peep out a sharp, round eye to see if any harm is near. The whole community know the country boy a little better than do those of the deep woods; but they are not afraid, and cajole him with their merriment.

PYXIE. FLOWERING MOSS.

Pyxidanthèra barbulàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Diapensiaceæ.</i>	<i>White or pink.</i>	<i>Scentless.</i>	<i>New Jersey southward.</i>	<i>March-May.</i>

Flowers: small; sessile on delicate branches. *Calyx:* of five sepals. *Corolla:* of five petals. *Stamens:* five. *Pistil:* one; stigma, three-lobed. *Anthers:* opening like the lid of a little box. *Leaves:* lanceolate; pointed; scale-like; pubescent. *Stem:* prostrate; creeping.

Little can be imagined that is more truly sweet and dainty than the flowering moss which begins to creep through the pine woods just as the spring is opening. When handled it is found to possess quite an amount of vigour; and the anthers under a microscope are a revelation. Each one is a tiny box and

opens by a lid. From this fact is the significance of its generic name.

**TRAILING ARBUTUS. MAYFLOWER. GROUND
LAUREL.** (*Plate CVI.*)

Epigæa repens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>White or pink.</i>	<i>Fragrant.</i>	<i>New England and New Jersey.</i>	<i>March-May.</i>

Flowers : growing in terminal clusters. *Calyx* : of five, green pointed sepals. *Corolla* : tubular ; with five spreading lobes ; within hairy. *Stamens* : six to ten ; included ; anthers, yellow. *Pistil* : one ; stigma, five-lobed. *Leaves* : alternate on hairy stalks ; cordate ; entire ; evergreen. *Stem* : prostrate ; branching ; woody ; hairy.

Thoreau says : " I love nature, I love the landscape because it is so sincere. It never cheats me, it never jests ; it is cheerfully, musically earnest." It is so with the arbutus, a faithful little sweetheart. Even to those that live in large cities the browned, faded bunches, tied with wet strings and peddled by sad-eyed little boys, have the power to kindle a gleam of joy in the heart ; but to those that live in the quietude of the country and watch the changing of the seasons by the position of the sun's reflection upon their sidewalls, the coming of the arbutus is an event in the year. It never disappoints its seekers. As soon as the winter's covering of snow has faded away and only little melting patches are seen sparingly about ; the dried leaves may be pushed aside and the sweet, pink face snuggling so cosily among its green leaves has a fragrant welcome to bestow. Stern and grave as were the Pilgrim fathers, they loved it dearly ; for as Whittier tells in his beautiful poem, it was the first blossom to greet them after their winter of suffering. In New England, where it grows abundantly, and especially about Plymouth, it is called Mayflower.

" O sacred flower of faith and hope,
As sweetly now and then
Ye bloom on many a birchen slope,
In many a pine-dark glen."



PLATE CVI. TRAILING ARBUTUS. *Epigaea repens*.

(205)

PIPSISSEWA. PRINCE'S PINE.*Chimaphila umbellata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Heath.</i>	<i>Flesh colour, tinged with crimson; green centre.</i>	<i>Fragrant.</i>	<i>Northeast to Ga., westward to the Pacific.</i>	<i>June, July.</i>

Flowers: nodding; usually three in a loose cluster. *Calyx*: of five green lobes. *Corolla*: of five round, concave petals with a crimson ring of colour at the base. *Stamens*: ten, with violet anthers. *Pistil*: one; stigma, five-rayed. *Leaves*: numerous, whorled, or scattered along the stem; lanceolate; toothed; evergreen. *Stem*: about six inches high.

In a crowd we might easily pass by the pipsissewa, but once having turned aside to look at it, we should be sure to linger for a better acquaintance. It is one of the prettiest of the fragile blossoms that grow in the open woods. The name pipsissewa is also full of charm and conjures up all the romance that has ever clustered about the red man. He knew undoubtedly of the plant's medicinal properties.

C. maculata, Plate CVII, is a species of pipsissewa that grows abundantly in Eastern North America and is commonly called spotted pipsissewa. It blooms a little earlier in the season than the preceding variety and if possible is a sweeter flower. The leaves are lined beautifully with white. It is also fragrant.

SPRING BEAUTY.*Claytonia Virginica.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulsane.</i>	<i>White or pink veined with a deeper shade.</i>	<i>Scentless.</i>	<i>New England southward to Georgia and westward.</i>	<i>March-May.</i>

Flowers: a few growing in loose, terminal racemes. *Calyx*: of two ovate sepals. *Corolla*: of five petals, slightly united at the base. *Stamens*: five. *Pistil*: one; style, three-lobed. *Leaves*: opposite; linear; narrowing into a petiole and varying greatly in breadth. *Stem*: erect or reclining; rarely branched. *Root*: tuberous.

We should never be tired of reminding ourselves that plants are not all formed after the same plan. They are as human beings, and we seldom find among them one that has not some interesting characteristic. Although general laws may be said

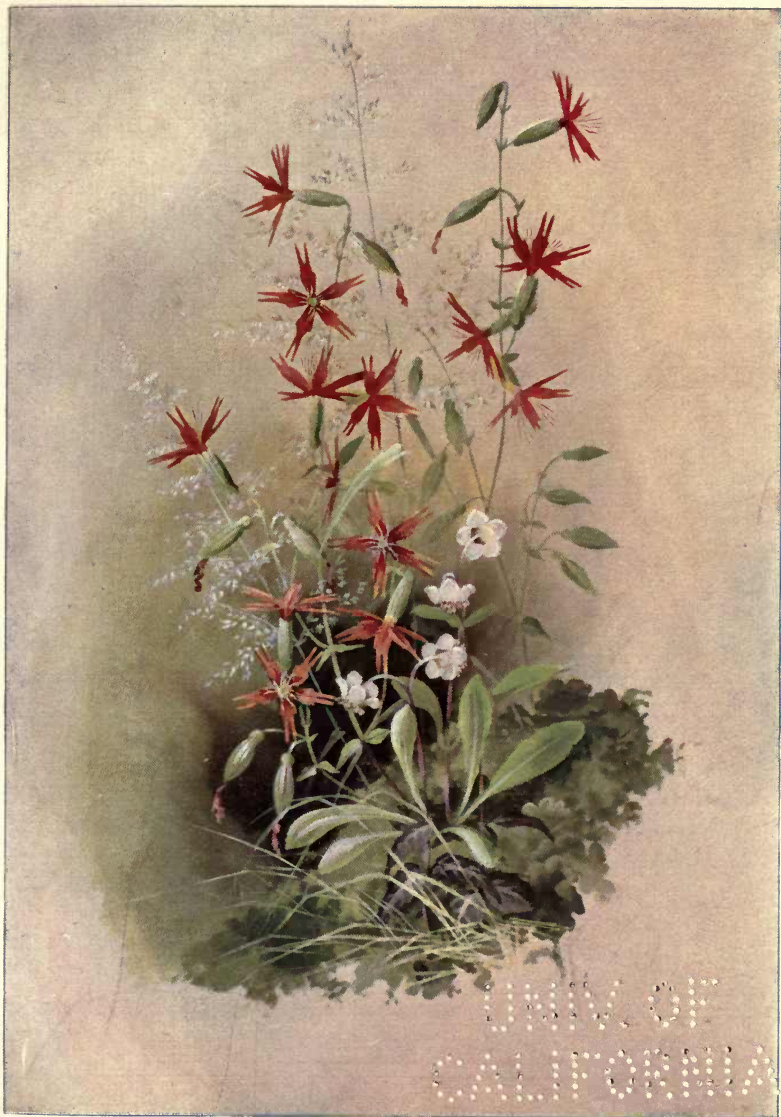


PLATE CVII. { PIPSISSEWA. *Chimaphila maculata*.
 { FIRE PINK. *Silene Virginica*.



to govern them, again as the animal world they defy any law that interferes with their individuality.

The spring beauty is familiar to many of us and as we recall it to the mind we connect with it a shrinking type of loveliness. Were it not for its delicate venation we would almost confuse it with the anemone. In woods, often by running streams, and in exposed places it blooms abundantly. It is a child of the sun and closes in cloudy weather.

LIVER-LEAF. HEPATICA.

Hepatica Hepatica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Pinkish blue, or white.</i>	<i>Fragrant.</i>	<i>Mostly east.</i>	<i>Early spring.</i>

Flowers: solitary; growing on long scapes. *Calyx*: of six, or more coloured sepals which are frequently mistaken for petals, as the involucre is inconspicuous and adheres closely to the flowers in the manner of sepals. *Petals*: none. *Stamens*: numerous. *Pistils*: numerous. *Leaves*: from the root; rounded; three-lobed; mottled with purple; evergreen. *Scape*: covered with a fuzz.

“ Brave little wilding, herald of the spring !
 First of the beauteous tribes that soon will troop
 Singly, in pairs, or in a joyous group,
 O'er sunny slope or sheltered bank ; or cling,
 By their slight fibres, where the bluebird's wing
 Alone can visit them with graceful swoop ! ”

—ELIZA ALLEN STARR.

Father Winter is hardly well on his homeward journey when we go to the woods or banks and notice a subtle fragrance hovering about the air. Led by it we direct our steps and find almost hidden by dead leaves, or perhaps by snow, our lovely hepatica. It has pushed up its delicate bloom through the rusty-looking leaves that have remained over the winter, as though impatient to be the first to greet the spring. The new leaves appear later in the season. Perhaps down below they and the blossoms had a little disagreement about just when was the proper time to arrive at the flower carnival and the leaves scoffed at the idea of being first, so they delayed in getting ready, and the flowers came on alone. Neither were they imprudent ; the buds and stems are well wrapped up in a

heavy fuzz that protects them from the cold. They knew better than the leaves how glad we all should be to see them here.

Mr. Gibson regarded them as our earliest spring flowers.

WIND-FLOWER. WOOD-ANEMONE. (Plate CVIII.)

Anemone quinquefolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Crowfoot.	White, or tinted with blue or pink.	Scentless.	General.	April, May.

Flowers : terminal ; solitary. *Calyx* : of four to seven petal-like sepals. *Corolla* : none. *Stamens* : numerous. *Pistils* : numerous, forming a head. *Leaves* : from the base ; three also on the flower stem, whorled below the flower and divided into three-toothed leaflets. *Stem* : delicate ; slender.

It is said that the Greeks named their anemone wind-flower because it appeared at the windy season ; but we would rather connect our lovely blossom with the pathetic grief of Venus over the body of the slain Adonis. As she approached Cyprus in her swan-drawn chariot she heard coming up through mid-air the groans of her beloved. She therefore turned back to the earth, alighted, and bent over his lifeless body. Overcome with grief she reproached the Fates and said :

“Theirs shall not be wholly a triumph ; memorials of my grief shall endure, and the spectacle of your death, my Adonis, and of my lamentation shall be annually renewed. Your blood shall be changed into a flower ; that consolation none can envy me.”

She then sprinkled nectar on the blood and the flowers arose. The wind blows them open and then blows the petals away. So they are short lived ; their coming and going being attributable to the wind.

“ Wind-flowers we since these blossoms call,
So very frail are they,
Tear-drops from Venus's eye let fall,
Our wood anemone.”

The European species, *A. pavonina* and *A. ranunculoides*, are scarlet and purple respectively.



PLATE CVIII. WIND-FLOWER. *Anemone quinquefolia.*

(209)

RUE ANEMONE.*Syndesmon thalictroides.*

This is a very similar plant to the wind-flower and is often found growing beside it; especially when the chosen haunt is about the roots of an old tree. Its flowers are smaller and they grow in umbels at the end of the scape. The leaves are rounder and less divided. Although it is sometimes found of a rosy hue, its usual colour is white. Like the wind-flower it is very perishable.

THIMBLE-WEED. (Plate CIX.)*Anemone Virginiana.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Greenish white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: terminal; solitary; borne on long flower-stalks. *Calyx*: of five greenish petal-like sepals. *Corolla*: none. *Stamens*: numerous. *Pistils*: numerous. *Fruit*: thimble-shaped; a head of achenes. *Leaves*: opposite; and from the base deeply cleft; the divisions again cleft and toothed. *Stem*: tall; smooth.

The tall, stiff stalks of *A. Virginiana* are very noticeable in the open woods and in many dry meadows. It is best known, however, by its odd, thimble-shaped fruit.

TALL LARKSPUR.*Delphinium urceolatum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>Blue or purple.</i>	<i>Scentless.</i>	<i>Penn. southward and westward.</i>	<i>July, August.</i>

Flowers: downy; loosely clustered in a terminal raceme. *Calyx*: of five irregular sepals, one being prolonged into a large spur. *Corolla*: of four petals in pairs; the upper pair projecting backward long spurs which are enwrapped in the spur of the calyx; the lower pair raised with short claws. *Stamens*: numerous. *Pistils*: three, forming in fruit as many erect pods. *Leaves*: alternate; palmately divided into three, or five divisions. *Stem*: three to five feet high.

The larkspurs form *en masse* an exquisite bunch of blending, beautiful colours. They are dignified flowers and until examined critically appear to be symmetrical. Their organs, however, are all irregular.



PLATE CIX. THIMBLE-WEED. *Anemone Virginiana*.

D. tricorne, called also stagger-weed, is the dwarf larkspur which brightens the open woods with its long, loose clusters of bright blue or white flower. It effects a close soil and is found mostly southward and westward from Pennsylvania. The stem is from six to twelve inches high and smooth. The leaves are deeply five-parted and the roots are tuberous.

In common with nearly all the larkspurs, of which there are over twenty-five species native to the United States, the plant possesses poisonous properties, and is especially harmful to cattle in April if they indulge too freely in its fresh, green shoots. It is from this fact that it has derived its name of stagger-weed.

D. Carolinianum, Carolina larkspur, Plate CX, has azure, pink or white flowers that are somewhat smaller. It is a downy plant, from one to three feet high.

D. Ajacis, with which we are familiar in old gardens, is similar to a hyacinth, and has flowers crowded in a long, close raceme. The spur is short and the pods very downy. On the front of the united petals there are two marks which are supposed to be the letters A. I. There is a pretty legend connected with it.

When Ajax and Ulysses presented themselves as claimants for the armour of the treacherously slain Achilles, the Greeks awarded it to Ulysses; and by so doing placed wisdom before valour. Ajax, on hearing the decision, slew himself, and from the spot where his blood touched the ground a lovely flower sprang up, bearing on its petals the two first letters of his name, Ajax, or Aiai, which is the Greek for woe.

DOWNY YELLOW VIOLET. (Plate CXXXV.)

Viola pubescens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Viola.</i>	<i>Yellow, veined with purple.</i>	<i>Faintly fragrant.</i>	<i>General.</i>	<i>May.</i>

Flowers : solitary ; growing on axillary flower-stalks. *Leaves* : usually two on the stem ; broad ; on petioles ; serrate ; smaller, bract-like leaves below. *Stem* : leafy above ; pubescent.

This fair-hued little violet is one of the pleasantest sights



PLATE CX. CAROLINA LARKSPUR. *Delphinium Carolinianum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY,
PRINTED IN AMERICA.

that greet us in the spring woods. It seems always young and guileless, as though it would never grow old or wise. It is so closely associated in the mind with Bryant's lovely poem, "The Yellow Violet," that we cannot but lament the evidence that inclines us to the belief that it was *V. rotundifolia* by which he was inspired.

FRINGED POLYGALA. FLOWERING WINTERGREEN.

Polygala paucifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkwort.</i>	<i>Rose pink.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>May.</i>

Flowers : axillary ; growing on slender flower-stalks ; cleistogamous flowers borne near the root. *Calyx* : of five sepals, two of which are wing-like and coloured like petals. *Corolla* : very irregular ; the keel ornamented with a fringe. *Stamens* : six. *Pistil* : one. *Leaves* : mostly at the summit of the flower-stalks ; ovate ; those below scale-like. *Stems* : underground. *Rootstock* : running.

Usually the fringed polygalas are found growing together in numbers as though they had just met for some gay fête. They have on their party clothes, and look as pretty and bright as possible. The poor little fertile flowers at the base have no party clothes, and are evidently left out of all the fun. No fairy god-mother has found them out, so they just have to stay at home and do the work of reproducing their species, while the useless, giddy sisters amuse themselves and are admired by all.

P. polygama has many flowers growing in a raceme at the summit of a leafy flower-stalk. It also makes the plain little sisters stay at home to do the work, knowing well that their vanity never overrules their good sense, and that they do not open their petals to expose their pollen to the rains, thieving insects or any other evils that might overtake them.

TWIN-LEAF. RHEUMATISM-ROOT.

Jeffersonia diphylla.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Barberry.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New York southward and westward.</i>	<i>April, May.</i>

Flowers : solitary ; growing on a naked scape. *Calyx* : of four petals that fall early. *Corolla* : one inch broad, of eight petals. *Stamens* : eight. *Pistil* : one ;

stigma, two-lobed. *Leaves*: from the base; growing on long stalks, and parted into two rounded leaflets which have won for it the name of twin-leaf. *Scapè*: simple; naked.

The generic name of this pretty little perennial herb was bestowed on it in honour of Thomas Jefferson. It comes to us early in the season, but is only found sparingly in woods that are east of New York.

WILD MANDRAKE. MAY APPLE.

Podophyllum peltatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Barberry.</i>	<i>White.</i>	<i>Unpleasant.</i>	<i>General.</i>	<i>May.</i>

Flowers: large; solitary; nodding from a short pedicel between the two leaf-stalks. *Calyx*: of six sepals that fall early. *Corolla*: of six to nine petals. *Stamens*: usually double the number of petals. *Pistil*: one. *Fruit*: a large berry filled with seeds and sweet to the taste; it appears like a small lemon. *Leaves*: usually two; terminal at the ends of elongated petioles; umbrella-shaped; five to nine lobed. Beside the flowering stems other stems arise which bear a single leaf seven to nine lobed.

A strange little flower is our mandrake, and a strange way it has of growing under its great umbrella-like leaves. It seems as though its perpetual dread in life is to be wet by a thunder-shower. The fruit, called wild-lemon, is harmless, and is often eaten and enjoyed by children; but the leaves and roots possess a deadly poison.

The Indians know how to use it medicinally.

STAR-FLOWER.

Trientalis Americana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Primrose.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>May.</i>

Flowers: small; terminal; solitary. *Calyx*: of six, or seven sepals. *Corolla*: wheel-shaped; of six, or seven pointed petals. *Stamens*: numerous. *Pistils*: four to fifteen. *Leaves*: sessile; long; narrow and whorled below the flower. *Stem*: erect; slender. *Rootstock*: slender.

Growing near the anemone and often near the wild strawberry, we find in the spring woods this prim little blossom. Its



PLATE CXI. PARTRIDGE VINE. *Mitchella repens*.

(215)

appearance is crisp and pert-like, and although it evades us and hides itself behind its handsome leaves, we may hardly fancy that it does so from shyness ; but rather that it is mischievously teasing its seeker and peeping out its bright face to laugh at him as he passes on.

FOUR-LEAVED LOOSESTRIFE.

Lysimachia quadrifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Primrose.</i>	<i>Yellow, streaked with red.</i>	<i>Scentless.</i>	<i>General.</i>	<i>June.</i>

Flowers : solitary ; growing uprightly on axillary thread-like flower-stalks. *Calyx* : of five, parted petals. *Corolla* : of five, oblong, parted petals. *Stamens* : four or five. *Pistil* : one. *Leaves* : lanceolate ; opposite or whorled at even distances about the stem. *Stem* : upright ; smooth.

The perfectly symmetrical arrangement of the leaves of this plant and the star-like, bright faces that shoot out from their axils make it very noticeable. It is closely related to *L. terrestris* of the moist meadows ; but is fond of the light soil of open woods and sometimes even appears along the roadsides. This difference of taste is probably owing to the considerate forethought of the family, which wish to put themselves as much *en evidence* as possible, and to be ready to assist the poor farmer by using their soothing influence upon his quarrelsome beasts. *L. terrestris*, page 93.

PARTRIDGE VINE. (Plate CXI.)

Mitchella repens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Madder.</i>	<i>White.</i>	<i>Fragrant.</i>	<i>General.</i>	<i>June, July.</i>

Flowers : terminal ; two in each cluster. *Calyx* : of four toothed sepals. *Corolla* : of four wax-like lobes which extend into a tube ; within hairy. *Stamens* : four. *Pistil* : one. *Fruit* : a small, round, scarlet berry singularly crowned with the eight calyx-teeth, and formed by the cohering of the ovaries of the twin flowers. *Leaves* : small ; round ; opposite ; shiny ; evergreen. *Stems* : trailing closely over the ground.

Much of the essence of the woodlands is embodied in the cherry-like scent of the gentle sister blossoms and the pretty

fruit and bright trailing stem of the partridge-vine. It is a great favourite in the open woods and never deserts them to visit in other localities. Many a merry meal it has offered to the passer-by, and animals and birds know well the pulpy, red berry. In some places they also frequently find their way to the markets.

The blossoms are dimorphous, as are their sedate little relatives the quaker ladies. Page 97, Plate XLVI.

TALL HAIRY AGRIMONY.

Agrimonia hirsuta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Yellow.	Like apricots.	General.	July, August.

Flowers: small; growing in a close, slender raceme. *Calyx*: obconic; five-lobed, covered with hooked bristles. *Corolla*: of five, rosaceous petals. *Stamens*: ten, or more. *Pistil*: one; sometimes three or four. *Leaves*: pinnate; of five to seven lance-oblong, coarsely-toothed leaflets. *Stem*: erect; bristly.

Many tender grandmotherly traditions cluster about agrimony. They loved its fragrant flowers and roots, and prized it especially because an addition of its dried leaves made the tea go further, and gave to it a peculiar aroma and delicacy of flavour. The dear old country doctor in his rattling gig knew the agrimony and had it classed among his harmless remedies. Paper bags filled with it and hung against the garret walls are also among the memories that its name recalls.

WHITE AVENS.

Gèum Canadènsè.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	White.	Scentless.	General.	May-August.

Guarding the borders of the thickets and open woods we find the white avens. It is a less conspicuous plant than either *G. rivale* or *G. strictum*, pages 52 and 53, and has small, short, white petals. We must infer that its lack of an attractive appearance is really premeditated, and for the purpose of preventing our

noting its whereabouts, to avoid it; as in the late season it sheds abroad very little of the milk of human kindness in attaching its burrs to the unfortunate.

WILD PINK. (Plate CXII.)

Silène Caroliniàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pink.</i>	<i>Rose pink, to nearly white.</i>	<i>Scentless.</i>	<i>Eastern, middle and southern states.</i>	<i>April-June.</i>

Flowers: clustered at the ends of the flower-stalks. *Calyx*: long; of five sepals that form a tube. *Corolla*: of five notched petals with claws that are enclosed in the calyx-tube. *Stamens*: ten. *Pistil*: one; styles, three. *Leaves*: those from the base, long, narrow, clustered; terminating in hairy petioles; those of the stem lanceolate, opposite. *Stem*: four to eight inches high; branching; vigorous.

Let us cast a glance at these lovely deep, rosy pinks as we pause by some rocky ledge in the open May woods. They sit so jauntily upon their stems and have such an assured expression that we feel they are whispering to each other very spicy things; and who knows but about us? Indeed, the flowers have quite as good a right to criticise our manners and appearance as we have to chatter so much about them.

FIRE PINK. VIRGINIA CATCHFLY. (Plate CVII.)

Silène Virginica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pink.</i>	<i>Scarlet.</i>	<i>Scentless.</i>	<i>New York southward and westward.</i>	<i>All summer.</i>

Flowers: few; growing on pedicels in a cyme. *Calyx*: tubular; five-cleft; sticky; nodding in fruit. *Corolla*: of five lanceolate, deeply two-cleft petals. *Stamens*: ten. *Pistil*: one; styles, three. *Leaves*: small; lanceolate; thin. *Stem*: one to two feet high; erect; slender; pubescent.

The viscid substance that covers the calyx and stems of the fire pink has led emblematisers, whose hearts have been full of compassion for the hapless insects held to die by its means, to associate the idea of remorseless fate with the plant. It is not thought that it assimilates its victims for nourishment as is customary with the insectivorous plants; and its large sticky calyx is therefore to be regretted, as it mars to a great extent

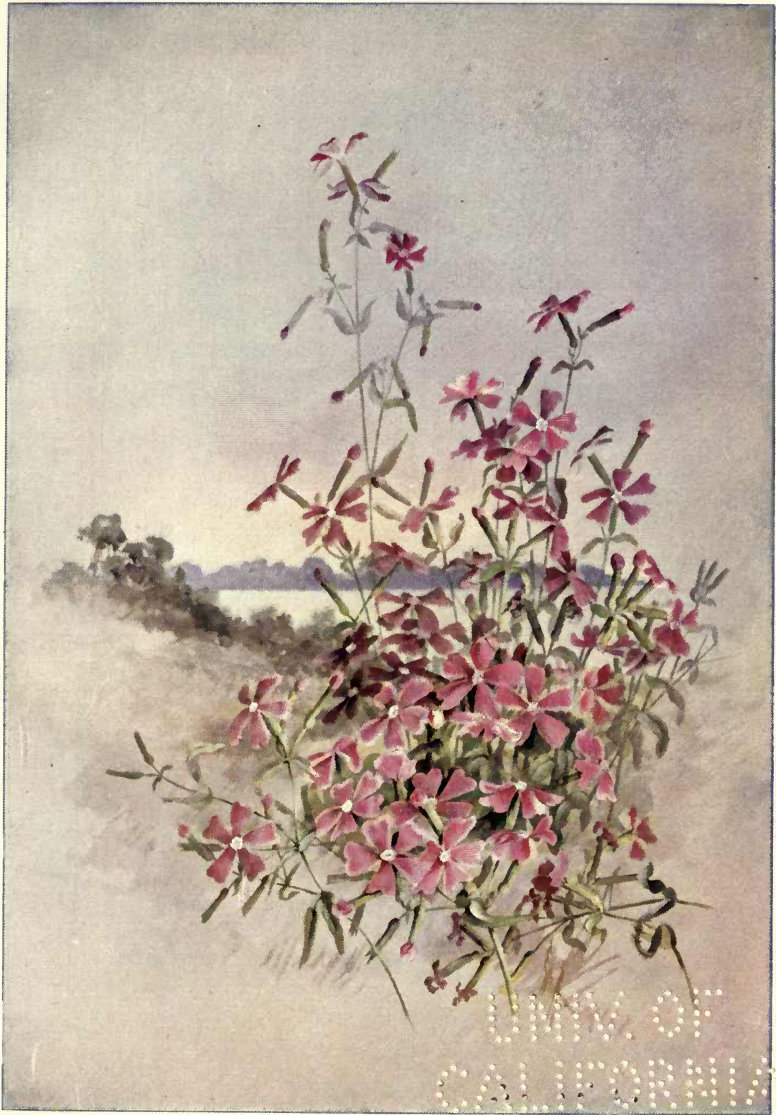


PLATE CXII. WILD PINK. *Silene Caroliniana*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.

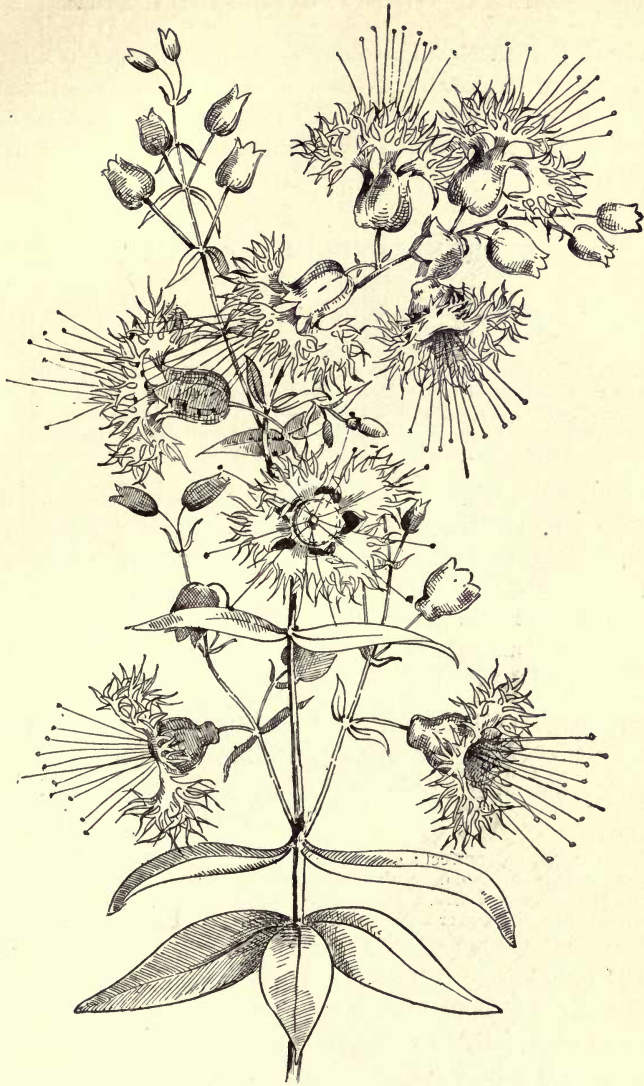


PLATE CXIII. STARRY CAMPION. *Silene stellata*.

the beauty of the brilliant flower. Dr. Erasmus Darwin, when speaking of American catchflies, said, "The viscid material which surrounds the stalks under the flowers is a curious contrivance to prevent insects from plundering the honey, or devouring the seed."

STARRY CAMPION. (*Plate CXIII.*)

Silène stellata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pink.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>June, July.</i>

Flowers: clustered loosely in a panicle. *Calyx*: swollen; reddish, sticky, with five lobes. *Corolla*: of five deeply fringed petals. *Stamens*: ten; exserted. *Pistil*: one; styles, three. *Leaves*: sessile; lanceolate; whorled in fours, or opposite in pairs on the upper and lower part of the stem. *Stem*: two to three feet high; reddish coloured.

The deeply fringed petals and yellow-green leaves of the starry campion form masses of delightfully cool colouring that seem to breath the freshness of the midsummer woods. It is in the evening that the flowers unfold, although in much shaded woods they remain open until noon of the next day. The plant is a conspicuous catchfly.

GROUND-NUT. DWARF GINSENG. (*Plate CXIV.*)

Panax trifolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Ginseng.</i>	<i>White.</i>	<i>Scentless.</i>	<i>New England westward; southward to Georgia.</i>	<i>April, May.</i>

Flowers: tiny; imperfect; clustered closely in a slender-stalked umbel and forming a ball of bloom. *Calyx*: short; with five small teeth. *Corolla*: of five petals. *Stamens*: five. *Pistil*: one. *Fruit*: deep yellow. *Leaves*: three, whorled below the flower and divided into three to five sessile leaflets. *Root-stock*: tuberous; deeply seated in the earth.

The round fluffy ball of tiny blossoms just rising above the leaves gives this plant a very pretty and innocent look. It rests so peacefully in the spring woods that it seems a shame to disturb it to dig for its tubers. They are edible and have a sweet, pungent taste.



PLATE CXIV. GROUND-NUT. *Panax trifolium*.

(221)

FIVE-LEAVED GINSENG.*Panax quinquefolium.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Ginseng.	Greenish white.	Scentless.	Vermont to Minn. southward to Georgia.	July, August.

Flowers: imperfect; clustered in a slender-stalked umbel. *Calyx*: short; with five small teeth. *Corolla*: of five petals. *Stamens*: five. *Pistil*: one. *Fruit*: a bright red berry. *Leaves*: three, whorled below the flowers and palmately divided into three to five ovate, pointed leaflets on each of the three petioles. *Stem*: about one foot high. *Roots*: forked; aromatic.

This plant is eagerly sought for in the woods not only by lovers of flowers, who appreciate it as a rarity, but also by those who consider the commercial value of its roots. It is closely allied to the true Manchurian ginseng of China and is exported there from this country in large quantities. The Chinese regard its stimulating properties as more powerful than those of any other drug to invigourate the system. As is the case with the Mediterranean mandrake, the forked specimens are thought to resemble the human form, and the name ginseng is a corruption of the Chinese Jintsan, meaning like a man. The plant has not, however, so uncanny a reputation as the mandrake and does not cry out when uprooted from the earth.

WILD SARSAPARILLA.*Ardlia nudicaulis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Ginseng.	Greenish white.	Scentless.	General.	June.

Flowers: clustered in an umbel on a short naked scape. *Calyx*: short; with five small teeth. *Corolla*: of five petals. *Stamens*: five. *Pistil*: one. *Fruit*: dark purple. *Leaves*: one only; growing much higher than the flowers and divided into five oval toothed leaflets on each of the three petioles. *Roots*: slender; running horizontally.

It is said that the gods compensate an ugly mother by giving her a beautiful child, and we often notice that rather plain-looking flowers produce very attractive fruit. It is so with the wild sarsaparilla, the close bunches of dark, shining berries protected by their handsome leaves being a conspicuous feature of the late summer woods. The roots are gathered and sold in quantities to flavour summer drinks, or as a substitute for the genuine sarsaparilla.



PLATE CXV. WILD GERANIUM. *Geranium maculatum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page, possibly bleed-through from the reverse side.

AMERICAN SPIKENARD.

Aràlia racemòsa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Ginseng.</i>	<i>Greenish white.</i>	<i>Roots fragrant.</i>	<i>Vermont to Minnesota, southward to Georgia.</i>	<i>July.</i>

Flowers : imperfect ; growing in drooping, compound umbels in a long panicle ; similar to those already described of the genus *Aralia*. *Leaves* : very large ; compound ; with heart-shaped pointed leaflets ; downy ; toothed. *Stem* : very leafy ; branched. *Roots* : branched ; aromatic ; fragrant.

Few could pass by the long red or purple clusters of berry-like fruit which the spikenard bears without turning aside to admire them. Just before being quite ripe they are particularly brilliant and beautiful in colouring.

WILD GERANIUM. WILD CRANESBILL. (Plate CXV.)

Geranium maculatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Geranium.</i>	<i>Purplish pink or lavender.</i>	<i>Scentless.</i>	<i>General.</i>	<i>April-July.</i>

Flowers : growing in pairs, or more numerous on long peduncles. *Calyx* : of five pointed sepals. *Covolla* : of five rounded petals. *Stamens* : ten, five of which are longer than the others with glands at their bases. *Pistil* : one ; styles, five. *Fruit* : maturing into as many capsules. *Leaves* : palmately three, five, or seven divided ; each division notched into lobes at the end ; the older leaves blotched, or spotted with white. *Stem* : branching ; hairy.

When so strong and vigorous a plant as the wild cranesbill clothes itself in delicate purple or lavender, we naturally think it has a taste for the artistic. The detail of its gown has also been most carefully planned, as is shown by its beautiful venation. Undoubtedly it is doing its best to keep up with its favoured relatives of the gardens. Its common name, cranesbill, and Greek name, geranium, are from the resemblance of the partly-matured seed vessels to the long beak of a crane. When ripe they burst open elastically and scatter the seeds. The plant spreads itself bountifully over the fields and roadsides as well as rests quietly in the open woods.

NEW JERSEY TEA. RED-ROOT.

Ceanòthus Americànus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Buckthorn.	White.	Scentless.	General.	July.

Flowers : crowded in a dense umbel-like cluster. *Calyx* : of five rounded lobes coloured like petals. *Corolla* : of five hood-shaped petals. *Stamens* : five. *Pistil* : one ; stigma, three-lobed. *Leaves* : alternate on short petioles ; oblong ; triple-ribbed ; serrated ; downy underneath. A low shrub ; one to three feet high. *Root* : bright red.

New Jersey tea is not so named because that much-abused State knows no other, or is especially partial to the use of red-root as a beverage ; but because in Revolutionary times the little political difficulty that made tea rather scarce was felt less poignantly by thrifty housewives who had bags of its dried leaves hung in the garret. The root-bark is also known in medicine, and it yields a brown dye.

PROSTRATE TICK-TREFOIL. (Plate CXVI.)

Meibòmia Michàuxii.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Pulse.	Purple.	Scentless.	Florida to Miss. and northward.	August.

Flowers : growing in terminal racemes on axillary branches. *Calyx* : five-cleft. *Corolla* : papilionaceous. *Pods* : with scalloped margins. *Leaves* : of three rounded, ovate leaflets. *Stem* : prostrate ; pubescent.

When the Meibomias or Desmodiums, as they were formerly called, held their family council as to the best way for them to disperse their seeds, they decided upon a plan no doubt gratifying to themselves but just a little trying to humanity at large. It seems as though they had considered the question from their point of view alone. They then provided themselves with jointed pods that are covered with bristly hooks, and cleverly designed to fasten in the fleece of sheep, or hair of animals. In fact, they do not despise clothing of any description. In this way they secure a very wide distribution, and often fall upon ground at a great distance from the original plants. They are not well-bred like the rattlesnake, who always gives a friendly warning of his intentions ; and the first



PLATE CXVI. PROSTRATE TICK-TREFOIL. *Meibomia Michauxii*.

(225)

intimation one has of their whereabouts is to find himself covered with their pods. Time must then be taken to pick them off, even though, as Thoreau says : " You were running for your life." The family is also a numerous one, and it is almost impossible not to come in contact with some of them when taking a stroll in the autumn.

M. Canadensis is the tallest and most showy of the genus ; often reaching six feet high. It is not at all discriminating in its choice of a home, and can be found almost anywhere, from the heart of the woods to the middle of a bog.

M. nudiflora is a smaller and very common species of the open woods. Its purple flowers grow in a raceme on a usually leafless scape.

M. grandiflora bears a long raceme of flowers with leaves divided into large leaflets crowded below it on the same stem.

All of these plants are readily known by their purplish papilionaceous corollas and three-foliolate leaves. The bloom is often quite pretty.

WOOD-BETONY. LOUSEWORT. (Plate CXVII.)

Pedicularis Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Yellow, red, or purple.	Scentless.	General.	May-July.

Flowers : growing in a short, thick spike. *Calyx* : united and split down the front. *Corolla* : tubular ; two-lipped, the upper lip helmet-shaped, the lower one erect and three-lobed. *Stamens* : four enclosed in the upper lip. *Pistil* : one. *Seed pods* : dagger-shaped. *Leaves* : those from the root deeply incised and cut ; those near the flower, smaller and less cut ; hairy. *Stem* : erect ; hairy.

The wood-betony is another of the flowers that interest us by their irregularity and vigour of expression. The upper lip raises itself in the most self-asserting manner until it takes the whim to arch over. Two short teeth then hang down and form a striking likeness to the head of a walrus. The under lip, which is shorter, completes the resemblance by drooping. Occasionally the whole flower is of a deep rich purple ; but usually the parts are differently coloured, the upper lip being



Fruit and calyx.

PLATE CXVII. WOOD-BETONY. *Pedicularis Canadensis.*

(227)

purple and the lower one pale yellow. Again pale and dark clumps of the flowers will be found growing side by side. After the bloom has passed the plants are not pretty, as the fern-like leaves and pods are rather rough.

Unfortunately, the plant is not credited with possessing any especial virtue, and we have no reason to believe it is identical with the ancient betony of history.

NARROW-LEAVED COW-WHEAT.

Melampyrum lineare.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: small; solitary; axillary. *Calyx*: bell-shaped; four-cleft. *Corolla*: tubular; two-lipped, the upper lip arched, the lower one three-lobed. *Stamens*: four. *Pistil*: one. *Leaves*: opposite; lanceolate or narrower; the upper sparingly tipped with bristles. *Stem*: six to twelve inches high; erect; branching.

Cow-wheat is so named because the Dutch at one time cultivated it as food for their cattle; and the Greek generic name, *Melampyrum*, meaning black wheat, refers to the colour of the seeds when mixed with other grain. The plant is very common in our open woods, and is not particularly attractive.

SMOOTH FALSE FOXGLOVE.

Dasystema Virginica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>New England to Minnesota southward to Florida.</i>	<i>August, September.</i>

Flowers: large; growing in a leafy raceme. *Calyx*: short; campanulate, with five lobes. *Corolla*: large; with five spreading lobes extending into a long tube, the inside of which is woolly. *Stamens*: four, in pairs, one pair shorter than the other; woolly. *Pistil*: one. *Leaves*: opposite; the lower ones finely divided, the upper ones lanceolate; entire. *Stem*: from three to six feet high; branching; smooth. *Root*: parasitic.

The figworts are one of the few families that remain with us after the composites have arrived. It would seem as though they were loath to leave us without some reminder of the more delicate bloom of the spring and summer. In full bud the plants are especially beautiful. In fact, the large showy



PLATE CXVIII. { DOWNY FALSE FOXGLOVE. *Dasyctoma flava*.
 { SMOOTH RUELLIA. *Ruellia strepens*.

1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950



PLATE CXIX. FERN-LEAF FALSE FOXGLOVE. *Dasystema Pedicularia*.

flowers have hardly the charm of the deeply-tinted enrolled buds which pique the interest with the expectancy of the blossom. Often we find the foxglove blooming in the woods when there is not another flower to be seen, and we therefore greet it with an added amount of pleasure.

D. flava, or downy false foxglove, Plate CXVIII, is perhaps a little earlier in coming into bloom. It is a smaller plant, very showy, and with beautiful bell-shaped flowers.

FERN-LEAF, OR LOUSEWORT FALSE FOXGLOVE.

(Plate CXIX.)

Dasystoma Pediculæria.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>Maine southward.</i>	<i>August, September.</i>

Flowers: large, in a terminal leafy panicle. *Calyx*: irregularly cut; five-lobed; pubescent. *Corolla*: funnel-form; inflated; with five slightly irregular lobes; within woolly; pubescent. *Stamens*: four in pairs, one pair shorter than the other; woolly. *Anthers*: lavender. *Pistil*: one. *Leaves*: pinnatifid; the divisions much incised. *Stem*: branched; leafy. *Root*: parasitic.

The blossoms from which the accompanying illustration was made were picked in North Carolina; and there, as along the Atlantic coast, the fern-leaf foxglove is very lovely. There is a sensitiveness about the plant that makes us fancy it to be one of the timid spirits of nature. It resents being picked, and the leaves and stems then turn quickly black and die.



PLATE CXX. SPANISH BAYONET. *Yucca filamentosa*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Small, faint, illegible markings or text at the bottom of the page, possibly bleed-through from the reverse side.

Plants Growing in Sandy Soil.

There are flowers that delight in sandy soil, and they are as well adapted to it as the white water-lily is to its home in the pond. When they desire moisture they are fashioned so as to retain it within themselves, and have succulent, non-porous foliage. If it is unpleasant to them their leaves are small or thin, and sometimes close at the approach of a storm, or when the air is laden with moisture. This sense or instinct that flowers possess seems to be somewhat akin to that of the carrier pigeon; or of a dog that will follow a trail over rocks even after they have been washed by the rain. We all know that the Indian's senses are much better developed than those of civilised man and they are ever in sympathy with the flowers.

SPANISH BAYONET. ADAM'S NEEDLE. (Plate CXX.)

Yucca filamentosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lily.</i>	<i>White.</i>	<i>Scentless.</i>	<i>East Virginia southward.</i>	<i>Summer.</i>

Flowers: large; growing in compound panicles on a scape-like flower-stalk. *Perianth:* of six, oblong, pointed divisions, sometimes tipped with purple at the ends. *Stamens:* six. *Pistil:* one. *Leaves:* one to two feet long; lanceolate; growing from a short trunk.

This striking plant, whose generic name is taken from the name used by the aborigines of America, is perhaps more familiar to us of the north in cultivation, than in the state of wild freedom it enjoys in the south. It guards our garden paths

with an erect, sentinel-like bearing that is very imposing, and no one is afraid, even though it is called Spanish bayonet.

BEACH PLUM.

Prunus maritima.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Plum.	White or rose tinted.	Sweet scented.	Maine to Virginia.	April, May.

Flowers : growing in round, dense clusters. *Calyx* : urn-shaped, with five green lobes. *Corolla* : of five rosaceous petals. *Stamens* : numerous. *Pistil* : one. *Fruit* : a drupe, or having a stone enclosed in the centre; glaucous. *Leaves* : alternate, with stipules; oval; finely toothed; downy underneath. A low shrub with dark, purple bark.

In the sandy soil of the sea-beaches this spreading shrub may be found growing abundantly. The bumblebees know well its home and seem to have deserted every other flower to hover about it drowsily. It is a native of America and delicious preserves have been made from its fruit.

BIRD'S-FOOT VIOLET. (*Plate CXXI.*)

Viola pedata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Violet.	Pale blue and deep purple.	Scentless.	New England to Minn. and southward.	May.

Flowers : large, one inch across; solitary; nodding; growing on a scape. *Calyx* : of five pointed sepals with ears at the bases. *Corolla* : of five unequal, beardless petals, one of which extends into a spur. *Stamens* : united about the pistil. *Pistil* : one; style, club-shaped. *Leaves* : from the base; pedately five to nine-parted; the lobes narrow; spatulate.

From time immemorial violets have had their historians, their eulogists, and their worshippers; and yet, they are not strikingly handsome plants that claim instant admiration; they are simply gentle, modest and sweet.

It is not, perhaps, generally known that until recently the violet was highly prized in medicine; and physicians of the middle ages regarded it as one of their four cordial flowers. In the time of Charles II. a conserve called violet paste, or violet sugar, was in great favour with royalty and all the more eagerly consumed because it was thought to be a preventative



PLATE CXXI. BIRD'S-FOOT VIOLET. *Viola pedata*.
Viola pedata bicolor.

(233)

of and cure for all pulmonary complaints. It may be that this was the forerunner of the violet glacé which is now eaten, although undoubtedly more from pure delight than any idea of benefit.

V. pedata bicolor, Plate CXXI, which is a variety of *V. pedata*, is very handsome, with deep purple, velvet-like upper petals. The foliage of these violets is conspicuous as having departed from the entire leaf type with heart-shaped base that is commonly associated with the plants. They belong to the stemless division, so-called, of violets and although they often bloom a second time late in the season they do not bear cleistogamous blossoms.

V. Atlantica, coast violet, is a pretty plant with flowers that grow on long slender scapes. Its petals are nearly equal in length. It is by the leaves, however, that it is readily distinguished. They are ovate to reniform in outline and deeply parted into linear or oblanceolate lobes; the middle one being somewhat wider than the others. We find them either toothed or entire.

POVERTY-GRASS. FALSE HEATHER.

Hudsonia tomentosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rock-rose.	Yellow.	Scentless.	New England southward and westward.	May, June.

Flowers: growing in loose, leafy clusters. *Calyx*: of five sepals, two larger than the others and appearing like bracts. *Corolla*: of five petals. *Stamens*: numerous. *Pistil*: one. *Leaves*: very small; numerous; hugging the stem closely. *Stem*: low; bushy; heath-like.

It seems rather the irony of fate that the word poverty should ever have been associated with this heather-like little plant. Its bright, yellow flowers and green leaves are extremely pretty against the light background of some sandy hillside. There is, however, a hopelessness, a lack of endurance about the little blossoms that is to be regretted. They open in the sunshine, unresistingly give up the struggle, and live but a single day.

ROCK-ROSE. FROST-WEED.

Helidnthemum Canadense.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rock-rose.	Yellow.	Leaves, when bruised, like balsam.	Maine southward and westward.	July, August.

Flowers: occurring in two forms; the early blossoms large; solitary, with five petals; the later ones small and axillary. *Calyx*: of the early flowers; of five sepals, two larger than the others and appearing like bracts. *Corolla*: of five, or more early-falling petals. *Stamens*: numerous; in the later blossoms, three to ten. *Pistil*: one; stigma, three-lobed. *Leaves*: opposite, becoming alternate as they ascend the stem; lanceolate; pubescent underneath. *Stem*: erect; branched; pubescent.

As is the case with many families the frost-weed raises two sets of children. The first, which unfold in July, are large, solitary and open in the sunshine only. The next day they droop their petals and die. They resemble closely an evening primrose. Perhaps the plant finds them too luxurious and delicate as offsprings; for later in the season, in August and September, it blooms again, and numerous smaller blossoms appear in the axils of the leaves. They are quite different in aspect from their brothers and sisters that have gone on before, and are with or without petals. The plant, however, is hardly mistakable, especially in November, when ice crystals fantastic and whimsical in shape burst open the bark and rear themselves on high. These are supposed to be the sap of the plant, which accumulates moisture and then freezes.

STAGGER-BUSH.

Pieris Mariàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Heath.	White, or tinted with pink and red.	Scentless.	Rhode Island to Florida.	May, June.

Flowers: rather small; nodding; clustered on leafless shoots. *Calyx*: of five lanceolate sepals. *Corolla*: roundish; of five petals. *Stamens*: ten. *Pistil*: one. *Leaves*: oblong; glossy veined. A shrub two to four feet high.

Like lambkill the stagger-bush has a rather unkind way of dealing with young lambs and sheep that browse upon its green shoots. It turns their poor, foolish heads dizzy, or if they have persistently eaten too freely, it sends them to their everlasting

rest. The shrub is very handsome and is generally found in the sandy, dry soil of low grounds about New York and Rhode Island. It is a connection of the Andromeda of the marshes.

VERNAL WHITLOW-GRASS.

Draba verna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mustard.	White.	Scentless.	General.	April, May.

Flowers: small; growing in a raceme on a naked scape. *Calyx*: of four sepals that fall early. *Corolla*: of four two-cleft petals. *Stamens*: six, of which two are shorter than the others. *Pistil*: one. *Pod*: flat; somewhat lanceolate. *Leaves*: from the root; oblong to lanceolate. *Scape*: one to three inches high.

This little member of the spicy mustard family makes its home in sandy, waste places. It has been naturalised from Europe.

PIMPERNEL. POOR-MAN'S, OR SHEPHERD'S WEATHER-GLASS.

Anagallis arvensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Primrose.	Reddish, white, or blue.	Scentless.	General.	June-August.

Flowers: small; solitary; axillary; growing on slender flower-stalks. *Calyx*: five-parted. *Corolla*: wheel-shaped, with five delicately fringed segments. *Stamens*: five; the filaments bearded with purple. *Pistil*: one. *Leaves*: short; opposite; ovate; almost sessile; darkly spotted. *Stem*: low; spreading on the ground.

The wish to be of some assistance to the poor man and the shepherd is characteristic of this dear little flower. It spreads itself out abundantly over the sandy, waste fields where they often pass by, and warns them of the approaching storms by closing its petals. At night also and when the day is cloudy it folds them together. The fact that it does so with the choice of a sandy soil for its habitat shows how consistent the plant is in its aversion to moisture.

A. Stidus, St. Peter's-wort, is general in the sandy soil and especially the pine barrens of New Jersey and Long Island. Its petals are longer than the sepals and obovate in outline.



PLATE CXXII. ST. ANDREW'S CROSS. *Ascyrum hypericoides*.

(237)

ST. ANDREW'S CROSS. (*Plate CXXII.*)*Ascyrum hypericoides.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>St. John's-wort.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Mass. to Florida and westward.</i>	<i>July, August.</i>

Flowers: clustered at the ends of spreading flower-stalks. *Calyx*: of four unequal sepals. *Corolla*: of four oblong petals. *Stamens*: numerous. *Pistil*: one; styles, two. *Leaves*: opposite; narrow; entire; sessile; smooth and spotted with a darker colour. *Stem*: much branched.

This low, leafy member of the St. John's-wort family is very pretty and may be found in light, sandy soil, or pine barrens, especially those of New Jersey. The petals, which are not longer than the sepals, spread out in the shape of St. Andrew's cross.

SHRUBBY ST. JOHN'S-WORT. (*Plate CXXIII.*)*Hypericum prolfiscum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>St. John's-wort.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>New Jersey to Georgia.</i>	<i>July, August.</i>

Flowers: clustered at the ends of the branches. *Calyx*: of five sepals. *Corolla*: of five spreading pointed petals, tinged with scarlet in the centre. *Stamens*: indefinite in number; protruding. *Pistil*: one; styles, three. *Pod*: red; three-celled. *Leaves*: numerous; opposite; oblong. *Stem*: branched; reddish.

The shrubby St. John's-wort is rather the coxcomb of the family and has decidedly the air of being very much pleased with itself. Its prolific supply of protruding stamens gives it a light fluffy look which enlivens any bunch of flowers and adds a touch of beauty to the sandy, barren soil where it grows. Thoreau mentions that at the time of the longest days in the year the St. John's-wort begins to bloom.

PRICKLY-PEAR. INDIAN FIG.*Opuntia humifusa.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Cactus.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Northeastern states.</i>	<i>Summer.</i>

Flowers: large; solitary; sessile; axillary from the side of the stem joints. *Calyx*: of numerous sepals. *Corolla*: of eight to twelve petals arranged in ranks. *Stamens*: numerous. *Pistil*: one; stigmas, numerous. *Fruit*: pear-shaped; edible. *Stem*: successively jointed; fleshy, spiny, and provided with tufts of stiff, reddish-brown bristles.



PLATE CXXIII. SHRUBBY ST. JOHN'S-WORT. *Hypericum prolificum*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page.



PLATE CXXIV. GOAT'S RUE. *Cracca Virginiana*.

(239)

As the camel is adapted to the desert so is the cactus to sandy soil, and in its firm, patient growth it is not unlike that unwearied beast. Its succulent, fleshy parts retain within themselves all the moisture it needs for existence, and the leathery, non-porous skin prevents evaporation. It loves the burning rays of the sun and will often choose to grow on rocks where the heat is longest retained. Among the hills of New Jersey and about Connecticut it is not unusual to find it covering large boulders.

Our flower is one of the two species with which we are most familiar. *O. Opuntia*, the other species, has a western range, from Minnesota to Texas, smaller flowers, few spines or none, and greenish-yellow bristles. In other respects it is almost identical with the above.

GOAT'S RUE. WILD SWEET PEA. CAT-GUT.

(Plate CXXIV.)

Crdcca Virginiàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Yellowish and purple.</i>	<i>Scentless.</i>	<i>Southern New England southward and westward.</i>	<i>June, July.</i>

Flowers: growing closely in a terminal cluster. *Calyx*: five-cleft. *Corolla*: papilionaceous; the standard broadly ovate and notched at the apex; the wings a purplish red. *Stamens*: ten; nine of them united. *Pistil*: one. *Pod*: flat; linear. *Leaves*: odd-pinnate, with smooth, oval leaflets. *Stem*: slightly shrubby.

It is always a pleasure to come upon the goat's rue whose manner of growth is graceful and its colouring effective. It would seem as though Dame Nature had mixed her palette to paint it in accordance with her taste for variety. Again, we lament the absence of fragrance, which we unconsciously expect to find, as the bloom strongly suggests the garden sweet pea.

WILD LUPINE.

Lupinus perennis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Blue.</i>	<i>Scentless.</i>	<i>Maine to Florida.</i>	<i>June, July.</i>

Flowers: growing in a long, terminal raceme. *Calyx*: deeply toothed. *Corolla*: showy; papilionaceous. *Leaves*: palmately divided into seven to eleven lanceolate, hairy leaflets. *Stem*: erect; sometimes branching; hairy.

The generic name of this lovely plant, which means a wolf, was bestowed upon it because it has been supposed to devour and exhaust the soil. Well, if it does it has the good taste to do so in a way highly considerate of its neighbour's feelings, and one that it would be well if all wolves would imitate. By spreading itself over sandy, waste places it transforms them into an under sky that Venice might envy, and that cheers and delights the eye. It has been called sun-dial, as its leaves are said to turn to face the sun from morning until evening. Old maid's bonnets is another and rather amusing common name of the plant.

In eastern North America we have but two species, of which our plant is the northern representative. The southern sister is called *L. villosus*. It has oblong simple leaves, in contrast to the above, and its pods are beautifully covered with soft, silvery hairs.

The west boasts many varieties of this plant, which all closely resemble each other. They are among the peculiarly striking and attractive of our wild flowers.

WILD, OR FALSE INDIGO.

Baptisia tinctoria.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July.</i>

Flowers : clustered in a loose raceme. *Calyx* : four, or five toothed. *Corolla* : papilionaceous, the banner erect. *Leaves* : small, divided into three obovate leaflets, glaucous and whitish underneath. *Stem* : much branched slender.

We could hardly pass on without mentioning the wild indigo as we are constantly coming across it in the sandy soil. It yields, as its name indicates, a rather poor sort of indigo.

RATTLEBOX.

Crotalaria sagittalis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Maine westward.</i>	<i>July.</i>

Flowers : small; seldom more than two, or three clustered on a peduncle ; *Corolla* : papilionaceous. *Pods* : one inch in length; inflated, and having

numerous seeds. *Leaves*: short; lanceolate; almost sessile with arrow-shaped stipules at the base. *Stem*: erect; much branched and beset with dull bristles.

After the seeds have ripened and become detached, the pods of this plant make very cunning little rattles, as every country child knows; and this fact is referred to in its common and Greek names. Unfortunately, the seeds and leaves contain a poisonous substance which causes animals that eat of them to slowly decline in vigour.

C. rotundifolia is a prostrate species that is well known in parts of the south from Virginia to Mississippi. It favours a dryer soil than the above plant. Its seed pods are very similar.

WILD SENNA. (Plate CXXV.)

Cassia Marilandica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Senna.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>July.</i>

Flowers: growing in racemes on slender axillary peduncles. *Calyx*: of five almost separate sepals. *Corolla*: of five nearly equal petals, two of which are dotted with reddish purple at the base. *Stamens*: ten; anthers, irregular, blackish and often imperfect. *Pods*: long; hairy. *Leaves*: pinnate; divided into six to nine narrowly oblong leaflets tipped with a little point at the top and having a club-shaped gland at the base of the petiole. *Stem*: four to ten feet high; smooth.

If there are rebels among the flowers the wild senna surely is one; for it has, apparently without rhyme or reason, deserted the papilionaceous corolla of the pulse family. It is a common species in the north: and for its beauty has been cultivated in gardens. The dried leaves and pods are well known in medicine, being used for similar purposes as those for which the oriental senna is employed. Wild senna is found much more frequently in wet meadows or marshes than it is in sandy soil.



PLATE CXXV. { WILD SENNA. *Cassia Marilandica*.
{ PARTRIDGE PEA. *Cassia Chamæcrista*.

1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925



PLATE CXXVI. BEACH PEA. *Lathyrus maritimus*.

(243)

PARTRIDGE PEA. LARGE SENSITIVE PLANT.

(Plate CXXV.)

Cassia Chamæcrista.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Senna.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Middle states southward and west to the Rockies.</i>	<i>Late summer.</i>

Flowers: large; growing on slender axillary flower-stalks. *Calyx*: of five almost separate petals. *Corolla*: one and a half inches broad; of five petals; four of which are nearly equal and two dotted with purple at the base; the fifth one being larger. *Stamens*: ten; anthers, irregular, of which some are laden with a yellow, others with a purple, pollen. *Pistil*: one. *Pod*: flat. *Leaves*: pinnate; divided into ten to twenty pairs of small, linear, sensitive leaflets which close when roughly handled, the lowest pair possessing a club-shaped gland at the base.

When looking at the illustration it would appear as though the wild senna and the partridge pea had, to amuse themselves, played at exchanging their leaves, for the eye naturally associates the larger leaves with the larger flowers. Just the reverse, however, is true, and the strength that has been reserved in the small leaves of the partridge pea, bursts forth in the large bright flowers which enliven many a sandy bank in late summer. It is especially in the south that its bloom is most perfect. The sensitiveness of these plants to the touch is a curious feature.

BEACH PEA. (Plate CXXVI.)

Lathyrus maritimus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Violet purple.</i>	<i>Scentless.</i>	<i>Along the coast.</i>	<i>Summer and early autumn.</i>

Flowers: clustered on slender axillary peduncles. *Calyx*: of five unequal sepals. *Corolla*: showy; papilionaceous. *Stamens*: ten; united. *Pistil*: one. *Pod*: long; narrow. *Leaves*: divided into three to five pairs of oval, smooth leaflets; the common petiole ending in a tendril. *Stem*: stout; leafy.

Wending our way through the sand dunes that guard the approach to the seashore we pass the beach pea growing in low clumps. There is a healthy look about its soft green spotless leaves, and the varying tones of its purple flowers harmonise well with the white sand. We cannot help but fancy that it feels a subtle joy in its powers as it stretches out its firm tendrils to raise itself upward.



PLATE CXXVII. BUSH CLOVER. *Lespedeza procumbens*.

(245)

BUSH-CLOVER. (*Plate CXXVII.*)*Lespedeza procumbens.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Purplish pink.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer and autumn.</i>

Flowers : terminally clustered on peduncles. *Corolla* : papilionaceous, the banner petal pointed at the top. *Pods* : flat; jointed; having one seed. *Leaves* : divided into three oblong, clover-like leaflets. *Stem* : procumbent.

This dainty little ground weed that hugs the earth so closely, bears, besides the large terminal flowers, smaller ones that are intermingled with the others and grow along the branches. Frequently they are without petals and are the more fertile of the two. In sandy places in the late season members of this genus abound and are conspicuous by their cloverlike leaflets. Their smooth, single or double-jointed pods with but one seed also serve to distinguish them from their relatives, the Meibomias, page 224, Plate CXVI.

L. capitata, round-headed bush-clover, bears cream-coloured flowers spotted with purple in a rounded head, or capitulum, on very short peduncles.

L. frutescens, wand-like bush-clover, is an erect species with flowers growing closely; thick stems and many leaves.

L. Virginica, slender bush-clover, has flowers in oblong heads and linear leaflets.

It will be noticed that the specific names of these plants, as is customary, indicate their peculiarities. As a genus they are readily recognised.

HYSSOP SKULLCAP. (*Plate CXXVIII.*)*Scutellaria integrifolia.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mint.</i>	<i>Blue or violet.</i>	<i>Scentless.</i>	<i>Connecticut, southward and westward.</i>	<i>June-August.</i>

Flowers : one inch long; growing in terminal racemes. *Calyx* : two-lipped; the upper lip covered by a helmet-like little cap, *Corolla* : two-lipped with long ascending tube, the upper lip helmet-shaped and curving over the lower lip, which is flaring and indented at the apex. *Stamens* : four, in pairs of unequal length. *Pistil* : one; stigma, two-lobed. *Leaves* : opposite; lanceolate to



PLATE CXXVIII. HYSSOP SKULLCAP. *Scutellaria integrifolia*.
HAIRY SKULLCAP. *Scutellaria pilosa*.

linear. *Stem*: one to two feet high. The whole plant is covered with a soft down.

Nothing can be more bewitching than a stalk of these blue flowers intermingled with their light green leaves. The helmet-like petal of a deep purplish blue hangs over the others and gives the blossoms an odd expression, as though they were simply helmets and open mouths; the latter just ready to snap out any morsel of gossip that might be interesting to the passers by.

S. pilosa, hairy skullcap, Plate CXXVIII, has opposite roundish, or ovate leaves, and flowers growing in a short raceme with spatulate bracts. It is a taller species than the preceding and is more pubescent. The blossoms are smaller.

S. lateriflora and *S. galericulata*, pages 126 and 127.

BLUE-CURLS. BASTARD PENNYROYAL.

Trichostema dichotomum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Blue, turning to purple.	Fragrant.	Mass. to Florida and westward.	Late summer and autumn.

Flowers: single; axillary, or in raceme-like clusters at the ends of the branches. *Calyx*: tubular; five-cleft. *Corolla*: two-lipped; five-divided; the upper lobe deeply cleft. *Stamens*: four; curved; exerted with hairy filaments. *Pistil*: one; style, two-lobed. *Leaves*: opposite, on short petioles; lanceolate; entire; rather clammy. *Stem*: branching; clammy.

Blue curls does its best to be agreeable and throws out an abundance of bloom in the late summer. It is not, however, very pretty, and it is to be doubted whether its fragrance is wholly agreeable. The common name refers to its hair-like curling filaments.

HORSE-MINT. (Plate CXXIX.)

Mondrda punctata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Yellow and crimson.	Strongly scented.	New York to Illinois and southward.	July-September.

Flowers: whorled above the floral bracts. *Calyx*: short; five-toothed. *Corolla*: two-lipped; narrow in the throat; pale yellow, spotted with deep crimson. *Floral leaves*: whorled; lanceolate; pinkish crimson, veined with a deeper colour.



PLATE CXXIX. HORSE-MINT. *Monarda punctata.*

This interesting plant is found in great abundance in the sandy soil of New Jersey. The arrangement of the flowers makes them appear as though they had assembled in court to pronounce judgment on some unhappy creature and that they had just opened their mouths to snap out a most unfavourable verdict. One instinctively hopes that Master Bee has not been shirking his duty, for they have a very angry, spiteful expression. The floral bracts of rich colouring form an exquisite setting for their assemblage.

CAROLINA CALAMINT (Plate CXXX.)

Calamintha Caroliniàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Purple, or white spotted with a darker shade.	Fragrant.	Florida to N. Carolina.	August, September.

Flowers ; growing in cymes of six flowers in the axils of the leaves. *Calyx* : tubular; two-lipped. *Corolla* : long; two-lipped; the upper lip notched at the apex; the lower one three-lobed. *Stamens* : four; curving inward. *Pistil* : one. *Leaves* : opposite; oblong, narrowing into a slender petiole; pubescent; smaller leaves also clustered in the axils. *Stem* : erect; branching; leafy.

Calamintha, meaning in Greek beautiful mint, well expresses this member of the genus. Its range is unfortunately limited, but it can be known by the illustration.

PAINTED CUP.

Castilleja coccinea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Yellow with vermilion floral leaves.	Scentless.	Eastern and middle states.	June.

Flowers : terminal; growing in a short spike. *Calyx* : four-cleft; yellow. *Corolla* : tubular; two-lipped; the upper lip long, erect; the under one shorter and three-lobed. *Stamens* : four, unequal. *Pistil* : one. *Leaves* : those of the stem unequally divided into three, pointed lobes; those near the flower cut into three bract-like lobes that are vermilion in colour and appear like the blossoms. *Stem* : one foot high; hairy.

“ Now if thou art a poet, tell me not
That these bright chalices were tinted thus
To hold the dew for fairies, when they meet
On moonlight evenings in the hazel bowers,
And dance till they are thirsty.”

—BRYANT.

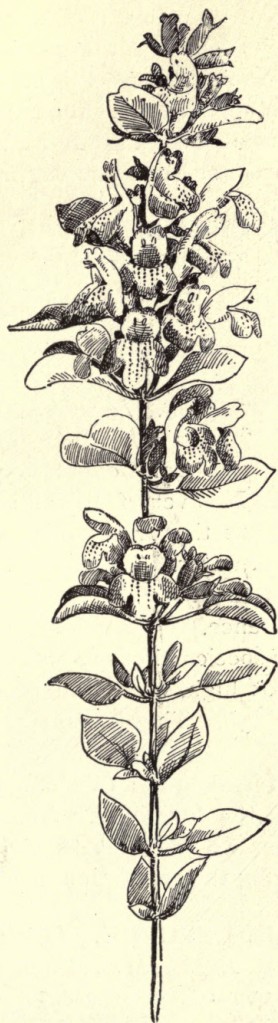


PLATE CXXX. CAROLINA CALAMINT. *Calamintha Caroliniana*.

It would seem as though the painted cup had been conscious of the insignificance of its pale yellow bloom and so had called upon the loyalty of its leaves for assistance. They then responded nobly by forming about them a scarlet cloak which enables the flower to appear one of the most brilliant of all. It blooms in such profusion that a sandy meadow where it grows suggests that it is traversed by some vagrant, wandering flame.

PURPLE GERARDIA. (*Plate CXXXI.*)

Gerardia purpurea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Pinkish lavender.</i>	<i>Scentless.</i>	<i>North and south.</i>	<i>August, September.</i>

Flowers: axillary; growing along the diverging flower-stalks. *Calyx*: of five-toothed sepals. *Corolla*: one inch across; tubular; bell-shaped with five irregular lobes daintily dotted with a deeper colour. *Stamens*: four, in pairs of unequal length; downy. *Pistil*: one. *Fruit*: an ovate, pointed pod. *Leaves*: opposite: linear. *Stem*: branched.

A lovely little flower of quaint expression which peeps at one in the low meadows. It is very frail and soon drops from the stem when picked; but the pretty buds come out well after having been placed in water. To climate it is very susceptible, and when it wanders to other than its native soil the bloom soon shows the difference.

G. maritima is the species that is found on salt meadows. It is seldom over a foot high, while the preceding plant is frequently four feet high. The flowers are also smaller and fainter in colour.

They have both forsaken the two-lipped corolla of the figwort family, as have the foxgloves. No doubt they are both of them a trifle perverse; and that they are indolent is made certain by their having the reputation of being parasites.

FLOWERING SPURGE. (*Plate CXXXII.*)

Euphorbia corollata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Spurge.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mass. to Florida.</i>	<i>July-October.</i>

Flowers: staminate and pistillate; growing on forked branches in umbels, and surrounded by a five-lobed corolla-like involucre. The staminate flowers



PLATE CXXXI. PURPLE GERARDIA. *Gerardia purpurea*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900



PLATE CXXXII. FLOWERING SPURGE. *Euphorbia corollata*.

(253)

which line the base have one stamen; the pistillate ones which grow singly in the centre have a three-lobed ovary and three styles. *Leaves*: ovate, or lanceolate; smooth. *Stem*: two to three feet high; divided into five-forked umbels, which again divide and bear the flower-heads; highly coloured with purple.

Patterning itself by many that are larger and perhaps wiser, the little spurge has arranged about itself a set of bracts, or an involucre that is commonly mistaken for petals; and in its centre is the community of staminate and pistillate blossoms. Although the medical properties of spurges are said to have been discovered long ago by King Juba of Mauritania, in Africa, and to be equally well known to our own Indians; they have not altogether the sanction of many for medical use. It is certainly true that aside from its powers of purging the plant possesses little virtue. It belongs to a poisonous family and must be proud to boast of the faithful, old castor-oil plant, *Ricinus communis*, as a member of the same natural family.

SAND KNOTWEED. COAST JOINTWEED.

Polygonella articulata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Buckwheat.</i>	<i>Rose pink.</i>	<i>Scentless.</i>	<i>Maine to Florida.</i>	<i>September.</i>

Flowers: minute; growing nodding in a spike-like raceme; each flower appearing from within a bract. *Calyx*: unequally five-parted. *Corolla*: none. *Stamens*: eight. *Pistil*: one; styles, three. *Leaves*: alternate; sheathing the stem; linear; jointed at the base. *Stem*: upright; branching; thread-like.

What sweet things must the autumn winds whisper to the tiny knotweed as they sweep along the coast, to make it tint the sandy plain with its delicate blush! And what a keen appreciation the little plant must have of the beauty dear to Dame Nature's heart to give out its bloom so abundantly! It seems loath to leave us, and often lingers well on into the autumn.

SANDY SOIL ASTERS.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Purple, blue or white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Late summer and early autumn.</i>

Flower-heads: composed of tubular and ligulate flowers, or ray and disk flowers. The rays purple, blue or white and the disks yellow.



PLATE CXXXIII.

{ SMOOTH ASTER. *Aster laevis*.
WHITE WREATH ASTER. *Aster multiflorus*.
LATE PURPLE ASTER. *Aster patens*.

COPYRIGHT, 1899. BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.

A. spectabilis, low showy aster, is one of the prettiest of the aster family. It is not so tall as its proud relatives of the swamps ; but its ray-flowers are longer and of a violet purple that any monarch might envy. It is the beauty of the sandy soil all along the coast from New Hampshire to New Jersey and southward where it lifts its regal head until the frost-biting breath of winter causes it to languish. The leaves are long and pointed.

A. multiflorus, white wreath aster, Plate CXXXIII, is the little white one that skips along the sandy soil with *A. spectabilis*. Its flower-heads are about one-half an inch in breadth, very numerous and very pretty. They have a crisp, pert expression that enlivens many a bunch of their more pretentious sisters. The upper leaves are linear with a broader clasping base.

A. surculdus, creeping aster, and *A. gracilis*, slender aster, are two violet species that are generally found from New Jersey southward. The pappus of each of them is nearly white.

SWEET GOLDEN-ROD.

Solidago odora.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Dull yellow.	Leaves scented like anise.	Maine southward.	Late summer and early autumn.

The flowers of this golden-rod are not very attractive, but the leaves are well formed and shiny with smooth edges. They are known to yield a volatile oil. In the pine barrens of New Jersey and the sandy edges of thickets, the species is very common. *S. juncea*, page 136, Plate LXIX.

S. tortifolia, twisted-leaf golden-rod, has a slender stem, with linear sessile leaves that are veined and have a distinct midrib. Their peculiarity is that they are so often twisted. It is found in sandy soil near the coast and mostly from Virginia to Florida.

Plants Growing in Dry Soil: Upland Places, Thickets and Meadows.

*“ The rain-drops glistened on the trees around,
Whose shadows on the tall grass were not stirred,
Save when a shower of diamonds, to the ground,
Was shaken by the flight of startled bird ;
For birds were warbling round, and bees were heard
About the flowers.”*

—*Bryant.*

SHAD-BUSH. JUNE-BERRY. SERVICE-BERRY.

(*Plate CXXXIV.*)

Amelanchier Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Apple.</i>	<i>White.</i>	<i>Faint.</i>	<i>New England.</i>	<i>March-May.</i>

Flowers : growing in loose racemes. *Calyx* : five-cleft. *Corolla* : of five almost linear petals notched at the apex. *Stamens* : numerous. *Pistils* : numerous ; styles, five. *Fruit* : a small purplish pome, sweet and agreeable to the taste. *Leaves* : on petioles ; ovate ; rounded at the base ; serrated. A shrub or tree, sometimes reaching the height of sixty feet.

“ Gay circles of anemones
Danced on their stalks ; the shad-bush white with flowers
Brightened the glens.”—*BRYANT.*

When the shad begin to frolic in the spring waters this beautiful shrub unfolds its fleecy petals by the pasture thickets. As we wander forth, it waves and beckons to us the joyful tidings that the spring has indeed come. The translucent, pale green of its leaves and the soft creamy whiteness of the bloom speak



PLATE CXXXIV. SHAD-BUSH. *Amelanchier Canadensis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom center of the page, possibly bleed-through from the reverse side.

of the unsullied newness of its life. It is also a pretty sight in June when in fruit.

A. alnifolia is a smaller shrub of the west which has been looked upon as a mere variety. The petals are shorter and the fruit more rounded than that of the preceding. In fact, the several wild species have no very marked differences, and are sometimes regarded as one by botanists.

YELLOW STAR-GRASS.

Hypoxis hirsuta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Amaryllis.</i>	Yellow.	Scentless.	Maine southward and westward.	Early summer.

Flowers : growing singly, or a few in a cluster at the end of a naked scape. *Perianth* : of six narrow divisions, within yellow, the outside green and slightly hairy. *Stamens* : six. *Pistil* : one. *Leaves* : from the base ; sometimes over a foot long ; linear ; grass-like.

Long ago this plant was called the yellow star of Bethlehem. It nestles so cosily among the grasses of the meadows and thickets that from afar we connect its bright gleam of colour with a fire-fly that has alighted and is fluttering his wings. On reaching it we are no less pleased to find the winsome face of the yellow star-grass. It is, however, in no sense a grass, but quite an orthodox little member of the amaryllis family ; and one of the oldest known of American flowers.

BULBOUS BUTTERCUP. GOLDEN CUPS. (Plate CL.)

Ranunculus bulbosus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	Yellow.	Scentless.	Eastern states.	May-July.

Flowers : large ; terminal ; cup-shaped. *Calyx* : reflexed ; of five sepals. *Corolla* : of five, six, or seven petals. *Stamens* : numerous. *Pistils* : several. *Leaves* : much divided ; deeply toothed. *Stem* : herbaceous ; erect from a round bulb and having an acrid, watery juice.

“ Heigh-ho ! daisies and buttercups,
 Fair yellow daffodils, stately and tall,
 When the wind wakes how they rock in the grasses,
 And dance with the cuckoo-buds, slender and small ;
 Here’s two bonnie boys and here’s mother’s own lasses,
 Eager to gather them all.”—JEAN INGELow.

Along with the spring come the buttercups, and crop up everywhere to tell us that a sunny, gay time is in store for us all. The earth is awake and bright again, and the blossoms appear to dance and skip through the fields, stopping now and then to sip the dew and make merry with the bees and butterflies. None is more warmly welcomed or loved more dearly than the buttercups.

R. àcris, tall or meadow buttercup, is common in the fields and meadows, especially in the northern states. It is erect, with a hairy or sometimes glabrous stem, and grows from two to three feet tall. As the preceding species, it is naturalised from Europe.

The exquisite grasses on the plate with the buttercups and daisies are called *Poa pratensis*, and we usually find them all growing closely together.

COMMON BLUE VIOLET. (*Plate CXXXV.*)

Viola cucullata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Violet.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>Arctic regions to Florida and westward.</i>	<i>April, May.</i>

Flowers: solitary; terminal; growing on scapes. *Calyx*: of five green sepals extending into ears at the base. *Corolla*: of five unequal petals; the lower one with a sac, or spur. *Stamens*: five, short, united about the pistil. *Pistil*: one, short, with a one-sided stigma. *Leaves*: from the base; roundish; cordate. *Scape*: slender; leafless.

The violet needs little description, as somewhere in every heart it has its own resting place. Over the ragged urchin and the mighty Emperor it casts its subtle enchantment; for have they both not been children? It is in childhood that the violet makes its claim to the heart; and to be the first to discover that it has peeped through the crust of winter and to shout in triumph of superior knowledge that the violets have come, is one of the keenest delights.

In France the popular legend concerning the violet is that one day, shortly before going into exile, Napoleon was walking in the garden at Fontainebleu. His companions were General



PLATE CXXXV. VIOLETS. { *Viola blanda*, *Viola Canadensis*, *Viola pubescens*, *Viola palmata*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100



PLATE CXXXVI. CRANBERRY TREE. *Viburnum Opulus.*

(259)

Bertrand and the Duc de Bassano, with whom he was discussing his future. Whether to strike a blow for liberty or to go quietly to the island of Elba was the problem. His attention was diverted by a child picking violets. The little creature offered them to Napoleon and they were accepted in silence. The vein of superstition that was always present in his nature controlled his thoughts and turning to his companions he said :

“Gentlemen, I am thinking of that child. It seems that by giving me these flowers, I have been warned to imitate for the future the modesty of the violet. Henceforth it shall be the emblem of my desires.”

“Sire,” said Bertrand boldly, “for your Majesty’s glory I trust the desire will be no more lasting than the flower.” But it was not so ; and Napoleon shortly went to Elba.

By the next season to wear in Paris a bunch of violets was thought to be a sign of imperialistic sympathy. In fact, they are there still regarded as having political significance. A legitimist would no sooner wear one than he would the tri coloured flag of the republic ; and throughout France they are not worn in the same general way that they are in England and America.

MAPLE-LEAVED VIBURNUM. DOCKMAXIE. ARROW-WOOD.

Viburnum acerifolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Honeysuckle.	White.	Scentsless.	Maine southward and westward.	May, June.

Flowers : small ; perfect ; growing in flat-topped cymes on long peduncles. *Calyx* : five-toothed. *Corolla* : five-lobed. *Stamens* : five. *Pistil* : one. *Fruit* : a drupe, bright crimson turning to almost black. *Leaves* : ovate to orbicular ; lobed ; ribbed ; similiar to those of the maple tree. A shrub, sometimes reaching six feet high.

What is true in a general way of a *Viburnum* will be found to be true of them all, only with variations in the details. The leaves and fruit serve better to identify the species than any difference in the blossoms. This is especially true of *V. aceri-*

folium. The leaves might readily be mistaken for those of a young maple tree, while the blossoms, or beautiful fruit, protest loudly against such an error.

V. prunifolium, black-haw, or stag-bush, has almost identical blossoms with the above which grow in compound sessile cymes; and dark blue glaucous fruit, quite sweet and edible. The leaves are bluntly oval, glossy and serrated. It is a tall shrub from eight to twelve feet high, of hard reddish-brown wood and is found blossoming early in the season from Connecticut to Florida and westward to Texas.

V. alnifolium, page 188, Plate XCIX. *V. Opulus*, page 118.

POISON IVY. POISON OAK.

Rhus radicans.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Sumac.	White, tinged with green, or yellow.	Scentless.	Maine southward to Florida and westward.	May, June.

Flowers: small; axillary; perfect; growing in loose panicles. *Fruit*: clustered; a small whitish berry. *Leaves*: divided into three ovate leaflets; serrated; sometimes downy underneath. *Stem*: climbing by means of rootlets.

It is no mark of genius to avoid poison ivy after one has had a bad case of poisoning; but it is a wise precaution to acquaint oneself with the plant and then to be content to admire it from a distance. Like many poisonous plants it is not equally injurious to all persons or forms of life. The goat, the mule and the horse have an especial fondness for eating it; and its seeds are distributed through the agency of crows and woodpeckers that relish them keenly. It is thought to be the least harmful when the full blaze of the sun is shining on the leaves.

In almost any kind of soil it will thrive, and it has some appreciation of decorative effects. It covers old stone walls, clumps of trees, traverses the open meadows, and finds its way to the roadside banks. Jack Frost is its greatest enemy, and the first cool days of autumn change its green leaves to many tints of yellow and crimson.

R. Toxicodendron is peculiar to the Southern states. Its lobed leaflets are very pubescent.

SMOOTH UPLAND OR SCARLET SUMAC.

Rhus glabra.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Sumac.	White.	Scentless.	Maine southward to Florida and westward.	June-August.

Flowers: growing in compact terminal panicles. *Fruit*: velvety, crimson hairy berries, clustered in bunches nine to ten inches long; acid and pleasant to the taste. *Leaves*: one foot long; odd-pinnate; divided into eleven to thirty-one lanceolate, serrate, glabrous leaflets. A shrub usually four to twelve feet tall, although at times reaching twenty feet high.

“ Still sits the schoolhouse by the road,
 A ragged beggar sunning ;
 Around it still the sumachs grow
 And blackberry vines are running.”—WHITTIER.

What an irresistible charm the sumacs must have lent to the little schoolhouse that Whittier tells us about, and how often the girls and boys must have thrust their firm, little fingers in among the closely packed bunches of berries.

R. glabra is our most common species of the fields and waysides and is very decorative in the autumn. The shape of the clusters and their crimson colour at once gain our confidence, as it should be remembered that the berries of the poisonous species of the swamps, *R. Vernix*, page 53, are *whitish* and grow in axillary panicles.

FIVE-FINGER. COMMON CINQUEFOIL.

Potentilla Canadensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Yellow.	Faintly fragrant.	Maine southward and westward.	April-August.

Flowers: small; solitary; axillary. *Calyx*: of five narrow sepals, alternating with an under row of delicately pointed bracts. *Corolla*: of five rosaceous petals. *Stamens*: numerous. *Pistils*: numerous, forming a head. *Leaves*: divided into three obovate leaflets, the two lateral ones again divided and making the five stubby fingers which have suggested its name. *Stem*: growing close to the ground; silky. The plant spreads by runners.

One of our dearest little field blossoms whose cherry yellow head peeps out among the grass in early spring. We find it



PLATE CXXXVII. SHRUBBY CINQUEFOIL. *Potentilla fruticosa*.

(263)

when we follow some stone wall to a place where we know a spreading patch of *fraises des bois*, as the French call the wild strawberries, is in bloom. The little plant is, in fact, often called wild strawberry. Perhaps we attempt to carry it away, but it is indignant at such treatment and its petals droop quickly after leaving their shady home.

SHRUBBY CINQUEFOIL. (*Plate CXXXVII.*)

Potentilla fruticosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Rose.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Eastern states and westward.</i>	<i>All summer.</i>

The flowers of this plant, although larger, are very similar in arrangement to those of the common cinquefoil. It seems to be the patriarch of the family and has from five to seven long, narrow leaflets, which are more flattering in shape to the fingers after which it was christened than those of the rest of the genus. It also grows as high as four feet, and is very shrubby.

The plant is a good example of the theory that is now accepted, and the one through which Goethe appeared on the platform of science. It is that of the morphology of the suddenly arrested branch into the flower. The circular growth of the leaves is very similar to that of the sepals and petals, and which are in reality nothing but transformed leaves. The calyx has a double row of five sepals, the outer one spreading and the inner one bent to give some protection to the naked seeds. There are also five petals. The stamens are then naturally in some multiple of five. When the growth is very rapid it is sometimes the case that some of these parts are obliterated.

Shrubby cinquefoil is most capricious of soil and locality, and is said to circle the globe. In the eastern states it favours low, moist meadows or even swamps, but chooses drier soil as it travels westward, until in Michigan it flourishes in sandy soil. To a classification according to soil its vagaries are not only trying, but inexcusable.

SILVERY OR HOARY CINQUEFOIL.*Potentilla argentea.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Yellow.	Scentless.	Eastern and middle states.	All summer.

Very similar to the preceding species are the large handsome flowers of the silvery cinquefoil. The palmately divided leaves, however, are distinguished by the silver-like floss which covers their under surface. They appear to be without vanity and have lost all concern about having their fingers slender and tapering. We find them ragged and unkempt.

P. Monspeliensis, rough cinquefoil, grows in dry soil and has quite an extended range. In cultivated ground it occurs as a weed.

The generic name of these plants refers to the medical properties for which they were formerly noted. Thoreau mentions that in one of his walks he met an old wood-tortoise eating the leaves of the early potentillas, and soon afterwards another deliberately eating sorrel. They impressed him as knowing the virtues of the herbs, and being able to select the ones best suited to the condition of their bodies.

HOUND'S TONGUE.*Cynoglossum officinale.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Borage.	Purplish red, or white.	Unpleasant.	Mostly east.	June, July.

Flowers: growing in a curved raceme that straightens as the flowers mature. *Calyx*: five-parted. *Corolla*: funnel-form; five-lobed. *Stamens*: five. *Pistil*: one. *Fruit*: a nutlet covered with prickles. *Leaves*: alternate; ovate-lanceolate; the lower ones on petioles; slightly heart-shaped at base; the upper ones sessile; hairy. *Stem*: two to three feet high; branching; hairy.

As we have found no good for which this plant is responsible, we must, according to Mr. Emerson, call it a weed. It bears the title with dignity, for it is a handsome creature with a beautiful velvety leaf; but how it ever ventures to raise its head in face of the anathemas showered upon it by the farmers

and wool-growers is quite a mystery. Its bur-like fruit has the most wicked propensity for attaching itself to the fleece of sheep. Detractors have also likened its odour to that of a nest of mice; but as this is quite a common expression with country people and means about as much as telling the sick they look as pale as a black dog, there may be a little exaggeration in the statement. The resemblance of its leaves to the shape of a hound's tongue is responsible for its name.

VIPER'S-BUGLOSS. BLUEWEED. (Plate CXXXVIII.)

Échium vulgare.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Borage.</i>	<i>Brilliant blue, with pink buds.</i>	<i>Scentless.</i>	<i>Eastern states.</i>	<i>June, July.</i>

Flowers : small ; thickly clustered on one side of a spike that unfolds as the flowers expand. *Calyx* : five-parted. *Corolla* ; funnel-form ; of five lobes ; three of which are shorter than the others. *Stamens* : five, unequal ; exerted ; red. *Pistil* : one ; styles, two. *Leaves* : alternate ; lanceolate ; very hairy ; wavy on the edges. *Stem* : about two feet high ; rough ; hairy.

When seen from a distance the blue flowers of the viper's bugloss are hardly credited with having the brilliancy of colour that they are found to possess on a closer examination. The pink buds and red protruding stamens are an invaluable feature of the plant and play their part in lightening the otherwise heavy effect of the green. When growing along the roadsides, its extreme hairiness attracts an immense amount of dust and not until it has been shaken, or washed off, is the prettiness of the blossoms seen. The pink buds and uncoiling growth of the bunches call to mind the little forget-me-nots of which it is a relative.

GROUND IVY. GILL-OVER-THE-GROUND.

Glechoma hederàcea.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mini.</i>	<i>Blue.</i>	<i>Leaves fragrant.</i>	<i>New England southward.</i>	<i>March-May.</i>

Flowers ; axillary ; growing singly or in clusters along the flower-stalk. *Calyx* : small ; five-toothed. *Corolla* ; tubular ; two-lipped, the upper lip two-cleft ; the lower one three-cleft with the middle lobe much larger than the



PLATE CXXXVIII. VIPER'S BUGLOSS. *Echium vulgare.*

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text located at the bottom of the page, possibly bleed-through from the reverse side.

others. *Stamens* : four; the anther-cells approach and form a little cross. *Pistil* : one; style, two-lobed. *Leaves* : opposite; on petioles; roundish kidney-shaped; smooth. *Stem* : creeping; trailing.

This is the little plant that the English love so dearly and which blooms abundantly in the pasturage every springtime. We have hardly the same fondness for it here and rather resent the calm manner in which it has taken possession of the soil, especially where it is most distasteful to cattle. It is allied to our catnep, also a European plant, and was formerly much used as a medicine.

We are frequently amused to watch the growth and self-satisfaction of many European plants that establish themselves in this country and sometimes exterminate those native to the soil. What advantage have they, we naturally ask, that makes them triumphant in the survival of the fittest? Very probably it is because they leave their destroying insects on the other side of the water. If this is so we cannot but sympathise with them in their attempt to flee from persecution.

AMERICAN PENNYROYAL.

Hedeoma pulegioides.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mint.</i>	<i>Purplish blue.</i>	<i>Strongly scented.</i>	<i>New England southward and westward.</i>	<i>Midsummer.</i>

Flowers : small; axillary; whorled. *Calyx* : two-lipped. *Corolla* : two-lipped; the upper lip erect and notched, the lower lip three-lobed. *Stamens* : two. *Pistil* : one; style, two-lobed. *Leaves* : opposite; on petioles; ovate; pungent to the taste. *Stem* : low; erect; branching; square; hairy.

A place that is remembered in connection with this well-known little plant is a teeing ground of a golf course in a high upland meadow in Dutchess county. There, bordering the hard-packed square of dirt, it grows in great profusion and can be scented from a considerable distance. We can well believe in its medicinal properties; for even to nibble at the leaves on a warm day is refreshing. It is closely allied to *Mentha Pulegium*, the true pennyroyal of Europe.

LARGE-FLOWERED VERBENA. (*Plate CXXXIX.*)*Verbena Canadensis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Vervain.</i>	<i>Purple.</i>	<i>Scentless.</i>	<i>Florida to S. Carolina and westward.</i>	<i>May-August.</i>

Flowers : growing closely in terminal spikes. *Calyx* : tubular ; with five unequal teeth, long, slender. *Corolla* : salver-shape ; long ; with five lobes ; bearded in the throat. *Stamens* : four, included. *Pistil* : one ; stigma, two-lobed. *Leaves* : opposite ; tapering into a long petiole ; thrice divided and the lobes deeply toothed ; hairy. *Stem* : creeping at the base ; forking ; hairy.

As a hardy plant this verbena is rivalled by few in brightness of expression. It is not so beautiful as the Brazilian varieties which receive so much consideration from the gardeners, but it has many of their characteristics, and is intermingled with them in cultivation. In the language of flowers these plants have been chosen as emblems of sensibility.

COMMON EVENING-PRIMROSE.*Ônagra biennis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>Pale yellow.</i>	<i>Fragrant.</i>	<i>General.</i>	<i>June-September.</i>

Flowers : large ; clustered on a leafy spike. *Calyx* : tubular, of four long, pointed sepals. *Corolla* : often two inches broad, of four obcordate petals delicately veined with green. *Stamens* : eight. *Pistil* : one ; stigma, four-branched. *Leaves* : alternate ; lanceolate ; slender. *Stem* : erect.

Those that see the evening-primrose only in the daytime have no conception of its fairness when it opens its petals to commune with the night revellers. Among them are the rarest of Nature's children which under the stars come out from their hiding places. Many of the loveliest flowers reserve their beauty and exquisite fragrance to bestow upon the night. They are visited by moths and insects that far surpass in beauty those of the day and which are never seen until the earth is wrapped in her dark mantle. The sweetest singing birds and the most beautiful animals are then flying and roving about. There is music in the flap of the pink night moth's wing and all the buzzing noises of the night.



PLATE CXXXIX. LARGE-FLOWERED VERBENA. *Verbena Canadensis.*

(269)

The evening primrose is then in its glory ; the next day its fragile petals are wofully faded.

SCAPOSE PRIMROSE. (*Plate CXL.*)

Pachylophus cæspitòsus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>White or pink.</i>	<i>Scentless.</i>	<i>Nebraska southward and westward.</i>	<i>June, July.</i>

Flowers: large; one and a half to five inches broad; terminal; solitary. *Calyx*: with four linear sepals. *Corolla*: with four obcordate, spreading petals. *Stamens*: eight, with linear anthers. *Pistil*: one; stigma, four-cleft. *Fruit*: growing in a cluster at the base. *Leaves*: from the base; lanceolate; tapering into a slender petiole; pubescent. *Flower-stalks*: ciliate, or beset with white hairs.

It is owing to the growth of the fruit of this superb flower that it has been separated from the *Cenothera* division of the primrose family, and no longer bears the name of *Cenothera marginata*, as it did at one time. The plant from which the illustration was drawn was a particularly well developed and perfect specimen. The blossoms were fully five inches in diameter. Near the Blue Mountains and about the Salmon Falls of the Snake River, they unfold generously their silken petals.

ALLEN'S SUNDROPS.

Kneriffia Alleni.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>Eastern Long Island.</i>	<i>Summer.</i>

Flowers: on long pedicels in loose corymb-like clusters. *Calyx*: with a long tube and four lobes. *Corolla*: of four rounded petals. *Stamens*: eight with long versatile anthers. *Pistil*: one; stigma, four-branched. *Leaves*: alternate; lanceolate. *Stem*: branched; leafy; somewhat rough. *Pods*: cucumber-shaped; four angled at the top.

An open dry place that is brightened by clusters of these flowers appears as though the sun were dancing among the green leaves of the plant. The blossoms are slightly deeper in colour than those of the evening primrose and remain open in the sunshine. Probably they do not depend upon the pink night moth for fertilization as they are without the fragrance that attracts him to the evening primrose. They are very perishable and droop shortly after being picked.



PLATE CXL. SCAPOSE PRIMROSE. *Pachylophus caespitosus*.

FIRE-WEED. GREAT OR SPIKED WILLOW-HERB.*Chamanèrion augustifolium.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>Magenta.</i>	<i>Scentless.</i>	<i>New England southward and westward.</i>	<i>June-September.</i>

Flowers: large ; growing in a long terminal raceme which is slightly nodding. *Calyx:* deeply four-lobed. *Corolla:* of four petals with short claws. *Stamens:* eight. *Pistil:* one ; stigma, four-lobed. *Pods:* long ; narrow, the seeds having white, silky tufts. *Leaves:* alternate ; lanceolate ; almost linear ; willowy. *Stem:* at most eight feet high ; erect ; leafy ; smooth.

Dame Nature, with her wonderfully impartial heart, has provided this handsome plant to grow abundantly in soil that has been burned over and therefore made black and unsightly to the eye. It also strays into dry meadows and peeps out on the roadsides. It is a conspicuous plant with deep hued, delicate blossoms which show their kinship to the evening primrose.

PASSION FLOWER. (Plate CXXI.)*Passiflora incarnata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Passion flower.</i>	<i>Purple.</i>	<i>Faintly fragrant.</i>	<i>Virginia and Kentucky southward.</i>	<i>Summer.</i>

Flowers: solitary ; axillary ; frequently having three bracts underneath. *Calyx:* tubular ; of five, or more divisions, highly coloured inside. *Corolla:* of five, or more petals which rest upon the throat of the calyx and appear to form a background for the heavy circular fringe made by numerous outreaching rays. *Stamens:* five, with long versatile anthers, their filaments united to a rod-like stalk that upholds the ovary. *Styles:* three ; spreading ; club-shaped. *Leaves:* alternate ; deeply three-cleft ; serrated. *Stem:* woody ; branching ; climbing by means of axillary tendrils.

It is in the dense forests of Brazil that the passion flowers are seen in all the majesty of their native loveliness. Their hue is brighter there than elsewhere, the flowers are larger and they have a rare fragrance that is lost to a great extent in the North American species. There, the delicate, curious blossom first attracted the attention of the early Roman Catholic missionaries, who, with fire and sword, were spreading the religion of love and gentleness. To them, it seemed that the flower held before their vision all the dreadful details of the crucifixion.



PLATE CXLI. PASSION FLOWER. *Passiflora incarnata*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

“The crown of thorns in the fringes of the flowers, nails in the styles with their capitate stigmas, hammers to drive them in the stamens, cords in the tendrils.” The sponge and the five wounds of Christ were also pointed out to strengthen the invaders in the belief that their doings were sanctioned by the divine will.

The flower is still the one among all other flowers that is held in veneration; for it is associated with the passion above all other conceptions of our Saviour.

It remains open but for a single day.

P. lutea, yellow passion flower, grows southward and westward from Pennsylvania. Its leaves are very broad and the lobes much rounded.

COMMON ST. JOHN'S-WORT.

Hypericum perforatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>St. John's-wort.</i>	<i>Deep yellow.</i>	<i>Scentless.</i>	<i>Mostly northeast.</i>	<i>Summer.</i>

Flowers: growing in clusters. *Calyx*: of five pointed sepals. *Corolla*: of five petals dotted with black. *Stamens*: very numerous. *Pistil*: one, with three branching styles. *Leaves*: opposite; sessile; oblong; dotted; pellucid. *Stem*: branched; leafy. *Juice*: acrid.

The only one of the family in our flora that is not a native. There is no doubt, however, but that it has taken out its papers of naturalisation as it is quite at home here and pursues a course of rapid soil-exhausting growth, which no doubt is answerable for many grey hairs in the poor farmer's head.

The flower received its name from an ancient superstition that on St. John's day, June 24, the dew that had fallen on the plant was possessed of a peculiar efficacy to preserve the eyesight. It was therefore collected, dipped in oil, and made into a balm, which served equally well for every wound—"balm-of-the-warrior's wound" being one of its early names. It was also gathered on St. John's eve to be hung at the doors and windows, and in Scotland was even carried about in the pockets as a safeguard against evil spirits and witchcraft. Maidens had faith in it as foretelling by its vigorous or puny growth whether

the coming year would make them brides. It has been lauded in ancient poetry, and probably more associated with good and evil than any other plant.

Saròthra gentianoides, orange-grass, or pine-weed, has tiny flowers of a deep yellow scattered along the branches. The leaves are small, erect and wiry. It is commonly found in dry, sterile or sandy soil from Maine southward and westward. The generic name of the plant was formerly *Hypericum nudicaule*.

INDIAN TOBACCO.

Lobèlia inflàta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Lobelia.</i>	<i>Violet, blue, or white</i>	<i>Scentless.</i>	<i>General.</i>	<i>June-August.</i>

Flowers: axillary; growing in terminal, leafy racemes. *Calyx*: tubular; inflated; veined; five-cleft. *Corolla*: tubular; split down the upper side; the five lobes very regular. *Stamens*: five; united; the anthers bearded. *Pistil*: one. *Pod*: inflated. *Leaves*: sessile; ovate; hairy. *Stem*: one to two feet high; erect; branched; hairy.

Unfortunately this lobelia does not shed abroad a very ennobling influence among its companions. Its narcotic properties are well known and have been rather indiscriminately used by the Indians. They chew and smoke the dried leaves, which have a bitter flavour like tobacco. The plant is a poisonous one and has been largely employed as an emetic. It is, in fact, a rather plebeian relative of the cardinal flower.

CORN-COCKLE. CORN-ROSE.

Agrostemma Githàgo.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pink.</i>	<i>Crimson purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July-September.</i>

Flowers: terminal; solitary. *Calyx*: large, with five linear lobes alternating with and exceeding the corolla. *Corolla*: of five rounded petals. *Stamens*: ten. *Pistil*: one; styles, five. *Leaves*: opposite; linear-lanceolate; pale green; hairy. *Stem*: stout, erect; much branched; four-angled.

The generic name *lychnis*, which was formerly applied to this plant and which means a lamp or light, expressed well the effect of the corn-cockle in our grain fields. It illuminates them with a blaze of crimson light and causes the traveller to exclaim, the fields here are as beautiful as they are in England.



PLATE CXLII.

{ CALIFORNIA POPPY. *Eschscholtzia Californica*.
{ *Eschscholtzia cæspitosa*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

Small, faint, illegible markings or text, possibly bleed-through from the reverse side of the page.

Small, faint, illegible markings or text, possibly bleed-through from the reverse side of the page.

But the farmer and the artistic eye seem to be always at variance. He understands the seriousness of things and regards the plant as an impudent foreigner that has secured first a footing, then a home, and finally a kingdom in his corn fields. The cockle is also alarmingly clever. It mixes its black seeds with those of the grain and so increases its dominion every year. They draw tears of lamentation from the sturdy miller who prides himself on his flour's purity and whiteness.

The plant also contains a poisonous ingredient called saponin which is freely soluble in water and when inhaled produces violent sneezing. It is known that a small quantity of bread that contains these seeds if eaten regularly will produce a peculiar chronic disease.

CALIFORNIA POPPY. (*Plate CXLII.*)

Eschscholtzia Californica.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Poppy.</i>	<i>Orange red or yellow.</i>	<i>Juice, like muriatic acid.</i>	<i>California.</i>	<i>June-September.</i>

Flowers: large; solitary. *Calyx:* of two sepals that form a pointed cap which drops off as the petals expand. *Corolla:* of four concave petals. *Stamens:* numerous. *Capsule:* one-celled and covered by the compound stigma. *Leaves:* dissected, pale, glaucous. *Stem:* twelve to eighteen inches high; the end dilated into a top-shaped receptacle with a broad rim upon which are the stamens. *Juice:* watery; narcotic.

“How gently, O sleep,
fall thy poppies on me!”—ED. JOHNSON.

The flowers from which the illustration was taken, were picked in Santa Rosa, California. There, to see the fields aglow with the silky, flame-coloured beauties, which have every variety of tint from pale yellow to deep orange, is most enchanting.

At one time, when China wished to prevent the large use of opium which is extracted from the opium poppy, she destroyed an immense quantity of plants that belonged to British merchants and as a result became involved in her first war with England. To this poppy, therefore, is due the opening of China and Japan to the commerce of the world.

The ancients gave poppies to the dead, and as typifying sleep they were regarded as the world's great comforter.

E. cœspitosa is the name of the smaller and brilliant poppy that is represented in the illustration.

CELANDINE POPPY.

Stylóphorum diphyllum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Poppy.	Deep yellow.	Scentless.	Pennsylvania westward.	April, May.

The celandine poppy resembles very closely the smaller flowers of the celandine. It is not so tall, and its generic name, meaning style-bearded, expresses another difference between it and the celandine.

CELANDINE.

Chelidonium majus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Poppy.	Yellow.	Scentless.	General.	Summer.

Flowers : small ; growing in loose umbellate clusters. *Calyx* : of two sepals that fall early. *Corolla* : of four spreading petals. *Stamens* : numerous. *Pistil* : one ; stigma, two-lobed. *Leaves* : pinnately divided into lobed and toothed segments ; hairy. *Stem* : erect ; branching ; hairy. *Juice* : acrid ; poisonous.

In dry soil, especially about gardens, we find the bright flowers of this plant. It has come to us from Europe, and its juice has quite a reputation for curing diseases of the eyes, also warts and jaundice.

BUTTERFLY PEA. (Plate CXLIII.)

Clitoria Mariàna.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Pulse.	Lavender.	Scentless.	New Jersey southward and westward.	July.

Flowers : showy ; one to three borne on a short peduncle. *Calyx* : tubular ; five-cleft. *Corolla* : papilionaceous ; the banner petal much larger than the others ; erect and notched at the apex. *Stamens* : ten, not distinct ; style, bearded. *Pods* : long ; appearing late in the season. *Leaves* : of three lanceolate leaflets on separate stalks with stipules at their bases ; the under surface of a much lighter shade of green. *Stem* : smooth ; twining.

It may be that there has been a slight disagreement in the household of the butterfly pea. The large banner petal seems to believe in gaiety and showing itself to the world, while the



PLATE CXLIII. BUTTERFLY PEA. *Clitoria Mariana*.

(277)

other parts of the corolla have a leaning towards piety and staying at home. So each faction goes its separate way. The blossom, in consequence, is very much out of proportion. We readily forgive it this fault, however, on account of its lovely colour and the courage each one of its parts has shown in remaining true to its convictions.

JAMESTOWN-WEED. THORN APPLE.

Datura Stramonium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Nightshade.	White streaked with purple.	Unpleasant.	General east of Iowa.	May-September.

Flowers: large; growing on short flower-stalks in the forks of the branched stems. *Calyx*: five-toothed. *Corolla*: three inches long; tubular; funnel-form, the divisions sharply pointed. *Stamens*: five. *Pistil*: one. *Leaves*: large; flaccid; ovate; and deeply toothed. *Stem*: two to five feet high; stout; branching; smooth; greenish purple.

The odour of this plant has earned for it among the country people a name not at all euphonious and which is not repeated here out of respect to our fin de siècle civilisation.

D. Tatula is the purplish-flowered species which is otherwise nearly identical with the above. Its range is rather more extended in the west and south. Both of the jimson weeds, as they are called, have been introduced into this country from South America and Europe and are among the number that we would prefer to have had remain where they rightfully belong. Outside of spreading themselves over unsightly piles of way-side garbage, their usefulness as a stimulant in medicine is not so great but that it could be readily dispensed with.

They are besides possessed of a narcotic poison, especially the purple variety, which is found in the seeds. Children have been badly poisoned by sucking the flowers.

COMMON DODDER. LOVE VINE.

Cuscuta Gronovii.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Dodder.	White.	Scentless.	New England southward.	Late summer and autumn.

Flowers: small; growing in clusters. *Calyx*: five-cleft. *Corolla*: tubular; five-lobed. *Stamens*: five. *Pistil*: one; styles, two. *Leaves*: none, their



PLATE CXLIV. COMMON MILKWEED. *Asclepias Syriaca*.

place taken by yellowish bracts. *Stem* : copper yellow ; twisting and twining like a bunch of tangled wire ; parasitic.

We may well inquire into the ways of this little parasite, which, although its victims are of a different class, is quite as uncanny as the insectivorous plants. Its coiled seed drops into the ground, germinates, and sends up a yellow stem, which, when it has hardly reached two inches high, begins to stretch out for some shrub or plant about which to entwine itself. It then puts out suckers which penetrate the bark and drain the already assimilated sap of the plant. The original ground stem withers and falls away. The dodder is therefore left wholly dependent for nourishment upon its victim. Its persistent, close growth about the bark of a shrub inflicts great damage.

The tangled gold threads are interesting when we come upon them ; but once the habits of the plant are known it cannot but inspire us with a feeling of repulsion.

COMMON MILKWEED. SILKWEED. (Plate CXLIV.)

Asclepias Syriaca.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Milkweed.	Purplish pink.	Scentless.	Mostly northward.	June-August.

Flower-clusters : often four and a half inches in diameter. Construction, see *A. incarnata*, page 76. *Pods* : two only, which burst open and let fly seeds with beautiful, silky tufts. *Leaves* : very large ; six to eight inches long ; opposite, or scattered ; oblong ; pubescent underneath ; glabrous on the upper surface. *Stem* : tall ; coarse ; with a milky juice ; pubescent.

One of the greatest charms of the wild flowers is that they never have to be bought. The beggar can enjoy the world flushed with myriad, evanescent hues that blend into each other like the delicate splendour of a bird's plumage quite as well as can a monarch on his throne. The only requisite is to have the discriminating eyes that see : see as do the artists.

Barefooted urchins think, undoubtedly, that the common milkweed blows for them, and the pompons they make from its seed pods for their torn straw hats become them extremely well. They slumber sweetly upon the pillows and mattresses

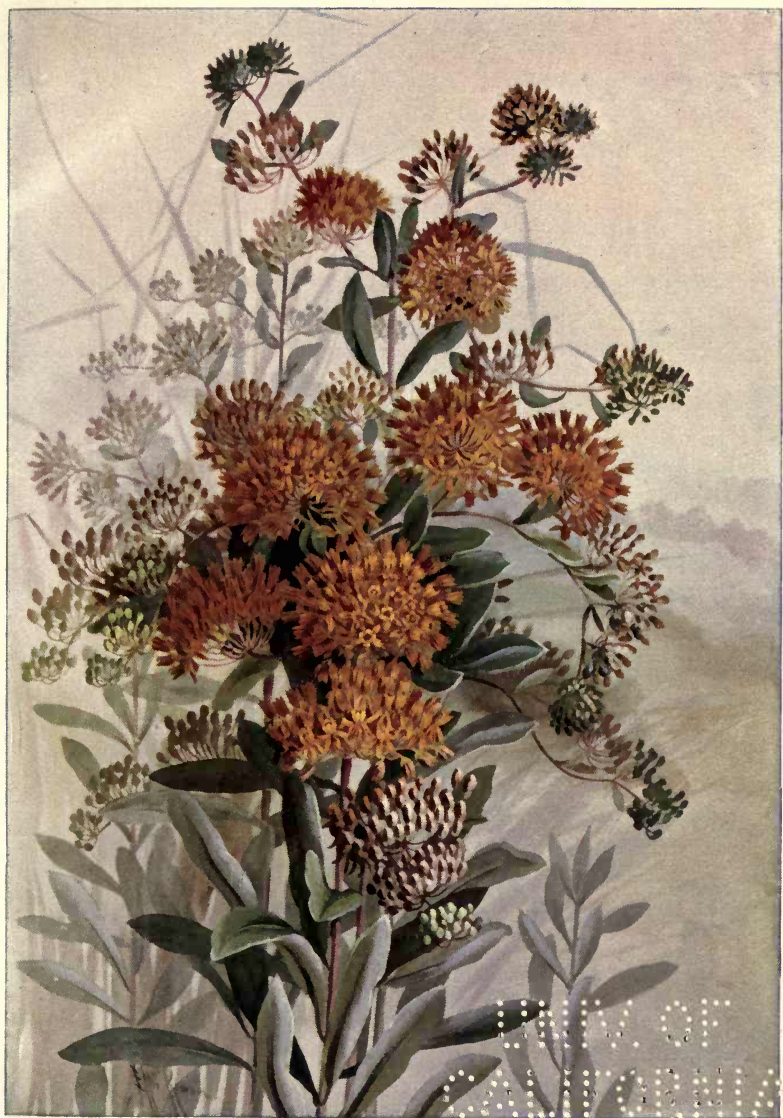


PLATE CXLV. BUTTERFLY-WEED. *Asclepias tuberosa*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

1877
1878
1879

1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

that are stuffed with the pappus and laugh at the "city people" for calling the plant "rubber tree." It blooms in the dry fields and all along the waysides and is the most generally known of the family.

BUTTERFLY-WEED. PLEURISY-ROOT. (Plate CXLV.)

Asclèpias tuberosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Milkweed.</i>	<i>Orange red.</i>	<i>Scentless.</i>	<i>Mostly northward.</i>	<i>June-September.</i>

Flowers: regular; gamopetalous; growing in umbel-like clusters, and showing the distinctive features of the milkweed family, see *A. incarnata*, page 76. *Pods*: two, which burst open and let fly seeds with beautiful silky tufts. *Leaves*: alternate; lanceolate; pubescent. *Stem*: one to two feet high; erect; branched near the summit; hairy and containing very little milky juice.

Perhaps this is one of the most brilliant plants, not excluding those of the tropics, of our country. The soft air of mid-summer plays upon it as it lightens the dry fields, and the tuneful harmony is one of blending tints of orange and red. It is the only northern one of the genus with so much yellow mixed in its colouring. One rarely sees it without a gay band of butterflies hovering about, and it is very possible that from this fact it has received one of its English names.

The Indians made use of it in many ways; principally by extracting a sugar-like substance from the flowers. The roots have been believed to be a cure for pleurisy. The plant is also called wind-root and orange-root.

WILD CARROT. QUEEN ANNE'S LACE.

Daucus Carròta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Parsley.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>August, September.</i>

Flowers: minute; delicate; growing in a compound, flat-topped umbel, which becomes concave after flowering. The central flower of the umbel is often purple. *Involucre*: light green; of very fine pinnatifid leaves. *Leaves*: fine; much divided. *Stem*: erect; rough; branched.

We may have no qualms of conscience on the grounds of inhospitality if we say boldly that we should not grieve very much to have this weed return to the old country from where it came.

Its ruthless habit of taking possession of whole fields, especially in New Jersey, and destroying the pasture is a constant care and annoyance to the farmer. It is most difficult to extirpate as it is tough and hard to uproot.

It frequently falls within the experience of our friend the country boy to pull up the plants before they have gone to seed ; and one instance is known of his having been engaged to perform this service at the exorbitant wage of twenty-five cents a hundred. His mind, however, is poetical. He loves to dream of the beautiful side of the wild carrot's character, and to weave romances about it in connection with Queen Anne's lace. To bend his back over and tear his palms uprooting them is not to his taste. So on the mentioned occasion he sat on the fence and watched other boys that he had hired at five cents a hundred do the work for him.

GREAT MULLEN. VELVET OR MULLEN DOCK.

Verbascum Thapsus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Pale yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July-September.</i>

Flowers : large ; growing in a long, terminal spike. *Calyx* : of five sepals. *Corolla* : wheel-shaped with five unequal, rounded lobes. *Stamens* : ten ; three taller than the others with woolly filaments. *Pistil* : one. *Leaves* : alternate ; the basal leaves lying flatly in a circle on the ground ; oblong ; pale green ; velvety to the touch. *Stem* : erect ; flat.

Although in Europe the mullen is called "American velvet plant," we can hardly claim it as indigenous to our country. In fact, as its specific name implies, it is a native of the island of Thapsus. It has visited many lands, and had quite a broad experience in usefulness. The Greeks made lamp wicks of the leaves, and the Romans, after preparing the dried stalks in suet, burned them as funeral torches, when they were called "candalaria." The efficacy of mullen tea for pulmonary diseases is still lauded by the country people, especially when used for beasts. It has also its place among the vanities of vanities, and the village belle knows well that the velvety leaf rubbed against her cheeks will leave a tint like that of a ripened peach.

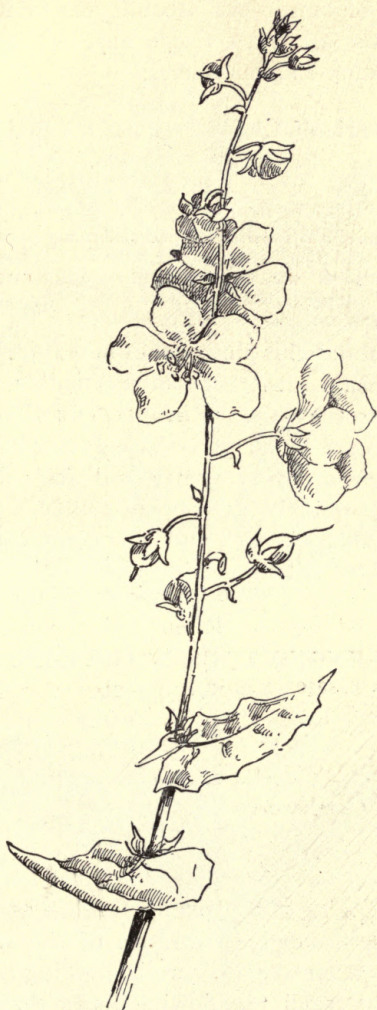


PLATE CXLVI. MOTH-MULLEN. *Verbascum Blattaria*.

The plant first blooms in the second year of its growth, and then the blossoms last but a single day. It is credited with having forty common English names.

MOTH-MULLEN. (Plate CXLVI.)

Verbascum Blattaria.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Figwort.	Yellow white, or pinkish.	Scentless.	General.	July-September.

Flowers: slightly nodding; growing on pedicels along the stem. *Calyx*: of five sepals. *Corolla*: with five rounded, delicately veined lobes. *Stamens*: five; the filaments dark coloured and covered with a purplish wool. *Pistil*: one. *Leaves*: those above, alternate; ovate; sessile; toothed; those below on petioles and deeply cut; smooth. *Stem*: erect; slender.

There is little about this plant either in texture or appearance to suggest its kinship with the common mullen. It is quite a little pretendant to the claims of beauty, and when the different coloured varieties are found growing together in some dry, upland meadow they are very pretty and fairy-like. Unfortunately they perish quickly after being picked. As the specific name suggests, the cockroach and this plant can never agree. In fact that despised tribe are said to hold it in especial abhorrence.

SLENDER LADY'S TRESSES.

Gyróstachys gracilis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Orchis.	White.	Fragrant.	New England to Florida and westward.	July-October.

Flowers: very small; growing on one side of a slender, twisted spike. *Corolla*: hardly a quarter of an inch broad; the lip spreading and crimped. *Leaves*: ovate; withering early in the season. *Stem*: erect; leafy below and having bracts above.

Surely the ladies have been sleeping that long ago they did not resent the changing of this plant's English name from lady's traces, which the braided appearance of the stem somewhat suggests, to lady's tresses. There is nothing about the prim little blossoms to recall the flowing locks that are woman's crowning glory.

It may be found in dry ground, on the side of hills, in sandy places and open fields.



PLATE CXLVII. STRIPED GENTIAN. *Gentiana villosa*.

G. cernua is perhaps the commonest little orchis that we have. The stem is more twisted and flowered than that of *G. gracilis* and the low stem leaves are almost linear. The spiral growth of the flowers about the stem is very pretty, and the blossoms are fragrant. It seldom grows over eight inches tall and blossoms in September and October. In low grounds throughout the east and south it is most common.

BLUE WAX-WEED. CLAMMY CUPHEA.

Parsonsia petiolata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Loosestrife.</i>	<i>Purplish pink.</i>	<i>Scentless.</i>	<i>Conn. to Illinois and southward.</i>	<i>July-October.</i>

Flowers: small; growing in loose racemes along the branches. *Calyx*: tubular; six-toothed, extending into a spur on the upper side; purplish; sticky. *Corolla*: of six unequal ovate petals, having short claws. *Stamens*: about twelve; irregular; in two sets. *Pistil*: one; stigma, two-lobed. *Leaves*: opposite; lanceolate; disagreeable to the touch. *Stem*: branching; reddish; clammy.

In the autumn, when we wander through the pastures or by the roadsides, it is the turn of this flower to claim our attention. The petals have a wrinkled look, and the pods, from the position of the seed-bearing part of the ovary, appear to have a little handle. These points, and remembering that it is a loosestrife, serve readily to identify the plant.

STRIPED GENTIAN. (Plate CXLVII.)

Gentiana villosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Gentian.</i>	<i>Greenish white, striped inside with purple.</i>	<i>Scentless.</i>	<i>Southern New Jersey to Florida.</i>	<i>September-November.</i>

Flowers: solitary, or clustered; sessile; axillary along the stem and terminal. *Calyx*: of unequal linear lobes. *Corolla*: short; funnel-form. *Leaves*: opposite; obovate; long; narrowed at the base. *Stem*: six to eighteen inches high.

These tender blossoms, with their silky stripes, are as delicate and misty in colouring as many graceful cups of Venetian glass. They grow in dry, shady places, and although they entertain royally their insect friends, they are shy of welcoming more mundane mortals. Those that are fortunate enough to find them appreciate them as a rare floral treasure.

DANDELION.*Taraxacum Taraxacum.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Chicory.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General to the Rockies.</i>	<i>April-October.</i>

Flower-heads: roundish, of innumerable strap-shaped flowers. *Involucre*: closing after blooming until the fluffy ball is ready to mature and be blown away by the wind, when it opens, turns downward, and bears up the pappus. *Leaves*: at the base; much cut. *Stem*: hollow. *Juice*: milky.

There seems to be something pathetic about the dandelion as it grows old. Gradually it is deprived of its golden rays and upon its stalk is left a little cloud of gossamer. It is then whorled aloft and away, torn and scattered upon thorny bushes and dashed into angry streams by pitiless winds. Or the children blow it to tell what o'clock it is. There are usually four good blows in a ball of down and this fact has won for it the name of "four o'clock," each blow signifying an hour. The plants are eaten as a pot herb, and their medicinal properties are generally known and appreciated.

FALL DANDELION.*Leontodon autumnale.*

Or little dandelion, as it is sometimes called, extends its bloom throughout the summer and autumn. On a nearer acquaintance we find it has rather different habits from our early dandelion but is very much like the hawkweeds. Its Greek name refers to the medicinal properties of the root.

**PLANTAIN-LEAF EVERLASTING. MOUSE-EAR
EVERLASTING.***Antennaria plantaginifolia.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>White.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>March-May.</i>

Flower-heads: of tiny tubular flowers clustered closely together in a corvmb; sterile and fertile flowers growing on different plants. *Leaves*: those of the stem, lanceolate; pointed; soft; silky underneath; those of the base, oval; on petioles; nerved. *Stem*: sometimes approaching one foot high; covered with a soft down. The plant spreads by runners.

In rocky fields and on dry slopes we find this everlasting.

The difference between the staminate and pistillate blossoms, which grow on separate plants and usually near together, is that the staminate ones are more highly coloured and appear somewhat dotted. The pistillate ones are smooth and downy.

A. neodroica, smaller cat's-foot, is often found growing side by side with the above species. It is a woolly plant and bears many leaves.

GOLDEN RAGWORT. SQUAW-WEED.

Senecio aureus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>May, June.</i>

Flower-heads: small; growing in umbel-like, leafless clusters and composed of both ray and disk flowers. *Leaves*: alternate; the lower ones mostly heart-shaped, with long petioles, upper leaves lanceolate; deeply cut; sessile as they ascend the stem. *Stem*: erect; simple; smooth; cottony when young. The pappus of silky white down.

The ragwort, which is one of our native weeds, illuminates our meadows with the same tints of golden yellow that we sometimes trace in the amber light from a sunset. It is also sadly true that it is responsible for an immense amount of hay fever.

The generic name *senecio* is from *senex*, an old man, and refers to the silky, white hairs of the pappus. Although the plant is in general appearance somewhat like an aster, the leaves are quite individual and very variable in the different species.

TICK-SEED. (Plate CXLVIII.)

Coreópsis lanceolata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Mostly south and west.</i>	<i>May-August.</i>

Flower-heads: few, or solitary on long slender peduncles; ray-flowers, six to ten, toothed at the apex; disk-flowers, perfect. *Involucre*: two inches broad, depressed, with lanceolate bracts. *Leaves*: lanceolate; entire; almost sessile. *Stem*: high; slender; glabrous.

So brilliant and effective is this flower that it has been extensively cultivated in gardens. The involucre is responsible for its appearing somewhat deceptive to the non-botanist. It



PLATE CXLVIII. TICK-SEED. *Coreopsis lanceolata*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

001 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0



PLATE CXLIX. ROBIN'S PLANTAIN. *Erigeron pulchellus*.
(289)

is rather a fickle-minded plant and grows equally well in dry or moist soil, sometimes even venturing upon the roadsides. Wherever we find it, however, it is always welcome.

C. ròsea is the rose-coloured tick-seed that is sometimes found in sandy swamps. It grows from six inches to two feet high, and it is very pretty.

ROBIN'S OR POOR ROBIN'S PLANTAIN. (*Plate CXLIX.*)

Erigeron pulchellus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Light violet.	Scentless.	General.	May, June.

Flower-heads: round, growing in small clusters and composed of both ray and disk flowers; the former being very numerous. *Leaves*: few on the stem; lanceolate; the basal leaves broader and clinging closely to the ground. *Stem*: about one foot high; thick, juicy; hairy.

What strange idea filled the pretty head of robin's plantain when it decked itself out to look so much like an aster we do not know; but its deception is very transparent and we readily discover that it is not one of the aster family. There is a hairy look about the stem and flower which is quite unlike an aster, and another distinctive feature is the way in which its lower leaves lie flat about the ground.

Perhaps by its advent so early in the season it simply wishes to proclaim the coming of the true asters and the members of the great family of composites.

LARGER DAISY FLEABANE. SWEET SCABIOUS.

Erigeron annuus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	White or purplish.	Scentless.	General.	June.

Flower-heads: small, about three quarters of an inch broad; clustered and composed of both ray and disk flowers. *Leaves*: lanceolate; the lower ones serrated. *Stem*: three to five feet high; branched; hairy.

We all know the fleabanes, or little daisies, that spring up in the meadows and along the roadsides in summer and which look so pretty in the bunch of purple asters and golden rods that we carry home as an effective decoration for some secluded corner.



PLATE CL. { WHITE DAISY. *Chrysanthemum Leucanthemum*.
BULBOUS BUTTERCUP. *Ranunculus bulbosus*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

Country people tell us that when burned they are obnoxious to insect life, and we frequently see dried bunches of them hanging over their cottage doors to caution such intruders against entering the portal.

E. ramòsus, or smaller daisy fleabane, has longer ray flowers than those of the above species, and entire leaves. The general effect of the plant, however, is smaller and more delicate.

WHITE DAISY. WHITE WEED. OX-EYED DAISY.

(Plate CL.)

Chrysanthemum Leucanthemum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	White, with yellow centre.	Scentless.	Mostly north.	June.

Flower-heads: terminal; solitary and composed of both ray and disk flowers. Ray flowers white, those of the disk yellow. *Leaves*: the lower ones spatulate, the upper ones partly clasping; netted-veined; cut, or toothed.

The "eye of day," as Chaucer says men rightly call the daisy, although one of our commonest flowers, is not a native of this country; but was probably brought here by the early colonists. It has a place in the hearts of poets and lovers of nature. The farmer alone will have none of it. He scornfully calls it white weed, not even deigning to give it its more poetical name.

The English daisy that Burns sang about, *Bellis perennis*, is smaller than this species, and pink. It seems rather a pity that in celebrating it Burns should have closed the poem with his own lament.

"Ev'n thou who mourn'st the daisy's fate,
That fate is thine—no distant date;
Stern Ruin's ploughshare drives, elate
Full on thy bloom,
Till crush'd beneath the furrow's weight,
Shall be thy doom!"

RATTLESNAKE-WEED. HAWKWEED.

Hieracium venòsum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Chicory.	Yellow.	Scentless.	Mostly north.	July, August.

Flower-heads: growing singly on the ends of branched flower-stalks or scapes, and composed of strap-shaped flowers. *Leaves*: from the base; obovate and

spreading around on the ground like a rosette ; veined conspicuously with purple. *Flower-stalk* : one to two inches high ; naked, or bearing one leaf ; slender or forked above.

The prevailing idea that the leaves of the hawkweed resemble the rattlesnake, serve better to identify it from its numerous relatives, than which it is by far more interesting, than to recall to mind the dreadful creature for which it is named, or to remove the venom of his bite.

The plant grows in dry soil, sometimes by the waysides, in the meadows, or in the open woods.

H. Greenii, Green's hawkweed, has spatulate, tufted, basal leaves which narrow into a petiole. It is found in the dry soil of the mountains of Pennsylvania, Virginia and West Virginia.

FIELD SOW THISTLE.

Sónchus arvensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Chicory.</i>	<i>Bright yellow.</i>	<i>Scentless.</i>	<i>Occasional in the eastern and middle states.</i>	<i>Summer.</i>

Flower-heads : large ; showy ; clustered closely together and bursting out later into a soft, downy pappus. *Involucre* : of numerous strap-like scales. *Leaves* : long, pointed, blade-like ; clasping by a heart-shaped base ; saw-toothed. *Stem* : one to three feet high ; branched ; hollow ; bristly.

In dry fields and along roadsides ; in salt meadows and by streams we find this showy, coarse weed. It has come to us from Europe and is also a native of Asia. Every year it extends its range and becomes more common. The flower opens at five o'clock in the morning, begins to close at about eleven o'clock and by noon it has entirely shut out the world.

BLACK-EYED SUSAN. CONE-FLOWER.

Rudbéckia hirta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Deep yellow, purple centre.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Midsummer.</i>

Flower-heads : large ; terminal ; solitary and composed of both ray and disk flowers ; the former often one and three quarter inches long, the latter arranged in the form of a cone and chocolate brown in colour. *Leaves* : lanceolate ; narrow ; rough and disagreeable to the touch ; the lower ones on petioles, the upper ones sessile. *Stem* : one to two feet high ; rough ; usually branching.



PLATE CLI. BLACK-EYED SUSAN *Rudbeckia.*

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

THE UNIVERSITY OF CHICAGO
PRESS

Black-eyed Susan, or Susie, as her playmates call her, is a beautiful wild country girl with a striking brunette face, and a gown of yellow and black, which fairly makes the meadows dance with life and gaiety. Perhaps she lacks that wealth of charm which cultivation gives, and is rather careless in choosing her companions. No doubt she is governed entirely by her love of fun. Her manner of growth is certainly ungraceful and her leaves and stem are rough and uncouth.

She is perfectly at home in the east, although she first came to us hidden in clover seeds from the west; where she is called by the unpoetical name of "nigger-head."

The southern rudbeckia (Plate CLI) is a more gorgeous flower, the cone of disk-flowers being much higher and the leaves broader than those of the above species.

R. Brittonii, Britton's cone-flower, has flower-heads that are from two to three inches broad. Its rays are two-lobed and about twelve in number. They are tipped with purple. The stem leaves are nearly oval and often occur with a lateral lobe. In the mountains of Pennsylvania, Virginia and Tennessee and in the woods it blooms abundantly from May until July.

The plant is stout and vigorous and it bears, as will be noticed, the name of Dr. Britton, who has expended so much time and affection upon the floral world.

GOLDEN-ROD. DYER'S WEED.

Solidago nemoralis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Yellow.	Scentless.	New England southward and westward.	August.

Perhaps this is the most common of all the golden-rods that abound in dry fields. The flowers grow in a dense plume, or compound panicle, along the upper side of the stem; and the few tapering leaves are of a dull greyish green. It seldom grows over two feet high. The simple stem has a cottony look.

S. Canadensis, Canada golden-rod, is a tall species with spread-

ing racemes of flowers. The leaves are lanceolate and very rough on the upper side.

S. mollis, or velvety golden-rod, is distinguishable by the soft fleecy fuzz with which it is covered. It grows in dry plains from Minnesota southward and westward.

S. juncea, Plate LXIX.

BLAZING STAR.

Laciniaria scariösa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Rose purple.	Scentless.	Maine to Florida and westward.	Early autumn.

Flower-heads: round; growing in a long, wand-like raceme; and composed of tubular flowers with long slender lobes. Scales of the involucre, long and bristly, purple tipped. *Leaves*: alternate; lanceolate; pointed. *Stem*: erect; leafy; rather downy.

Why these beautiful flowers, which are clustered thickly or loosely together, as the case may be, were ever named blazing star it would trouble the wisest of us to explain. Their particular charm lies in their warm rich colouring.

L. squarrosa, or scaly blazing star, is a beautiful variety with larger, fewer flower-heads of rose purple. It blooms in the late summer and autumn and mostly southward and westward from Pennsylvania. Another name for it is rattlesnake-master; the bites of which snakes it has been supposed to be efficacious in curing.

BURR THISTLE. SPEAR THISTLE.

Carduus lanceolätus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Purplish crimson.	Scentless.	North and east.	July-November.

Flower-heads: large; solitary; composed entirely of tubular flowers and surrounded by a prickly involucre. *Leaves*: alternate; sessile, much cut and beset with red prickles. *Stem*: leafy; rough.

“Nemo me impune lacessit.”

Truly the farmer's life is no merry jest; for when he attempts to lean back in his easy chair, and flatter himself that he has

grappled successfully with the troublesome weeds of the season, along comes the thistle and rears itself in his pastures. Its sharp red prickles are rather inconvenient to those of artistic temperament who wish to show it any demonstration of affection ; but the bumble-bees love it dearly and enjoy sweet converse with it unharmed.

C. arvensis, or Canada thistle, is the common species along the roadsides and in fields. It is readily known by its numerous small flower-heads and although pretty it is a most pernicious weed.

Plants Growing in Waste Soil: Roadside Banks and Lanes.

*What charm has the road when beside it we wander
And gaze at its banks gaily clothed,
Where dwell the proud asters, the legion of sparrows
And myriads of rods waving gold.
There the little birds sing and the merry bees hum,
A naughty snake glides slowly by,
In waves clear or misty hang sunshine and shadow,
While above is the deep, blue sky.*

WINTER CRESS. YELLOW ROCKET.

Barbarèa Barbarèa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mustard.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>April-September.</i>

Flowers: small; growing in racemes. *Calyx*: of four sepals that fall early. *Corolla*: of four cruciferous petals. *Stamens*: six, two of which are shorter than the others. *Pistil*: one. *Pods*: linear, branch-like. *Leaves*: those at the base, lyre-shaped; those of the stem, ovate; pinnately-divided; incised. *Stem*: erect; smooth.

The leaves of the herb of St. Barbara, as this little plant is also called, are used as a salad by many country people. One must have, however, the taste engendered by being brought up on the soil to truly appreciate them as a delicacy.

SHEPHERD'S-PURSE.*Bursa Bursa-pastoris.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mustard.	White.	Scentless.	General.	April-September.

Flowers: small; clustered in a long raceme. *Calyx*: of four sepals that fall early. *Corolla*: of four cruciferous petals. *Stamens*: six, two of which are shorter than the others. *Pistil*: one. *Pods*: triangular; notched at the apex; two-valved. *Leaves*: those of the base, clustered, incised; those of the stem, arrow-shaped, partly clasping. *Stem*: branching.

These insignificant little flowers crop out with much persistency along the wayside. Their generic name is derived from the pouch-like shape of their seed-pods. The plants are widely distributed all over the globe.

BLACK MUSTARD.*Brassica nigra.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mustard.	Yellow.	Pungent.	General.	All summer.

Flowers: small; clustered in racemes. *Pods*: half an inch long, the seeds dark, spicy to the taste. *Stem*: three to six feet high; branched.

It is from the seeds of the black and white mustards that the well-known condiment is made. For this purpose the plants are extensively cultivated in Europe, and are sown as forage for cattle, when they are cut down and fed to them before the seeds are ripe. With us they flourish along the roadsides and are rather troublesome weeds in some parts of the country.

Sinapis alba, or white mustard, has single seeds; the long hairy pods are beaked.

VENUS'S LOOKING-GLASS.*Specularia perfoliata.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Campanula.	Purplish blue.	Scentless.	General.	May-September.

Flowers: growing with the leaves along the stem. *Calyx*: three to five-lobed. *Corolla*: wheel-shaped, with five almost linear lobes. *Stamens*: five. *Pistil*: one; stigmas, three. *Pods*: triangular. *Leaves*: oblong with heart-shaped bases; clasping. *Stem*: hairy.

This fancifully named little plant is one that bears cleistoga-

mous flowers. It does not, however, hide them at its base as though ashamed for them to be seen. The leaves clasp the stem tightly and look like little shells in which lie three closed buds. They never open and are very fruitful. It seems as though the plant held them in the hollow of its hand. It is only the fortunate ones that reach the top of the stem that unfold the dainty blossom.

S. biflora is the small Venus's looking-glass. It grows from Virginia southward and westward, and blooms from April until July.

GREEN-BRIER. CATBRIER. HORSE-BRIER.

Smilax rotundifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Smilax.</i>	<i>Greenish white.</i>	<i>Scentless.</i>	<i>New England to Florida.</i>	<i>April-June.</i>

Flowers: small; imperfect; growing in umbels. *Perianth*: of six divisions. Staminate blossoms with six stamens; pistillate ones with three diverging stigmas and a three-celled ovary. *Leaves*: alternate; on petioles, roundish; pointed. *Stem*: four-angled; prickly.

The catbrier is a very near relative of *S. herbacea*, page 100, with infinitely better manners, as it does not taint the lovely spring days with a disagreeable odour. Its sharp prickles, however, are very vicious and by far too much in sympathy with barbed-wire fences to allow of the plant ever being a great favourite. Its dark berries and many-tinted leaves are most beautiful in the autumn.

BITTER SWEET. WAX-WORK.

Celastrus scandens.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Staff-true.</i>	<i>Cream white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>June.</i>

Flowers: small; imperfect; growing in raceme-like clusters. *Petals, sepals, and stamens*: five. *Pistil*: one. *Fruit*: orange-red; of three rounded divisions that burst open and display the seeds within. *Leaves*: alternate; oblong; thin; toothed; smooth. A shrub, twining; woody.

In common with cat-tails; the silky pompons made from milkweed pods and numerous sedges; the exquisite berries of the bitter sweet have appealed loudly to the decorative in-



PLATE CLII. PURPLE FLOWERING RASPBERRY. *Rubus odoratus*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY
PRINTED IN AMERICA.

1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800

1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800
1800 1800 1800 1800 1800 1800 1800 1800 1800 1800

instincts of housewives. How clearly they recall to mind the squareness and regularity of some country parlour; and how strikingly giddy they appear in contrast to the sombreness of their surroundings, as they droop over the crayon of some cherished relative that hangs on the wall. We prefer to see them clambering over the stone walls and mingling in the thickets along the roadsides, where they are perhaps more generally admired than any other of our late season berries.

PURPLE-FLOWERING RASPBERRY. (*Plate CLII.*)

Rubus odoratus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Rose.	Purplish pink.	Fragrant.	New England southward to Ga. westward to Mich.	June, July.

Flowers: large; two inches broad; terminal; clustered. *Calyx*: of five long, slender lobes tipped with a fine point; hairy; sticky. *Corolla*: of five rosaceous petals. *Stamens*: numerous. *Pistils*: numerous. *Fruit*: similar to a raspberry, edible. *Leaves*: alternate; palmately three to five lobed, the middle lobe longer than the others; netted-veined; serrated. *Stem*: shrubby branching; clammy.

Hardly any description is needed of the purple-flowering raspberry as it is portrayed so clearly and beautifully by the coloured plate. We can all see that there is nothing plebeian or coarse about the plant. Its moral tone is evidently of the very highest. The leaves grow to a great size, and when folded together make excellent drinking cups, which often enable the weary traveller to quench his thirst by some near-by stream. As we all know, the berries are delightful.

The little group of bees on the plate remind us that Mr. Burroughs says the fact at the bottom of the common statement that bees have their own likes and dislikes for certain people, is simply that they will "sting a person who is afraid of them and goes skulking and dodging about; and they will not sting a person who faces them boldly and has no dread of them."

R. strigosus and *R. occidentalis* are the red and black wild raspberries from which many of the cultivated varieties have been produced.

SPREADING DOGBANE. (*Plate CLIII.*)*Apócynum androsæmifólium.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Dogbane.</i>	<i>Rose colour.</i>	<i>Fragrant.</i>	<i>Mostly northward.</i>	<i>June, July.</i>

Flowers : in terminal cymes ; growing on thread-like flower-stalks. *Calyx* : five-cleft. *Corolla* : bell-shaped ; five-lobed, and veined with a deeper pink. *Stamens* : five. *Ovaries* : united by an ovate stigma. *Pods* : large ; long ; slender. *Leaves* : opposite ; ovate. An herb two to eight feet high ; forked ; branching. *Juice* : milk white ; sticky.

Truly it is the poets and botanists who are mostly alive to the loveliness of the wildings of nature ; and we ever find them singing their praises to the exclusion of their more pretentious sisters that are under the gardener's care.

The tiny blossoms of the spreading dogbane remind us of the bells of the lily-of-the-valley ; but they have a delicate rose tint, and are exquisitely veined with a deeper colour. This is probably to let the bee know of their five glands of sweet nectar.

The plant was formerly thought to be poisonous to dogs.

VIRGINIA CREEPER. AMERICAN IVY.*Parthenócissus quinquefólia.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Vine.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July.</i>

Flowers : small ; clustered in a cyme. *Fruit* : small black, or blue berries. *Leaves* : divided into five lance-oblong leaflets. A vine climbing by means of tendrils and rootlets.

It is quite distressing to think how often this most beautiful of our climbers is shunned and looked upon with distrust by the non-botanists simply because the difference between it and poison ivy is not known. That it has five leaflets and bluish berries should be remembered as a means to distinguish it from the three leaflets and whitish fruit of the harmful vine.

It accommodates itself readily to almost every kind of soil, and has been extensively cultivated in Europe and in this country for garden decoration. In the autumn the leaves turn a brilliant crimson.



PLATE CLIII. SPREADING DOGBANE. *Apocynum androsæmifolium*.

(301)

HEDGE BIND-WEED.*Convolvulus sepium.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Convolvulus.</i>	<i>Pink, or white.</i>	<i>Scentless.</i>	<i>North Atlantic states.</i>	<i>All summer.</i>

Flowers : terminal ; solitary. *Calyx* : of five sepals surrounded by two leafy bracts. *Corolla* : bell-shaped ; convolute or twisted in the bud. *Stamens* : five. *Pistil* : one. *Leaves* : alternate ; rather halbert-shaped ; netted-veined. *Stem* : trailing. *Juice* : milky.

Mr. Burroughs says about this flower : " Morning-glory is the best now. It always refreshes me to see it." " In the morning and cloudy weather," says Gray, " I associate it with the holiest morning hours. It may preside over my morning walks and thoughts. There is a flower for every mood of the mind."

C. arvensis, or field bindweed, the European species, has made itself quite at home in our fields. Its calyx is without bracts. Near the coast it becomes a weed.

The peculiarities of quámoclit coccinea, cypress-vine, are clearly represented in Plate CLIV.

BOUNCING BET. FULLER'S HERB. SOAPWORT.*(Plate CLV.)**Saponaria officinàlis.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pink.</i>	<i>White, or rose.</i>	<i>Fragrant.</i>	<i>General.</i>	<i>Summer.</i>

Flowers : often one and a half inches broad ; growing in corymbed clusters. *Calyx* : tubular ; five-toothed. *Corolla* : of five narrow petals, notched at the apex. *Stamens* : ten. *Pistil* : one, with two curved styles. *Leaves* : opposite ; nearly sessile ; lanceolate ; triple-ribbed. *Stem* : smooth, with swollen joints. *Juice* : mucilaginous.

It was always a mystery to Dickens that a door nail should have been considered so much more dead than any other inanimate object, and it seems also strange that this plant should have suggested the idea of bouncing more than other plants. Dear Bettie does not bounce, nor could she if she would. She sits most firmly on her stem, and her characteristics seem to be home-loving and simple. We are sure to find her peeping through the garden fences, or on the roadside, where the chil-



PLATE CLIV. CYPRESS-VINE. *Quamoclit coccinea*.



PLATE CLV. BOUNCING BET. *Saponaria officinalis*.



PLATE CLVI. DOUBLE BOUNCING BET. *Saponaria officinalis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY
PRINTED IN AMERICA.



dren nod to her as they pass by. She is one of the best beloved of our waste-ground flora.

The double variety, Plate CLVI, suggests the bloom of a cultivated flower; and this is not to be wondered at, as it was at one time much planted in gardens. It is rather more common than the single variety. Throughout the eastern states the plants are spreading very rapidly. Their juice, when mixed with water, forms a lather. This fact is well known.

YELLOW WOOD SORREL. LADY'S SORREL.

Oxalis stricta.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Geranium.</i>	<i>Golden yellow.</i>	<i>Scentless.</i>	<i>General.</i>	<i>All summer.</i>

Flowers: terminal; solitary. *Calyx*: of five lanceolate sepals. *Corolla*: of five petals. *Stamens*: ten. *Pistil*: one; styles, five. *Leaves*: divided into three obcordate, smooth leaflets. *Stem*: slender; erect.

An odd thing about this pretty sorrel that greets us along the roadsides, is the difficulty it seems to have about deciding the matter of fertilization. The cleistogamous blossoms that it bears are naturally self-fertilized: while the showy flowers most cautiously prevent such a thing by being either dimorphous or trimorphous,—that is, they have stamens and pistils of two different lengths. The short pistils must receive the pollen from the short stamens in another blossom; and the long pistils, the pollen from the long stamens.

At night the plant folds together its leaves and sleeps. *O. acetosella*, Plate CV.

ENCHANTER'S NIGHTSHADE.

Circæa Lutetiana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Evening primrose.</i>	<i>White.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Summer.</i>

Flowers: small; growing in long, loose, terminal and lateral racemes; pedicels reflexed in fruit. *Calyx*: two-lobed. *Corolla*: of two petals. *Stamens*: two. *Pistil*: one. *Leaves*: opposite; ovate; smooth; thin; serrated. *Stem*: erect; branching.

A name is a great deal to the enchanter's nightshade. One

fairly bristles with interest to seek it out and pause under its powers of enchantment. And in proportion to the keenness with which it is sought, will the disappointment be great in recognising it; for few flowers possess so little charm. It is persistent, too, and thrusts itself upon the attention of the passer-by whenever it finds the space to do so along the shady roadside.

TRAVELLER'S JOY. VIRGIN'S BOWER. (Plate CLVII.)

Clematis Virginiana.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Crowfoot.</i>	<i>White.</i>	<i>Slightly fragrant.</i>	<i>New England southward and westward.</i>	<i>July, August.</i>

Flowers: imperfect; clustered loosely in panicles. *Calyx*: of four oblong, petal-like sepals. *Corolla*: none. *Stamens* and *pistils*: indefinite in number. *Fruit*: a cluster of feathery tailed achenes. *Leaves*: opposite; thrice divided; toothed. *Stem*: climbing.

“The favoured flower
That bears the name of Virgin's bower.”

—SIR WALTER SCOTT.

In Gerarde, we read that “Traviler's joie is this same plant termed as decking and adorning waies and hedges where people travell; Virgin's bower, by reason of the goodly shadowe which they make with their thick bushing and climbing, as also for the beautie of the floweres, and the pleasant scent and savour of the same; and by country folks, old man's beard, from the hoary appearance of the seeds, which remain long on the hedges.”

Little country boys also call the plant, Tom-bacca and smoking tree, which names are sufficiently suggestive for us to imagine the reason of their delight in the lovely climber.

MUSK MALLOW. (Plate CLVIII.)

Malva moschata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Mallow.</i>	<i>White, or magenta.</i>	<i>Herbage, musk scented.</i>	<i>General</i>	<i>July-September.</i>

Flowers: clustered on short peduncles. *Calyx*: of five ovate sepals. *Corolla*: one and a half inches broad; of five malvaceous petals. *Stamens*: very numerous, growing out from all sides of a column wrapped about the style.



PLATE CLVIII. MUSK MALLOW. *Malva moschata*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.



PLATE CLVII. TRAVELLER'S JOY. *Clematis Virginiana*.

(307)

Pistils : several. *Leaves* : five-lobed ; the divisions again divided or cleft.
Stem : one and a half feet high ; hairy.

This lovely flower that has come to us from Europe and escaped from the gardens to the roadsides is a relative of the hollyhock. It is mostly in the evening that it emits a faint musk-like perfume.

WHITE ALDER. SWEET PEPPERBUSH. (Plate CLIX.)

Clèthra alnifolia.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>White alder.</i>	<i>White.</i>	<i>Fragrant.</i>	<i>New England southward.</i>	<i>July, August.</i>

Flowers : growing in upright clustered racemes. *Calyx* : of five sepals. *Corolla* : of five long, narrow petals. *Stamens* : ten ; protruding. *Pistil* : one. *Leaves* : alternate ; ovate ; veined ; toothed. A handsome shrub three to ten feet high ; upright ; leafy.

One of the joys of the late season is the bursting into bloom of the clethra. Its delicate blossoms and the intense fragrance that it sheds about recall again the early spring days of timid flowers and soft green leaves which have later become sadly overheated or dusty beyond recognition. It seeks its home in shady lanes along the coast, where the air is moist, and which is undoubtedly the reason of its freshness so late in the season, and of the vigour of its dark green leaves. It remains in bloom a long time. When bruised the foliage emits a peculiar odour.

C. acuminata, mountain sweet pepperbush, is found in the mountains of Virginia and Georgia. It is readily known as a near relation of the above species.

COMMON SPEEDWELL.

Verónica officinàlis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Light blue.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July.</i>

Flowers : small ; growing in axillary, spike-like racemes. *Calyx* : four-parted. *Corolla* : wheel-shaped ; with four lobes. *Stamens* : two. *Pistil* : one. *Leaves* : opposite ; on short petioles ; obovate ; toothed ; hairy or smooth. *Stem* : prostrate.

This dear little speedwell is a variable plant, sometimes



PLATE CLIX. WHITE ALDER. *Clethra alnifolia*.

downy and sometimes smooth ; but with enough clearly defined traits to make it always recognisable.

In olden times its leaves were made into a popular beverage, something like tea, and for which it is said to have been a very good and wholesome substitute.

V. serpyllifolia, thyme-leaved speedwell, is another variety that is fond of the roadsides. The corolla is very pale, striped with a darker blue, and the leaves are more rounded in outline than those of *V. officinalis*.

BUTTER-AND-EGGS. YELLOW TOAD-FLAX.

Linària Linària.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Orange, and yellow.</i>	<i>Pleasant.</i>	<i>General.</i>	<i>Summer.</i>

Flowers: showy; growing closely in a terminal raceme. *Calyx*: five-parted. *Corolla*: two-lipped, closed in the throat; extending backward into a long, pointed spur; within hairy. The hairs and tip of the corolla of a deeper orange shade of yellow. *Stamens*: four, in pairs of unequal length. *Pistil*: one. *Leaves*: alternate; linear; grass-like. *Stem*: erect; branching; smooth.

Our very familiarity with these conspicuous and beautiful flowers inclines us to pay little heed to them; although they find their way into children's hands almost more than any other of our wayside flora. If we had to seek them through some quaking bog with only a vague hope of finding them we should probably prize them in some such way as we do the yellow orchis. But they give us no trouble. They galivant along the roadsides and we may admire them, or pass them by, just as we choose. No doubt the political economist would remind us in this connection that things are only valuable that are limited in supply.

BLUE, OR WILD TOAD-FLAX.

Linària Canadènsis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Figwort.</i>	<i>Pale blue, or purple.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July-October.</i>

Flowers: growing in a terminal raceme. *Calyx*: five-parted. *Corolla*: two lipped, closed in the throat, extending backward into a long pointed spur.

Stamens: four, in pairs of unequal length. *Pistil*: one. *Leaves*: those of the base, tufted; those of the stem, alternate; linear; sessile; parallel-veined. *Stem*: erect; leafy; smooth.

Along the sandy roadsides the blue linaria seems to be perfectly at home and happy. It comes early in the summer and remains until late in the autumn; enjoying the sunshine, the singing of the birds and the fun-loving urchins that know it so well. It can hardly be said to resemble very closely its near relative, the sprightly butter-and-eggs.

L. repens, pale-blue toad-flax, is a small species that is found about the Atlantic seaports. It has come to us from Europe.

POKEWEED. PIGEON-BERRY.

Phytolacca decandra.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Pokeweed.	White and pink.	Scentless.	General.	July-September.

Flowers: on pedicels; growing in a long raceme. *Calyx*: of five rounded, petal-like sepals, pinkish on the outside and whitish within. *Stamens*: ten. *Pistil*: one; styles, ten. The ovary like a green eye. *Fruit*: a bunch of many purple, juicy berries. *Leaves*: large; alternate; on long petioles; lanceolate; conspicuously veined; smooth and thin. *Stem*: five to ten feet high; stocky; smooth. *Roots*: poisonous.

In the distribution of talents it is not given to every one to be an admirer of pokeweed. Even the long, cylindrical racemes of purple berries that, clustered among the soft green leaves, line many a roadside in the late autumn, fail to call forth the least enthusiasm from these slighted people. To them pokeweed is pokeweed and that is an end of the matter. Mr. Burroughs is fond of pokeweed and says: "What a lusty, royal plant it is! It never invades cultivated fields but hovers about the borders and looks over the fences like a painted Indian sachem."

Although the bloom is usually ascribed to July and the fruit to September, there are many spots on Long Island and in New Jersey where the plant lingers in blossom until early September. Country people boil the young shoots as greens, and from their accounts of them they quite rival asparagus in delicacy of flavour. The berries also are greatly enjoyed by birds.

WHITE SWEET CLOVER. WHITE MELILOT.*Melilotus alba.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>White.</i>	<i>Leaves, fragrant.</i>	<i>General.</i>	<i>July-September.</i>

Flowers : small, clustered in spike-like racemes. *Corolla* : papilionaceous. *Leaves* : divided into three obovate, toothed leaflets, notched at the apex. *Stem* : two to four feet high ; upright ; branching ; leafy.

Mr. Gibson observed that at night two of the three pretty leaflets of the white sweet clover close and the third one, he says, "is left out in the cold."

When dried the foliage has a fragrance like new-mown hay and is antagonistic to moths. It is also used as a substitute for snuff and tobacco.

YELLOW SWEET CLOVER. YELLOW MELILOT.*Melilotus officinalis.*

Were it not for a slight shortness in height and the bluntness of the leaves, we might fancy the yellow sweet clover to be the same species as the white one ; and that it had simply amused itself by wearing a different coloured gown, and following the popular whim for variety. We must, however, conclude that they are sisters of equal sweetness and grace.

It was by a shady roadside
 My own sweet clover grew,
 Where the low stone wall is broken
 And the pasture comes in view.

I bent o'er to pick the wilding,
 When hark, was that a sigh ?
 I'll leave it where God has placed it,
 Thought I, as I sauntered by.

BLUE VETCH.*Vicia Cracca.*

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Blue</i>	<i>Scentless.</i>	<i>Mostly north and west.</i>	<i>June-August.</i>

Flowers : growing closely together on one side of a long spike. *Calyx* : short, with unequal teeth. *Corolla* : papilionaceous. *Leaves* : pinnate, divided into ten to twelve pairs of smooth, oblong leaflets. The common petiole terminating in a tendril.



PLATE CLX. HOG-PEANUT. *Falcata comosa.*

This "splendid tufted vetch," is found along the borders of roadsides and in the thickets. It stretches out its tendrils as though it loved to climb and gleefully throws out its bright flowers to mingle with the grasses and brambles.

V. Americana has larger purple flowers, and but five to seven pairs of ovate leaflets.

HOG-PEANUT. (Plate CLX.)

Falcata comosa.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Pulse.</i>	<i>Pale lilac.</i>	<i>Scentless.</i>	<i>New England to Florida and westward.</i>	<i>August, September.</i>

Flowers : growing in axillary racemes. *Calyx* : tubular ; four or five-toothed. *Corolla* : papilionaceous, the standard partly wrapped about the other petals. *Stamens* : ten ; united. *Pistil* : one. *Pods* : one inch long ; linear. *Leaves* : divided into three, ovate, pointed leaflets ; netted-veined ; thin ; smooth. *Stem* : wiry ; three-sided, covered with brown hairs.

This little plant is another that has its household divided against itself. The upper pretty flowers enjoy life, lend themselves to the breeze and are altogether useless ; while the workers are down below and have no time to deck themselves in gay, pretty corollas. It is a graceful climber and has a fineness and delicacy of character often strongly in contrast to its associates, as it usually twines about coarse, rough plants.

Whoever maimed the unoffending little thing with the name of hog-peanut must still be smarting under the weight of his iniquities ; although the circumstance that led to his doing so is traced in the underground, pale, one-sided, swollen and hairy pods, the product of the hidden blossoms. They are not unlike peanuts in appearance, and hogs uproot them to feast upon. Cattle eat also the herbage of the plant.

SIMPLER'S JOY. BLUE VERVAIN.

Verbena hastata.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Vervain.</i>	<i>Purplish blue.</i>	<i>Scentless.</i>	<i>General.</i>	<i>July, August.</i>

Flowers : growing in numerous, corymbed, terminal spikes. *Calyx* : tubular ; five-toothed. *Corolla* : tubular ; salver-shaped ; with five lobes. *Stamens* :

four; growing in pairs. *Pistil*: one. *Leaves*: opposite; on petioles; lanceolate pointed at both ends; serrated; rough; conspicuously veined. *Stem*: sometimes six feet high; leafy; angled; rough.

Rearing amid the summer foliage its tall steeple-like spikes of intense colour, the blue vervain strikes joy to many a heart beside that of the ancient simpler, who, of shaggy appearance, armed with an old tin kettle and a great bag, bent his back and thrust his two-edged knife into the soil that he might bear the plant away and haggle with his friend, the chemist, for its exchange in filthy lucre. For the herb doctors had no more faithful ally than the blue vervain.

Our plant is not identical with the "sacred herb" of the Greeks and Romans; a sprig of which was sent as an ambassador on treaties of peace, and used to decorate altars at sacrifices and incantations. In those days the name verbena was rather generally applied to almost any branch that had a part in religious rites. The plant has, however, been credited with averting disaster and signifies enchantment in the language of flowers.

V. urticifolia, white vervain, is also common along the roadsides. It resembles the simpler's joy, although its flowers are fewer and less attractive.

Both of these vervains are country cousins of the large-flowered, many-coloured verbenas of the gardens.

CREEPING THYME.

Thymus Serpyllum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Bluish purple.	Fragrant.	General.	Summer.

Flowers: growing closely in whorls at the ends of the branches and possessed of a pair of floral leaves. *Calyx* and *corolla*: two-lipped. *Stamens*: two. *Pistil*: one; style, two-lobed. *Leaves*: small; ovate; veined; smooth, with a fringe of hairs at the base. *Stem*: creeping; branched.

The round moss-like hillocks of this fragrant wilding form pleasant playing grounds for the rabbit to gambol amongst. It comes to us from Europe, where it is surrounded with many tender and classic associations.

COMMON MOTHERWORT.

Leonurus Cardidca.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Pale purple.	Scentless.	New England to North Carolina and westward.	Late summer.

Flowers: growing closely in whorls along the branches. *Calyx*: with five awl-shaped teeth. *Corolla*: two-lipped; the upper lip entire and bearded; the lower lip three-lobed, the middle one being larger and obcordate. *Stamens*: four, in pairs. *Pistil*: one; style, two-lobed. *Leaves*: opposite; the lower ones palmately divided, the upper ones, three-cleft; rough. *Stem*: tall; erect; leafy; purplish.

We can hardly pass on without considering the motherwort, which belongs to the group of plants that were so tenderly cherished by our grandmothers. In their homes it played its part as a never-failing cure for colds. What a pleasant hobnob motherwort, agrimony, boneset, tansy and many other plants of their set would have if they should ever meet together and chat over the good old times when they were held in such high esteem.

AMERICAN DITTANY. STONE MINT.

Cunila origanoides.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Lavender, or white.	Leaves, fragrant.	New York to Georgia and westward.	August, September.

Flowers: small; growing in cymose clusters. *Calyx*: five-toothed; hairy in the throat. *Corolla*: two-lipped; the lobes nearly equal. *Stamens*: two; protruding. *Pistil*: one; style, two-lobed. *Leaves*: small; opposite; ovate, heart-shaped at base; sessile; toothed. *Stem*: branching; highly coloured.

The dittany would be recognised as a member of the mint family from its strong aromatic fragrance. It is a prim little plant and its wants in this world are few. It seems to be content with the dry, packed soil of the roadside and to have its comeliness overshadowed by the masses of composites that are greatly *en evidence* at the late season of the year when it blooms.

SELF-HEAL. HEAL-ALL.

Prunella vulgaris.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Mint.	Pinkish purple.	Scentless.	General.	June-September.

Flowers: small; growing in clusters of threes in a compact, terminal spike among leafy bracts. *Calyx*: two-lipped; the upper lip with three small teeth;

the lower one two-cleft. *Corolla*: two-lipped; the standard large and overshadowing the other petals; the lower lip, three-cleft. *Stamens*: four. *Pistil*: one; style, two-lobed. *Leaves*: opposite; on petioles; oblong; smooth; veined. *Stem*: six inches high; four-angled.

How grateful the little self-heal must feel to the soft rain that falls upon it when thirsty and dusty it tries to maintain its reputation for cheeriness along the roadsides. And what a wonderful transformation we see in the plant after it has been so refreshed. But few flowers bloom at the same time in the leafy spike and when examined separately they are found to be very pretty.

The common name of the plant refers to the kindly interest it has always taken in the ills of mankind. It is a lover of the people. Labourers apply it freely to their wounds and it has been used as a never-failing cure for quinsy.

JERUSALEM ARTICHOKE. WILD SUNFLOWER.

Helianthus tuberosus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Bright yellow.</i>	<i>Scentless.</i>	<i>Mostly south and west.</i>	<i>All summer.</i>

Flower-heads: large; flat; terminal and composed of both ray and disk flowers. The disk-flowers tubular, yellow or yellowish; the rays bright yellow. *Leaves*: on petioles, ovate; triple-ribbed, hairy. *Stem*: five to seven feet high; branched above; hairy. *Rootstock*: tuberous.

This tall and beautiful species of sunflower has a fancy for rearing itself by old fences, and peeping into the gardens. It seems as though it could hardly resign itself to be severed entirely from civilisation and domesticity. Its tubers are quite large and edible.

WILD SUNFLOWER.

Helianthus giganteus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Scentless.</i>	<i>Mostly north.</i>	<i>Late summer and early autumn.</i>

Flower-heads: terminal; solitary, and composed of both ray and disk flowers. *Involucre*: of two series of bract-like pointed leaves. *Leaves*: alternate; almost sessile; lanceolate; rough. *Stem*: upright; branched above; leafy; rough.

This sunflower is our common species of the north and we are familiar with seeing it along the roadsides, where it often forms a most gorgeous hedge.

H. mollis, plate CLXI, is found from Ohio southward and westward. It is one of the most beautiful of the family. The leaves are heart-ovate, opposite and clasping, and the whole plant is covered with a white wool, which gives it a misty look. It is quite remarkable how well the coloured plate represents this effect. The plant is from two to four feet high.

H. divaricatus has large showy flower-heads and opposite, ovate-lanceolate leaves that are rounded at the base. It is also partial to the roadsides and banks.

H. annuus is the garden species with which we are all familiar. In Europe it is cultivated for its seeds, which are fed to sheep, pigs and poultry. They are also the principal food of parrots.

According to the mythological tradition of the Greeks the sunflower is none other than the fair water-nymph Clytie, who was transformed into the flower. When she found that her mad love for Apollo was not returned she grieved greatly, and sat nine days upon the ground neither eating nor drinking but watching intently the sun. Her head she turned gradually to follow him as he travelled from east to west. At last her limbs became rooted to the ground and her face became a sunflower.

Even to-day the illusion is prevalent that the sunflower, the emblem of constancy, turns its face to follow the course of the sun. Moore alludes to it in—

“The heart that has truly loved never forgets
 But as truly loves on to the close
 As the sunflower turns on her god when he sets
 The same look that she turned when he rose.”

In ancient sculpture the sunflower has ever been a favourite decoration, and especially has it been looked upon as sacred in those countries that have worshipped the sun.



PLATE CLXI. SUNFLOWER. *Helianthus mollis*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.
PRINTED IN AMERICA.

1000

TANSY.

Tanacetum vulgare.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Strongly scented.</i>	<i>General.</i>	<i>All summer.</i>

Flowers : tiny ; tubular ; growing in a flat-topped umbel. *Leaves* : pinnately divided into linear, deeply incised leaflets. *Stem* : two to four feet high, branched at the top.

“Soone at Easter cometh alleluya
With butter, cheese and a tansay.”

In certain parts of Ireland, where customs are perhaps not as changeable as they are in this newer world of ours, we might at Easter partake in the festival with which the name of tansy has been associated, ever since the eleventh century. It then came about that tansy was made into cakes for distribution among the poor, and the figures of two charitable sisters were stamped upon them.

The medicinal properties that tansy possessed made it desirable to use at this season of the year, to purge away from the system the phlegm that had been engendered by the eating of fish during the lenten season.

“On Easter Sunday be the pudding seen
To which the tansy lends her sober green.”

ELECAMPANE.

Inula Helëniùm.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Yellow.</i>	<i>Herbaceous.</i>	<i>General.</i>	<i>Summer.</i>

Flower-heads : large ; terminal and composed of both ray and disk flowers ; the former few, long and narrow. *Leaves* : large ; alternate ; clasping ; oblong ; serrated ; the lower sides pale and woolly. *Stem* : four to five feet high ; stout. *Roots* : thick ; containing a mucilaginous substance.

There are flowers that speak to us of the sunshine, and there are those that cast about a shadow. Happily we associate the elecampane with the sun because its face is so bright and golden. It has also done many good deeds to man and beast during its long residence on the globe. In veterinary practice it is used largely in epidemics, and when made into a tea it is ex-

cellent for coughs, or to strengthen the human system. In fact, it is one of the oldest known of the medicinal plants.

CHAMOMILE. MAYWEED.

Anthemis Cótula.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>White, centre yellow.</i>	<i>Strongly scented.</i>	<i>Mostly east.</i>	<i>Late summer.</i>

Flower-heads : small ; composed of ray and disk flowers similar to those of the white daisy. The disk-flowers arranged in a more decided cone and the twice pinnately-divided leaves mark the difference by which it may be known.

“Bring down the bag of chamomile leaves and put some to steep on the stove, Lambie, and trust me to know what will bring the roses back to your cheeks when the spring air makes you limpid and weak.”

In some such phrase the virtues of chamomile have been sung throughout many generations. It has also been described by an old writer as the plant physician ; for a sick plant, when placed near it, will frequently recover. Insects, however, cannot abide it, in either a dried or powdered form ; and nightmare will not enter the portal when a piece of it is laid on the pillow beside a troubled sleeper.

It is a bold little plant and often ventures even into the ruts made by heavy wagons in country roads.

IRON-WEED. (Plate CLXII.)

Vernonia Noveboracensis.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Reddish purple.</i>	<i>Scentless.</i>	<i>Maine to Virginia and westward.</i>	<i>August, September.</i>

Flower-heads : loosely clustered in corymbs on axillary flower-stalks and composed of tubular flowers. *Involucre* : of pointed purplish scales similar to those of the thistle. *Leaves* : lanceolate ; netted-veined ; rough. *Stem* : tall ; leafy ; angled ; crisp.

There is just a little rivalry between the iron-weed and some of the members of the aster family, and we often find them disputing the possession of the roadside banks. Usually the asters come out victorious, and the iron-weed is then driven to seek refuge in the low meadows, where it begins the same feud over again with Joe-Pye-weed. It is a handsome, brilliant



PLATE CLXII. IRON-WEED. *Vernonia noveboracensis*.

plant and at a distance might easily be mistaken for an aster. Its tubular flowers and involucre, however, at once remind us that it is the iron-weed.

BONESET. THOROUGHWORT.

Eupatorium perfoliatum.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	Greenish white.	Herbaceous.	General.	August, September.

Flower-heads : very small ; tubular, growing in large, dense corymbs. *Leaves* : opposite ; united at the base about the stem ; lanceolate ; rough ; netted-veined and serrated. *Stem* : four to five feet high ; branching ; leafy ; very hairy.

When in full blow the protruding stamens from these innumerable little flowers give a fluffy look to boneset that greatly adds to its rather slight claim to beauty. Perhaps the knowing insects have the same faith in its efficacy for healing as was believed in by the good old herb doctors, as they manage almost every season to devour the leaves so that they are left simply fibrous net-works.

Boneset is, as it has always been, a staunch friend to frail humanity, and a well-prepared decoction of the dried herb causes new vigour to flow through the veins of many a drooping mortal.

Boneset taffy is very good, much better to taste, in fact, than boneset tea.

COMMON YARROW. MILFOIL. (Plate CLXIII.)

Achillea Millefolium.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
Composite.	White, or pinkish.	Leaves, strongly scented.	General.	July-October.

Flower-heads : growing in compound corymbs and composed of both ray and disk flowers. The rays four or five, square and three-cleft at the apex ; the disk dingy white. *Leaves* : alternate ; twice divided into fine segments. *Stem* : very leafy ; angled ; much branched at the top.

It is fortunate that the milfoil is attributed with so many virtues and has the sanction of the great Achilles, whose name it bears, and who is said to have discovered its healing properties, and to have employed them for the benefit of his soldiers ; for certainly it is not pretty. That is, we think it is not pretty when we see it along the roadside. Placed under a



PLATE CLXIII. COMMON YARROW. *Achillea Millefolium.*

(323)

microscope, however, it is astonishing the amount of beauty it reveals. In some parts of England it is still used for weaving bridal wreaths and has been thus celebrated in flower-lore.

“Thou pretty nest of Venus’ tree,
Thy true name it is yarrow,
Now who thy bosom friend must be,
Pray tell thou me to-morrow.”

CHICORY. SUCCORY. (Plate CLXIV.)

Cichorium Intybus.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Chicory.</i>	<i>Blue, white, or pink.</i>	<i>Scentless.</i>	<i>Mostly east.</i>	<i>Summer and autumn.</i>

Flower-heads: showy; arranged along the stem, and composed entirely of strap-shaped flowers. *Leaves*: entire; lanceolate; pointed and clasping, the floral ones bract-like and small. *Stem*: upright, branching.

“And spreading succory chokes the rising field.”

—VIRGIL.

The name cichorium is of Arabic origin, which would rather suggest that this little plant has travelled far and seen a wealth of places. We know that Horace had it frequently upon his menu, and that in Egypt it is used as an article of food. From the leaves the French make a most delicious salad. No doubt it has a taste for serving all nations, and so has unceremoniously crossed the ocean and is bent on keeping its blue eye upon the new world. Happily it has had the good manners to bring with it a bright, attractive appearance, or those detractors of weeds might feel a little miffed at the cool way in which it has taken possession of our highways. As yet it has not travelled very far southward.

Its deep dandelion-like roots have been used to adulterate coffee. Their disagreeable flavour, however, is at once perceptible.

ROADSIDE ASTERS.

FAMILY	COLOUR	ODOUR	RANGE	TIME OF BLOOM
<i>Composite.</i>	<i>Bluish purple, or white.</i>	<i>Scentless.</i>	<i>General.</i>	<i>Summer and early autumn.</i>

“And everywhere the purple asters nod
And bend and wave and fit.”

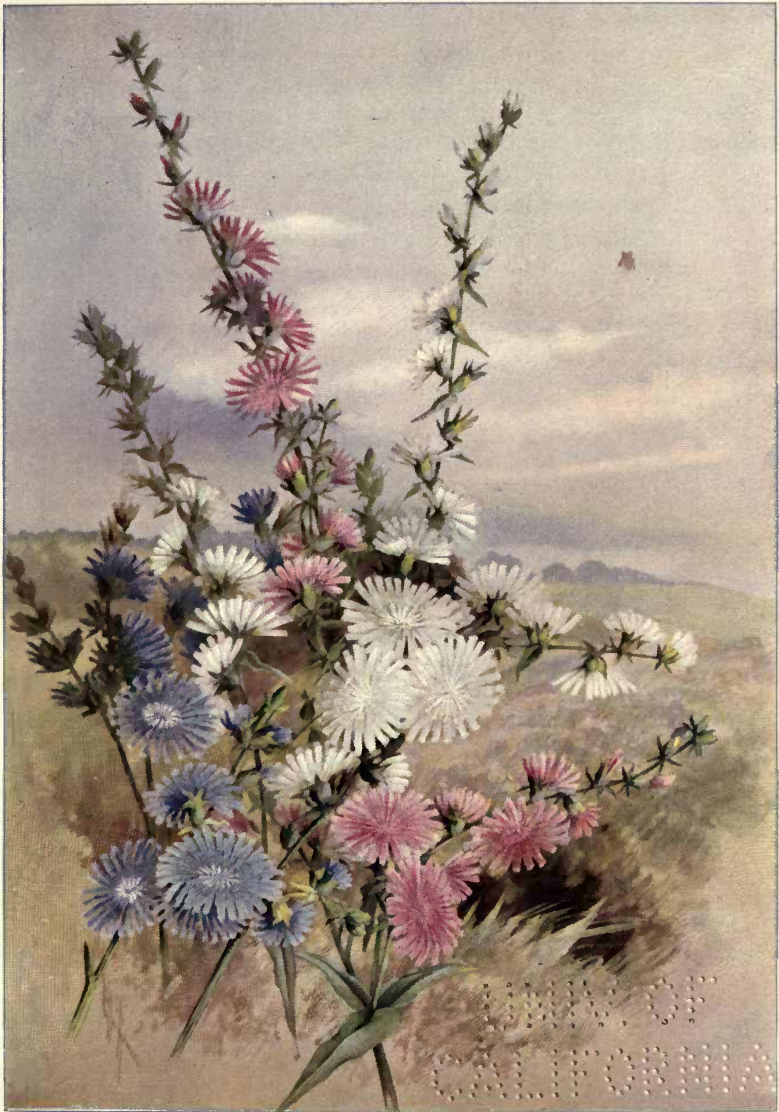


PLATE CLXIV. CHICORY. *Cichorium Intybus*.

COPYRIGHT, 1899, BY FREDERICK A. STOKES COMPANY.

PRINTED IN AMERICA.

THE UNIVERSITY OF CHICAGO
PRESS

Aster patens, late purple aster, Plate CXXXIII, appears along the roadsides in early August, and is one of the first shadowy prophecies of the approaching autumn. It is a large, beautiful species with solitary flower-heads, a half inch to two inches in diameter, and borne at the end of rough, spreading branches. It is readily known by its lanceolate, clasping upper leaves and the heart-shaped ones of the lower stem.

A. laevis, smooth aster, Plate CXXXIII, is a similar species, only its flower-heads are clustered together in a panicle. Its colour is not such a deep purple as that of *A. patens*, and it seldom reaches over two feet high. It lives by the roadsides or in the open wood borders, and is one of the most lovely of the family.

A. cordifolius is the tiny pale blue aster with the saucy little dark disk-flowers that peep through the fences along the roadsides. Its flower-heads are numerous in a loose panicle; and its leaves, as its name indicates, are heart-shaped. The plant is smooth in texture.

A. ericoides, white heath aster, is the familiar tiny white aster that is so conspicuous along the roadsides. It grows about a foot high, and bears innumerable flower-heads on its wiry, spreading branches.

A. divaricatus, white wood aster, is also noticeable along the roadside and by thin borders of open woods. It has but few, six to nine, white rays in loosely clustered flower-heads. The leaves are long, narrow, and grow upon zigzag stems.

As the golden-rods, the asters are a peculiar feature of the unrivalled tints of the American autumn.

“ There is a lesson in each flower,
A story in each stream and bower;
In every herb on which you tread,
Are written words, which rightly read
Will lead you from earth's fragrant soil,
To hope and holiness and God.”

—ALLEN CUNNINGHAM.

Index to Colour.

WHITE.

- ABRONIA, White, 194.
Alder, White, 308.
Andromeda, Marsh, 57.
Apple, Mock, 106.
Arrow-head, 36.
Arbutus, Trailing, 204.
Asters, Swamp, 77.
 " Sandy soil, 254.
 " Roadside, 324.
Avens, White, 217.
- BANEBERRY, White, 154.
Bayonet, Spanish, 231.
Beach Plum, 232.
Beard's Tongue, White, 196.
Bergamot, Wild, 198.
Bind-weed, Field, 302.
 " " Hedge, 302.
Bishop-weed, Mock, 101.
Bitter Sweet, 298.
Black-haw, 261.
Blood-root, 186.
Boneset, 322.
Bouncing Bet, 302.
 " Double, 305.
Buckbean, 70.
Bunch-berry, 158.
Bush-clover, Round-headed, 246.
Button-bush, 97.
- CALAMINT, Carolina, 250.
Campion, Starry, 220.
Carrot, Wild, 281.
Cassandra, Dwarf, 97.
Catalpa, 196.
- Chamomile, 320.
Chicory, 324.
Chokeberry, 50.
Choke-cherry, 86.
Clover, White Sweet, 312.
Cohosh, Black, 156.
Cornel, Panicled, 95.
Cranberry Tree, 118.
Creepers, Virginia, 300.
Cress, Bulbous, 96.
Crinkle-root, 184.
Crinum, American, 44.
Crowfoot, Common White, 30.
Culver's-root, 198.
- DAISY, White, 291.
Dalibarda, 150.
Dittany, American, 316.
Dodder, Common, 278.
Dog's-tooth Violet, White, 82.
Dogwood, Flowering, 160.
 " Round-leaved, 160.
 " Wild Red-Osier, 95.
Dutchman's Breeches, 174.
- ELDER, 120.
Everlasting, Plantain-leaf, 287.
- FLEABANE, Larger Daisy, 290.
 " Smaller Daisy, 291.
Foam Flower, 158.
Fringe Tree, Common, 94.
- GENTIAN, Fringed, 128.
 " Striped, 286.
Ginseng, Five-leaved, 222.

- Gold Thread, 50.
 Green-brier, 298.
 Ground-nut, 220.

 HAWTHORN, 150.
 Hemlock, Water, 30.
 Hepatica, 207.
 Hobble-bush, 188.
 Honeysuckle, White Swamp, 55.
 Hound's Tongue, 265.

 INDIAN PIPE, 168.
 " Tobacco, 274.
 Ivy, Poison, 261.

 JAMESTOWN-WEED, 278.

 LADY'S SLIPPER, Showy, 60.
 Lady's Tresses, Siender, 284.
 Larkspur, Carolina, 212.
 " Dwarf, 212.
 Laurel, Mountain, 161.
 Lily-of-the-Valley, False, 143.
 Lizard's Tail, 55.
 Lobelia, Southern, 75.

 MAGNOLIA, Small, 69.
 Mandrake, Wild, 214.
 Mallow, Musk, 306.
 Meadow-sweet, 86.
 Mitre-wort, 158.
 Moth-mullen, 284.
 Mustard, White, 297.

 NEVINS'S STONE CROP, 172.
 Nightshade, Enchanter's, 305.

 ORCHIS, White-fringed, 65.

 PARTRIDGE VINE, 216.
 Pepperbush, Mountain Sweet, 308.
 Pimpernel, 236.
 Pink, Ground, 187.
 Pipsissewa, 206.
 Plantain, Rattlesnake, 184.
 Pokeweed, 311.
 Polygala, Purple, 114.

 Primrose, Scapose, 270.
 Pyxie, 203.

 RHODODENDRON, Great, 163.
 Rock-cress, 186.
 Rose, Early White, 152.
 Rue Anemone, 210.
 Rue, Tall Meadow, 102.

 SARSAPARILLA, Wild, 222.
 Saxifrage, Early, 156.
 Shad-bush, 256.
 Shepherd's Purse, 297.
 Shin-leaf, 164.
 Sidalcea, White-flowered, 108.
 Silver-rod, 136.
 Snowberry, Creeping, 56.
 Snowdrop Tree, Four-winged, 84.
 Solomon's Seal, False, 142.
 Sourwood, 161.
 Spikenard, American, 223.
 Spring Beauty, 206.
 Spurge, Flowering, 252.
 Stagger-bush, 235.
 Stagger-weed, 212.
 Star, Blazing, 84.
 Star-flower, 214.
 Steeple-bush, 86.
 Stenanthium, Stout, 84.
 Sumach, Poison, 53.
 " Smooth Upland, 262.
 Sundew, Round-leaved, 74.
 Sweet-cicely, Smoother, 194.

 TEA, New Jersey, 224.
 Thimble-weed, 210.
 Toothwort, Cut-leaved, 96.
 Traveller's Joy, 306.
 Trillium, Painted, 144.
 Turtle-head, 110.
 Twin-leaf, 213.

 VENUS'S FLY-TRAP, 74.
 Vervain, White, 315.
 Viburnum, Maple-leaved, 260.
 Violet, Canada, 148.

- Violet, Lance-leaved, 102.
 " Sweet White, 101.
- WAKE-ROBIN, Large-flowered, 144.
 Water-arum, 21.
 Water-lily, White, 24.
 Water-parsnip, 32.
 Water-plantain, 38.
- Whitlow-grass, Vernal, 236.
 Wind-flower, 208.
 Wintergreen, Creeping, 166.
 " " Round-leaved, 166.
 Wood-sorrel, 200.
- YARROW, Common, 322.

YELLOW AND ORANGE.

- AGRIMONY, Tall Hairy, 217.
 Artichoke, Jerusalem, 317.
 Avens, Yellow, 53.
- BEECH-DROPS, False, 170.
 Bellwort, 146.
 Bellwort, Perfoliate, 148.
 Black-eyed Susan, 292.
 Bladderwort, Common, 34.
 " Horned, 67.
 Britton's Cone-flower, 293.
 Butter-and-Eggs, 310.
 Buttercup, Bulbous, 257.
 " Meadow, 258.
- CELANDINE, 276.
 Cinquefoil, Shrubby, 264.
 " Silvery, 265.
 " Rough, 265.
 Clover, Yellow Sweet, 312.
 Cow-wheat, Narrow-leaved, 228.
 Crowfoot, Yellow Water, 30.
 Cress, Winter, 296.
- DANDELION, 287.
 " Fall, 287.
- ELECAMPANE, 319.
 Evening-primrose, Common, 268.
- FIVE-FINGER, 262.
 Floating-heart, 41.
 Fly-honeysuckle, 188.
 Foxglove, Downy False, 230.
- Foxglove, Fern-leaf False, 230.
 " Smooth False, 228.
- GINGER, Wild, 170.
 Goat's Rue, 240.
 Golden Club, 22.
 Golden-Rods, Swamp, 77.
 " Moist Soil, 134.
 " Sandy Soil, 255.
 " Dry Soil, 293.
 Grass, Water Star, 33.
- HEDGE-HYSSOP, 112.
 Honeysuckle, Bush, 190.
 " Japanese, 190.
 Horse-mint, 248.
- INDIAN CUCUMBER-ROOT, 143.
 Indian Poke, 46.
 Indigo, Wild, 241.
- JEWEL-WEED, 120.
 " Pale, 121.
- LADY'S SLIPPER, Yellow, 178.
 " " Smaller, 178.
- Lettuce, Wild, 132.
 Lily, Carolina, 83.
 " Turk's-cap, 83.
 " Wild Yellow, 83.
- Loosestrife, Bulb-bearing, 93.
 " Four-leaved, 216.
 " Fringed, 93.
 " Lance-leaved, 93.
- MARSH MARIGOLD, 48.

Mullen, Great, 282.
 " Moth, 284.
 Mustard, Black, 297.
 NELUMBO, Yellow, 28.
 ORANGE-GRASS, 274.
 Orchis, Yellow-fringed, 65.
 Orpine, American, 174.
 PAINTED CUP, 250.
 Parsnip, Meadow, 100.
 Partridge Pea, 244.
 Passion Flower, Yellow, 273.
 Poppy, California, 275.
 " Celandine, 276.
 Pond-lily, Yellow, 26.
 Poverty-grass, 234.
 Prickly Pear, 238.
 RAGWORT, Golden, 288.
 Rattlebox, 241.
 Rattlesnake-weed, 291.
 Rock-rose, 235.
 SENNA, Wild, 242.
 Sneezeweed, 130.
 " " Purple-head, 130.

Solomon's seal, 142.
 Sorrel, Yellow Wood, 305.
 Spearwort, Water-plantain, 48.
 Spice-bush, 168.
 St. Andrew's Cross, 238.
 St. John's-wort, Common, 273.
 " " Shrubby, 238.
 " " Smaller, 108.
 St. Peter's-wort, 236.
 Star-grass, Yellow, 257.
 Sundrops, Allen's, 270.
 Sunflower, Wild, 317.
 Sunflowers, 318.
 TANSY, 319.
 Thistle, Field Sow, 292.
 Tick-seed, 288.
 Trumpet-flower, 95.

VIOLET, Dog's-tooth, 82.
 " Downy yellow, 212.
 " Round-leaved, 150.

WITCH-HAZEL, 201.
 Wood-betony, 226.

YELLOW-ADDER'S TONGUE, 82.

RED AND ORANGE RED.

AQUILEGIA TRUNCATA, 154.
 Asclepias lanceolata, 76.
 BANEBERRY, Red, 154.
 Beech-drops, False, 170.
 Buckbean, 70.
 Butterfly-weed, 281.
 CARDINAL FLOWER, 121.
 " Monkey-flower, 110.
 Columbine, 153.
 FIRE-PINK, 218.
 GROUND IVY, 266.

HOUND'S TONGUE, 265.
 Honeysuckle, Trumpet, 190.
 LILY, Wood, 140.
 OSWEGO TEA, 126.
 PAINTED CUP, 250.
 Pennyroyal, American, 267.
 Pimpernel, 236.
 TRUMPET-FLOWER, 95.
 WAKE-ROBIN, Ill-scented, 146.
 Wood-betony, 226.

PINK, ROSE, CRIMSON AND MAGENTA.

- ANDROMEDA, Marsh, 57.
 Arbutus, Trailing, 204.
 Arethusa, 59.
 Azalea, Smooth, 164.

 BEACH PLUM, 232.
 Bindweed, Field, 302.
 " Hedge, 302.
 Bitter-bloom, 199.
 Bouncing Bet, 302.
 " " Double, 304.
 Bush-clover, 246.

 CALOPOGON, 60.
 Calypso, 59.
 Chicory, 324.
 Clover, Bush, 246.
 Corydalis, Pale, 176.
 Cranberry, American, 57.
 Cress, Bulbous, 96.

 DOGBANE, Spreading, 300.

 FLEABANE, Salt Marsh, 75.
 Fire-weed, 272.

 GERANIUM, Wild 223.

 HAWTHORN, 150.
 Herb Robert, 201.
 Honeysuckle, Wild, 55.

 KNOTWEED, Amphibious, 38.
 " Sand, 254.

 LARKSPUR, Carolina, 212.
 Laurel, Mountain, 161.
 " Sheep, 163.

 MALLOW, Musk, 306.
 " Rose, 69.
 Meadow Beauty, 112.

 Meadow-sweet, 86.
 Milkweed, Common, 280.
 " Swamp, 76.
 Milkwort, Moss, 65.
 Moccasin Flower, 178.
 Moth-Mullen, 284.

 OBEDIENT PLANT, 127.
 Orchis, Showy, 180.

 PINK, Ground, 187.
 " Wild, 218.
 Pipsissewa, 206.
 " Spotted, 206.
 Pitcher-plant, 47.
 Polygala, Fringed, 213.
 Primrose, Scapose, 270.
 Pyxie, 203.

 RASPBERRY, Purple Flowering, 299.
 Rose, Swamp, 50.
 Rue, Early Meadow, 152.

 SEA-PINK, 72.
 Shooting-star, Colorado, 91.
 Snake-mouth, 62.
 Spring Beauty, 206.
 Steeple-bush, 88.
 Strophilirion, 138.
 Squirrel Corn, 176.
 Sweet William, Wild, 187.

 THISTLE-BUR, 294.
 " Canada, 295.
 Tick-seed, Rose-coloured, 290.
 Twin-flower, 192.

 WAX-WEED, Blue, 286.
 Willow Herb, Small, 94.
 " " Hairy, 94.

PURPLE AND LAVENDER.

- ASTERS, Swamp, 77.
 " Sandy Soil, 254.
 " Roadside, 324.
 Avens, Water, 52.
 BEACH PEA, 244.
 Beard's Tongue, Hairy, 196.
 Bergamot, Wild, 198.
 Butterfly Pea, 276.
 CALAMINT, Carolina, 250.
 Cohosh, Blue, 77.
 Coral-root, Striped, 182.
 Corn-cockle, 274.
 DITTANY, American, 316.
 Dwarf-iris, Crested, 80.
 FLAG, Larger Blue, 79.
 Fleabane, Larger Daisy, 290.
 " Smaller " 291.
 GERANIUM, Wild, 223.
 Gerardia, Purple, 252.
 HOG-PEANUT, 314.
 IRON-WEED, 320.
 JACOB'S LADDER, American, 53.
 Jamestown-weed, Purple, 278.
 Joe-Pye-weed, 134.
 LARKSPUR, Tall, 210.
 Lettuce, Wild, 132.
 Lobelia, Great, 122.
 " Spicata, 124.
 Loosetrife, Purple-spiked, 98.
 MILKWEED, Ashy, 77.
 Milkwort, Large-flowered, 114.
 Mint, Wild, 124.
 Monkey-flower, 109.
 Monkshood, 104.
 Motherwort, Common, 316.
 NIGHTSHADE, 106.
 ORCHIS, Fringeless Purple, 64.
 " Large, Purple-fringed, 62.
 " Small, " " 64.
 PASSION FLOWER, 272.
 Pink, Ground, 187.
 " Swamp, 46.
 Phlox, Wild, 187.
 Plantain, Robin's, 290.
 Polygala, Purple, 114.
 Psoralea, Round-leaved, 124.
 RUE, Purplish Meadow, 152.
 SEA LAVENDER, 70.
 Self-heal, 316.
 Shooting Star, Colorado, 91.
 Skullcap, Hyssop, 246.
 St. John's-wort, Marsh, 67.
 Star, Blazing, 294.
 " Scaly Blazing, 294.
 Stokesia, Blue, 132.
 THYME, Creeping, 315.
 Tick-trefoil, Prostrate, 224.
 Toothwort, Cut-leaved, 96.
 Turtle-head, Purple,
 Twisted Stalk, 140.
 VERBENA, Large-flowered, 268.
 Vetch, American, 312.
 Violet, Common Blue, 258.
 " Pedata bicolor, 234.
 WATER-SHIELD, 24.
 Wood-betony, 226.
 Wood-sorrel, Violet, 200.

BLUE.

- ASTER, Pale Blue, 325.
 BELLFLOWER, Panicked, 148.
 " Tall Wild, 91.
 Bluebells, 90.
 Blue-curls, 248.
 Blue-eyed Mary, 108.
 Bluets, 97.
 Brooklime, American, 41.
 CLEMATIS, Marsh, 67.
 Chicory, 324.
 Columbine, Long-spurred, 154.
 DAY FLOWER, Common, 116.
 " " Slender, 116.
 FORGET-ME-NOT, Smaller, 88.
 GENTIAN, Closed, 128.
 " Fringed, 128.
 " Stiff, 199.
 Grass, Pointed Blue-eyed, 80.
 HAREBELL, Common, 90.
 Hepatica, 207.
 INDIAN TOBACCO, 274.
 Ivy, Ground, 266.
 LARKSPUR, Carolina, 212.
 " Dwarf, 212.
 " Tall, 210.
 Lobelia, Southern, 75.
 Lupine, Wild, 240.
 PENNYROYAL, American, 267.
 Phlox, Wild, 187.
 Pickerel-weed, 32.
 Pimpernel, 236.
 RUELLIA, Smooth, 177.
 SIMPLER'S JOY, 314.
 Speedwell, Common, 308.
 " Thyme-leaved, 310.
 Spiderwort, 118.
 Skullcap, Mad Dog, 126.
 " Hyssop, 246.
 Stagger-weed, 212.
 Stokesia, Blue, 132.
 TOAD-FLAX, Blue or Wild, 310.
 " Pale Blue, 311.
 VETCH, Blue, 312.
 Violet, Bird's Foot, 232.
 Viper's-bugloss, 266.
 Venus's Looking-glass, 297.
 WATER-HYACINTH, 33.

GREEN.

- CARRION-FLOWER, 100.
 Cohosh, Blue, 177.
 JACK-IN-THE-PULPIT, 137.
 MILKWORT, Moss, 65.
 ORCHIS, Great Green, 180.
 PITCHER-PLANT, 47.
 Polygala, Purple, 114.
 SKUNK CABBAGE, 43.
 WINTERGREEN, Serrated, 166.

Index to English Names.

- AFRONIA, White, 194.
Adam's Needle, 231.
Adder's Tongue, White, 82.
Agrimony, Tall Hairy, 217.
Alder, White, 308.
Andromeda, Marsh, 57.
Anemone, Rue, 210.
Apple, May, 214.
 " Mock, 106.
 " Wild Balsam, 106.
Arbutus, Trailing, 204.
Arethusa, 59.
Arrow-head, 36.
Arrow-wood, 260.
Artichoke, Jerusalem, 317.
Asters, Swamp, 77.
 " Sandy Soil, 254.
 " Roadside, 324.
Avens, Purple, 52.
 " Water, 52.
 " White, 217.
 " Yellow, 53.
Azalea, Clammy, 55.
 " Pink, 55.
 " Smooth or Tree, 164.
- BANEBERRY, Red, 154.
 " White, 154.
Bayonet, Spanish, 231.
Bay, Sweet, 69.
Beach Pea, 244.
 " Plum, 232.
Bean, Sacred, 28.
Beard's Tongue, Hairy, 196.
 " " White, 196.
- Bee Balm, 126.
Beech-drops, False, 170.
Bellflower, Tall Wild, 91.
 " Panicked, 148.
Bellwort, 146.
 " Perfoliate, 148.
Benjamin-bush, 168.
Bergamot, Wild, 198.
Bind-weed, Field, 302.
 " Hedge, 302.
Birthroot, 146.
Bishop's Cap, 158.
Bishop-weed, Mock, 101.
Bitter-bloom, 199.
Bitter Sweet, 106.
 " " 298.
Black-eyed Susan, 292.
Black-haw, 261.
Bladderwort, Common, 34.
 " Horned, 67.
Blood-root, 186.
Bluebells, 90.
Blue-curls, 248.
Blue-eyed Mary, 108.
Bluets, 97.
Bluweed, 266.
Bonaset, 322.
Bouncing Bet, 302.
 " " Double, 305.
Brooklime, American, 41.
Buckbean, 70.
Bugbane, 156.
Bugloss, Viper's, 266.
Bunch-berry, 158.
Bush-clover, 246.

- Butter-and-Eggs, 310.
 Buttercup, Bulbous, 257.
 " Tall or Meadow, 258.
 Butterfly Pea, 276.
 Butterfly-weed, 281.
 Button-bush, 97.

 CALAMINT, Carolina, 250.
 Calico-bush, 161.
 Calla, Wild, 21.
 Calopogon, 60.
 Calypso, 59.
 Campion, Starry, 220.
 Candle-tree, 196.
 Cardinal Flower, 121.
 " " Blue, 122.
 Carrion-flower, 100.
 Carrot, Wild, 281.
 Catalpa, 196.
 Cat-brier, 100.
 " 298.
 Cassandra, Dwarf, 97.
 Catchfly, Virginia, 218.
 Cat-gut, 240.
 Cat's-foot, Smaller, 288.
 Celandine, 276.
 Chamomile, 320.
 Checkerberry, 166.
 Chicory, 324.
 Chinquepin, Water, 28.
 Chokeberry, 50.
 Choke-cherry, 86.
 Cicely, Smoother Sweet, 194.
 Cinquefoil, Common, 262.
 " Rough, 265.
 " Shrubby, 264.
 " Silvery or Hoary, 265.
 Clematis, Marsh, 67.
 Clover, Yellow Sweet, 312.
 " White Sweet, 312.
 Club, Golden, 22.
 Cohosh, Black, 156.
 " Blue, 177.
 Columbine, 153.
 " Long-spurred, 154.
 Cone-flower, 292.

 Cone-flower, Britton's, 293.
 Coral-root, 182.
 " Striped, 182.
 Corn-cockle, 274.
 Corn-rose, 274.
 Cornel, Dwarf, 158.
 Cornel, Panicked, 95.
 Corpse Plant, 168.
 Corydalis, Pale, 176.
 Cowbane, Spotted, 30.
 Cowslip, American, 91.
 " Virginia, 90.
 Cow-wheat, Narrow-leaved, 228.
 Cranberry, American, 57.
 " Tree, 118.
 Cranesbill, Wild, 223.
 Creeper, Virginia, 300.
 Cress, Bulbous, 96.
 " Winter, 296.
 Crinkle-root, 184.
 Crinum, American, 44.
 Crowfoot, Yellow Water, 30.
 " Common White Water, 30.
 Culver's Root, 198.
 Cuphea, Clammy, 286.
 Cypress-vine, 302.

 DAISY, English, 291.
 " Ox-eyed, 291.
 " White, 291.
 Dalibarda, 150.
 Dandelion, 287.
 " Fall, 287.
 Day Flower, Common, 116.
 " " Slender, 116.
 Deer Grass, 112.
 Devil's Bit, 84.
 Dittany, American, 316.
 Dodder, Common, 278.
 Dockmaxie, 260.
 Dock, Spatter, 26.
 " Velvet or Mullen, 282.
 Dogbane, Spreading, 300.
 Dogwood, Flowering, 160.
 " Panicked, 95.
 " Round-leaved, 160.

- Dogwood, Wild Red-osier, 95.
 Dragon Head, False, 127.
 Dutchman's Breeches, 174.
 Dwarf-iris, Crested, 80.
 Dyer's-weed, 293.
 ELDER, 120.
 " Poison, 53.
 Elderberry, 120.
 Elecampane, 319.
 Evening-primrose, Common, 268.
 Everlasting, Mouse-ear, 287.
 " Plaintain-leaf, 287.
 FEVER-BUSH, 168.
 Fire-weed, 272.
 Five-finger, 262.
 Flag, Larger Blue, 79.
 Fleabane, Larger Daisy, 290.
 " Smaller Daisy, 291.
 " Salt-marsh, 75.
 Fleur-de-lis, 79.
 Floating-heart, 41.
 Fly-honeysuckle, 188.
 Foam Flower, 158.
 Forget-me-not, Smaller, 88.
 Foxglove, Downy False, 230.
 " Fern-leaf or Lousewort
 False, 230.
 " Smooth False, 228.
 Friar's Cap, 104.
 Fringe Tree, Common, 94.
 Frost-weed, 235.
 Fuller's Herb, 302.
 GENTIAN, Closed, 128.
 " Five-flowered, 199.
 " Fringed, 128.
 " Stiff, 199.
 " Striped, 286.
 Geranium, Wild, 223.
 Gerardia, Purple, 252.
 Ghost Flower, 168.
 Gill-over-the-ground, 266.
 Ginger, Wild, 170.
 Ginseng, Dwarf, 220.
 " Five-leaved, 222.
 Globe Flower, 97.
 Goat's Rue, 240.
 Golden Cups, 257.
 Golden-rods, Swamp, 77.
 " " Moist Soil, 134.
 " " Sandy Soil, 255.
 " " Dry Soil, 293.
 Gold Thread, 50.
 Grass, Pointed Blue-eyed, 80.
 " Water Star, 33.
 Green-brier, 298.
 Ground-nut, 220.
 Guelder-rose, Wild, 118.
 HARDHACK, 88.
 Harebell, Common, 90.
 Hawkweed, 291.
 " Green's, 292.
 Hawthorn, 150.
 Heal-all, 316.
 Heather, False, 234.
 Hedge-hyssop, 112.
 Hellebore, False, 46.
 Hemlock, Water, 30.
 Hepatica, 207.
 Herb Robert, 201.
 Hobble-bush, 188.
 Hog-peanut, 314.
 Honey-balls, 97.
 Honeysuckle, Bush, 190.
 " Japanese, 190.
 " Trumpet, 190.
 " White Swamp, 55.
 " Wild, 55.
 Hound's Tongue, 265.
 Horse-brier, 298.
 Horse-mint, 248.
 Houseleek, 172.
 Huntsman's-cup, 47.
 INDIAN BEAN, 196.
 " Cucumber-root, 143.
 " Fig, 238.
 Indian-pipe, 168.
 " Plant, 186.
 " Poke, 46.

- Indian Tobacco, 274.
 " Turnip, 137.
 Indigo, Wild or False, 241.
 Innocence, 108.
 Iron-weed, 320.
 Ivy, American, 300.
 " Ground, 266.
 " Poison, 261.

 JACK-IN-THE-PULPIT, 137.
 Jacob's Ladder, American, 53.
 Jamestown-weed, 278.
 Jewel-weed, 129.
 " " Pale, 121.
 Joe-Pye-weed, 134.
 Jointweed, Coast, 254.
 June-berry, 256.

 KNOTWEED, Amphibious, 38.
 " Sand, 254.

 LADY'S TRESSES, Slender, 284.
 " Slipper, Pink, 178.
 " " Showy, 60.
 " " Smaller, 178.
 " " Yellow, 178.
 Lambkill, 163.
 Larkspur, Carolina, 212.
 " Tall, 210.
 Laurel, Great, 163.
 " Ground, 204.
 " Mountain, 161.
 " Sheep, 163.
 Leather-leaf, 97.
 Lettuce, Wild, 132.
 Lily, Carolina, 83.
 " Meadow, 83.
 " Turk's-cap, 83.
 " Wild Red, 140.
 " Wild Yellow, 83.
 " Wood, 140.
 Lily-of-the-Valley, False, 143.
 Live-for-ever, 174.
 Liver-leaf, 207.
 Lizard's Tail, 55.

 Lobelia, Blue, 124
 " Great, 122.
 " Southern, 75.
 Loosestrife, Bulb-bearing, 93.
 " Four-leaved, 216.
 " Fringed, 93.
 " Lance-leaved, 93.
 " Purple Spiked, 98.
 Lousewort, 226.
 Love Vine, 278.
 Lungwort, 90.
 Lupine, Wild, 240.

 MAGNOLIA, Small, 69.
 Mallow, Marsh, 70.
 " Musk, 306.
 " Rose, 69.
 " Swamp, 69.
 Mandrake, Wild, 214.
 Marsh-mallow, 70.
 Marsh Marigold, 48.
 Mayflower, 204.
 Mayweed, 320.
 Meadow Beauty, 112.
 Meadow-sweet, 86.
 Melilot, White, 312.
 " Yellow, 312.
 Milfoil, 322.
 Milkweed, Ashy, 77.
 " Common, 280.
 " Swamp, 76.
 Milkwort, Large-Flowered, 114.
 " Moss, 65.
 Mint, Stone, 316.
 " Wild, 124.
 Mitre-wort, 158.
 " False, 158.
 Moccasin Flower, 178.
 Monkey-flower, 109.
 " " Cardinal, 110.
 Monkshood, 104.
 Moss, Flowering, 203.
 Motherwort, Common, 316.
 Moth-mullen, 284.
 Mullen, Great, 282.

- Mustard, Black, 297.
 " White, 297.
 NELUMBO, Yellow, 28.
 Nevins's Stone Crop, 172.
 Nightshade, 106.
 " Enchanter's, 305.
 Nymph, Water, 24.
 OBEDIENT PLANT, 127.
 Oak, Poison, 261.
 Orange-grass, 274.
 Orchis, Fringeless Purple, 64.
 " Great Green, 180.
 " Large Purple-fringed, 62.
 " Small, " " 64.
 " Showy, 180.
 " White-fringed, 65.
 " Yellow-fringed, 65.
 Orpine, American, 174.
 Oswego-tea, 126.
 PAINTED CUP, 250.
 Parsnip, Meadow, 100.
 Partridge Pea, 244.
 " Vine, 216.
 Passion Flower, 272.
 " " Yellow, 273.
 Pennyroyal, American, 267.
 " Bastard, 248.
 Pepperbush, Mountain Sweet, 308.
 " Sweet, 308.
 Pepper-root, 96.
 " 184.
 Phlox, Wild, 187.
 Pickerel-weed, 32.
 Pigeon-berry, 311.
 Pimpernel, 236.
 Pine Sap, 170.
 Pine-weed, 274.
 Pink, Fire, 218.
 " Grass, 60.
 " Ground or Moss, 187.
 " Swamp, 46
 " Wild, 218.
 Pinxter Flower, 55.
 Pipsissewa, 206.
 Pipsissewa, Spotted, 206.
 Pitcher-plant, 47.
 Plaintain, Rattlesnake, 184.
 " Robin's or Poor Robin's,
 290.
 Pleurisy-root, 281.
 Pokeweed, 311.
 Polygala, Fringed, 213.
 " Purple, 114.
 Pond-lily, Yellow, 26.
 Poppy, California, 275.
 " Celandine, 276.
 Poverty-grass, 234.
 Prickly-pear, 238.
 Primrose, Scapose, 270.
 Prince's Pine, 206.
 Psoralea, Round-leaved, 124.
 Puppet-root, 46.
 Pyxie, 203.
 QUAKER LADIES, 97.
 Queen Anne's Lace, 281.
 Queen-of-the-Meadows, 86.
 RAGWORT, Golden, 288.
 Raspberry, Purple-flowering, 299.
 Rattlebox, 241.
 Rattlesnake Grass, 122.
 " Weed, 291.
 Red-root, 224.
 Rheumatism-root, 213.
 Rhododendron, Great, 163.
 River-bush, 97.
 Rock-Cress, Hairy, 186.
 Rocket, Yellow, 296.
 Rock-rose, 235.
 Rose-bay, American, 163.
 Rose, Early White, 152.
 " Marsh Holy, 57.
 " Pink, 199.
 " Pogonia, 62.
 " Swamp, 50.
 Rosemary, Marsh, 70.
 " Wild, 57.
 Rue, Early Meadow, 152.
 " Tall Meadow, 102.
 Ruellia, Smooth, 177.

- SARSAPARILLA, Wild, 222.
 Saxifrage, Early, 156.
 Scabious, Sweet, 290.
 Scarlet Berry, 106.
 Sea Lavender, 70.
 Sea-pink, 72.
 Self-heal, 316.
 Senna, Wild, 242.
 Sensitive Plant, Large, 244.
 Service-berry, 256.
 Shad-bush, 256.
 Shepherd's-purse, 297.
 Shin-leaf, 164.
 Shooting-star, Colorado, 91.
 Sidalcea, White-flowered, 108.
 Sidesaddle-flower, 47.
 Silkweed, 280.
 Silver-rod, 136.
 Simpler's Joy, 314.
 Skullcap, Hairy, 248.
 " Hyssop, 246.
 " Mad Dog, 126.
 Skunk Cabbage, 43.
 Snake-head, 110.
 Snake-mouth, 62.
 Snakeroot, Black, 156.
 Sneezeweed, 130.
 " Purple-head, 130.
 Snowberry, Creeping, 56.
 Snowdrop Tree, Four-winged, 84.
 Soapwort, 302.
 Soldiers' Caps, 174.
 Solomon's Seal, 142.
 " " False, 142.
 " " Two-leaved, 143.
 Sorrel, Yellow Wood, 305.
 " Lady's, 305.
 Sorrel-tree, 161.
 Sourwood, 161.
 Spearwort, Water-plantain, 48.
 Speedwell, Common, 308.
 " Thyme-leaved, 310.
 Spice-bush, 168.
 Spiderwort, 118.
 Spikenard, American, 223.
 Spikenard, Wild, 142.
 Spoonwood, 161.
 Spring Beauty, 206.
 Spurge, Flowering, 252.
 Squaw-weed, 288.
 Squirrel Corn, 176.
 St. Andrew's Cross, 238.
 St. John's-wort, Common, 273.
 " " Marsh, 67.
 " " Shrubby, 238.
 " " Smaller, 108.
 St. Peter's-wort, 236.
 Stag-bush, 261.
 Stagger-bush, 235.
 Stagger-weed, 212.
 Star, Blazing, 84.
 " " 294.
 Star, Scaly Blazing, 294.
 Star-Flower, 214.
 Star-grass, Yellow, 257.
 Starwort, Drooping, 84.
 Steeple-bush, 88.
 Stenanthium, Stout, 84.
 Stokesia, Blue, 132.
 Strophilirion, 138.
 Succory, 324.
 Sumach, Poison, 53.
 Sumac, Smooth Upland or Scarlet,
 262.
 Sundew, Round-leaved, 74.
 Sundrops, Allen's, 270.
 Sunflower, Wild, 317.
 " " 317.
 " Swamp, 130.
 Sweet-cicely, Smoother, 194.
 Sweet Pea, Wild, 240.
 Sweet William, Wild, 187.

 TANSY, 319.
 Tea, Mountain, 166.
 " New Jersey, 224.
 Thimble-weed, 210.
 Thistle, Burr, 294.
 " Canada, 295.
 " Field Sow, 292.

- Thistle, Spear, 294.
 Thorn Apple, 278.
 " Dwarf, 150.
 " Scarlet-fruited, 150.
 Thoroughwort, 322.
 Thyme, Creeping, 315.
 Tick-seed, 288.
 Tickseed, Rose-coloured, 290.
 Tick-trefoil, Prostrate, 224.
 Toadflax, Blue or Wild, 310.
 " Pale Blue, 311.
 " Yellow, 310.
 Toothwort, 184.
 " Cut-leaved, 96.
 Touch-Me-Not, 120.
 Traveller's Joy, 306.
 Trillium, Painted, 144.
 Trumpet-creeper, 95.
 Trumpet-flower, 95.
 Trumpet-weed, 134.
 Turtle-head, 110.
 Twin-flower, 192.
 Twin-leaf, 213.
 Twisted Stalk, 140.

 VENUS'S FLY-TRAP, 74.
 " Looking-glass, 297.
 " " " Small, 298.
 Verbena, Large-flowered, 268.
 Vervain, Blue, 314.
 " White, 315.
 Vetch, American, 314.
 " Blue, 312.
 Viburnum, Maple-leaved, 260.
 Violet, Bird's-foot, 232.
 " Canada, 148.
 " Coast, 234.
 " Common Blue, 258.
 " Dog's-tooth, 82.
 " Downy Yellow, 212.

 Violet, Lance-leaved, 102.
 " Round-leaved, 150.
 " Sweet White, 101.
 Viper's Bugloss, 266.
 Virgin's Bower, 306.

 WAKE-ROBIN, Large-flowered, 144.
 " " Ill-scented, 146.
 Water-arum, 21.
 " Hemlock, 30.
 Water-hyacinth, 33.
 Water-lily, white, 24.
 Water-parsnip, 52.
 Water-plantain, 38.
 Water-shield, 24.
 Wax-weed, Blue, 286.
 Wax-work, 298.
 Wayfaring-tree, American, 188.
 Weather-glass, Poor Man's or Shepherd's, 236.
 White Hearts, 174.
 " Weed, 291.
 Whitlow-grass, Vernal, 236.
 Wicky, 163.
 Willow-herb, Great or Spiked, 272.
 " " Hairy, 94.
 " " Small, 94.
 Wind-flower, 208.
 Wintergreen, Creeping, 166.
 " Flowering, 213.
 " Round-leaved, 166.
 " Serrated, 166.
 Witch-hazel, 201.
 Wolf's Bane, 104.
 Wood-sorrel, 200.
 " " Violet, 200.
 Wood-anemone, 208.
 Wood-betony, 226.

 YARROW, Common, 322.
 Yellow-adder's Tongue, 82.

Index to Latin Names.

- ABRONIA FRAGRANS, 194.
Achillea Millefolium, 322.
Aconitum uncinatum, 104.
Actæa alba, 154.
 " rubra, 154.
Agrimonia hirsuta, 217.
Agrostemma Githago, 274.
Alisma Plantago-aquatica, 38.
Althæa officinalis, 70.
Amelanchier Canadensis, 256.
 " alnifolia, 257.
Anagallis arvensis, 236.
 " Staus, 236.
Andromeda polifolia, 57.
Anemone pavonina, 208.
 " quinquefolia, 208.
 " ranunculoides, 208.
 " Virginiana, 210.
Antennaria neodioica, 283.
 " plantaginifolia, 287.
Anthemis Cotula, 320.
Apocynum androsæmifolium, 300.
Aquilegia cærulea, 154.
 " Canadensis, 153.
 " truncata, 154.
Arabis hirsuta, 186.
Aralia nudicaulis, 222.
 " racemosa, 223.
Arethusa bulbosa, 59.
Arisæma triphyllum, 137.
Aronia arbutifolia, 50.
Asarum Canadense, 170.
Asclepias cinerea, 77.
 " incarnata, 76.
Asclepias lanceolata, 76.
 " Syriaca, 280.
 " tuberosa, 281.
Ascyrum hypericoides, 238.
Aster cordifolius, 325.
 " divaricatus, 325.
 " ericoides, 325.
 " gracilis, 255.
 " lævis, 325.
 " multiflorus, 255.
 " nemoralis, 78.
 " Novæ-Angliæ, 77.
 " patens, 325.
 " puniceus, 78.
 " spectabilis, 255.
 " surculosus, 255.
Azalea arborescens, 164.
 " nudiflora, 55.
 " viscosa, 55.
BAPTISIA TINCTORIA, 241.
Barbarea Barbarea, 296.
Batrachium trichophyllum, 30.
Bellise-perennis, 291.
Benzoin Benzoin, 168.
Bicuculla Canadensis, 176.
 " Cucullaria, 174.
Brasenia purpurea, 24.
Brassica nigra, 297.
Bursa Bursa-pastoris, 297.
CALAMINTHA CAROLINIANA, 250.
Calla palustris, 21.
Caltha palustris, 48.
Calypso bulbosa, 59.

- Campanula Americana, 91.
 " divaricata, 148.
 " rotundifolia, 90.
 Capnoides sempervirens, 176.
 Cardamine bulbosa, 96.
 Carduus arvensis, 295.
 " lanceolatus, 294.
 Cassia Chamæcrista, 244.
 " Marilandica, 242.
 Castalia odorata, 24.
 Castilleja coccinea, 250.
 Catalpa Catalpa, 196.
 Caulophyllum thalictroides, 177.
 Ceanothus Americanus, 224.
 Celastrus scandens, 298.
 Cephalanthus occidentalis, 97.
 Chamædaphne calyculata, 97.
 Chamælirium luteum, 84.
 Chamænerion augustifolium, 272.
 Chelidonium majus, 276.
 Chelone glabra, 110.
 " Lyoni, 112.
 Chimaphila maculata, 206.
 " umbellata, 206.
 Chiogenes hispidula, 56.
 Chionanthus Virginica, 94.
 Chrysanthemum Leucanthemum, 291.
 Cichorium Intybus, 324.
 Cicuta maculata, 30.
 Cimicifuga racemosa, 156.
 Circaea Lutetiana, 305.
 Claytonia Virginica, 206.
 Clematis crispa, 67.
 " Virginiana, 306.
 Clethra acuninata, 308.
 " alnifolia, 308.
 Clitoria Mariana, 276.
 Collinsia verna, 108.
 Commelina erecta, 116.
 " Virginica, 116.
 Convolvulus arvensis, 302.
 " sepium, 302.
 Coptis trifolia, 50.
 Corallorrhiza Multiflora, 182.
 " striata, 182.
 Coreopsis lanceolata, 288.
 " rosea, 290.
 Cornus Canadensis, 158.
 " candidissima, 95.
 " circinata, 160.
 " florida, 160.
 " stolonifera, 95.
 Cracca Virginiana, 240.
 Cratægus coccinea, 150.
 " uniflora, 150.
 Crinum Americanum, 44.
 Crotalaria rotundifolia, 242.
 " sagittalis, 241.
 Cunila origanoides, 316.
 Cuscuta Gronovii, 278.
 Cynoglossum officinale, 265.
 Cypripedium acaule, 178.
 " hirsutum, 178.
 " parviflorum, 178.
 " reginæ, 60.
 DALIBARDA REPENS, 150.
 Dasystema flava, 230.
 " Pedicularia, 230.
 " Virginica, 228.
 Datura stramonium, 278.
 " Tatula, 278.
 Daucus Carrota, 281.
 Delphinium Ajacis, 212.
 " Carolinianum, 212.
 " tricorne, 212.
 " urceolatum, 210.
 Dentaria diphylla, 184.
 " laciniata, 96.
 Diervilla Diervilla, 190.
 Dionæa muscipula, 74.
 Dodecatheon Meadia frigidum, 91.
 Doellingeria umbellata, 78.
 Draba verna, 236.
 Drosera rotundifolia, 74.
 ECHIUM VULGARE, 266.
 Epigæa repens, 204.
 Epilobium coloratum, 94.
 " hirsutum, 94.

- Erigeron annuus*, 290.
 " *pulchellus*, 290.
 " *ramosus*, 291.
Erythronium Americanum, 82.
 " *albidum*, 82.
Eschscholtzia Californica, 275.
 " *cæspitosa*, 276.
Eupatorium perfoliatum, 322.
 " *purpureum*, 134.
Euphorbia corollata, 252.
 FALCATA COMOSA, 314.
 GAULTHERIA PROCUMBENS, 166.
Gaultheria Shallon, 168.
Gentiana Andrewsii, 128.
 " *crinita*, 128.
 " *quinquefolia*, 199.
 " *villosa*, 286.
Geranium maculatum, 223.
 " *Robertianum*, 201.
Gerardia maritima, 252.
 " *purpurea*, 252.
Geum Canadense, 217.
 " *rivale*, 52.
 " *strictum*, 53.
Glecoma hederacea, 266.
Gratiola aurea, 112.
Gyrostachys cernua, 286.
 " *gracilis*, 284.
 HABENARIA BLEPHARIGLOTTIS, 65.
 " *ciliaris*, 65.
 " *grandiflora*, 62.
 " *orbiculata*, 180.
 " *peramœna*, 64.
 " *psycodes*, 64.
Hamamelis Virginiana, 201.
Hedeoma pulegioides, 267.
Helenium autumnale, 130.
 " *nudiflorum*, 130.
Helianthus Canadense, 235.
 " *annus*, 318.
 " *divaricatus*, 318.
 " *giganteus*, 318.
 " *mollis*, 318.
Helianthus tuberosus, 317.
Helonias bullata, 46.
Hepatica Hepatica, 207.
Heteranthera dubia, 33.
Hibiscus Moscheutos, 69.
Hieracium Greenii, 292.
 " *venosum*, 291.
Houstonia cærulea, 97.
Hudsonia tomentosa, 234.
Hypericum adpressum, 108.
 " *ellipticum*, 108.
 " *maculatum*, 108.
 " *mutilum*, 108.
 " *perforatum*, 273.
 " *prolificum*, 238.
Hypopitys Hypopitys, 170.
Hypoxis hirsuta, 257.
 IMPATIENS AUREA, 121.
 " *biflora*, 120.
Inula Helenium, 319.
Iris cristata, 80.
 " *versicolor*, 79.
 JEFFERSONIA DIPHYLLA, 213.
 KALMIA ANGUSTIFOLIA, 163.
 " *latifolia*, 161.
Kneiffia Alleni, 270.
 LACTUCA CANADENSIS, 132.
Lacinaria scariosa, 294.
 " *squarrosa*, 294.
Lathyrus maritimus, 244.
Leontodon autumnale, 287.
Leonurus Cardiaca, 316.
Lespedeza capitata, 246.
 " *frutescens*, 246.
 " *procumbens*, 246.
 " *Virginica*, 246.
Lilium Canadense, 83.
 " *Carolinianum*, 83.
 " *Catesbæi*, 140.
 " *Philadelphicum*, 140.
 " *superbum*, 83.

- Limnanthemum lacunosum*, 41.
Limodorum tuberosum, 60.
Limonium Carolinianum, 70.
Linaria Canadensis, 310.
 " *Linaria*, 310.
 " *repens*, 311.
Linnæa borealis, 192.
Lobelia amœna, 75.
 " *cardinalis*, 121.
 " *inflata*, 274.
 " *spicata*, 124.
 " *symphilitica*, 122.
Lonicera ciliata, 188.
 " *Japonica*, 190.
 " *sempervirens*, 190.
Lupinus perennis, 240.
 " *villosus*, 241.
Lysimachia quadrifolia, 216.
 " *terrestris*, 93.
Lythrum Salicaria, 98.

MAGNOLIA VIRGINIANA, 69.
Malva moschata, 306.
Medeola Virginiana, 143.
Melampyrum lineare, 228.
Melilotus alba, 312.
 " *officinalis*, 312.
Meibomia Canadensis, 226.
 " *grandiflora*, 226.
 " *Michauxii*, 224.
 " *nudiflora*, 226.
Mentha Canadensis, 124.
Menyanthes trifoliata, 70.
Mertensia Virginica, 90.
Micrampelis lobata, 106.
Mimulus cardinalis, 110.
 " *ringens*, 109.
Mitchella repens, 216.
Mitella diphylla, 158.
Mohrodendron Carolinum, 84.
Monarda didyma, 126.
 " *fistulosa*, 198.
 " *punctata*, 248.
Monotropa uniflora, 168.
Myosotis laxa, 88.

NELUMBO LUTEA, 28.
Nymphæa advena, 26.

ONAGRA BIENNIS, 268.
Opuntia humifusa, 238.
 " *Opuntia*, 240.
Orchis spectabilis, 180.
Orontium aquaticum, 22.
Oxalis Acetosella, 200.
 " *stricta*, 305.
 " *violacea*, 200.
Oxycoccus macrocarpus, 57.
Oxydendrum arboreum, 161.

PACHYLOPHUS CÆSPITOSUS, 270.
Panax quinquefolium, 222.
 " *trifolium*, 220.
Panicularia Canadensis, 122.
Parsonsia petiolata, 286.
Parthenocissus quinquefolia, 300.
Passiflora incarnata, 272.
 " *lutea*, 273.
Pedicularis Canadensis, 226.
Pentstemon Digitalis, 196.
 " *hirsutus*, 196.
 " *Newberryi*, 198.
Peranium pubescens, 184.
 " *repens*, 184.
Phlox divaricata, 187.
 " *maculata*, 187.
 " *Subulata* 187.
Physostegia Virginiana, 127.
Phytolacca decandra, 311.
Piaropus crassipes, 33.
Pieris Mariana, 235.
Pluchea camphorata, 75.
Poa pratensis, 258.
Podophyllum peltatum, 214.
Pogonia ophioglossoides, 62.
Polemonium Van Bruntiaë, 53.
Polygala cruciata, 65.
 " *grandiflora*, 114.
 " *paucifolia*, 213.
 " *polygama*, 213.
 " *viridescens*, 114.
Polygonella articulata, 254.

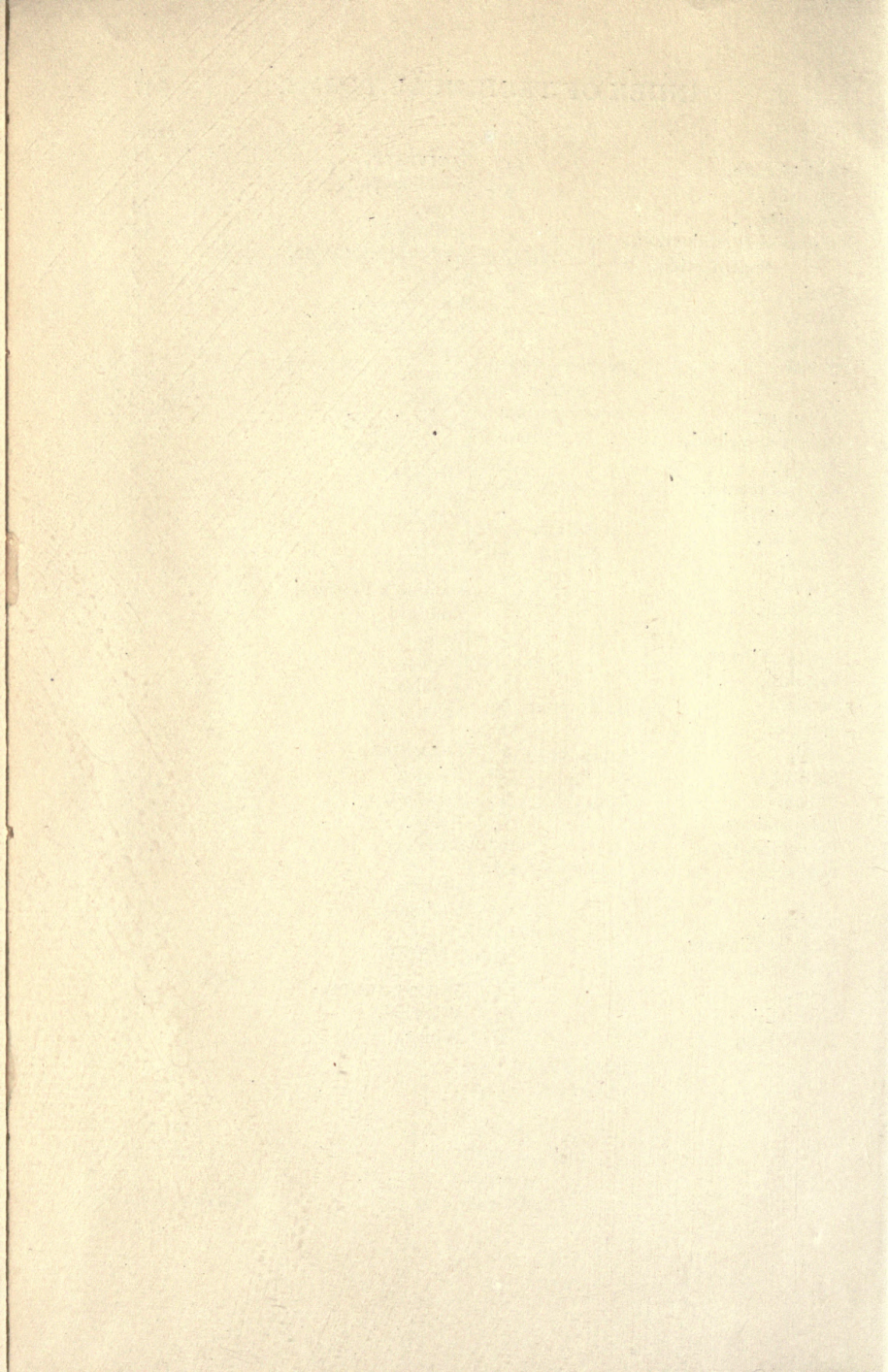
- Polygonatum biflorum, 142.
 Polygonum amphibium, 38.
 Pontederia cordata, 32.
 Potentilla argentea, 265.
 " Canadensis, 262.
 " fruticosa, 264.
 " Monspeliensis, 265.
 Prunella vulgaris, 316.
 Prunus maritima, 232.
 " Virginiana, 86.
 Psoralea orbicularis, 124.
 Ptilimnium capillaceum, 101.
 Pyrola elliptica, 164.
 " rotundifolia, 166.
 " secunda, 166.
 Pyxidantha barbulate, 203.
- QUAMOCLIT COCCINEA, 302.
- RANUNCULUS ACRIS, 258.
 " bulbosus, 257.
 " delphinifolius, 30.
 " obtusiusculus, 48.
- Rhexia Virginica, 112.
 Rhododendron maximum, 163.
 Rhus glabra, 262.
 " radicans, 261.
 " Toxicodendron, 261.
 " vernix, 53.
- Ricinus communis, 254.
 Rosa blanda, 152.
 " Carolina, 50.
- Rubus occidentalis, 299.
 " odoratus, 299.
 " strigosus, 299.
- Rudbeckia Brittonii, 293.
 " hirta, 292.
- Ruellia strepens, 177.
- SABBATIA ANGULARIS, 199.
 " campanulata, 72.
 " dodecaudra, 72.
 " stellaris, 72.
- Sagittaria lancifolia, 38.
 " latifolia, 36.
- Sambucus Canadensis, 120.
 Sanguinaria Canadensis, 186.
- Saponaria officinalis, 302.
 Sarothra gentianoides, 274.
 Sarracenia purpurea, 47.
 Saururus cernuus, 55.
 Saxifraga Virginensis, 156.
 Scutellaria galericulata, 127.
 " integrifolia, 246.
 " lateriflora, 126.
 " pilosa, 248.
- Sedum Nevii, 172.
 " telephioides, 174.
- Senecio aureus, 288.
- Septandra Virginica, 198.
- Sidalcea candida, 108.
- Silene Caroliniana, 218.
 " stellata, 220.
 " Virginica, 218.
- Sinapis alba, 297.
- Sisyrinchium angustifolium, 80.
- Sium cicutæfolium, 32.
- Smilax herbacea, 100.
 " rotundifolia, 298.
- Solanum dulcamara, 106.
 " bicolor, 136.
 " Canadensis, 293.
 " fistulosa, 136.
 " juncea, 136.
 " mollis, 294.
 " nemoralis, 293.
 " odora, 255.
 " patula, 77.
 " uliginosa, 77.
 " tortifolia, 255.
- Spathyema foetida, 43.
- Specularia biflora, 298.
 " perfoliata, 297.
- Spiræa salicifolia, 86.
 " tomentosa, 88.
- Sonchus arvensis, 292.
- Stenanthium robustum, 84.
- Steironema ciliatum, 93.
 " lanceolatum, 93.
- Stokesia cyanea, 132.
- Streptopus roseus, 140.
- Strophilrion Californicum, 138.
- Stylophorum diphyllum, 276.
- Syndesmon thalictroides, 210.

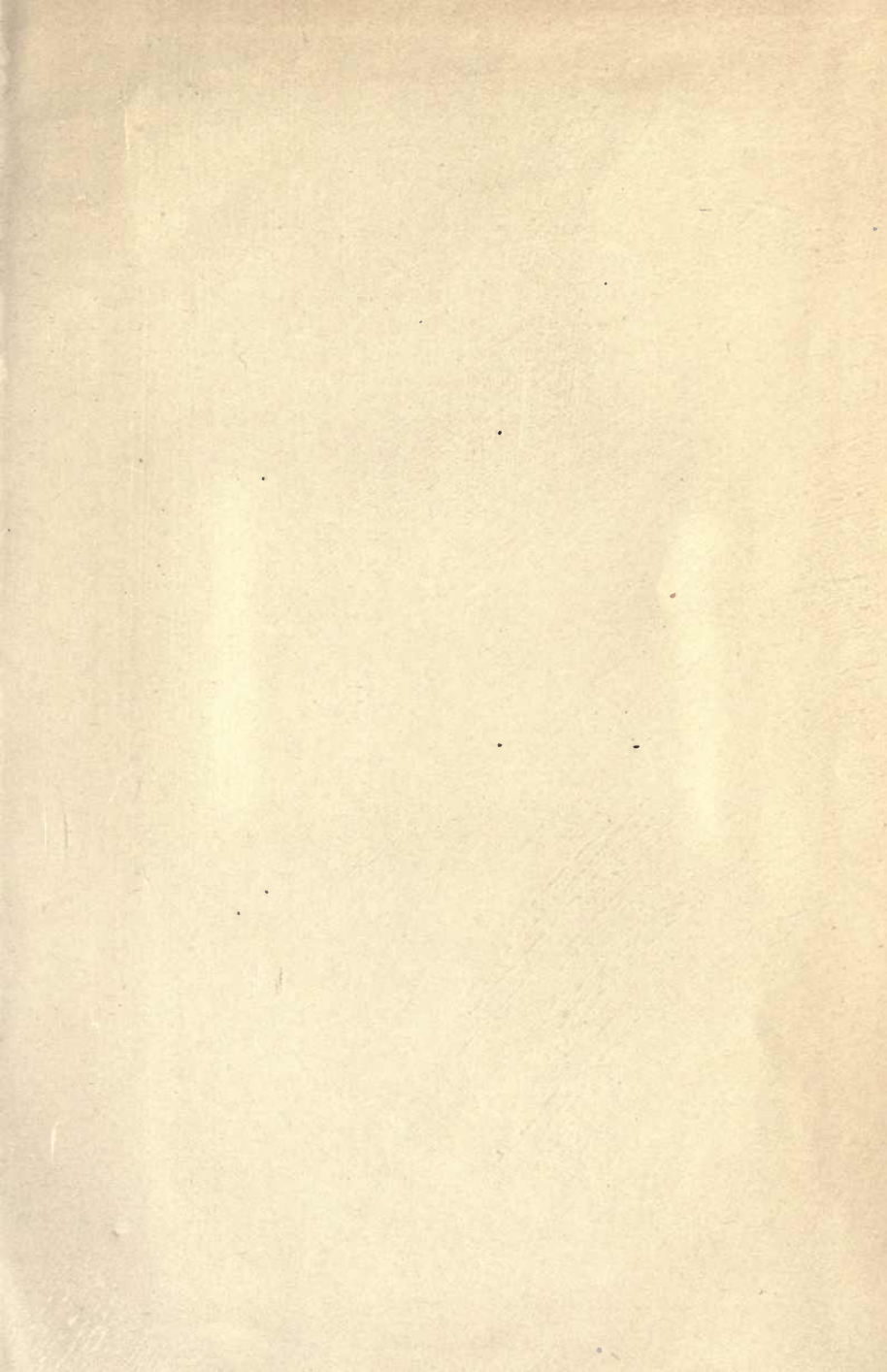
- TANACETUM VULGARE, 319.
 Taraxacum Taraxacum, 287.
 Tecoma radicans, 95.
 Thalictrum dioicum, 152.
 " polygamum, 102.
 " purpurascens, 152.
 Thaspium barbinode, 100.
 Thymus Serpyllum, 315.
 Tiarella cordifolia, 158.
 Tradescantia montana, 118.
 Triadenum Virginicum, 67.
 Trichostima dichotomum, 248.
 Trientalis Americana, 214.
 Trillium erectum, 146.
 " grandiflorum, 144.
 " undulatum, 144.
 UNIFOLIUM CANADENSE, 143.
 Utricularia cornuta, 67.
 " vulgaris, 34.
 Uvularia perfoliata, 148.
 " sessilifolia, 146.
 VAGNERA RACEMOSA, 142.
 Veratrum viride, 46.
 Verbascum Blattaria, 284.
 " Trapsus, 282.
 Verbena Canadensis, 268.
 " hastata, 314.
 " urticifolia, 315.
 Vernonia Noveboracensis, 320.
 Veronica Americana, 41.
 Veronica officinalis, 308.
 " serpyllifolia, 310.
 Viburnum acerifolium, 260.
 " alnifolium, 188.
 " Opulus, 118.
 " prunifolium, 261.
 Vicia Americana, 314.
 " Cracca, 312.
 Viola Atlantica, 234.
 " blanda, 101.
 " Canadensis, 148.
 " cucullata, 258.
 " lanceolata, 102.
 " pedata, 232.
 " pedata bicolor, 234.
 " pubescens, 212.
 " rotundifolia, 150.
 WASHINGTONIA LONGISTYLIS, 194.
 YUCCA FILAMENTOSA, 231.

Index of Technical Terms.

	PAGE.		PAGE.
ABRUPTLY PINNATE LEAVES,	12	FEATHER-VEINED,	10
Aerial Roots,	14	Fertilization,	7
Alternate,	9	Fertilizing Organs,	7
Anther,	7	Filament,	7
Arrow-shaped,	11	Fruit,	7
Auriculate,	11	Funnel-Form,	5
Axillary,	2	GAMOPETALOUS,	4
BANNER,	6	Gamosepalous,	4
Bell-shaped,	5	Glabrous,	13
Blade,	9	Glaucous,	13
Bracts,	9	HEAD,	3
Bulb,	14	Heart-shaped,	11
CAMPANULATE,	5	IMPERFECT FLOWER,	8
Calyx,	4, 5, 7	Incised,	12
Capitulum,	3	Included Stamens,	7
Cleft,	5, 12	Inflorescence,	2
Complete Flower,	4	Irregular Flowers,	7
Compound Leaves,	12	KEEL,	6
Cordate,	11	Kidney-shaped,	11
Corolla,	4, 7	LABIATE,	6
Corm,	14	Lanceolate,	10
Corymb,	3	Leaves,	9, 10
Creeping,	13	Ligulate,	5
Crenate,	12	Linear,	10
Cross-fertilization,	7	Lobed,	5, 12
Cruciferous,	6	NETTED-VEINED,	9
Cyme,	4	Neutral Flower,	8
DECUMBENT,	13	OBCORDATE,	11
Divided,	12	Oblanceolate,	10
ELLIPTICAL,	10	Oblong,	10
Entire Leaves,	12	Obovate,	11
Erect,	13		
Exserted Stamens,	7		

	PAGE.		PAGE.
Odd-Pinnate,	13	SAGITTATE,	11
Opposite,	9	Salver-shaped,	5
Orbicular,	11	Scape,	14
Organs of reproduction,	4	Scolloped,	12
" " protection,	4	Seed-bearing Organ,	7
Oval,	10	Seeds,	7
Ovary,	7	Seed Vessel,	7
Ovate,	10	Self-fertilization,	8
Ovules,	7	Sepals,	4
		Serrate,	12
		Sessile,	3
PALMATE,	12	Shield-shaped,	12
Palmately-veined,	10	Simple Stem,	14
Panicle,	3	Solitary,	2
Papilionaceous,	6	Spadix,	3
Parallel-veined,	9	Spatulate,	11
Parasites,	14	Spike,	3
Parted,	5	Stamens,	7
Pedicel,	2	Staminate Flowers,	9
Peduncle,	2	Standard,	6
Peltate,	12	Stem,	13
Perfect Flower,	8	Stigma,	7
Perianth,	7	Stipules,	9
Petals,	4	Style,	7
Pinnate,	12		
Pistil,	7	TERMINAL,	2
Pistillate,	9	Thorns,	14
Pollen,	7	Toothed,	5
Polypetalous,	6	Tuber,	14
Procumbent,	13	Tubular,	5
Pubescent,	13		
		UMBEL,	4
		Undulate,	12
RACEME,	3		
Regular Flowers,	7	VEINING,	9
Reniform,	11		
Root,	14	WHEEL-SHAPED,	47
Rootstock,	14	Whorled,	9
Rosaceous,	6	Wings,	6





RETURN
TO 

BIOLOGY LIBRARY
3503 Life Sciences Bldg.

642-2531

LOAN PERIOD 1

2

3

14 DAYS

4

5

6

ALL BOOKS MAY BE RECALLED AFTER 7 DAYS
Renewed books are subject to immediate recall

DUE AS STAMPED BELOW

DUE

~~JAN 9 1978~~

Subject to Recall
Immediately
DUE

APR - 3 1978

Subject to Recall
Immediately

RETURNED - BIOLOGY

MAR 21 '78

~~TIME DUE~~

AUG 20 1982

Subject to Recall
Immediately

FORM NO. DD 47m, 6'76

UNIVERSITY OF CALIFORNIA, BERKELEY
BERKELEY, CA 94720

© 1

8/20
with card
BIOLOGY LIBRARY
LD 21-10m-7,'89(402s)

M95624

QK118

L67

Biology
Library

THE UNIVERSITY OF CALIFORNIA LIBRARY

