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Front Cover:

This head study of the Gum Emperor Moth, shortly after emergence from the cocoon, was photographed by Graham Pizzey. Note the feelers, indicating a male moth.

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Wildflower Study Tour in Western Australia. September 1968

by ELIZABETH K. TURNER

At the beginning of September, 1968, the writer was privileged to be one of a party of thirty assorted persons to join a Wildflower Study Tour of six days, arranged by the W.A. Government, travelling by bus North from Perth. My tour across the Nullarbor and through the south-west areas of W.A. with the F.N.C.V. in August and September, 1963, had whetted my appetite to see more of the glories of the Western wildflowers before cultivation and so-called progress had completely eliminated part of their habitat.

The tours are provided with a bus driver, a hostess and a botanist; this latter post being filled by Mr. Bill Tothill, a keen naturalist who had traversed the route so often that he had a remarkable knowledge of where to find unusual specimens, and where to see the varieties of plants in abundance. As accommodation, meals and cups of tea were all provided, the most strenuous exercise one had to do was getting in and out of the bus, and investigating the environment while the bus waited.

North-East to the Darling Escarpment

Our first morning-tea-stop was on the Darling Escarpment, north-east of Bullsbrook and overlooking the Chittering Valley. The eucalypt woodland was ablaze with the red and green of Mangles Kangaroo-Paw (*Anigozanthos manglesii*) and with patches of blue *Leschenaultia biloba* which varied in colour from pale sky blue to deep saxe.

In the scrub amongst the weird blackboys, (*Xanthorrhoea preisii*)

there were mats of blue-violet *Dampiera* and the delicate blue Morning Iris (*Orthrosanthus laxus*), the ubiquitous yellow Native Buttercup (*Hibbertia hypericoides*) and bright yellow tufts of *Dryandra polycephala* on leggy wands. This area rather resembled the Kings' Park flora, in that there was an abundance of purple *Sowerbaea multiflora*, *Conostephium pendulum*, *Synaphaea polymorpha* which occurred in most areas on our tour, and that lesser relative of the Kangaroo-Paws', the yellow cone flower (*Conostylis*). *Eriostemon spicatus* with lilac flowers was common, and there were startling clumps of the deepest violet *Calytrix brachyphylla*, and a relative of the Daphne family, sweet-scented *Pimelea suaveolens* with large, yellowish-green bracts; also lots of the weird waving russet-coloured *Stirlingia*.

Among the smaller flowers of this forest, the most eye-catching were the stands of Cowslip Orchid (*Caladenia flava*), *Drosera macrantha* and *D. menziesii* climbing to 3 or 4 feet on the undergrowth, also the flat-faced *Stylidium reduplicatum* with tremendous triple-plate-like flowers in creamy-white, which was hailed by all the uninitiated as an orchid at first sight.

I found also one of my favourites, the little heath-like *Andersonia* with pink calyx and blue corolla, which is a delight when viewed under the lens. There was such an abundance to see that some of us forgot about the tea boiling on a sort of gas-primus stove at the back of the bus!

Through the Eucalypt Woodlands

We then had wayside stops to admire large stands of golden-yellow *Lambertia multiflora* or *Grevillea pilulifera* which from a distance looked like a fluffy white Hakea. A little further north, we stopped to admire patches of the red pea-flowered crinkle-leafed poisonous *Gastrolobium villosum*, *Hovea* sp. with enormous violet flowers, pink *Boronia inornata* and *Hybanthus calycinus*, one of W.A.'s violets.

At the next roadside stop was a rare sight which has made me personally more appreciative of the Hibbertia family—these were beautiful shrubs of *Hibbertia miniata* about 2 ft. high, covered with large orange cup-like flowers about 1½ inches in diameter, with central crimson or saffron coloured stamens; here also we saw the quite rare white, daisy-like bushes of *Asterolasia pallida*.

Along the roadside were clumps of blue and snow-white fan-flowers *Scaevola* sp. and numerous bushes of *Calothamnus sanguinius* with its red pruned paws, and masses of the blue false blind grass, *Stypandra imbricata*. In one area, Bill Tothill collected *Dryandra nobilis* with tall gold balls up to 3 or 4 inches in diameter. We then made an interesting detour through the grounds of Keaney College, now an Agricultural College, but until the recent English law preventing the migration of orphan boys, this was the so-called "Boy's Town" of the Roman Catholic Church. On the hillside here, were Cycad palms, over which *Clematis aristata* was heaped in snowy-white profusion.

Our next roadside stop was to admire the tawny cats' paws (*Anigozanthos humilis*) and the smaller 12 inch red and green *Anigozanthos bicolor*. We had a cold chicken and salad lunch near a gravel pit in the woodlands and then drove on to visit

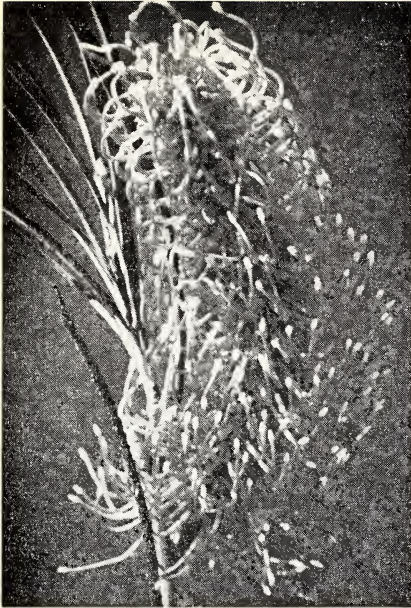
the native mission at New Norcia, built by Dom Salvadore in 1866 and still maintained by Spanish Monks, who long for their homeland.

Further north, we came upon the first of the Feather flowers, the pink *Verticordia picta* and the golden *Verticordia grandiflora*, and later, the beautiful scarlet *Verticordia grandis*. In this area we saw our first furry white lamb's tails (*Lachnostachys verbascifolia*).

Into the Irwin River District

Our overnight accommodation was in a small, green and white railway train on a siding at Watheroo, and for our evening entertainment Bill Tothill showed slides of his own photographs of the best of the wildflowers from numerous tours. The worst inconvenience at this stop was when the lights on the carriages failed and we had to go to bed by torch light, but as the bunks were comfortable and warm it mattered little!

An early morning cup of tea was available in the railway yard and we left soon after breakfast for points north through Coorow and Three Springs. This area carries mainly York gum or Jam and extensive sand plains; the conditions are warmer than in the districts to the South-West, and the vegetation is earlier. Cultivation is so extensive along both sides of the highway that the wildflowers make their chief display along railway cuttings and roadsides. In sandy country we saw our first stands of woody pear (*Xylomelum angustifolium*) and the tall, beautiful orange *Banksia prionites* with heads like hypertrophied acorns. Close by was a bush of crimson *Hakea bucculentata*, easily 10 feet high; also we found specimens of an engaging dark-purplish leaf-eating caterpillar with a hooked tail, which, when disturbed, reared up and backwards in extreme opisthotonus and stuck



Hakea bucculenta

Photo: Author

his fearsome looking feet and bristles well out in front of him.

A crimson mat of bells of *Marianthus erubescens* covered some of the yellow flowering Acacias along the way; the commonest shrubs seemed to be the lilac-pink *Baeckea camphorosmae* and other species of Myrtaceae. A beautiful prostrate *Hemiandra gardneri* with scarlet flowers about one inch in diameter was found. We were delighted by the lovely copper-cups (*Pileanthus peduncularis*) and by an attractive rose-pink flower, looking like an over-sized *Baeckea*, called *Commersonia pulchella*, and belonging to the Sterculia family; along with the *Keraudrenia* of which we saw many purple-violet species, and with the *Thomasia* which had felty-hair and bright-coloured purplish-pink calyces.

There were startling patches of feathery smoke-bush (*Conospermum incurvum*), and I was much in de-

mand as a photographic contrast medium in my scarlet blouse.

Hibiscus farragei was found covered with lilac-violet flowers; and the herb-like plant about 2 feet high with apricot, green and brown bract-covered heads turned out to be *Geleznowia calycina*, a member of the Rutaceae family that I had not met before. There were bushes of large pink *Isopogon baxteri* which would have added colour to any suburban garden. Here, yellow and white cone flowers made perfect wreaths with the flowering edges raised 3-4 inches above the sand. The bright waving spikes of the gold *Grevillea eriostachya* all pointed in the same direction, and the weird dull-crimson unopened cones of the *Grevillea leucopeteris* topped with satiny-white flower spikes, projected for 3-5 feet above their thick dark-green foliage, and gave the impression of being one plant shooting up through another.

We travelled most of the day through Mallee and mixed Wattle-Scrub through which the winding Irwin River appeared to have to cut a series of terraces; yellow pennants (*Loudonia aurea*) added colour to the roadsides. We stopped to photograph a hillside of pale-pink *Schoenia cassiniana* and an enormous tree of red flowering *Hakea multilineata*, and later to afford similar treatment to the *Eucalyptus rudis*, the famous Greenough trees near the coastal sand dunes; these thick-trunked eucalypts "leaning on their elbows" as Bill said, sloped almost horizontally in a direction away from the sea.

Three Nights at Geraldton

That night and the following two, were spent in luxury in a motel at Geraldton, overlooking vast sand dunes and the Indian Ocean which beckoned so strongly that we walked over for a swim. The next day was

spent exploring Geraldton and environs, and being entertained in the evening with films of the underwater discoveries of the wrecks of Dutch galleons off the W.A. coast.

North to the Murchison River and Heath Scrub Country

The following day we continued northward through country covered with York Gum (*Eucalyptus loxophleba*), Wattles, Sheoke (*Casuarina cristata*) and spiky Hakeas, through Northampton to the Murchison River and on to the coastal heath scrub. Here we found another red and yellow-green member of the Leschenaultia species, *Leschenaultia linarioides*, and the orange and red one-sided bottle brush (*Beaufortia squarrosa*) and I was surprised to find the blue climbing Cheiranthra species.

We passed the original stone hut built for Drummond, the naturalist, and although now roofless, the wooden slats and floor boards cut more than 100 years ago, are in excellent condition. We had lunch at the Murchison River and found bushes of Cassia and of pink and blue Eremophila; I always feel like giving a private cheer for the Eremophila—they bloom so bravely and handsomely in tough places. Near the river, a peculiar

cactus-like, almost prostrate shrub was found which had scarlet, sickle-shaped pea flowers, fully 2 inches high; this was probably *Brachysema aphyllum*. Also there were abundant patches of lemon-yellow and white *Cephalopterum drummondii* and *Helipterum* species, and some *Calandrinia linifolia*, a succulent member of the Portulaca family, with magenta flowers, called Parakeelya in Central Australia. There were also sweet smelling pinkish mulla mullas, (*Trichinium* and *Ptilotis*) and we found our old Victorian friends the blue buttons (*Brunonia australis*) in flower. At one roadside stop there were dozens of bushes of pale pink *Grevillea petrophyloides*, and some rocky outcrops covered with gold and pink Feather-flowers.

East to Mullewa and Back to Watheroo

Next day, 6th September, we left Geraldton and travelled E.N.E. mostly over undulating farmlands to Mullewa, between carpets of pink and white Schoenia, yellow and white Cephalopterum and bushes of purple Keraudrenia interspersed with blue Dampiera, with the yellow of the wattles forming a higher layer of vegetation. The only hills were the small, distant Koolonooka hills with



Beaufortia squarrosa

Photo: Author

obvious red scars made by the Western Mining Corporation, extracting iron ore.

At our first stop I noted the blue *Halgania* species and bushes of rose-pink *Isopogon adenanthoides*; later a shocking-pink *Calythrix muricata* and masses of golden *Podolepis*. All day we passed bushes of beautiful *Hakea bucculenta* with creamy-crimson tinted spikes, and we saw the enormous orange heads of the *Banksia ashbyi*. At one stop there were clumps of powder-blue *Dampiera wellsiana* looking rather like the garden Love-in-the-Mist. There was a bright red showy *Grevillea dielsiana* and a pure white one *G. candicans*.

At Mullewa, the Country Women's Association provided lunch in the Town Hall Annexe, and later we visited a private zoo where the animals and birds were well fed, but their enclosures were inadequate and denuded of vegetation. We preferred to see the flocks of galahs, corellas and black cockatoos in the wild, with the frequent green flashes of the "28 parrots" on the wing.

At Morowa we stopped to photograph the profusion of "everlastings" along the railway siding; there were pink *Schoenias* and yellow and white

Cephalipterum and some *Ptilotis* with soft pink inflorescences. Later, we passed numerous bushes of a pale pink *Thryptomene*, softer and wispier than our Grampians variety. Hidden away in the scrub we found the copper-coloured native pomegranate (*Balaustriion microphyllum*) and some fine bushes of native foxglove (*Pityrodia axillaris*).

Probably the most fantastic sights of all were the wreaths of *Leschenaultia macrantha*, perfect circles from 8 to 24 inches in diameter, edged with flowers in red and yellow, these covered a gravelly area and looked as though the place had been garlanded for a festival, so neatly were they laid about. Here also was a weird furry, pale *Anthotroche blackii* with purple-black velvety stars; to my surprise this belonged to the family Solonaceae.

There was a most beautiful *Melaleuca steedmanii* of intense scarlet, edged with golden anthers and some purple *Melaleuca conothamnoides*.

At the afternoon tea stop we inspected the inside of a termites' hill and finally sped southwards in the darkness to our railway-carriage bunks at Watheroo, singing as we went.



Golden *Lambertia grandiflora*

Photo: Author

*South via the Coastal Plains
through Badgingarra*

On our 6th and final day we traversed wild heath scrub country near the coast, where the bush is quite virgin and covered with Banksias, Nuytsias and xerophytic greyish vegetation enlivened by carrot-orange bottlebrush tufts of *Eremaea beaufortioides*, yellow Verticordia, violet Calytrix, white furry Astrolomas and Isopogons in yellow and pink. There were also some dusty-pink Hakeas and a red Lambertia species.

In some areas there were stunted Eucalypts with large fruits like the bowl of a smoker's pipe; Bill called these "blackbutt". In a clearing we found many black Kangaroo-Paws, (*Macropidia fuliginosa*), these have much larger seeds than the other Kangaroo-Paws and are in a separate genus. One rather dusty bush of red-bugle (*Blancoa canescens*) was found.

We came to the edge of the Darling Escarpment at Dinner Hill, and here we saw a Hakea with tough thorn-edged leaves shaped like a shell. From this vantage point we looked over the plains to Badgingarra where later, the women of the Progress Association provided lunch for us in the hall; they also had on display and for sale, wildflowers from their area.

The bus travellers were keen to obtain the fruits of two Banksias because of their amusing shapes; one, *Banksia candolleana*, had fruits which resembled Donald Duck with his curly beak open, and the other species looked like a little bird sitting on its nest. I also found the ugly drum-stick heads of the *Dasyogon bromeliaefolius* covered with tiny cream flowers.

*To Perth via the Jarrah Forests and
Across the Moore River*

Afternoon tea was near Regan's Ford across the Moore River and it

was a pleasure to see trees and water again. Here there was blue Boronia and pink Thryptomene and clumps of tall Donkey Orchids (*Diuris emarginata*); I counted 54 stems in one group. There were also numerous bushes of a shrub looking vaguely like a green variety of *Boronia megastigma*, and known locally as "false boronia", however the flowers were of two sizes with six coloured sepals, the female flowers being larger than the male—I think a type of Euphorbia.

From here south through Gingin we passed through swampy country with many fine paper-bark Melaleucas and patches of *Anigozanthos manglesii* and *A. viridis*, the shades of green in the latter making it one of the most beautiful of the Kangaroo-Paws. In this area also we found a bush of *Burtonia scabra* about 4 feet high and just as wide and covered with purply-blue pea flowers.

Concluding thoughts

We returned to Perth on the evening of the 6th day, having covered a leisurely 950 miles with many delightful wayside stops. Each member of the party was presented with a small book of coloured photos of the wildflowers, with some pages for notes and autographs.

We saw and admired many hundreds of species of flowers and foliage, too numerous to mention in this article; most of the party refrained from picking any of the flowers, except for bunches of the profusely growing everlasting. Those of us who were keen conservationists were somewhat dismayed on one or two occasions only, by the enthusiastic picking of a few species, but on the whole we consider the tour well conducted, worthwhile, and reasonably priced.

Readers' Nature Notes and Queries

These columns are available for all members, young and old, to bring before others their own observations in nature. Correspondence may be sent to the Editor, 54 St. James Road, Heidelberg.

Dotterel's Odd Nesting Site

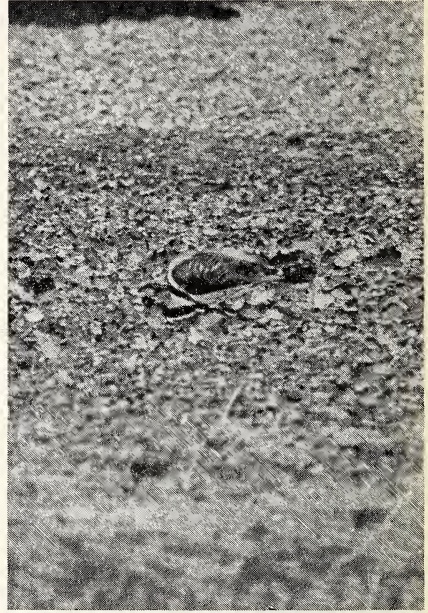
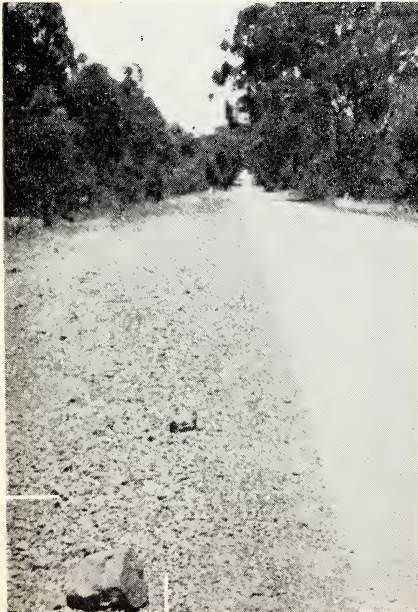
These notes come from Mr. R. A. Young of Shean's Creek, Victoria.

It was brought to my attention by Bill Osborne, a student at the Benalla High School, that a Black-fronted Dotterel (*Charadrius melanops*) was nesting in a very unusual place. The nest was located about 1 foot from the bitumen in the gravel shoulder on the Lurg Road, 8 miles north-east of Benalla, Victoria.

The nest was simply a shallow depression in the gravel and contained two very well camouflaged eggs. The eggs were cream coloured with numerous brown and blue-grey markings, giving them an overall dark coloration which matched the colour of the gravel almost perfectly.

The nest was located at the intersection of the two co-ordinates in the lower picture.

Photo: Author



Black-fronted Dotterel on nest

Photo: Author

The Black-fronted Dotterel usually nests along watercourses. In this case, the nearest water was a very small paddock dam about 200 yards away. The area surrounding the dam was well trampled by livestock and generally unsuitable for nesting. The only suitable area for nesting was a small creek (Joyce's Creek) approximately half a mile away.

The dotterel did not move from the nest as vehicles passed within inches, but when approached on foot she would leave the nest and perform a broken wing act in order to lure the intruder away from the nest.

Upon returning to the nest two days later it was found that the eggs were gone. There were no signs of egg shell fragments or disturbances to the nest, indicating that the eggs were probably removed by a person.



Eggs of the Black-fronted Dotterel

Photo: Author

Two Bird Notes

Mrs. Ellen Lyndon of Leongatha supplied these two notes.

Yellow-faced Honeyeaters

When staying at the neat little camping park at Nowa Nowa in East Gippsland recently (9-10 November), we watched a pair of Yellow-faced Honeyeaters carefully working over the branches and leaves of *Acacia pruinosa*, the Frosty Wattle, under which we were parked. This is a late summer or autumn flowering wattle and it seemed unlikely that sufficient insects could be present to warrant such constant activity. Further observation showed that the birds visited each leaf in turn and applied their bills for an instant to the gland on the leaf stem. I could detect no taste of sweetness in the gland myself but apparently the honeyeaters found them worthwhile. *A. pycnantha* is not native to the district but has been planted as an ornamental tree. Worthy of note also were two fine specimens of *Eucalyptus crenulata*, the Zebra Gum, which finds that sheltered spot to its liking.

White Starling

A pure white starling has been reported April, 1969

on a number of occasions feeding among a flock of normally colored birds south of Leongatha along the Inverloch road.

The Silky Daisy

From Miss Jean Galbraith of Tyers in Victoria, come these interesting notes.

Reading the plant lists at the end of the pleasant account of the Beechworth Excursion (*Vict. Nat.*, Nov. 1968) I delighted in the mental pictures they brought to mind, and thought of the discoveries and adventures associated in one's memory with different plants. One that has a special place in my memory is Silky Daisy, *Celmisia sericophylla* (which somehow got its name a little mixed in printing). It grows, as the alternative name suggests, only in the Bogong area, and is larger, and, because of its broader ray florets, looks whiter than Silver Daisy, *C. longifolia*. In Big River and Watchback Creek (two of the three localities where it is known to be) it grows actually in water or within reach of spray; but at McKay Creek, where it is most abundant, it extends from the stream far up the hillside. The adventure I personally associated with it is the discovery that unlike *C. longifolia*, it dies down to the creeping rootstock after flowering. This could almost be deduced from the foliage of the two species. The leaves of *C. longifolia* are hard—quite tough enough to endure months under heavy snow; those of *C. sericophylla* are as soft as silk, broad and thin and silver grey, as limp in texture as those of the other species are firm.

When botanizing above Watchback Creek with a technical officer from Bogong Forestry Office in 1963, I suggested we visit a patch of *C. sericophylla* which I remembered.

We plunged through snowdrifts and wet undergrowth to the creek, visible only here and there between

snow-ridges. Swollen by melting snow it poured over rocks which at one point were quite covered by matted rhizomes of *C. sericophylla* as thick as one's finger. There was none of the silver grey 8 to 10 inch foliage I remembered from the flowering season in January. Many rhizomes were bare, but others, apparently uncovered a few days sooner, had sprouting leaves, rarely an inch long, in pale gold star-like tufts at the nodes.

Even the shining white flowers, which I first saw in late January when those of *C. longifolia* were fading, were not as memorable as those pale gold leaves which in a few days would be grey-green. This was on 19th Oct. Since the overwintering foliage of *C. longifolia* was full grown and ready for work it is not surprising that that species flowers before *C. sericophylla*, although the flowering of the two species overlaps.

Illustrated Lecture

Mr. Claude Austin will lecture on "Odd Pictures of Odd Places in Australia", at the National Herbarium on Friday 30 May. F.N.C.V. members and friends are invited to attend by the Native Fauna Conservation Society.

Book Review

Australian Rocks and Minerals

By JOHN CHILD

Periwinkle Press: 1968. Price \$1.25

This book gives an elementary introduction to the main aspects of geology, including earth structure, rocks, minerals and fossils.

While it is good to see an introductory book using Australian examples, this one has too many wrong and misleading statements to be recommended. In the preface the author states "I know very little geology myself". Such statements as "marble which is formed from sandstone" and Mount Dandenong as a location for basalt are inexcusable in a book of this type.

Poor explanations of many basic concepts show a lack of understanding of these by the author and would make comprehension difficult for a reader with little background knowledge of the subject. This situation is not helped by diagrams like those supposed to represent crystals of feldspar and mica. Bad choice of examples for a number of the photographs along with poor

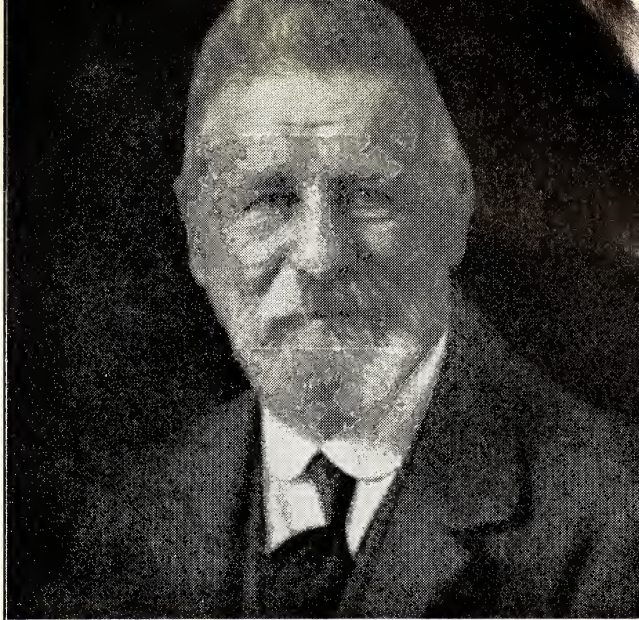
reproduction in some of the colour plates also detracts from the value of the book to a beginner. A mistake occurs in plate 19 where jasper is labelled as cairngorm and cairngorm crystals are labelled as jasper. Photographs should help in identification of the rocks and minerals portrayed, but in certain cases in this book the specimens could not be identified without their labels! The worst example involving bad choice of specimens is a photograph labelled "Trilobite" which in fact only shows the pygidium (tail) of a trilobite. Not much better than this is a colour plate labelled "Pegmatite" which is certainly not recognizable as such.

Unfortunately, this book will put many wrong ideas in beginner's minds. Such ideas are often difficult to change.

A. W. BEASLEY,

*Curator of Minerals,
National Museum of Victoria.*

**A Short
Biography
of
William
Mountier
Bale
F.R.M.S.
(1851-1940)**



**Victorian Natural History Pioneer,
His Bibliography and New Names List**

By

BRIAN J. SMITH* AND JEANETTE E. WATSON†

During the latter half of last century, when much of the flora and fauna of the newly colonized continent of Australia and the seas around it were still unknown to science, Victoria was singularly fortunate in having a great many very capable amateur and professional natural scientists to describe the new forms and put the entire study of Australian natural history on a firm scientific footing. Some, such as Professor Baldwin Spencer and Professor McCoy, worked in very many fields, contributing significantly to them all; while others specialized in just one field of endeavour and, in many cases, be-

came an authority in that field of study; such as Dr. A. Dendy on sponges, C. H. Mapleston on polyzoa and J. H. Gatliff on molluscs. Into this latter category should be placed William Mountier Bale F.R.M.S., one of the 56 original members of the Field Naturalists' Club of Victoria. He was an amateur microscopist who specialized in the Hydroida, a group upon which he became a world authority. He can rightfully be called the father of the study of hydroids in Australia as he published 14 authoritative papers on them in which he described over 120 new species and many new records for Australia.

William Mountier Bale was born on 1st February, 1851, at 11 Palace New

* Curator of Invertebrates, National Museum of Victoria.

† 74 Nimmo Street, Essendon, Victoria.

Road, Lambeth, London, the eldest surviving son of William Dalling Bale, a carpenter from Devon, and Ellen Martha neé Mountier. The family sailed for Australia early in 1853 and came straight to Melbourne where they lived for the next seven years, as another son and two daughters were born in Richmond, Victoria in that period. They then moved to Castlemaine, Victoria where a further son and daughter were born in 1861 and 1864. Bale joined the Public Service on 1st August, 1867 as a Pupil Teacher at State School No. 282, George Street, Collingwood and passed in Art of Teaching, 2nd Division of Competency in 1869. He then taught until January 1876, after which he joined the Department of Trade and Customs as a Clerk, 4th Class. On November 3rd, 1873 he married Marion Adams. By September 1879 he had attained the position of Tide Surveyor and in 1888 was appointed Landing Waiter, 3rd Class. He was appointed Acting Landing Surveyor in 1901, Inspector 2nd Class, Landing Branch in 1904 and finally Senior Inspector Excise, Excise Branch, a position he held until his retirement on February 28th, 1911. Since 1885 he had been living in Walpole Street, Kew, the house still being held in trust under the will of his only child, the late Miss A. M. E. Bale.

It was, however, Bale's interest and dedication to microscopy and natural science which, we are sure, really gave meaning to his life. His first and abiding interest in life appears to have been microscopy and no-one who has examined any of his slides can doubt his skill in slide making, particularly whole mounts. He joined the Microscopical Society of Victoria in August 1878 and published his first scientific paper in the Journal of the Society in 1880 "*On Covering Fluid Mounts to avoid Leakage or Running-in*". Also

in this issue he published a paper "*On the Selecting and Mounting of Diatoms*", giving a hint of his interest in this complex group of protophyta. However, although he became noted as an expert on local Victorian diatoms and amassed a great many slides, notes and reference works on the group, he never published anything on their systematics as far as we have been able to ascertain.

Bale was an advocate of the value of scientific societies and was one of the founder members of the Field Naturalists' Club of Victoria, being elected a member in May, 1880. Indeed he was the only one of the 56 original members to live to see the Club's diamond jubilee. He was not a frequent attendant of Club meetings and was said to have been of a retiring disposition, but was always friendly and willing to help (see *Vict. Nat.*, 57, p. 140).

About this time he must have transferred his principal interest to the Hydroida for he published his first paper on the group in 1882, after reading it to the Microscopical Society of Victoria on June 30th, 1881. This was an authoritative paper which must have taken a great deal of preparation, for, in addition to describing one new genus and twenty-nine new species, he gave a complete literature survey of the species already described for South-eastern Australia and recorded many species for the first time for this area. At this time his interest in general microscopy and in the Microscopical Society of Victoria was still very great and he was elected secretary of the Society in 1882. Also in this year he read a paper on micrometers which included a simple method for making an eye-piece micrometer. This paper was published in the Southern Science Record and was considered of such high standard that it was reprinted in the Journal of the

Royal Microscopical Society of London, to which he was elected Fellow late in 1882.

However Bale was already specializing in the hydroids and after his paper, was receiving regular correspondence about Australian hydroids both from other parts of Australia and from many of the leading workers in the field overseas. As a result of discussions with Mr. Haswell of the Australian Museum, Sydney, the Trustees, on 27 November 1882, asked Bale to compile a Catalogue of Australian Hydroid Zoophytes and awarded him the sum of £25 to assist in compiling and writing the manuscript. This was a monumental undertaking, being not only a complete survey of all that was then known about Australian hydroids, but also a major original contribution to hydroid research, as it contained many new facts about their life and habits as well as many new locality records and descriptions of twenty-three new species. This work was hailed as a significant addition to the world knowledge of the group and established Bale as a world authority. Some idea of its importance can be gathered from the review of the Catalogue in *Ann. Mag. Nat. Hist.* of September 1885 in which it is stated, "It will thus be seen that the work is a valuable contribution to the literature on zoophytology, and will form an important landmark in the history of the Australian zoophytes".

He continued this work steadily until about 1910 when he was approached by the Department of Trade and Customs with a request to undertake the work on the hydroids to be collected by the F.I.S. "Endeavour" on a series of faunal surveys in deep water off the southern and eastern coasts of Australia. This Bale agreed to do and the result was a massive, comprehensive report in three parts

brought out in 1914 and 1915. This included descriptions of two new genera and twenty-five new species and varieties, as well as much additional knowledge of the hydroid fauna and its systematic relationships. After this he continued his work for some years but failing health was beginning to make this difficult.

On 10 July 1923, he donated 336 hydroid slides, many of them types, and a complete catalogue of their history and status to the National Museum of Victoria. The co-types designated here were the only slides he ever specifically designated as such. In 1930 he was so incapacitated by encephalitis that he found it impossible to work with his microscope. His condition grew worse over the years and after refusing an offer by the British Museum to purchase his slides, he donated his entire hydroid slide collection of over 1100 slides to the National Museum of Victoria in March, 1937. It was his intention to catalogue this collection, identifying types, as he had done with the first series, but he found the task too much for him. Finally, in May, 1940, he donated nearly 450 books and reprints on hydroids to the National Museum and all his diatom slides, books and reprints to the Herbarium. He died on 4 October 1940, at the age of 89.

Recently, while carrying out research work on the Bale hydroid collection, one of us (JW) discovered that many of Bale's notes, original drawings and much of his correspondence with many overseas workers were still in existence, being held in trust under his daughter's will. These have now been acquired on loan to the National Museum from the Executors and will be of considerable assistance in research on the collections including the elucidation of many of the type specimens.

References marked with an asterisk (*) are papers containing the original publication of a new name.

1880

1. On Covering Fluid Mounts to avoid Leakage or Running-in. *J. microsc. Soc. Vict.*, **1**: 57-60. Reprinted in slightly abridged form in *Jl. R. micros. Soc.*, **3**: 864-866.
2. On Selecting and Mounting Diatoms. *J. microsc. Soc. Vict.*, **1**: 65-69.
3. Notes on Insect Eggs. *J. microsc. Soc. Vict.*, **1**: 69-71.

1882

4. On Mounting Diatoms in Symmetrical Groups. *J. microsc. Soc. Vict.*, **1**: 97-99, 97-99.
5. Notes on Dry and Balsm Mounting. *J. microsc. Soc. Vict.*, **1**: 101-105.
- *6. On the Hydroida of South-Eastern Australia, with Descriptions of Supposed New Species, and Notes on the Genus *Algaophenia*. *J. microsc. Soc. Vict.*, **2**: 15-48, pl. 12-15.
7. On Recent Improvements in Microscopy. *Sth. Sci. Rec.*, **2**: 75-80.

1883

8. How to Make an Eye-piece Micrometer. *Sth. Sci. Rec.*, **3**: 13-16. Reprinted in slightly abridged form in *Jl. R. micros. Soc.*, (2) **3**: 570-572.

1884

- *9. Catalogue of the Australian Hydroid Zoophytes. *Australian Museum Publ.*, pp. 1-198, pl. 1-19.
10. Closing Glycerine Cells. *Jl. R. micros. Soc.*, (2) **4**: 478.

1887

- *11. The Genera of the Plumulariidae with Observations on Various Australian Hydroids. *Proc. R. Soc. Vict.*, **23**: 73-110.

1888

- *12. On Some New and Rare Hydroida in the Australian Museum Collections. *Proc. Linn. Soc. N.S.W.*, (2) **3**: 745-799, pl. 12-21.

1889

13. List of Victorian Hydroida. *Vict. Nat.*, **5**: 130-133.

1894

- *14. Further Notes on Australian Hydroids, with Descriptions of Some New Species. *Proc. R. Soc. Vict.*, (n.s.) **6**: 93-117, pl. 3-6.

1913

- *15. Further Notes on Australian Hydroids—II. *Proc. R. Soc. Vict.*, (n.s.) **26**: 114-147, pl. 12-13.

1914

- *16. Report on the Hydroida collected in the Great Australian Bight and other Localities. *F.I.S. "Endeavour" Report*, **2**: 1-62, pl. 1-7.

- *17. Report on the Hydroida collected in the Great Australian Bight and other Localities. Part II. *F.I.S. "Endeavour" Report*, **2**: 166-188, pl. 35-38.

- *18. Further Notes on Australian Hydroids—III. *Proc. R. Soc. Vict.*, (n.s.) **27** (1): 72-93, pl. 11-13.

1915

- *19. Report on the Hydroida collected in the Great Australian Bight and other Localities. Part III. *F.I.S. "Endeavour" Report*, **3**: 241-336, pl. 46-47.

1919

- *20. Further Notes on Australian Hydroids—IV. *Proc. R. Soc. Vict.*, (n.s.) **31** (2): 327-361, pl. 16-17.

1922

- *21. Two New Species of Bryozoa. *Proc. R. Soc. Vict.*, (n.s.) **35**: 108-113, pl. 8.

1924

- *22. Report on some Hydroids from the New Zealand Coast, with Notes on New Zealand Hydroida generally, supplementing Farquhar's List. *Trans. N.Z. Inst.*, **55**: 225-268.

1926

- *23. Further Notes on Australian Hydroids—V. *Proc. R. Soc. Vict.*, (n.s.) **38**: 13-23.

LIST OF NEW NAMES PROPOSED BY WILLIAM MOUNTIER BALE

This list is set out alphabetically according to species with the original genus name included. The first of the two numbers after each name is the number of the paper in the bibliography in which the original description appears, the second number is the page number in that publication. The abbreviation (n.n.) after the name denotes a new name (nomen novum) put forward by Bale to replace an invalid name of an already described species. The asterisk (*) before a name denotes that at least part of the type series is present in the collections of the National Museum of Victoria. As

mentioned briefly above, Bale did not designate type specimens in the species descriptions; however, for some species, he did identify type specimens in notes he donated to the Museum when he presented the specimens in 1923. Of the species without such identified specimens, it is fairly easy to recognize, by elimination, specimens which must have been part of the type series, by the locality and date on the slides. It is planned in the future to publish a catalogue of all the hydroid types held by the National Museum with complete information as to their exact status.

acanthostoma Sertularia 6: 11
 * aglaophenoides Plumularia 9: 126
 * alata Plumularia 12: 782
 * angulata Cryptolaria 17: 166
 * angulata Orthopyxis 18: 82
 * angulosa Obelia 12: 752
 * angulosa Sertularella 14: 102
 * arenosa Sacculina 20: 333
 * armata Aglaophenia 17: 175
 * ascidioides Aglaophenia 6: 20
 * asymmetrica Plumularia 16: 29
 * aurita Plumularia 12: 784
 * australis Halocordyle 14: 94
 * australis Ophiodes 20: 336
 * australis Pennaria 9: 45
 * avicularis Halicornopsis 6: 14
 Azygoplon 12: 773
 * baileyi Halicornaria 9: 177
 * bakeri Aglaophenia 20: 353
 * bicornis Sertularia 6: 10
 * bidens Sertularia 9: 70
 * billardi Aglaophenia 16: 33
 * birostrata Halicornaria 16: 49
 Bonneviella 20: 330
 * briggsi Aglaophenia divaricata 23: 22
 * buskii Plumularia 9: 125
 * caliculata Plumularia 12: 780
 * calycifera Aglaophenia 17: 178
 * carinata Aglaophenia 14: 105
 * carinifera Aglaophenia 17: 181
 * chiltoni Thecocarpus 22: 261
 * ciliata Nemertesia 17: 170
 Cladocarpella 19: 303
 * compressa Plumularia 6: 31
 * cornuta Plumularia 9: 132
 * costata Campanularia 9: 56
 * coughtreysi Obelia 22: 230
 * crassiuscula Sertularella 22: 240
 * crenata Sertularia 9: 86
 * cruciata Nemertesia ciliata 19: 300
 * cylindrica Antennularia 9: 146
 * cylindrica Sertularella 12: 765
 * cystifera Aglaophenia divaricata 19: 314

* dannevgi Aglaophenia 16: 41
 * decumbens Aglaophenia 16: 48
 * distans Hypopyxis 17: 167
 * delicatula Plumularia 6: 28
 * dubia Sertularella divaricata 12: 761
 * edentula Sertularella 22: 237
 * farquhari Thuiaria 22: 244
 * fenestrata Thuiaria 9: 116
 * flexuosa Lineolaria 9: 62
 * flexuosa Plumularia 14: 115
 * furcata Halicornaria 9: 178
 * geminata Sertularia 9: 78
 * geniculata Sertularia 12: 768
 * goldsteini Claviporella 21: 112 (n.n.)
 * goldsteini Plumularia 6: 29
 * gracile Halecium 12: 759
 * gracillima Sertularia 23: 18
 Halicornopsis 6: 14
 * haswellii Halicornaria 9: 180
 * heterogona Thecocaulus 22: 255
 * humilis Campanularia 22: 235
 * humilis Halicornaria 9: 182
 * hyalina Plumularia 6: 29
 * ilicistoma Aglaophenia 6: 21
 indivisa Plumularia 6: 27
 * indivisa Plumularia filicaulis 9: 134
 * indivisa Sertularella 6: 12
 * intermedia Halicornaria 16: 53
 * laevis Sertularella 6: 12
 * lata Thuiaria 6: 14
 lendenfeldi Aglaophenia 11: 28 (n.n.)
 Levinsenia 19: 260
 * longithecra Sertularella 12: 762
 * macrocarpa Aglaophenia 12: 791
 * macrocarpa Sertularia 9: 80
 * macrotheca Sertularella 6: 13
 * maplestonei Sertularia 9: 70
 * marginata Campanularia 9: 54
 * matthewsi Catenicella 21: 109
 * mccoysi Aglaophenia 6: 24
 * megalocarpa Aglaophenia 16: 45
 * minuscula Sertularia 20: 340 (n.n.)
 * minuta Sertularia 6: 9
 * muelleri Sertularia 15: 133

- * multiseptata Cladocarpella 19: 304
- * nana Sertularia 23: 17
- * nodosa Obelia 22: 230
- * opima Plumularia setacea 22: 254
- * parvula Aglaophenia 6: 23
- * parvulum Halecium 12: 760
- * peregrina Sertularella 23: 19
- * phyllocarpa Aglaophenia 12: 793
- * platycarpa Orthopyxis 18: 79
- * plumosa Aglaophenia 6: 22
- * pulchella Plumularia 6: 30
- * pumila Campanularia 16: 4
- * pumiloides Sertularia 6: 9
- * pusilla Sertularia 19: 271 (n.n.)
- * pygmaea Sertularella 6: 13
- * quadridens Thuiaria 9: 119
- * ramsayi Plumularia 9: 131
- * recta Sertularia 6: 11
- * rostrata Halicornaria 22: 264
- * rufa Campanularia 9: 54
- Sacculina 20: 332
- * scandens Halicornaria urceolifera 16: 51
- * scandens Lafoea 12: 758
- * serrulata Campanularia 12: 757
- * setaceoides Plumularia 6: 28
- * sinuosa Aglaophenia 12: 790
- * sinuosa Thuiaria 12: 772
- * solidula Sertularella 6: 12
- * spinulosa Campanularia 12: 756
- * spinulosa Plumularia 6: 30
- * subdichotoma Sertularella divaricata 12: 761
- * subventricosum Synthecium 16: 5
- * superba Aglaophenia 6: 19
- * tasmanica Aglaophenia 16: 37
- * tasmanica Sertularella 19: 283
- * tenuis Sertularia 9: 82
- * tenuissima Aglaophenia 17: 179
- * thompsoni Aglaophenia 6: 21
- * tridentata Campanularia 14: 98
- * tuba Sertularia 9: 87
- * tubulifera Halicornaria 17: 187
- * tubulosa Plumularia 14: 114
- * turgida Plumularia 12: 779
- * undulata Sertularella 19: 284
- * variabilis Sertularella 12: 764
- * watsii Plumularia 11: 23
- * whiteleggei Aglaophenia 12: 794
- * wilsoni Orthopyxis 18: 78
- wilsoni Pennaria 15: 116
- wilsoni Plumularia 23: 21 (n.n.)
- * zygocladia Plumularia 17: 171

Acknowledgments

We wish to express our thanks to Mr. Stokes, a nephew of Mr. Bale now living in Mr. Bale's house in Kew, for all his assistance in furnishing us with many old family records; also to the Perpetual Executors and Trustees Association of Australia for making it possible to use Mr. Bale's original notes; and the following for their assistance in supplying various pieces of information: Dr.

J. Yaldwyn, Australian Museum, Sydney; Mr. J. Willis, National Herbarium of Victoria; Commonwealth Archives Office, Middle Brighton, Victoria; Commonwealth Archives Office, Canberra; Education Department, Melbourne and the General Register Office, Somerset House, London, U.K.

The photograph of Mr. Bale was from an original supplied by Mr. Stokes.

NOTICE

Dr. D. H. Ashton and Mr. N. Scarlett from the School of Botany, University of Melbourne, are preparing a map of the Melbourne and Metropolitan area, showing the occurrences of Eucalyptus species or other native trees, with a view to reconstructing the limits of the original vegetation.

Any member or person able to help in this matter should contact either of the above-mentioned people.

The main species required are—
 Red Gum—*E. camalulensis*
 Yellow Box—*E. melliodora*
 Yellow Gum—*E. leucoxylo*
 Swamp Gum—*E. ovata*
 Manna Gum—*E. viminalis* (heath and gum forms)

Peppermint—*E. radiata*
 Mealy Stringy Bark—*E. cephalocarpa*
 Messmate—*E. obliqua*
 Grey Box—*E. microcarpa*
 Red Stringy Bark—*E. macrorrhyncha*
 Red Box—*E. polyanthemus*
 White Sallee—*E. pauciflora*

Wielding a Big Club

"My boy collects insects and things; what should I do about it?"

This familiar question posed by many mothers resulted in the formation of a Junior Field Naturalists' Club last week, at Montmorency. Victoria.

It happened something like this: One mother, having the usual problems associated with an enthusiastic "entomologist" for a son, (the sudden shortage of jars from the kitchen, the bedroom full of impaled specimens, the pins disappearing from the sewing box) discussed it with another mother who had a similar headache (the hunt for escaped catches under the furniture, the blue-tongued lizard leering at her from her clothes basket), and an idea was born.

One evening, nine parents met to talk over the possibility of such children with a similar interest, sharing their experiences locally, and the nucleus of a committee was formed with the idea of convening a meeting.

The usual story followed. The advertisement was placed in the local paper, hidden between the classifieds and the sports pages; the news was spread by word of mouth; the announcement was made at school; the Scout Hall was booked; the guest speaker arranged; and the fingers crossed.

And then the avalanche. I now know why they call it a Club. After the enthusiasts began pouring in, I felt as though I had been beaten over the head. Despite the humble organization, the untimely downpour; and the acres of mud to traverse; one hundred and thirty-five would-be Field Naturalists of all shapes and sizes filled the hall, and queued up at the Secretary's table to list their names.

At the long tables in the centre of the room, they reverently placed their labelled exhibits—

A black snake. A box of seashells. A stalactite. Rocks from South America. Giant mushrooms. A reconstructed bird skeleton. A red-back spider, butterflies, lizards, caterpillars. A lively brown snake. A sluggish white-lipped snake. Dragonflies. Lava specimens. The queue at the door disappeared out into the night, and the organizers kept glancing at their watches, wondering if they should have booked the Myer Music Bowl.

Soon the meeting began, with stragglers arriving throughout. Mr. Dan McInnes, of the Hawthorn Club, agreed to conduct the meeting for the first time to set the pattern, showing how it was done on his side of the Yarra; and after the general business was disposed of, the young exhibitors took the floor in rotation, and introduced themselves and their exhibits one by one to the enrapt audience. Some of the descriptions were detailed and precise. Some were homely. But all shared one thing; enthusiasm and unselfconscious pride in their discovery in nature. The eyes around the room were all focused on the speakers, who ranged from eight to eighteen, and the wonder of it was that the eight-year-old and the eighteen-year-old had so much in common.

After the exhibitions, Mr. McInnes as guest speaker, set up his microscopes and specimens, and introduced pond life to the group in a light and easily absorbed talk. Demonstrating both simple and sophisticated equipment, Mr. McInnes (perhaps knowingly) made certain that quite a few Montmorency mothers were going to have to deal with wet socks that week-end.

President Ray Wilton resumed the chair and closed the meeting, but the next problem was getting people to go home. At an earlier stage, Dan McInnes had said that Juniors present

would be able to tell their children that they had attended the first meeting of the Montmorency District Field Naturalists' Club. A committee member was later heard to remark wryly—"This lot is so keen, they won't have time to have any children!"

Again our sincere thanks to Dan McInnes and the members of Hawthorn Juniors, who tabled so many exhibits, and to the first-mentioned mother, Mrs. Cookson, who, through her children's association with Preston Juniors, was the prime mover in the formation of this Club.

The guest speaker for the meeting on 11 April will be Mrs. Hough, who will talk on Honey-eaters.

JOAN CALLANDER, Secretary.

OFFICE-BEARERS

Montmorency District Junior Field Naturalists' Club

President: Ray Wilton
Vice-President: Ron De Bruchy
Secretary: Joan Callander
Treasurer: Lorna Cookson
Committee: Dawn D'Alton, Joyce Howard, Ron Callander.

Field Naturalists Club of Victoria

Annual Meeting—12 March, 1969

Approximately 80 members attended, with the President, Mr. Eric Allan, welcoming them and any visitors to the 89th Annual Meeting. The minutes of the February meeting were taken as read after the motion of Mr. A. Swaby and Mr. A. Fairhall was passed.

The minutes of the previous Annual Meeting, as published in the *Vict. Nat.* for April, 1968, were taken as read on the motion of Mr. R. Garnet and Mr. W. Woollard.

New members, whose names appear in the March 1969 *Vict. Nat.*, were elected on the motion of Messrs. McGavin and McKellar.

Correspondence was received from the National Parks Authority, stressing the importance of Regulation 36 of the National Parks Act 1958; which in general states that—

No person shall remove any bones, remains, artifacts or other ethnological relics from any National Park without permission from the Authority.

Further correspondence was received from Miss Mary Ball, who, although having been conferred with honorary membership of the club, still wishes to pay her subscription of \$5.00 because of the Club's good work.

On the motion of Miss Butchart and Miss Morley the meeting accepted the Secretary's Annual Report as printed in the *Vict. Nat.* Mr. A. Swaby, at this point, commented that more liaison between the F.N.C.V. and affiliated country

clubs should be encouraged. He added that country members had the environment for field study, and that we in the city had the facilities and libraries for research.

Mr. D. McInnes moved, and Mr. T. Sault seconded the motion for the adoption of the Balance Sheet and Statements as published in the *Vict. Nat.*, and the meeting approved.

Mr. McInnes commented on the excellent work done by Mrs. J. Strong in her position of Sales Officer, and that of Mr. P. Kelly as librarian.

Mr. McInnes then moved the same Auditors, Messrs. Danby Bland and Co., be appointed for the coming year.
Election of Office-bearers

Since the list of nominations was published, Mr. M. Longford, for personal reasons, had to withdraw from the nominated position of Minute Secretary. Mr. Condron therefore resumed this position, leaving the Council to appoint Mr. R. McKellar to the position of Vice-President.

The F.N.C.V. Office-bearers for 1969-70 are:

President—Mr. E. R. Allan.

Vice-President—Mr. T. Sault.

Mr. R. McKellar.

Secretary—Mr. D. Lee.

Assistant Secretary—Mr. R. Condron.

Treasurer—Mr. D. McInnes.

Assistant Treasurer—Mrs. E. King.

Editor—Mr. G. M. Ward.

Assistant Editor—Mr. P. Gahan.

Librarian—Mr. P. Kelly.

Assistant Librarian—Miss M. Lester
Excursion Secretary—Miss M. Allender.
Residual Councillors—Messrs. A. Fairhall, A. Lewis, I. Morrison, J. Strong, P. Curliss.

The President, at this stage, thanked the Office-bearers and Councillors of the past year, and commented upon the amount of valuable work done by them.

The Secretary announced that current copies of the F.N.C.V. "Memorandum and Articles of Association" were now available at a cost of 35 cents. Miss J. Woollard had several copies of the excellent "Nature Trail" pamphlet, from The Gould League at 2 cents each.

The Presidential Address followed, and took the form of a glimpse of the F.N.C.V. in the past; an evaluation of the club at present; and a hopeful look into the future.

From the past, Mr. Allan brought to light such things as the beginning of the F.N.C.V. in 1880, with their first three years of proceedings being published in the "Southern Science Record"; the names of early members, such as Baron F. von Mueller, Dr. Lucas as editor, and Mr. Dobson, M.L.C., as President. The name of Coghill came into the early years of the club and continued until 1967. In 1884 approaches were already being made to the government regarding matters of concern—boys with catapults were shooting at birds in the Fitzroy Gardens. In the same year, Gregory and Lucas made an early visit to Wilson's Promontory, using the steam train to Trafalgar, and thence by pack horse. In 1887 an excursion to King Island was made.

F. G. A. Barnard, in 1892, became editor; and in 1893 the first nature show was held with admission being 1/-. By 1894 membership had risen to 229, and the *Victorian Naturalist* was already being sent to overseas subscribers; and from the turn of the century on, "camp-outs" were becoming quite regular events.

In 1928, a change was made in the club badge, from the form of a shell to the present bloom of correa; and in 1939 the proposal and appearance of the National History Medallion award took place.

The venue for meetings was changed in 1948 from the National Museum Theatre to the National Herbarium, and the club became an Incorporated Company.

This brought the President to comment on present conditions, in which

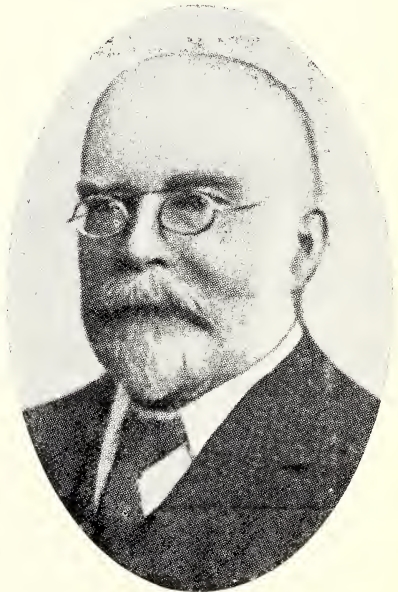
the club is in a generally healthy state; is still a force in the community; and the field excursion still forms an important facet of proceedings.

One problem, however, does arise, and this is the difficulty in obtaining office-bearers.

In the future, the President stressed the importance of our continued vigilance, and the need to press for more areas for the preservation of fauna and flora. He hoped that replanting of roadside verges now being denuded of trees would be undertaken. He considered the possibility of large scale planting of areas on a similar basis to the annual Bird Observers' Club tree-planting operation; together with the encouragement of farmers to realize the benefits of tree-planting on their properties.

He also hinted at the possible formation of a Union of Field Naturalist Clubs which may have more effect in the influencing of major groups; and at the same time prevent much overlapping of information and research. It was also suggested that perhaps a new position, that of Liaison Secretary, may be created on Council.

Mr. Allan concluded this most interesting address with a fine collection of



F. G. A. Barnard

slides, projected by Mr. I. Morrison, depicting his trip* to Wilson's Promontory; and showing glimpses of the vegetation and rugged beauty encountered travelling both to Sealers' Cove and the lighthouse.

The appreciative audience showed their feelings by loud applause at the conclusion of the address.

Mr. W. Woollard at this stage, no doubt prompted by the earlier reference to pack-horse travelling, recalled a trip made by his father, himself as a boy, and Mr. F. G. A. Barnard, in 1906.

He told of their trip to Yarra Glen by a pair in hand, and of the comment by a local storekeeper at that town, that their particular outfit would never make Warburton; and insisted that he hire a pair of horses and a driver for 10/- per day. This offer was accepted, only to find that not long afterwards one of the horses had collar sores, and the other was broken winded. The trip from McVeigh's to Yarra Falls had then to be made by pack-horses.

Under the heading of General Business, Mr. Baines suggested that publication support be given for a book on the flora of Wilson's Promontory, under preparation by Ros Garnet, and now almost completed. Mr. Taylor drew attention to a brochure on the Mallacoota National Park, obtainable from the National Parks Authority or Tourist Bureau for 20 cents.

Exhibits

M. North showed a bloom of the green variety of *Correa reflexa* from Jumping Creek Road, Warrandyte.

D. M. Parkin exhibited a cone from the Burrawong Palm (*Macrozamia*), a native of Australia growing in southern N.S.W. This particular cone was from their own tree, planted at Ivanhoe in 1927. The first cone appeared 20 years later, weighed 9 lb., and took 18 months to mature. (Ref. Wildlife, Sept. '44.)

Two Amy Fuller paintings of wildflowers were on display.

Mr. A. J. Swaby displayed a bloom of *Rhododendron lochae*, the plant whose location Baron v. Mueller prophesied correctly, 20 years before its discovery on the peaks of Bellenden Ker Range in Queensland. Also displayed by Mr. Swaby was *Epilobium billardierianum*, and a

* This particular trip, unlike that of Gregory and Lucas, was not done by steam train and pack-horse.—Ed.

seed of *Crinum flaccidum* (Murray or Darling "lily"), the progress of germination of which he would show at the April meeting.

Mr. T. Sault displayed a specimen of Snowflake Obsidian from South America; some Selwynite from Knowsley East in Victoria, together with Malachite from the same location. He also showed the skull of a Black-tailed Wallaby from the coastline of Westernport area. He stated that the future of these animals in this area was uncertain due to development.

Mrs. E. King exhibited a specimen of *Acacia botrycephala* (Sunshine Wattle) syn. *A. discolor*.

Mr. A. Fairhall showed two fine garden-grown specimens of Sturt's Desert Pea (*Clianthus formosus*) and Sturt's Desert Rose (*Gossypium sturtianum*).

The President displayed photographs of early club camp-outs; and drew attention to the bird photographs appearing on current country telephone directories.

An account of the first younger members' bush-walk, held in the Moorooduc area and led by Mr. T. Sault, was tabled for perusal by members.

Botany Group Meeting Reports

13 February, 1969

Twenty-five members and friends were present, with Mr. Fairhall in the chair. The speaker for the evening was Mr. W. Woodman, whose subject was "Nature in South Africa". Mr. Woodman said that as a boy he had been interested in native flowers, and showed some slides of Victorian native flowers and their environment. He felt that South Africa showed something the same sort of pattern as Australia, and when the opportunity came he decided on a tour of South Africa, calling at Johannesburg, Durban, Cape-town and Windhoek. He showed some excellent slides of scenery and flowers seen during his trip, including some of Australian Eucalypts and N.S.W. Waratahs which were flowering well in the Kirstenbosch Gardens, and included slides of various Proteas, which are of course natives of South Africa. He finished his talk with some slides taken in the Etosha Game Reserve at Windhoek, including elephants, lion, giraffe and others. Mr. Fairhall thanked Mr. Woodman on behalf of members for a very interesting talk.

F.N.C.V. DIARY OF COMING EVENTS
GENERAL MEETINGS

Monday, 14 April—Annual Meeting at National Herbarium, The Domain, South Yarra; Commencing at 8 p.m.

1. Minutes, Reports, Amendments.
2. Correspondence.
3. Subject for the evening—"Melbourne to Broome via Adelaide". J. Ros. Garnet.
4. New Members
 - (a) *Ordinary*:
Mr. Adrian Borsboom, 39 Springs Road, Clayton 3168. (Interest: Fauna, Reptiles and Insects.)
Mr. R. A. Dale, 88 Rostrevor Parade, North Box Hill 3129. (Mammal Survey.)
Mrs. R. B. Johns, 19 Kawarren Street, North Balwyn 3104. (Botany and Geology.)
Mr. W. Scholten, 10 Boyd Avenue, Clayton 3168. (Microscopic.)
 - (b) *Joint Ordinary*:
Mr. G. A. W. Johnson and Mrs. Irene Johnson, 20 Sydare Avenue, Chadstone 3148.
 - (c) *Country*:
Miss J. Collishaw, P.O. Box 427, Bendigo, Victoria 3550.

5. General Business.
6. Nature Notes and Exhibits.

GROUP MEETINGS

8 p.m. at National Herbarium unless otherwise stated.

Wednesday, 16 April—Microscopical Group. Subject—"Marine Algae: its identification and preparation for Microscopical Examination". Mrs. F. Ducker.

Thursday, 1 May—Mammal Survey Group meets in Fisheries and Wildlife Dept. Library Rooms, Flinders Street Extension, at 7.45 p.m.

Friday, 2 May—Preston Junior F.N.C. meeting in Rechabite Hall, 251 High Street, Preston at 8 p.m. Also, Hawthorn Junior F.N.C. meeting at 8 p.m. in Town Hall because of Anzac Day falling on usual night.

Monday, 5 May—Marine Biology and Entomology Group. Mr. H. Wilson, Burnley Horticultural College.

Wednesday, 7 May—Geology Group meeting.

Thursday, 8 May—Botany Group meeting.

Friday, 9 May—Montmorency District Junior F.N.C. meeting in Scout Hall, Petrie Park.

F.N.C.V. EXCURSIONS

Sunday, 20 April—Mt. Dom-Dom and Fernshaw. The coach will leave Batman Avenue at 9.30 a.m. Fare \$1.60. Bring two meals.

Friday (Anzac Day), Saturday and Sunday, 25-27 April. Leongatha and Walkerville. Mr. and Mrs. Lyndon are helping with this week-end. Accommodation has been booked at the Leongatha Motel for Friday and Saturday at \$5.50 for bed and breakfast. Dinner is available at the motel, but members should arrange picnic lunches for the week-end. Coach fare is \$7.00, and should be paid to the Excursion Secretary when booking. Cheques should be made out to Excursion Trust. Coach leaves from Gas and Fuel building in Flinders Street at 9.00 a.m.

29 August-21 September—Western Australia. The party will leave Melbourne by train on Friday evening and arrive in Perth Monday morning. A coach has been chartered and will go as far north as Northampton, then down to Albany, across to Busselton, and back to Perth. Accommodation will be mainly on a D.B.B. basis, and members will be responsible for their own lunches. The cost will be approximately \$260.00, and a deposit of \$50.00 should be paid immediately, and the remainder by 1 August. Booking should be made with the Excursion Secretary, Miss M. Allender, 19 Hawthorn Avenue, North Caulfield, 3161, and all cheques made out to Excursion Trust.

Field Naturalists Club of Victoria

Established 1880

OBJECTS: To stimulate interest in natural history and to preserve and protect Australian fauna and flora.

Patron: His Excellency Major-General SIR ROHAN DELACOMBE, K.B.E., C.B., D.S.O.

Key Office-Bearers, 1968/69

President:

MR. E. R. ALLAN

Vice-Presidents: MR. JEFFS, MR. T. SAULT

Hon. Secretary: MR. D. LEE, 15 Springvale Road, Springvale (546 7724).

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Hon. Editor: MR. G. M. WARD, 54 St. James Road, Heidelberg, 3084.

Hon. Librarian: MR. P. KELLY, c/o National Herbarium, The Domain, South Yarra, 3141.

Hon. Excursion Secretary: MISS M. ALLENDER, 19 Hawthorn Avenue, Caulfield 3161.

Subscription Secretary: MRS. N. E. LEWIS, 1 Billing Street, Springvale 3171. (546 4649).

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Group Secretaries:

Botany: MISS M. BUTCHART, 23 Loch Street, Hawthorn East 3123 (82 1616).

Geology: MR. T. SAULT, 9 The Avenue, West Rosebud.

Microscopical: MR. M. H. MEYER, 36 Milroy Street, East Brighton (96 3268).

Mammal Survey: MR. P. HOMAN, 40 Howard Street, Reservoir 3073

Entomology and Marine Biology: MR. J. W. H. STRONG, Legislative Council, Parliament House, Melbourne 3002.

MEMBERSHIP

Membership of the F.N.C.V. is open to any person interested in natural history. The *Victorian Naturalist* is distributed free to all members, the club's reference and lending library is available, and other activities are indicated in reports set out in the several preceding pages of this magazine.

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