

Friends of the Royal Botanic Gardens, Melbourne

Number 7, March 1984

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FROM THE DIRECTOR ...

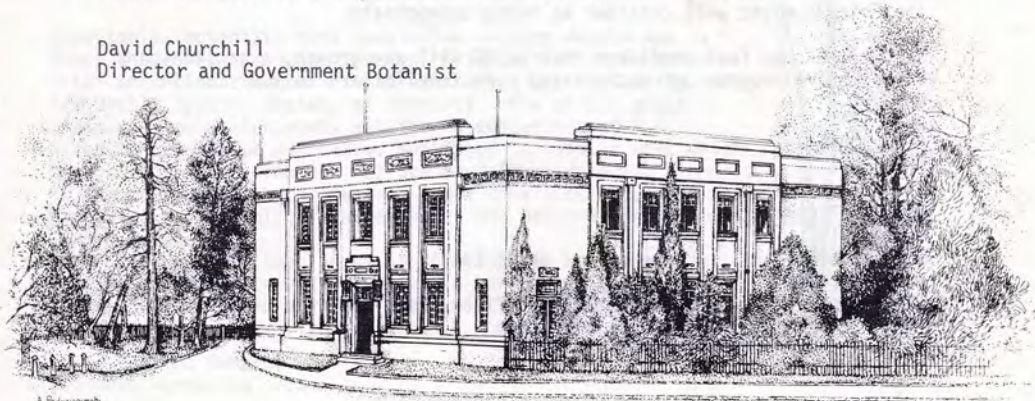
On February 29th the first Annual General Meeting filled the Herbarium hall and saw the Constitution launched under the guidance of Mr. Michael Black Q.C., and the new committee established under the Chairmanship of Mr. Frank Phillips. All of these foundation steps have been built on the work of the Steering Committee under the able guidance of Mrs. Beth Higgs.

The third week of January this year saw the Ornamental Lake overflowing into the Yarra for the first time since it was emptied and desilted, following the 'Save the Lake' campaign.

For Heritage Week we hope that members will be able to visit the National Herbarium and see the botanical treasures on display.

This generation more than any other, since Mueller and Guilfoyle died, have had to 'pick up the tab' for half a century of cumulative neglect. Like the Lake, the Herbarium is in need of massive aid to extend the facilities into a modern working environment of which we can all be proud participants. Dr. J.H. Willis traces the history of the Herbarium in this issue and I look forward in the near future to demonstrating the need for better Herbarium facilities more fully than space permits now.

David Churchill
Director and Government Botanist



FROM THE PRESIDENT ...

A well attended meeting of the Friends on Wednesday 29th February unanimously voted to adopt an initial Constitution as a forerunner to discussions with the Director of the Royal Botanic Gardens and the Director General, Department of Conservation, Forests and Lands. It is also intended to seek discussions with the Minister for Conservation, Forests and Lands.

Our meeting of 29th February followed a most enjoyable chicken and champagne dinner in the Director's garden. The support that the Director, Dr. David Churchill and his wife have provided the Friends, plus access to a meeting room, is very much appreciated. During the meeting the Director was assured of continuing support from the Friends in our mutual objective of conserving, protecting and fostering the Royal Botanic Gardens, Melbourne, the National Herbarium of Victoria, and the Cranbourne Annex.

Mrs. Beth Higgs was appointed to the incoming Committee as an ex-officio member in recognition of her efforts as Chairman of the Steering Committee. The Friends are off to a great start, a tribute to the guidance and energy Beth has provided the Friends over the past two years. In encouraging support for our Gardens, the Friends will be working in close co-operation with other interest groups such as the Maud Gibson Trust and the Plant Craft Cottage Group.

I am sure that the future will recognise February, 1984 as an historic moment for the Friends, as objectives are clarified and purpose identified. The membership now exceeds 380 individuals all dedicated to promoting our Gardens and it is with pleasure that I welcome all members to the newly constituted Friends of the Royal Botanic Gardens, Melbourne and extend a special welcome to incoming members of our Committee, together with the many volunteers who have indicated willingness to serve on various sub-committees.

Our inaugural Annual General Meeting resolved to establish a Trust Fund, which will provide a mechanism for encouraging individuals and corporations to contribute. Your Committee considers this matter to be of highest priority as we, in discussion with the Director, identify the scope and priority of appropriate initiatives. The 'Save the Lake Appeal' completed 31st October last year was a forerunner of the magnitude of projects that the Friends might well consider as being appropriate.

All Friends can feel confident that 84/85 will see growth, expansion: and an extensive program of activities. We look forward to your continuing support.

Frank Phillips
President



Editorial Committee

Dianna McClellan : Convenor and Joint Editor
Joan Nesbit : Joint Editor
Eve Almond : Interpretation Officer, Royal Botanic Gardens and
National Herbarium

CONVENOR'S REPORT, INAUGURAL ANNUAL GENERAL MEETING OF FRIENDS

February 29th, 1984

As Convenor of the Friends of the Royal Botanic Gardens since its formation two years ago it falls to me to report on what has been achieved so far, and to express on your behalf thanks to a number of people who have in one way or another contributed to these achievements.

It is fitting that at the outset I should commend to you the dedicated and enthusiastic Steering Committee which has operated till now. Their task has been to create the formal organisation which a group such as Friends needs, at the same time planning a program of activities to interest and involve the growing membership of Friends now in excess of 380. On your behalf I thank:

Michael Black
Hector Bourne
Martin Carlson
Lawrence Cohn
Louise Coronel
Sue Higgs
Golda Isaac

Dianna McClellan
Andrew Moore
Prue Myer
Joan Nesbit
Frank Phillips
Doreen Schofield
Stewart Turnbull

Mr. Michael Black Q.C., in association with Mr. Matthew Walsh of Mallesons, undertook the preparation of the draft constitution which will be before you later this evening. Michael also prepared a submission to the Federal Treasurer on the matter of tax deductibility for donations to the work of the Gardens, with a successful outcome and now awaiting completion of the appropriate Trust Deed. These gentlemen have earned our sincere gratitude.

In terms of magnitude the most noteworthy achievement of the Friends was the successful conclusion of the 'Save the Lake' project. Your Committee took the initiative in interesting *The Sun News-Pictorial* in this overdue restoration as its sixtieth anniversary project. The appeal launched by *The Sun* attracted wide community interest and support and allowed the work to be undertaken as a matter of urgency.

Other achievements worthy of note have been:

- * a donation of \$1,000 has been promised towards the development of a herb garden
- * installation of an information board at the Kiosk and the promise of up to \$1,000 for the erection of a directory board at a selected Gardens' entrance.
- * purchase of a postcard vending machine for installation at the Kiosk. Our first postcard is just to hand and we plan to extend the range shortly.
- * manning part-time of a desk at the Kiosk for the sale of botanical publications. Despite limited exposure and a difficult location sales in excess of \$1,000 were made in the first three months and clearly point to the need for an expansion of this service. Our

thanks go to Brenda Owen and her helpers for staffing this desk.

- * membership of the Australian Federation of Friends of Galleries and Museums was achieved, providing reciprocal benefits with members of the world-wide parent organisation.

Your Steering Committee has drawn up a program of activities for the coming year based on the success of the lectures, garden visits and other events of past months. I shall bring significant dates to your attention later this evening.

Our regular Friends' Newsletter has drawn much favourable comment and I am sure you would wish me to compliment and thank Dianna McClellan, Joan Nesbit and Eve Almond for their devoted attention to this task.

The Friends have received several gifts in cash and kind which are gratefully acknowledged. The Melbourne City Council indicated its support for the Gardens with a donation of \$2,000. Professor and Mrs. Shaw donated a Celia Rosser Banksia painting which graces the Friends' Committee Room. Gifts of office equipment were received and are proving helpful to the administration of the Friends. Northrock Investments provides accounting services and access to its computer for membership records and this has proved of immense value in the smooth running of the organisation. Binder Hamlyn provide free auditing services and we thank them. There is evidence of growing support from the community at large, and we welcome this help.

Thanks are due to our Catering Convenor, Ruby Leong, to Isabel Hood and to other members who help with our catering needs from time to time.

The continuing interest and support of Dr. Churchill, Eve Almond and all members of the Herbarium staff have been of great help to the Steering Committee, and their involvement is gratefully acknowledged.

The aims to which your Steering Committee has directed its efforts over the past two years are most appropriately set down in the draft Constitution as the objects of the Friends. I am sure that the incoming Committee will find that in giving effect to those objects they will be serving the interests of the Friends and promoting the welfare of the Royal Botanic Gardens.

Beth Higgs
Convenor, Steering Committee

One of Mueller's horticultural achievements was the growing and subsequent flowering of the Giant Waterlily, *Victoria amazonica*. Although this plant is not now grown in the Tropical Plant House, there are many other plant curiosities to delight Friends at their preview.



AUTUMN ACTIVITIES

PREVIEW OF TROPICAL HOUSE

On Saturday, 31st March at 2.30 p.m., Friends are invited to a preview of the recently repaired large Tropical Plant House (which will be officially re-opened later this year), and to tour the other glasshouses not normally open to the public. Members to assemble on the small lawn opposite the glasshouses. Gate 'E' is the nearest Gardens' gate, being approximately half-way between Nareeb Gates and the Herbarium. Access to glasshouses by Friends' membership ticket only.

'OUR BOTANICAL HERITAGE' - Exhibition and walks

This year the Gardens and Herbarium are celebrating Heritage Week with a public exhibition in the Herbarium and specially devised walks hosted by Voluntary Guides in the Gardens. The exhibition will include examples of current botanical research studies and historical herbarium specimens, photographs and botanical art treasures and is open to the public from Saturday, 7th April to Sunday 15th April 1984 inclusive, between the hours of 9.30 a.m. to 4.30 p.m. weekdays, and 1.30 p.m. to 4.30 p.m. weekends.

Friends are invited to view the exhibition on Tuesday, 10th April at 10.00 a.m. with coffee in the Astronomer's Residence from 11.00 a.m. onwards. A wonderful opportunity for fellowship once again following the exhibition, and we hope many Friends will join us. Members are of course welcome to attend the exhibition at any time during the week and in fact some of our members are manning an information/sales area in the foyer during the week.

LADY LOCH and HER GARDENING SISTER

On Thursday, 26th April, commencing at 10.30 a.m. there will be a Morning Coffee and what promises to be a fascinating talk by Mrs. Helen Vellacott, editor of *A Girl at Government House* at the delightful home of Mrs. Kay Fairley at 76 St. Georges Road, Toorak. As the title suggests Mrs. Vellacott will speak on Lady Loch (in whose honour *Rhododendron lochae* and *Camellia* 'Lady Loch' were named) and her sister, a very popular garden writer of the 1890s. Numbers will be limited to 50, so please book early.

Members : \$4.00
Non-Members: \$5.00

R.S.V.P. 19th April
Joan Nesbit: 211 8979

GARDEN WALKS

On Thursday, 3rd May at 10.30 a.m. Friends are invited by the Voluntary Guides to take part in any of their new walks, the 'Heritage Walk', the 'Dye Plants Walk', or the 'Aboriginal Plant Resources Walk', each of approximately 1½ hours duration, and leaving the Astronomer's Residence at 10.30 a.m.

R.S.V.P. 30th April
Joan Nesbit: 211 8979

When making your booking please indicate which Walk you wish to take.

THEATRE NIGHT

Three films - 'In Search of an English Garden', 'Open Today' and 'Capability Brown' will be screened on Thursday, 31st May, at the Mobil Oil Centre, 2 City Road, South Melbourne. Drinks will be served at 6.30 p.m., followed by a film, a light meal and two more films. Coffee and biscuits will complete the evening.

Members \$7.00
Non-Members: \$8.00

R.S.V.P. Wednesday, 23rd May
Ticket Secretary



PAST EVENTS ...

On 2nd February the Friends' Committee hosted a small reception for the new Director-General of the Department of Conservation, Forests and Lands, Professor Tony Eddison, in the Astronomer's Residence. The Committee looks forward to Professor Eddison's address to Friends later in July.

'Cruden Farm' - A most enjoyable outing

Beautiful, symmetrically placed mauve-pink Lemon-scented Gums, *Eucalyptus citriodora* flank the drive to 'Cruden Farm', under an azure sky nodding a benign welcome to the 120 or so Friends who visited the very beautiful property in mid February. The drive demonstrably Australian, not so the entrance to the homestead where we were greeted by immaculate green lawns, ancient towering Elms and Oaks. Nearby a walled garden was ablaze with a massed potpourri of colour and perfume, the Brolga atop the entrance gazing inscrutably at the heavens, impervious to these crowding city interlopers. Then a lovely kitchen garden, edged with herbs and Lavender, vegetables sharing plots with heavenly scented Roses; small, beautifully kept lawns, Ivy-clad enclosures. Later, a Devonshire Tea in Dame Elizabeth's beautifully cool house. Our warmest thanks to Dame Elizabeth Murdoch (and staff) for the warm welcome accorded your appreciative visitors. Congratulations to Michael Morrison on a lovely garden and thanks to our helpful guides who also assisted.

An Evening with Anthony and Ann Schilling

Those Friends who joined us at 5.30 p.m. on Friday, 9th March to meet with Mr. Anthony Schilling, Deputy Curator, Royal Botanic Gardens, Kew, England, and his wife Ann, to partake of wine and cheese in an informal get-together, very much enjoyed the occasion. Mr. Schilling showed slides of exotic and indigenous trees, shrubs and flowers and greatly impressed us with his knowledge and the enormous array of horticultural treasures at the Wakehurst Annex.

SUBSCRIPTION REMINDER

Friends are reminded that the 1984/85 subscription is now due. Please fill in the enclosed form and return it promptly with your remuneration and a self addressed envelope so that your membership ticket can be forwarded.

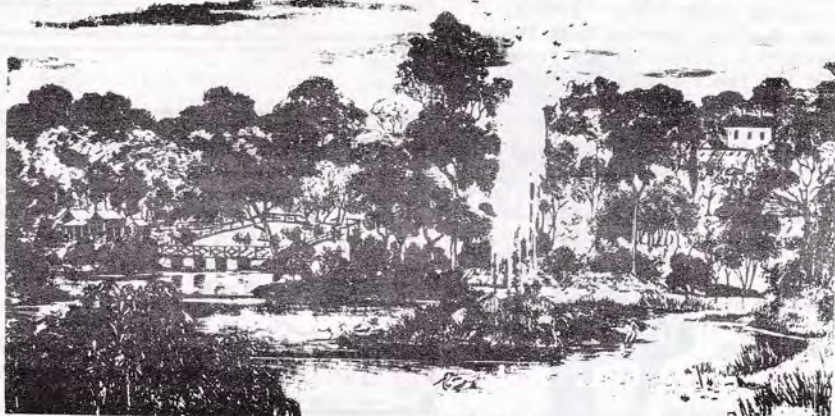
THE DEVELOPMENT OF MELBOURNE'S NATIONAL HERBARIUM by J.H. Willis

Dr. J.H. Willis joined the staff of The National Herbarium of Victoria in 1939. He retired in 1972 after a long and distinguished career in botany. He had been appointed Assistant Government Botanist in 1961 and for the last 15 months of his Herbarium service, he was Acting Director of the Royal Botanic Gardens and National Herbarium. He has always been interested in the history of the Herbarium and in the early collectors. As the present Herbarium building celebrates its Jubilee in April, Dr. Willis was invited to write a brief history of the Herbarium for this newsletter. His account makes fascinating reading.

Genesis

When youthful Dr. Ferdinand Mueller arrived at Adelaide, from Germany, in December 1847 he brought with him a substantial collection of well documented dried plant specimens that he had made in Schleswig-Holstein. Throughout the four and a half years that Mueller practised pharmacy in South Australia he travelled widely and added enormously to his private herbarium; many of the specimens represented undescribed Australian species and became the types of novelties published in European journals of botany. He came to live permanently in Victoria during July 1852 and six months later (26 January 1853) he was appointed the first Government Botanist of the young Colony, on Governor Charles Joseph LaTrobe's recommendation. Almost at once he set off on a series of marathon collecting expeditions that, within the next 15 months would cover 4000 miles (6400km) on horseback and net him 1327 species of plants previously unrecorded for the Colony - about one quarter of these were also new to science.

Over the next three years Dr. Mueller continued his investigations of the flora in remote eastern parts of Victoria and, more productively, officiated (without any pay) as botanist on A.C. Gregory's mammoth expedition to North Australia - a journey of 5000 miles in 16 months, between July 1855 and December 1856. Mueller had observed nearly 2000 species in northern



The Botanic Gardens, 1867, showing Mueller's residence top right, the fountain and enclosures to the left.

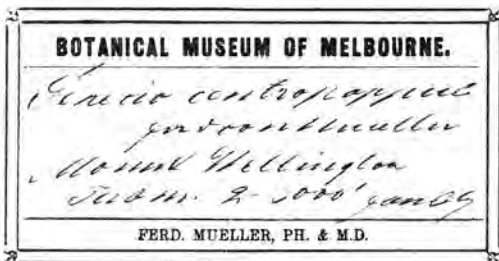
Australia (including the West) and inland Queensland, almost 800 of them new records for the continent, and many as yet undescribed. Collections were made in duplicate, the better and more complete set going to Sir William Hooker at the Royal Botanic Gardens, Kew, the remainder staying with Mueller in Melbourne.

The by now vast accumulation of annotated dried specimens was becoming an embarrassment in the small room detached from the residence - office of the Gardens, built at Mueller's request in 1854. This main building was extended in 1861 and since then it has been the official residence of all succeeding directors to date.

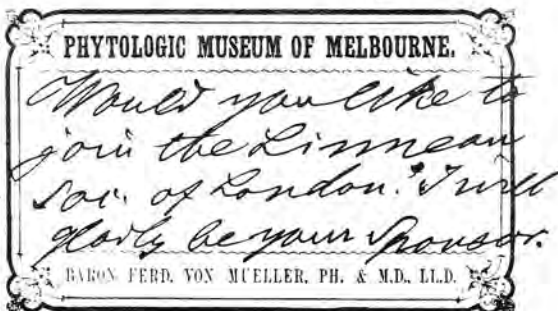
On 13 August 1857 Mueller was appointed joint Director of the Botanical Garden and adjacent Zoological Garden (on the Richmond side of the Yarra), in addition to his continuing post as Government Botanist; the annual salary remained at £600. In October 1858 he urged the Government to provide additional accommodation for his rapidly growing collections which then numbered about 45,000 specimens (embracing 15,000 species), including many algae, from 'all parts of the globe'. His recommendation was heeded, and the first wing of an entirely new herbarium building was completed early in 1860, on a site in the Domain lying between the present National Herbarium and the Shrine of Remembrance.

The Old Herbarium

Transfer of Mueller's specimens to the newly constructed first wing of the Herbarium in the Domain did not commence until the latter part of 1860, to allow for thorough drying out of the masonry. This building was completed by mid 1861, providing storage space for 160,000 specimens; most of the available space was occupied immediately. Indeed, in 1865 Mueller reported that the whole herbarium collection had reached 286,000 specimens, while by 1867 it had risen to 350,000 - more than twice as many as had been anticipated! Further building extensions were out of the question. In the 1860s Mueller kept his own private herbarium separate from the larger government collection; but the extent of the former is not known, nor is it clear precisely when he donated his specimens for amalgamation in a single national collection.



1869



1896

Herbarium labels written by Mueller at different periods.

Material was pouring in, and it continued to do so as Mueller himself explored more of Victoria, as well as parts of New South Wales, Tasmania and Western Australia and received copious gatherings from contacts all over the continent, not to mention rich acquisitions from many institutions abroad. His magnificent library of reference literature also grew apace. By far the most important overseas acquisition was to be that of the world-famous Otto Sonder Herbarium from Hamburg, purchase of which by a disinterested government had dragged on for 13 years (1870-1883) - it contained tens of thousands of specimens, was very rich in type material and included sheets from 18th century collections, even some that had belonged to Linnaeus! Late in 1861 Mueller had commenced the enormous task of loaning, box by box, virtually all of his labelled Australian plant material to George Bentham at Kew for preparation of the classical *Flora Australiensis* in seven volumes (1863-1878). Nothing was lost during these many transshipments to Britain, and return of the boxes, over a period of 15 years. Mueller always called his herbarium the 'Botanic Museum' or the 'Phytological Museum' of Victoria, and at various times he had official specimen labels printed with these headings.

In 1869 Dr. Mueller was elevated by the King of Württemberg to an hereditary barony, and henceforth he was known as Baron von Mueller. He visited the 'Museum' almost every day, even after losing directorship of the Botanic Gardens in 1873, and a cabinet wash-hand stand with mirror that he used constantly was salvaged from the old Herbarium before its demolition late in 1935. Mueller carried on with a very small staff of assistants, none of them academically trained, until increasing infirmity compelled him to work all the time in his nearby Arnold Street cottage. Herbarium accessions continued to increase throughout the three decades 1865-1895, causing severe problems in their adequate housing for posterity.

Following Mueller's death on 10 October 1896, his assistants J.G. Luehmann and J.R. Tovey continued their work at the Herbarium, the former as Government Botanist until his death (18 November 1904). Tovey died at the age of 49 on 30 December 1922. Some renewal of collecting activity and an impetus to taxonomic research came with the arrival in 1905, from England, of Professor A.J. Ewart who acted as dual Government Botanist (on a part-time basis) and head of the Botany School at the University of Melbourne - he was often at the Herbarium. One of Ewart's first tasks, and an unpleasant one, was to trace and restore to the Herbarium a large number of departmental books which had been mis-appropriated from Mueller's cottage in 1896 by the executors of his will. Messrs. J.W. Audas and P.F. Morris served under Ewart until 1921, when the professor was obliged to devote full-time to University affairs; they remained for the next 13 years as the only government employees in the old building until its closure (1935) when they moved across to the present National Herbarium at 'Gate F' of the Royal Botanic Gardens.

One remembers the former Herbarium as a dignified single-floored structure, set on a pediment of basalt blocks and thickly overgrown with Boston Ivy. During demolition, the spaces between its double walls were found to be packed with dried seaweed, presumably for insulation. It was hopelessly overcrowded and perhaps, for the sake of the specimens themselves, it is just as well that acquisitions had slackened off to a mere trickle for many years after the energetic Baron's demise.

The New National Herbarium

If Melbourne's Herbarium were ever going to function effectively, there was desperate need for a new modern building. During 1933 that distinguished philanthropist and promoter of Antarctic exploration, the late Sir Macpherson Robertson, offered £100,000 as a gift to the State in recognition of its Centenary, to be celebrated the following year. One of the old Herbarium's frequent visitors and ardent supporters was the late Mr. Alfred T. Tadgell, accountant to the Clarke family Estate (of Sir William and latterly his son Sir Rupert). Happening to hear that some of the Robertson gift was still uncommitted, Tadgell hurried to see the then Premier (Sir Stanley Argyle) and succeeded in persuading Sir Stanley to allocate the £15,000 for a much-needed new National Herbarium. This was a magnificent effort on the part of Tadgell who was innately modest, preferring to remain always 'behind the scene'.

Thus, departmental wheels were soon set in motion, and on 3 March 1934 it was announced that the Public Works Department had accepted the building tender for £12,026; the remainder of the £15,000 would go towards fittings and furnishings. A foundation stone was laid on 27 April 1934, by Sir Macpherson Robertson himself, and appropriate remarks were made by Melbourne's Lord Mayor of the day (Councillor H. Gengoult Smith) who is reputed to have said: 'I've never heard of a National Herbarium, but hope that it will be something good'. The building enterprise was estimated to involve about 60 men for five months.

At last it was finished, a double-storey square structure of cement-faced brickwork, with ample lighting from long windows on all sides. The supporting steel girders, immensely heavy, were from Dorman Long & Co., and it has been suggested that they were 'left-overs' from the recently constructed Sydney Harbour Bridge! A lecture hall occupied about one third of the ground floor and another third housed the exhibits of economic botany that had formerly been crowded into a small Gardens' museum on the other side of 'Gate F'. In deference to Sir Macpherson Robertson, the centre-piece of this resurrected museum was a raised map of Antarctica (about 2m wide), showing details of exploration within the Australian sector.

The hundreds of specimen cabinets were assembled from flat sheets of lacquered iron (sides, tops, bottoms, shelving and doors) - all khaki coloured and held together by small screw-in nuts and bolts. They looked more like clothing closets from some big factory complex than suitable housing for botanical specimens, and became a constant source of annoyance as we shall see.

It took several weeks of hard work, during the winter of 1935, to transfer approximately 1,250,000 sheets of specimens and some 10,000 books to their new abode. A great tragedy concomitant with this move was the burning, as so much rubbish, of boxes full of old historic correspondence - doubtless including Mueller's inward letters over many years. The Director and Government Botanist (Mr. F.T. Rae), with his scientific staff of three (Audas, St. John and Morris) occupied their new quarters on 27 August 1935.

Whereas the tape-tied cardboard folders (protecting bundles of specimen sheets) were housed horizontally on wooden shelving in the old Herbarium, it was found that adoption of this method in the new metal cabinets would result in much wasted space on each side of flat-laid folders, yet there was no

room to accommodate two at a time side-by-side on the shelves. It was finally decided to place the folders vertically, like volumes in a book-case, which allowed little room for expansion when subsequent specimens were added. The scheme proved disastrous: constant tugging to get folders out beyond the sharp cupboard edgings tore off the labels of contents pasted on their covers, while loose plant specimens and unattached labels dropped out from the folder ends and were difficult or impossible to match up with the right sheets.

The first heavy rains beat in under the iron roof of the building wherever the guttering was insufficiently overlapped by sheets of roofing and, until the matter was rectified some years later, it was necessary to place buckets under drip-points in the upstairs rooms during showery days. In all damp weather, moisture trickled down the interior plastered walls of the whole building - was this attributable to faulty sand used for the cement work? There was no central heating and the only sources of warmth during winter were a few small electric radiators - quite inadequate in large rooms with high ceilings - and some antiquated, rather smelly kerosene heaters. Perhaps these initial defects were 'teething' troubles, long drawn-out; but the Depression years were barely over and funds were hard to come by for any sort of improvement in Herbarium staffing or equipment. Even Head Office queried the necessity for a modern, reasonably sized map of Australia for Herbarium use, and on several occasions staff members dipped into their own pockets to procure necessary botanical books and charts rather than risk a rebuff through official channels - W.F. Blakely's *A key to the Eucalypts* (1934) was an instance well remembered.

It was abundantly clear, that this imposing building had been rushed up and over-hastily equipped, without the slightest thought for the comfort or convenience of those people who would spend most of their official lives here - certainly no woman had had a finger in the planning stages!

Until the 1940s there were only three permanent botanical officers, no librarian and no technical assistance whatever. There was only one telephone in the whole edifice, and that was on the Director's desk where the botanists had to come from upstairs to deal with enquiries - as often as not to go upstairs again for information in library books. The constant chore of plant identification (5000-8000 specimens annually) for the general public left this skeleton staff no time at all for research or proper curatorial work. Conditions were primitive in the extreme and would have demoralised any but the most dedicated and enthusiastic public servant.

A new era was ushered in with the appointment of Mr. A.W. Jessep as Director in October 1941. The staff was gradually built up, including female assistants for the first time, a librarian was secured, telephones installed to both floors, and a hot water system put in for central heating to each room. Yet this period was not without its traumas. For example, during the last three years of World War II (1942-1945) the whole of the library and museum space was requisitioned by Defence authorities who had over-riding powers to occupy State utilities if considered desirable. One vividly recalls that week early in 1942 when a Commonwealth officer came to inspect the building and to announce: 'We want all this floor space by Monday'. The impossibility of moving 10-12 thousand books from the library at such short notice was explained, but only elicited the report: 'We'll provide all the man-power you need'. So it was that the Herbarium staff

worked like trojans all that week-end, supervising a gang of Defence Department labourers. The seemingly impossible was achieved on schedule and the library book-cases somehow inserted along all the cramped alleys between specimen cupboards of the Extra-Australian room. It was all terribly inconvenient, and movable electric lights were constantly in use as one squeezed down to consult books and periodicals in virtual darkness. All museum exhibits were removed and stacked in a shed at the Gardens' nursery for the remainder of the war - they have never been restored to the Herbarium as exhibits.

The benefactions of the Maud M. Gibson Gardens Trust (from 1945) aided several important projects in the Herbarium as well as in the Botanic Gardens, notably production of Willis's *Handbook to plants in Victoria* (in two volumes, 1962-1973). For the visit to Melbourne of Her Majesty, Queen Elizabeth II, in February 1954, the National Herbarium, in common with other public buildings, was made resplendent, with garlands of red bunting and golden crowns all along the facade. The Herbarium's journal *Muelleria* was launched in February 1956 and continues to be published.

The noteworthy improvements initiated during 16 years of Mr. Jessep's directorship were extended by his successor, Mr. R.T.M. Pescott (1957-1970). Fortunately by then, departmental heads were becoming much more sympathetic to the needs and aspirations of their officers in the National Herbarium. Staffing was further augmented, the title 'Royal Botanic Gardens' was approved by the Queen in 1958 and, not least of the Herbarium's achievements during Pescott's regime, there was a complete replacement of the unsuitable iron specimen cabinets with tiers of neat wooden cupboards of the type and size currently in use at Kew. Coincident with the transfer of specimens, opportunity was taken to adopt an alphabetical arrangement of plant families, genera and constituent species, in lieu of the former arrangement based on Bentham and Hooker's rather outmoded scheme. Cryptogams such as mosses, lichens, algae and fungi were grouped alphabetically straight into genera and species. The library books too were re-classified and re-catalogued. In this period staff members began collecting again on a scale commensurate with Mueller's, long before.

Under Dr. D.M. Churchill's enlightened administration, from 1971, the National Herbarium has entered the computer age. The Library has almost doubled and scientific staff has increased substantially; senior appointees must now hold a master's or doctor's degree. Because of crowded accommodation, the computer, ecological and cryptogamic staffs now work at an annex in the old Observatory grounds whereto the moss, lichen and fungal collections have been transferred, making a little more space available in the main Herbarium building. However, more space is urgently needed.

A very noteworthy accession during the past decade has been the donation, by Mr. A. Cliff Beaglehole (Portland), of many thousands of his annotated specimens, chiefly the result of botanical surveys undertaken for the National Parks Service and Land Conservation Council.

This good modern material probably outnumberes all the other Victorian collections made in the State since Mueller's day.

With its current band of workers, including a horticultural botanist and assistant, ecologist, lichenologist, botanical artist and educational officer, the Melbourne Herbarium is geared as never before to carry on advanced plant studies, map the distribution of vegetation and constituent species, and so serve the public of Victoria (and indeed of Australia) with increasing efficiency. I wonder whether Baron von Mueller would recognise his lineal descendant? He would certainly be gratified to note that the thousands of specimens (embracing some 2000 types) he collected more than a century ago are still all-important as basic points of reference for modern research. One believes that any botanist working seriously among the books and specimens in Melbourne's incomparably rich Herbarium must somehow fall under the benign spell of the good Baron and be conscious of his still-pervading spirit.

J.H. Willis
3 March 1984



LATE SUMMER - EARLY AUTUMN

The Gardens are so much greener than at this time last year. Even though there is not a lot out in flower in March and April, the various hues of bush green are most appealing. The *Crataegus pubescens* f. *stripulaceae* on the Central Lawn near the Fern Gully makes a bright contrast with its striking yellow-orange fruit. The closely related *Cotoneaster* spp and *Pyracantha* spp which can be found throughout the Gardens are also starting to produce bright orange-red fruit.



Aloe



Yucca

The Cacti and Succulent Garden on the Eastern Lawn, near the Central Lawn, are worth visiting. Look out for the blue and orange flowered *Strelitzia reginae*, Bird of Paradise and the paler flowered *Strelitzia nicolae*, Bird of Paradise Tree, when you are on that top part of the Eastern Lawn. Both species have remarkable flowers which are bird pollinated. Another favourite with the birds (and people) is the *Psidium littorale*, Strawberry Guava, with its sweet purplish red fruit. There are several specimens in the vicinity of 'E' Gate. The *Acca sellowiana*, Pineapple Guava, also comes into fruit at this time. There is a good example opposite the entrance to the Director's Residence. However, you might have to be quick to see the greenish fruit; the possums think they are a great delicacy!

SOME RARE, VULNERABLE OR ENDANGERED NATIVE SPECIES IN THE
ROYAL BOTANIC GARDENS, MELBOURNE

NAME	CODE	WHERE GROWING NATURALLY	LOCATION IN THE GARDENS
<i>Acacia iteaphylla</i>	R	S.A.	Australian Border, near southern end of Oak Lawn
<i>Araucaria heterophylla</i>	V	Norfolk Is.	By Lodge at 'F' Gate
<i>Backhousia anisata</i>	V	N.S.W.	Australian Border, between Tradesmens' entrance and nursery
<i>Callistemon subulatus</i>	R	N.S.W., Vic.	Back of Kiosk
<i>Dendrobium wilkianum</i>	E	Q'land.	Orchid Home
<i>Dicksonia youngiae</i>	R	Q'land., N.T.	Fern Gully, near Palm Lawn
<i>Dietes robinsoniana</i>	R	Lord Howe Is.	Front garden, Plant Craft Cottage
<i>Eucalyptus crenulata</i>	V	Vic.	Australian Lawn
<i>Eucalyptus rhodantha</i>	E	W.A.	Australian Border, near 'D' Gate
<i>Grevillea shiresii</i>	E	N.S.W.	Southern end of Eastern Lawn
<i>Hibbertia bracteosa</i>	V	W.A.	Near Ellis Stones Rockery
<i>Hibbertia glaberrima</i>	R	N.T.	Near Ellis Stones Rockery
<i>Hoya macgillivrayi</i>	R	Q'land.	Propagating House
<i>Kennedia glabrata</i>	E	W.A.	Kiosk Bed
<i>Kennedia macrophylla</i>	E	W.A.	At back of Kiosk
<i>Kennedia retrorsa</i>	E	N.S.W.	Boundary fence, Australian Border, near Nursery
<i>Lycopodium squarrosum</i>	R	Q'land.	Tropical House
<i>Macrozamia riedlei</i>	R	W.A.	Bromeliad House
<i>Melaleuca steedmanii</i>	E	W.A.	Kiosk Bed, near <i>Eucalyptus saligna</i>
<i>Prostanthera stricta</i>	E	N.S.W.	Australian Border, opposite southern end of Oak Lawn
<i>Rhododendron lochae</i>	R	Q'land.	Azalea bank, near Kiosk
<i>Syzygium moorei</i>	E	N.S.W., Q'land.	Eastern Lawn, opposite Palm Lawn

CODE E = endangered
R = rare
V = vulnerable

'WHEN ONCE DESTROY'D CAN NEVER BE SUPPLIED' (Goldsmith)

Native Plants Facing Extinction or At Risk. Part II

(Part I was published in the Friends' publication no. 6, November 1983, pp. 10-14 and gives an outline of threats to our native plants.)

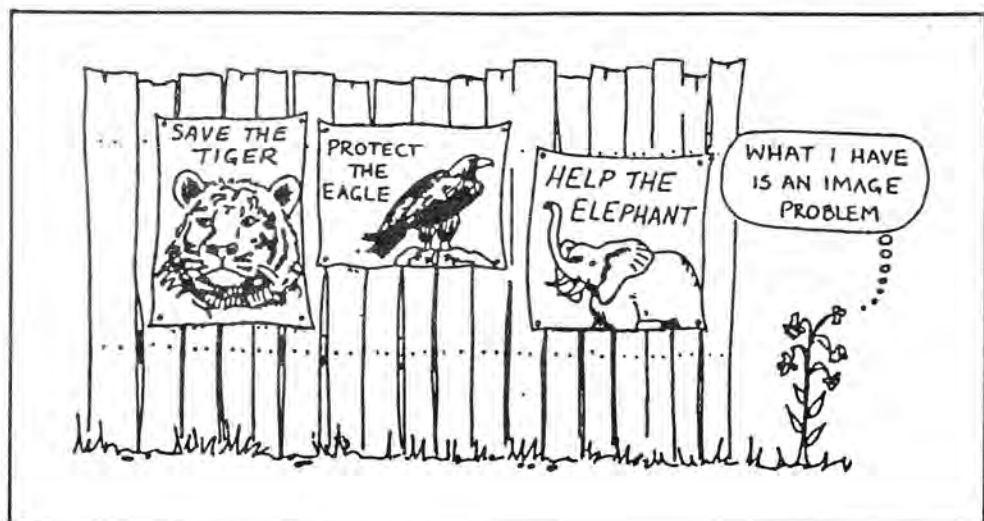
Introduction

It is estimated that there are 200 endangered Australian plant species facing extinction and more than 2000 actually or potentially at risk. How do we conserve plant species at risk and what are Australian botanists and our own Botanic Gardens doing towards this end? Melbourne's Botanic Gardens have a few such species growing and some of these are mentioned by Roger Spencer under Section B of this article. A listing of some native endangered plants is included on page 14 and gives their location in the Gardens.

Section A: by Dianna McClellan

Conservation of our Native Plants

There are a number of ways in which plants at risk and even more importantly endangered species can be conserved. It is through planned action and co-operation that the ultimate in this area can be achieved. Botanic gardens have a special role to play in the network of organisations and people working for the conservation of our flora. I have included below some of the ways in which positive steps are being taken to ensure a systematic approach to a problem which is recognised world wide and which has led to international co-operation as well as to the development of co-operative and concentrated effort in Australia.



Protection by International Co-operation

All Australian plant species threatened by international trade are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora. There are some 50 member countries of the Convention under which trade in a listed species is banned except where certain export and import permits are signed. Some of the plant species covered by the Convention are not endangered or even traded but the list includes species likely to be confused by customs officers with an endangered one; for example, all Orchids are covered although not all are threatened by trade.

Habitat Conservation through National Parks and Reserves

The creation of national parks or special reserves is valuable in protecting our rare and endangered species. The first national park in Australia, and the second in the world, was the Royal National Park established near Sydney in 1879. Although Australia now has a number of parks and reserves, of the 200 endangered species described in the book *Extinct and endangered Australian plants* (see page 24 for review) only 45 are known to grow in these areas. It is believed that the South Australian Heritage Act and Tree-growing Assistance Scheme in Victoria will assist in the conservation of vulnerable plant species.

Surveys and Research

Surveys and research of the Australian flora and in particular of the species at risk would resolve the standing of many of them and may even uncover 'lost' species. It was thought that the Western Australian underground Orchid had been wiped out at the end of the 1950s. However, 20 years later a farmer at Munglinup turned over a mallee root and there was one of these remarkable plants which grow underground except for the tips of the flowers.

Last year *The West Australian* reported that Dr. Kingsley Dixon, a Western Australian University botanist, has become the first person to germinate the underground orchid, *Rhizanthella gardneri*. He is continuing seeding experiments under the sponsorship of the Australian Orchid Foundation.

Enrichment of Threatened Plants

By taking seeds, cuttings and tubers from wild plants, propagating them and planting the seedlings back with the parents, this can increase the chances of survival of threatened plants. Not only can such plants so propagated and multiplied be reintroduced into their former habitat but they can be passed on to commercial horticulturalists so that the plants can find their way to the home garden.

Botanic Gardens and Their Role

Botanic gardens can assist in the process of conservation by propagating plants, establishing seed banks, by undertaking censuses to identify which species are in need of conservation, by research such as studying problems in determining the taxonomic status of endangered plants, and by public education and awareness. The National Botanic Gardens in Canberra is making a special effort to study the biology and horticulture of rare and threatened species. It has established a seed bank and is undertaking propagation and reintroduction of some species. Interesting research undertaken by the Canberra Botanic Gardens on the purple double-tailed Donkey Orchid involved isolating and culturing the mycorrhizal fungus from the roots of wild plants and inoculating seeds under sterile conditions.

In 1981 the Canberra Botanic Gardens had more of these Orchids under cultivation than were known in the wild! Other botanic gardens, as our Melbourne Botanic Gardens, are assisting in the care of rare species with over a quarter of those considered endangered at present in custody and efforts being made to take in all the remainder.

Section B: by Roger Spencer, Horticultural Botanist, Royal Botanic Gardens
Melbourne Botanic Gardens and its role in contributing to the preservation of rare and endangered plants.

The documentation of the world's rare and endangered plants is by no means complete. The Threatened Plants Committee (TPC) based at the Royal Botanic Gardens, Kew, England, was established in 1974 by the International Union for the Conservation of Nature and National Resources (IUCN) and it has accepted the onerous task of collating lists of sources of cultivated rare and endangered plants around the globe and circulating these lists to appropriate organisations for them to add the material they possess. This background information is vital for the development of future policies, and to date, draft lists have been produced for Southern Africa, Macronesia, Madagascar, New Zealand and Australia, with many more in the pipeline.

Each time a list is received and filled out for the Kew Gardens, England, a coding is registered in the Melbourne Botanic Gardens computer records so that a permanent record is retained of Gardens' stock listed as threatened in some way. So far, we have 136 native plants and 59 exotics noted - the latter number will no doubt increase considerably as further lists are received.

In Australia the accumulation of data on the nation's threatened flora is centred in Canberra and the National Botanic Gardens has accepted a major role in the collection, cultivation and propagation of noteworthy species. The major list of our endangered flora to date is in *Rare or threatened Australian plants* by J. Leigh, J. Briggs and W. Hartley. Special publication 7 of the Australian National Parks & Wildlife Service, Canberra, 1981. This publication was produced with the financial assistance of the World Wildlife Fund which, incidentally, is launching an International Plants Campaign on 21 March and in Australia on 22 March. To mark the occasion, the Minister for Conservation, Forests and Lands, the Hon. R.A. Mackenzie, will plant a rare Malacoota Gum, *Eucalyptus cypellocarpa* x *E. globulus* ssp. *pseudoglobulus*, in the Royal Botanic Gardens Melbourne.

In Victoria, research on rare and endangered plants is centred at La Trobe University under the aegis of Dr. Robert Parsons and Neville Scarlett - their work will form the basis of a later article.



Dracaena draco,
Dragon Tree

Here at the Melbourne Botanic Gardens, our role may be seen as two-fold - firstly the traditional one of acting as a repository for the propagation and distribution of selected material and its possible re-introduction to the wild, with emphasis, of course, being on the more local species - and secondly the analysis of the Victorian vegetation on a broad scale by our ecologists. This provides broad contextual information for some of our rarer species. Our ecologists remind us that in the rush to preserve individual species we should not forget the conservation of vegetation types. Perhaps habitats are more important than species?

The vulnerable *Eucalyptus crenulata*, Silver Gum, is only found in two small areas in Victoria.



Here are some interesting examples of rare and endangered plants that can be seen in the Gardens: it should be pointed out that there are quite a number of plants that, though uncommon in the wild, are already familiar horticultural subjects. Perhaps most notable amongst these is the Monterey Cypress, *Cupressus macrocarpa*. The now protected wild population runs in a belt along the coast of central California where individuals are stunted and windswept unlike the majestic specimens in the Gardens - which are among the finest in the world. Also in this category would be the Parrot's Beak, *Lotus berthelotii*, grown especially in hanging baskets or as a ground cover and until recently considered extinct in its native habitats at Tenerife, Canary Islands.

Of special interest is the attractive yellow-flowered *Sophora toromiro*, growing well in the border opposite the Kiosk, on the opposite side of the Ornamental Lake. This tree with its pendant racemes of flowers is considered extinct in the wild (Easter Island) but has now been located in a few botanic gardens around the world. This year our specimen flowered for the first time and, fortunately, set seed.

The Dragon Tree, *Dracaena draco* which can be seen in the border of the Western Lawn and on the Eastern Lawn is a spectacular architectural foliage plant. Wild populations are small and scattered on the Canary, Cape Verde and Madeira Islands. The red gum resin is reputed to have medicinal properties and the 'cherries' are edible with a cherry flavour.

The reasons for saving these plants are of course varied and include economic, horticultural and scientific values; an example of the latter would be *Camellia granthamiana*, which is very attractive with large white flowers and golden stamens. It can be seen in the Camellia Bed. It is a protected plant found in the water catchment of the Shing Mun Reservoir, Hong Kong and although it has obvious horticultural potential, it perhaps has greater value scientifically since it is not closely related to any other species within its genus.

Within the Australian collection are some particularly interesting and rare plants. *Planchonella eerwah* is growing sturdily, near the Nareeb Gates at the back of the Australian Border. The original collection of this species was made from Mt. Eerwah in Queensland on the 24 March 1894 during an Easter excursion of the Field Naturalists Section of the Royal Society. From the condition of our plant and at the suggestion of the Queensland Herbarium, it seems likely that seed from the original trip may have been sent to Guilfoyle. Subsequent expeditions failed to locate the plant and it was feared extinct. However, a small population was found south-east of Ipswich, in 1980.

Another interesting plant in the Australian Border, this time closer to the nursery, is *Livistona mariae*. This palm occurs in a specialised moist habitat in a 60 sq.m. area in a National Park in the Northern Territory. This species is of special scientific interest because of its relict distribution - it is separated by about 100 km from the nearest *Livistona* to the north. As a horticultural plant it makes a fine specimen and should be used more widely in parks, especially in the arid zone.

Quite near to the *Planchonella* we have *Hibiscus insularis*, again in good health. Like most *Hibiscus* this has a showy flower that immediately catches the eye. We are taking special care of this plant since in nature it is confined to Philip Island, an island only one square mile in area, 10 km to the north of Norfolk Island. This species is merely just surviving as the rabbits on the island are severely retarding its regeneration. There are a few plants in cultivation on Norfolk Island and in Australia.

No doubt many other threatened native plants have similarly interesting backgrounds. In the future, the Botanic Gardens' Cranbourne Annex which is specialising in Australian plants, will be an invaluable centre for their perpetuation. Already our *Banksia* collection contains nine species that have been listed as being threatened and there are similar numbers in our general *Grevillea* and *Hakea* collections. As well, there are 12 Acacias and about 20 Eucalypts. Each year we exchange seed with the other major Australian botanic gardens in an attempt to maintain the rarer species in cultivation.

Another rather different and rare group of plants is that often termed old-fashioned or cottage. These plants are not in danger in the wild as they have never been there! They are cultivated varieties (cultivars) that have fallen out of horticultural favour. These plants are not, of course, considered by the organisations discussed so far, but by the National Council for the Conservation of Plants and Gardens (NCCPG), based at Wisley in England. The Council has the stated aim of the preservation of those culinary and ornamental plants with unusual flowers, colours, hardiness or other genetic significance which, through the vagaries of fashion and commercial distribution have become generally unavailable. We are anxious to hear of any old cultivars that you may have seen.

References

- Bodin, R.W. (1983) 'The role of botanic gardens in endangered plant conservation' *Australian ranger bulletin* 2:92
Bell, A. (1979) 'Native plants at risk' *Ecos* no. 22:10-12
Bell, A. (1983) 'Native plants facing extinction' *Ecos* no. 37:21-26

A YEAR AS THE AUSTRALIAN BOTANICAL LIAISON OFFICER AT KEW

Each year, a botanist from one of the Australian herbaria is sent to the Herbarium at the Royal Botanic Gardens, Kew, England, as the Australian Botanical Liaison Officer. The representative is selected by the Council of the Heads of Australian Herbaria.

Rex Filson, the Lichenologist here at the Herbarium was chosen to be the Liaison Officer for 1982-1983. Here is his report:

When I was told that I had the appointment as the Australian Botanical Liaison Officer (ABLO) and the prospects of a year in London I had mixed feelings of excitement and apprehension. A year overseas opened up new avenues of research and provided the opportunities to complete a long standing project. Much of my research has been on the Antarctic lichen flora so I considered a project where I could compare the Antarctic species with those in the Arctic and a three month study was financed by the Australian Biological Resources Study Grants.

My family and I left Melbourne by Qantas stopping at Hawaii where we spent four days. This was mainly a jet-lag stop but we did manage to have two long field trips in the mountains above Honolulu and our two sons swam at some of the famous beaches. From Hawaii we flew to Alaska where we hired a car and spent three weeks collecting. Then to Baffin Island for a week in a Canadian North-west Territory Research Hut. We then flew to Greenland collecting out from four centres: Thule, in the far north (about 800 miles above the Arctic circle), Sondre Stromfjord and Godthab in the mid-west, and Narssarsuaq in the south. We camped when away from the main centres and had both fine weather and heavy rain. It was at Thule that we collected the lichens which were nearest to those in the Antarctic. At Narssarsuaq we were washed out of our tent by a flood at 3.00 a.m. and had a very sodden walk the 12 miles back to the hotel. From Greenland we flew to Iceland where we again hired a car and spent three weeks collecting. The weather was not good and we were wet on many occasions.

We arrived in London on 14 August 1982 and stayed with friends until we found a flat in Kew Road just over the road from the Gardens and about three minutes walk from the Herbarium. During the next year I had about 100 enquiries from Australian botanists. These requests mainly involved literature references and searching for type material for botanists doing revisional work in Australia. My research was divided into two parts: the first was a revision of the crustose genus *Caloplaca*, and secondly I continued the search and documentation of Australian lichen type specimens. I commenced this project in 1971 and hoped to complete it during the year. This latter study took us to many European and Scandinavian herbaria; we visited Paris, Vienna, Budapest, Graz, Munich, Florence, Geneva, Goteborg, Uppsala and Helsinki and managed to fill in the gaps for most of these types. This data will assist botanists preparing revisions for the four volumes on lichens in the *Flora of Australia* project.

I enjoyed working with the botanists and staff at Kew, my family and I were very happy in England - they had the mildest winter and hottest summer for years - however we were also delighted to come home to Australia again.

Rex Filson, Lichenologist, National Herbarium.

★ BOOK OFFER ★

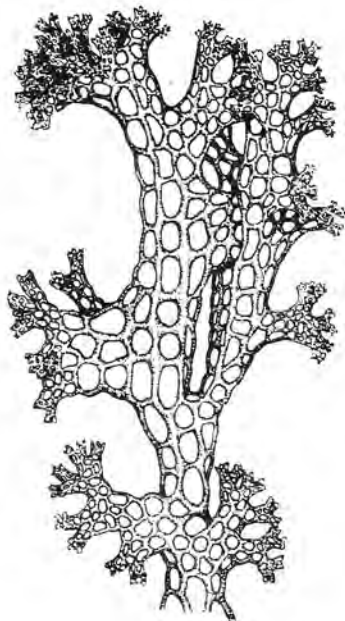
Extinct and endangered plants of Australia

The Friends have great pleasure in offering its members the newly released comprehensive publication on Australia's extinct and endangered plants at the special price of \$39.95 which includes postage. (Recommended retail price \$49.95.) A review written by Roger Spencer, Horticultural Botanist, Royal Botanic Gardens is on page 24. This authoritative and impressive book will no doubt contribute to the preservation of the Australian flora which is such an important part of our national heritage. An order form for purchasing this book from the Friends is included in the centre-fold. This special book offer is for a limited period until Monday, 16th April.



THREE INTO ONE: THE CONTINUING SAGA

The organisational structure of the newly created Department of Conservation, Forests and Lands is to be based on nine divisions. They are as follows:



Cladia ferdinandii. This Australian lichen was named in honour of Baron Ferdinand von Mueller.

- * National Parks Service
- * State Forests and Lands Service
- * Fisheries and Wildlife Service
- * Land Protection Service
- * Regional Management
- * Corporate Services
- * Survey and Mapping Service
- * Economic Group
- * Policy and Co-ordination Strategy

At this stage it appears that the Royal Botanic Gardens and National Herbarium are to be placed in Corporate Services, which also includes Community Education and Interpretation, Library Services, Estates and Historic Places Management. This is to take effect in April and will be the final severing of the Gardens and Herbarium from the old Lands Department.

RETIREMENTS

JOHN FALLON: SENIOR GARDENER

On a beautiful morning in Spring recently I had the pleasure of not only visiting our lovely Gardens but also of talking with John Fallon, retired Senior Gardener. I very much enjoyed my chat with John and hearing a little of what has obviously been a full and interesting life. Others thought so too for John was recently the subject of a feature in our sports pages, and I quote: 'Captain of his school, a member of all his school's sports teams - football, cricket, rowing and athletics, and a double Captain in cricket and football. This was the brilliant record of John Fallon in his 11 years at Xavier College from 1927 to 1938.' Quite an achievement.



John left school to shortly join the Army, as did so many of that era, rising to the rank of Captain and ultimately serving at Tobruk and Alamein. After mobilisation he managed a sheep station in Western Australia before moving east and farming his own property on the Mornington Peninsula. Later, family commitments necessitated a return to Melbourne.

Although John has a Diploma of Wool Classing he did not wish to take this up in Melbourne, applying instead for a position as temporary gardener with the Royal Botanic Gardens where he remained for the next 14 years. He qualified as a 'Gardener 2A' at Oakleigh Technical School and was later promoted to the position of Senior Gardener. John is particularly thankful the Gardens have weathered the drought so well, putting this down to the co-ordination and assistance of a very dedicated staff. He is also thankful he could see the Gardens in their present improved state before his retirement. Our very best John, in your future activities.

J.L.N.

IVAN FROST: HEAD PROPAGATOR AND NURSERYMAN

On Friday 29 October 1983, the Botanic Gardens staff saw the retirement of another of its longer term members. In a manner that was typical of his unassuming character, Ivan Frost, the Head Propagator and Nurseryman, quietly left the Gardens after fourteen years of service.

Ivan, who was born and bred in the Chiltern area, has always been a naturalist at heart. Prior to his employment in the Gardens, he worked as an apiarist moving his hives across most of north-central Victoria with his brothers and friends. Later he spent several years working in large commercial nurseries in Melbourne.

He came to the Gardens on 8 September 1969 and worked on the Long Island and Central Lawn sections prior to his appointment as Assistant Propagator and Nurseryman on 23 October 1972.

Ivan was later appointed Head Propagator and Nurseryman and during his term in that position the nursery went through considerable changes, including the introduction of updated cultural practices, new shade-houses and plant-houses.

Ivan and his wife Jean have now retired to a house in Euroa where they intend to relax, see more of their children in Canberra and Wangaratta and Ivan hopes to spend more time improving his golf game.

To Ivan, best wishes for a long and enjoyable retirement from all the Gardens' staff and the many members of the public with whom he regularly came in contact over the years.

Warren Worboys, Head Propagator and Nurseryman
Royal Botanic Gardens

BRUCE MUIR: SENIOR BOTANIST

On 11 July 1983 Thomas Bruce Muir retired from his position of Senior Botanist at the National Herbarium of Victoria, following a period of illness.

Bruce was one of the long-timers of the Herbarium staff, having commenced part-time in March 1956 while also studying at the University of Melbourne. His commencement was funded from the coffers of the Gibson Trust and it was not until 24 February 1959, after having successfully completed his B.Sc. course with a major in Botany, that Bruce was appointed full-time to the botanical staff under the Department of Crown Lands and Survey.

During his total service of over 27 years Bruce widened his knowledge of Australian native plants and spread this knowledge to the many enquirers who constantly seek assistance from the Herbarium. He was involved in several local botanical surveys with interested groups, including Ulupna Island Reserve in northern Victoria, and his account of the flora of that region is published in *Muelleria* 2:170-179 (1972). He built a reputation as a most meticulous field collector and added approximately 7,000 beautifully prepared and high quality specimens to the Herbarium. Over half of these are Victorian in origin. Of the remainder, many were gathered on the Botanic Gardens Research Fund collecting trip to Western Australia in 1966, but all other States are also represented.

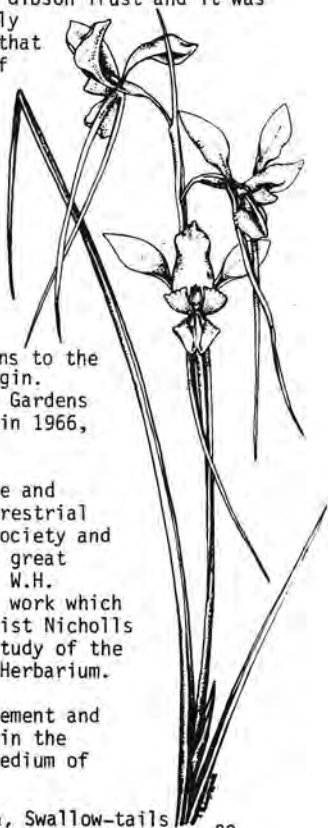
Inevitably, botanists must specialise to some degree and Bruce's speciality became the Australian native terrestrial Orchids. He is a member of the Australian Orchid Society and the Orchid Species Society of Victoria. One of his great pleasures and achievements was the co-editorship of W.H. Nicholls' *Orchids of Australia*, published in 1969, a work which brought the famed drawings of the early orchidologist Nicholls to the public and which involved Bruce in a close study of the Nicholls' Orchid collection housed at the National Herbarium.

Our latest news is that Bruce is enjoying his retirement and maintaining his interest in botany in general, and in the native terrestrial Orchids in particular, via the medium of his home garden. We wish him well.

Helen Ashton, Curator
National Herbarium

Diuris punctata, Swallow-tails

23.



BOOK REVIEW

LEIGH, John, BODEN, Robert and BRIGGS, John. *Extinct and endangered plants of Australia*. Foreword by H.R.H. The Duke of Edinburgh. Pp. viii, 369 (including tables, maps and illustrations) plus numerous coloured plates interleaved. South Melbourne, Macmillan (Australia), 1984. \$49.95.

This authoritative work, compiled by an impressive trio in the field of plant conservation, must undoubtedly rank Australia foremost among the countries documenting and publicising their endangered plant species with a view to their future protection.

The book lists and describes in detail the 76 'extinct' species and 203 endangered ones that form the hard core of *Australian rare and threatened plants* by Leigh, Briggs and Hartley (1981).

Early chapters provide a succinct and well-researched background to the subject: there are chapters on the evolution of this special flora, the early attitudes of settlers and explorers, the process of extinction, a history of plant protection measures in Australia and the current threats to vegetation. To this is added a valuable chapter on plant conservation strategies - habitat conservation, seed banks, commercial distribution for cultivation, re-establishment in nature, refuge planting in Botanic Gardens, increased research and so on.

Naturally there is some discussion of the categories of endangerment selected for use in the book and it is reassuring that the category 'extinct' as used in this book leaves room for interpretation and approximates more closely to 'probably extinct' of other authors: all is not necessarily lost! There are some success stories. *Planchonella eerwah*, successfully cultivated in Melbourne Botanic Gardens, was considered lost in the wild until rediscovered a few years ago.

Although rather expensive (\$49.95), the quality of the plates and pleasing presentation more than compensate for this. The text is mostly easy to read although in parts I thought the attempt to add credibility to arguments by quantification and a plethora of statistics did not help. This is perhaps inevitable where precise information is required. However, I did notice that the number of endangered plants considered to be in cultivation in Botanic Gardens is listed as 65 on page 56 and 59 on page 61. The bulk of the book is given over to valuable descriptions and illustrations. For each species we are informed of its conservation status, there is a description and discussion of its habitat and distribution together with consideration of potential threats and measures being taken for its protection, its present growth in cultivation and further recommendations. The text is concluded with an extensive bibliography - in addition to references given with each species discussed.

The culmination of work started in 1974, this book is likely to be a powerful incentive for protective action. Its obvious value for education will also no doubt promote increased and well-informed awareness of the issues at stake. As a well-researched document for now, it will surely be salutary to measure our progress against its pages as the years go by.

Roger Spencer, Royal Botanic Gardens