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AUSTRALASIAN HERBARIUM NEWS

*A journal for the interchange of ideas among
the systematic botanists of Australia and New
Zealand.*

CONTENTS.

	Page Number
LEONARD RODWAY, late Tasmanian Government Botanist ..	1.
Herbarium of the Botany School, University of Sydney ..	5.
European Herbaria and Colonial Floras	6.
News and Notes on Current Activities.	6.
Sources of Seed of Australian Native Plants. ..	11.
On the Application of Arts. 37, 37 bis., 40 and 44 ..	12.
North Queensland Herbarium.	15.
Recent Publications.	17.

LEONARD RODWAY, C.M.G., L.D.S., L.R.C.S. (London) etc.

Late TASMANIAN GOVERNMENT BOTANIST

AN APPRECIATION

By One Who Worked with Him.

The writer's personal contact with Rodway exceeded twenty-six successive years and continued intermittently up to the time of his passing away, in Tasmania, in the year 1936. In the circumstances he feels competent to evaluate, correctly, this worthy man as a citizen and as a scientist of the Island State of Tasmania.

Leonard Rodway was born in 1853, at Torquay, Devonshire, England - showing that he reached the ripe age of 83. He was the son of Henry Barrow Rodway and was educated at Birmingham; he served on the officer's training ship "Worcester" and obtained double first class certificates. He served for three years as a midshipman in the merchant service but decided to give up the sea. He obtained the licentiate ship of the Royal College of Surgeons, London, and then went to Queensland for a short period. He arrived in Tasmania in 1880, the year of the writer's birth, and practised with success as a dental surgeon at Hobart. In 1896 he was appointed honorary Government Botanist for Tasmania, four years before the writer knew him officially. That was in 1900 when the writer first contacted him after his transference, by arrangement, from the Treasury Department to the Council of Agriculture, the fore-runner of the Agricultural and Stock Department, on account of his knowledge of entomology and lepidoptera. The writer's hobby and interest, as a member of the Tasmanian Naturalists Society, in beetles, moths and butterflies had come under the notice of the first Government Entomologist, Arthur M. Lea, who recommended that my services be loaned to the Entomologist's Department.

At that time the Fruitgrowers were worried over the presence, in some of the orchards of Tasmania, of the San Jose Scale and the other states, especially New South Wales, threatened to prohibit the entrance of our apples. This prohibition would have been a real hardship to Tasmanian growers and the matter was giving great concern to the Government of the day. After a wonderful term of three months travelling Tasmania in search of the San Jose Scale the writer was permanently transferred to the Council of Agriculture where he came into personal contact with Rodway and the several departmental experts.

Rodway held the position of Botanist, in an honorary capacity, for 36 years, actively performing a responsible job requiring much ability and the expenditure of prodigious overtime as well as the interruption of his professional hours as a dentist. For all this he did not receive one penny as a retaining fee! This meanness on the part of governments under which he, and the writer, worked on botanical matters, including on the part of the writer original experiments in grass and fodder crops which were considered by farmers and graziers to be most valuable to them, is

amazing. In the writer's case he was treated as an apprentice to a trade; i.e., in return for the paltry salary for one departmental position he would be trained under experts in both science and field work to fit him ultimately for the head of the rather large Department; so that, after twenty-six years of much sweating and overtime he found himself truly at the Head as Acting Director, but weighed down with the following accumulated appointments:- Assistant to the first Government Entomologist, Chief Clerk, Registrar of Stock Brands (requiring much field work with troopers of police for over nine years), Inspector under "The Vegetation Diseases Act", "The Codlin Moth Act", "The Hay and Chaff Act" and four other kindred Acts, by arrangement with the State and Federal Governments Customs Officer under the "Federal Commerce Act", Federal Deputy Chief Quarantine Officer for Animals and Chief Quarantine Officer for Plants!

Both Rodway's and the writer's cases were looked upon, by those who knew of the circumstances, as a scandal of scandals!

Rodway's professional rooms were only about 300 yards away from the Department of Agriculture and Stock, so that the specimens of plants, or disease-affected plants would be taken by me to him, when he always made me feel welcome. He was sometimes able to identify them there and then so that, on my return to the department, letters could be dictated for due despatch with the evening mail.

My deep interest in botany made me welcome at Rodway's home where I met Mrs. Rodway, her very attractive only daughter who became a successful and capable portrait painter represented in the National Galleries in Sydney and Hobart and also in the Commonwealth collection at Canberra, and four sons all of whom the writer found very agreeable and friendly. Of these Ernest and the writer were true bush and mountain lovers and this was obviously the attraction which has held us together right up to the present when we are no longer young. Botany being my penchant, soon after contacting Rodway I confided in him that I would like to be his pupil, at a fee. As a matter of fact at the Christmas, which had not been far off, the writer sent him a nicely worded letter and some polished sovereigns thanking him for his wonderful help in his studies. When the writer next met Rodway he expressed pleasure with his letter but he returned the gold pieces, and said that he would be pleased to teach me all he knew about botany, and over the years he did - pretty well! When his book on Mosses was published he presented the writer with a copy and, at the same time, gave him a specimen of a moss saying: "This is the most difficult of all to determine. If you can do it, then I will pass you with full marks". The writer succeeded and Rodway seemed satisfied with his tuition!

Rodway soon realised after his settling down in his adopted home that Tasmania was in need of a compendious Flora. The idea had then been talked about by collectors interested in the science of botany, and they found its absence had been a serious handicap to the study of the indigenous plants, and that it was also an impediment to enquiries of any kind connected therewith. After Rodway contributed papers to the Tasmanian Royal Society, as a member thereof, those interested in botany suggested

that he undertake the unenviable task. Fortunately for Rodway, and what acted as an incentive to his making an early start on the work of the preparation for a Tasmanian Flora in a single volume, there was a valuable collection of Floras in the Library of the Society, covering the work of the first collectors, e.g., Labillardière, Robert Brown, Hooker and others.

Although Rodway had no one superior to himself to collaborate with in Tasmania, he at first thought that all difficult questions, would, of necessity, have to be referred to Kew which would, at the time, have taken about six months for a particular matter to be considered owing to the slow travelling of mails. On second thoughts, calling to mind Bentham and Mueller's "Flora Australiensis", he quickly concluded that Baron von Mueller would be an able help to him especially as he was only a few days travel away. So thus in time a fine camaraderie sprung up between them which grew with the years until the Baron's passing away in 1896. The writer, whilst never having an opportunity of making a personal acquaintance with the Baron, nevertheless got to know of him through Rodway.

By the time Rodway was ready to undertake the long and tedious task of extracting particulars relevant to Tasmania's plants from the several Floras named herein, mainly during the process of lucubration, he had built up a good collection of plants gathered pretty well over the whole surface of Mt. Wellington (4,166 ft.), an undertaking of no mean order owing to the area to be covered and also to the density of the vegetation, in those days, through which one had to fight one's way. Much time can be absorbed in collecting diminutive plants, some of which can only be observed by sinking right down to one's knees or even lower! In searching for these tiny plants, making notes about them on the spot and then stowing the specimens away safely in the collector's outfit considerable time is taken up. This is the occasion when collectors prefer to have the company of botanists only as the time would naturally drag wearisomely on those who are just out for a ramble. In "doing" other mountains nearby, and there were many, his excitement grew at the variety and morphology of these plants of the southern hemisphere - in a southerly direct line it is not a terrible distance to the antarctic regions. His many journeys, often accompanied by a son or sons, had given him an unrivalled personal acquaintance with the vegetation which appeared so different from that in the land of his birth.

As Mt. Wellington was, generally, the first mountain climbed by botanists travelling on visiting warships and other vessels, he would often imagine that he was following the footsteps of Labillardière, Robert Brown, Sir J.D. Hooker and even Charles Darwin who arrived at Hobart Town on 5th February, 1836, in H.M.S. "Beagle", on its voyage around the world. Captain Fitzroy, it is recorded, decided to remain in port for ten days, which enabled Darwin to make "several pleasant little excursions, chiefly with the object of examining the geological structure of the immediate neighbourhood." When Darwin ascended Mt. Wellington he took a guide with him who lead him to the southern and damp side of the mountain, where they found the vegetation very luxuriant and "where the labour of the ascent, from the number of rotten trunks, was almost as great as on a mountain in Tierra del Fuego or in Chile." "It cost us five and a half hours of hard climbing

before we reached the summit." "In many parts the Eucalypti grew to a great size, and composed a noble forest." "In some of the damp ravines tree-ferns flourished in an extraordinary manner." Darwin saw one "which must have been at least twenty feet high to the base of the fronds, and was in girth six feet. The fronds, forming the most elegant parabols, produced a gloomy shade, like that of the first hour of night." "The summit of the mountain is broad and flat and is composed of huge angular masses of naked greenstone". "The day was splendidly clear and we enjoyed a most extensive view; to the north the country appeared a mass of wooded mountains, of about the same height with that on which we were standing, and with an equally tame outline; to the south the broken land and water, forming many intricate bays, was mapped with clearness before us. After staying some hours on the summit we found a better way to descend, but did not reach the "Beagle" till 8 o'clock, after a severe day's work."

In addition to Rodway's personal knowledge of some of Tasmania's plants, his numerous writings, as well as his accurate and careful botanical research, afforded abundant proof to members of the Tasmanian Royal Society, which included leaders of the government and of the University, heads of public departments and other public bodies, of his widespread knowledge. Under such circumstances, the announcement, made in the late nineties that he was then actively engaged in preparing for the student a "Flora of Tasmania" was received with general approval.

As usual every botanist who prepares a Flora starts from the standpoint reached by his predecessors in the same field: so we find that the system adopted by Rodway is that of Hooker and Bentham. The preparation of this "Flora" by an already exceedingly busy man, with his own profession of dentistry and obligations as member of several Boards, Lecturer at the Working Man's College and at other institutions, was in the circumstances a stupendous piece of work, using up an enormous number of overtime hours, be they weekends or holidays, for which he received no payment for the valuable services rendered to his adopted country. This great honorary work, subsequently, was to bring not only pleasure to others but in the process of time, in the not too dim future, a regular revenue following appointments of qualified botanists, with staffs, to permanent positions in Universities and the Public Service. Probably such appointees will never know anything of the pioneering work performed by Rodway, as the saying is, "free, gratis and for nothing" and not that he could afford it.

Rodway's literary research revealed to him that of botanical works, the following were available to a very few, but not to the general untrained botanists who included the greater number of interested people:-

- Labillardière, J.J.: *Novae Hollandiae Plantarum Specimen*. Paris 1804-6.
- Brown, Robert : *Prodromus Florae Novae Hollandiae et Insulae van Diemen*. London 1810 (and subsequent editions).
- Hooker, J.D. : *Flora Tasmaniae*. London 1860.
- Bentham, G. & Mueller F.von: *Flora Australiensis*. Vols I-VII. London 1863-1878.

- Spicer, Rev. W.W. : Handbook of Plants of Tasmania. Hobart Town 1878.
 Hannaford, S. : The Wild Flowers of Tasmania. Melbourne 1866.
 Johnston, R.M. : Field Memoranda for Tasmanian Botanists. Launceston 1874.
 Meredith, Mrs. Chas. : Some of my Bush Friends in Tasmania. London 1859. and Bush Friends in Tasmania (last series) London 1891
 Harvey, W.E. : Nereis Australis, or, Algae of the Southern Ocean. London 1847. and Phycologia Australica, A History of Australian Sea Weeds. London 1859.
 Bastow, R.A. : Tasmanian Mosses, with an Illustrated Key. Hobart 1886.
 Bunce, D. : Manual of Practical Gardening for Van Diemen's Land. Hobart Town 1838.
 Walch's Handbook of Gardening and Greenhouse Culture in Tasmania. Hobart 1898.
 (to be continued)

THE HERBARIUM OF THE BOTANY SCHOOL
THE UNIVERSITY OF SYDNEY

The Herbarium of the Botany School was established by the late Professor A.A. Lawson, about 1915, for teaching purposes. It was only very small in the early years but in 1925, when the building of the Botany School was enlarged, the Herbarium was given accommodation in a new wing and was given the title of the "John Ray Herbarium". From that time onwards various members of the staff took a keen interest in building up the collection with the object of making it really useful for reference purposes in the University. Field excursions and holiday journeys all became opportunities for collecting. Ecological workers also helped and we received donations from the National Herbarium, Sydney.

In 1929 we received a very useful gift in the Herbarium of the late R.H. Cabbage, F.L.S., which contained a very good range of Eucalyptus specimens. A collection made by Mrs. Adelaide Chapman was also received. In the Algae section we are principally indebted to the collection made by Professor Lawson and to the C.S.I.R.O. in Canberra, from whom we received useful spores from the collection of the late A.H.S. Lucas. We have also a North American collection in book form, 40 volumes, by Collins, Holden and Setchell.

We have in a separate cabinet a collection of New Zealand plants, donated by Dr. Sinclair Gillies of Sydney, which is said to have been collected by the New Zealand pioneer Botanist, Dr. Sinclair.

Following the plans of Professor Lawson all specimens are mounted and are housed in boxes in cabinets. All except the Algae are poisoned for protection against insect attack. The present policy is to make the herbarium essentially a teaching collection and as far as possible limit it to New South Wales species, native and introduced, but to have these represented

as fully as can be achieved. The Herbarium now contains approximately 16,000 sheets in 800 boxes.

G. D. Evans
Botany School
University of Sydney

EUROPEAN HERBARIA AND COLONIAL FLORAS.

It may be of interest to Australian botanists to hear how extensively the energies of various European herbaria are devoted to the study of colonial floras less well known than those of their own countries.

Of the two large Dutch herbaria at Leiden and Utrecht respectively, the former interests itself especially in the flora of the Netherlands East Indies and south-east Asia; while Utrecht is doing much work on various aspects of the plants of Surinam and Curacao, near the West Indies. The Paris Herbarium, at the Muséum d'Histoire Naturelle in the Jardin des Plantes, surrounded by street names from the history of biology, is working upon the flora of Madagascar, where the Director spends much of his time. And from the Brussels Botanic Garden and Herbarium comes the Director's recently published flora of the great national park in the Ruwenzori area of the Belgian Congo.

Though not in the colonial category, the work on the flora of New Guinea by the Arnold Arboretum is familiar to Australian systematic botanists. And the Herbarium of the Royal Botanic Gardens, Kew, England has of course largely built up its great name with a published series of good colonial floras.

C. M. Eardley
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University of Adelaide

NEWS AND NOTES ON CURRENT ACTIVITIES

New South Wales

The second impression of the 2nd. edition of "Trees of New South Wales" by Mr. R.H. Anderson has now been issued.

Correspondence from Miss. M. Tindale, who is acting as Australian Liaison Officer at the Kew Herbarium, indicates that she is busily engaged on her investigations on the Pteridophytes. Her assistance in referring to literature not available here has been much appreciated by the staff. She expects to attend the International Botanical Congress at Stockholm this year.

Miss. J. Vickery has continued her studies on the Gramineae, and in

particular has sorted the material of Eriochloa, and of the group comprising Lepturus, Pholiurus, Parapholis and Monerma. Some new species of Eragrostis, Paspalidium, Digitaria, Brachiaria, Stipa and Agropyron have been segregated and described.

Mr. L. Johnson has re-determined and revised the nomenclature of a number of naturalised and cultivated plant species. He has also been investigating several genera of the Chenopodiaceae, Proteaceae and Cunoniaceae, and also Juncus, Angophora and some groups of Eucalyptus spp.

Miss J. Garden has resorted the New South Wales species of Phebalium, Asterolasia, Eriostemon, Philothea, Ranunculus, Gompholobium, Hovea and Myoporum.

Mr. Johnson and Miss Garden have prepared a paper on the nomenclature of the group of Gymnosperms previously known as Phaerosphaera.

Exchange of specimens with overseas institutions has continued, largely owing to the activities of Miss N. Ford. Miss Ford has also been investigating the N.S.W. species of Abutilon, and certain species of Pimelea, Calocephalus, Cuscuta, the varieties of Erigeron pappocromus and certain species of the Compositae.

Mr. G. Chippendale has graduated in Science at Sydney University and has now been appointed to the Scientific Staff. He is devoting considerable attention to the checking of the identification of the plants in the Botanic Gardens, and to the preparation of a revised catalogue.

Mrs. G. Davis, New England University College, Armidale has completed a revision of the Australian species of Lagenophora. It is expected that this paper will be published later this year by the Linnean Society of N.S.W. Mrs. Davis is also studying the embryology of Brachycome and the cytology of Brachycome, Lagenophora and Solenogyne.

Victoria

Mr. A.W. Jessep left on February 21st to attend the Seventh International Botanical Congress at Stockholm. En route he will visit various botanic gardens and herbaria, commencing at Peradeniya. Prior to his departure Mr. Jessep completed a "Guide and index to notable plants in the Melbourne Botanic Gardens". This is now in the printer's hands. For a series of lectures he has 150 excellent kodachrome slides and 900 feet of technicolor film.

Mr. P.F. Morris has prepared thirty illustrated articles on weeds and their eradication.

Mr. J.H. Willis has continued his work on the compilation of a new Flora of Victoria.

Mr. P.N.S. Bibby has been working on the Lichens and Hepatics from the Cape York Archbold Expedition.

Mr. R.V. Smith has been engaged on a botanical survey of the Kulkyn National Forests.

Miss G.E. Dexter resigned from the position of Librarian on 4th February and Miss C. Skewes is now Acting Librarian.

A temporary check in the re-establishment of the Carpological and Museum collections due to slow installation of the much needed heating system has been received. For the same reason the Herbarium routine has also been severely handicapped. However 12,000 specimens were named for local correspondents. Information of industrial, horticultural and scientific nature has been supplied to clients from many parts of Australia and countries overseas.

During the year exchange with overseas botanical and horticultural institutions was continued. Specimens were received from : University of Chicago Natural History Museum (Cryptogams); C.T.White (Queensland); J. Smith (fodder and green manure plants used in Western Australia) and A. K. Cameron (Eucalyptus spp.)

Loans of specimens for botanical revisions were made to :-

Dr. C.A. Backer, Rijks Herbarium (Amarantaceae)
 Mr. Hoogland, Rijks Herbarium (Tetraceae)
 Mr. H.B. Womersley, Adelaide (Algae)
 Mrs. G.L. Davis, N.S.Wales (Brachycome)
 Mr. R.H. Anderson, Sydney, (various)
 Miss M. Tindale, Kew (Gleichenia, Marsilia)
 Mr. S.T. Blake, Brisbane (Eucalyptus)

New Guinea

From the end of July to October 1949, Mr. Womersley was with a prospecting expedition to the Upper Sepik River District. The party of four Europeans and approximately twenty natives, travelled by ship to a point 536 miles above the mouth and less than 6 miles from the Dutch New Guinea border. Botanical collections were made at all points possible and over 300 numbers, most of which are of ligneous species with supporting wood samples, have been collected. A number of seedlings of Podocarpus Blumei and Agathis Labillardieri were successfully brought to Lae for silvicultural work by the Department of Forests.

An interesting specimen collected at an altitude of 5,000 feet, above Bulolo, Territory of New Guinea, has been determined as Banksia dentata Linn. This species normally occurs at a low altitude on the coasts of North Australia and Papua. The recent discovery can probably be linked with the recent geological history of the backbone of New Guinea. A species of Santalum, with scentless wood, also occurred with the Banksia.

In all recent collections the specimens have been soaked in 4% formalin for 24 hours and then pressed, while still wet, in paper. The bundles are then tightly wrapped in sisalcraft paper and sent to Lae. Drying is carried out in the cabinets developed by Messrs. L.S. Smith and L.J. Webb in Brisbane. Specimens have remained in the bundles for three months and longer without any trace of mould appearing. Leaf-fall, so prevalent in rain-forest species, does not occur.

South Australia

Professor Abele, a cytologist who was formerly a professor of botany in Riga, Latvia is now a member of the research staff at the Waite Agricultural Research Institute.

A beginning is being made in Adelaide on chromosome studies, especially of the native Australian flora. It is felt that the Australasian investigators in this field are few enough to let each other know briefly what current projects they are pursuing. Miss Eardley particularly desires to be sent such details from cytologists not already approached, with a view to collating it and making it generally available. The taxonomic study of some of our difficult native genera will surely profit by such investigations.

Owing to re-arrangements in the staffing of the Adelaide University, Herbaria, the initial temporary appointment of Mrs. Stirling Robertson at the Waite Institute has been continued.

Mr. R. L. Specht has pursued the work of determining the plants of his Arnhem Land Collection, spending some time at the herbaria of the Eastern States, especially Melbourne, for checking.

A recent visitor was Mr. W. Bateman, a Commonwealth Forestry Officer, on his way to the new duties of Forester at Port Darwin in the Northern Territory.

At the Botanic Gardens, the Director is building up a reference library, in close collaboration with the Adelaide Public Library. He is also giving a course of lectures on trees and their culture to the Workers' Educational Association. Improvements have been made in the naming and labelling throughout the Garden; and Mr. E. S. Booth continues his work of re-arranging the collections in the Museum of Economic Botany there.

Miss. Eardley is particularly keen to bring the following request to the notice of readers:

WANTED: Australian native seeds of the following families and genera - HYDROCHARITACEAE, HIMANTANDRA (RANALES), DORYPHORA, DRIMYS, and NYMPHAEA.

Tasmania

Miss Curtis has been granted sabbatical leave, from the University of Tasmania, for two terms in 1950. She left for the United States on April 28th. She will visit New York, Washington D.C., and Grinnell, Iowa and hopes to visit a number of herbaria and universities elsewhere in the United States. Later she will sail for England and then proceed to Sweden to attend the International Botanical Congress.

Western Australia

Mr. Gardner reports that the first part of his Flora of Western Australia (Vol.1 part iii. - The Gramineae) is now more than half printed and it is hoped that the work will be issued about next June. Printing has been delayed owing to the time involved in the preparation of 106 illustrations.

Australian Capital Territory

Mr. W. Hartley has prepared a Report on his Plant Collecting Expedition to Sub-tropical South America and this has been published as a Divisional Report of the Division of Plant Industry, C.S.I.R.O. He has also completed a paper on the distribution of grass genera which will be published later this year. He is now working on the revision of the list of standardised plant names published in C.S.I.R. Bulletin No. 156. in 1942 as well as the revision of the Pasture Map published with Bulletin 99.

Miss Burbidge has been busy preparing a list of some of the more important books in the libraries of the various Australian herbaria. This list, which is a selection only, is now in the later stages of checking. It is hoped that it will be ready for publishing in a few months time.

Last January Miss Burbidge spent a week at Deniliquin, N.S.W. where seeds of a number of Australian Chenopodiaceae were collected. These will be included in the seed lists issued by the Plant Introduction Section of the Division of Plant Industry. Herbarium material of the species was also obtained for exchange purposes. Among the specimens was Atriplex pseudo-campanulata Aellen (Bot. Jahrb. Bd.LXVIII. Heft 4/5: 1938). Aellen distinguished two varieties on the presence or absence of appendages on the perianth lobes but it was found that this character varied even on a single individual.

General

All the herbaria enjoyed the visits paid to them by Sir Edward Salisbury during his time in Australia last September.

In a circular from the publishers we note that a further part of the new Flora Malesiana has been issued. This represents Series I. Vol. 4. part 2. (December 1949). There are 160 illustrations. The contents are given as follows:-

1. General considerations (concluded) by C.G.G.J. van Steenis.
2. Short History of Malaysian Phytography, by H.C.D. de Wit.
3. Taxonomic Revisions of Ceratophyllaceae, Hydrocaryaceae, Moringaceae, Saururaceae, Styracaceae, Juncaginaceae, Trigoniaceae, Zygophyllaceae, Cochlospermaceae, Podostemaceae, Plumbaginaceae (C.G.G.J. van Steenis), Amaranthaceae, Chenopodiaceae (C.A. Backer), Umbelliferae (P. Buwalda).

SOURCES OF SEED OF AUSTRALIAN NATIVE PLANTS.

One of the most common inquiries received at Australian botanical institutions concerns sources for seeds of native plants. The list given below covers a number of places and firms which may be able to supply the material required. Since the demand for such is somewhat erratic and often of a specialised nature, readers are warned that the supplies maintained are not always very extensive either in quantity or in the range of species represented. However, if given suitable notice, a number of places are willing to make an attempt to obtain seeds of native plants not represented in their normal lists.

(NOTE: Inquiries regarding seeds of New Zealand species may be made through the Division of Scientific and Industrial Research, Wellington, New Zealand.)

Commercial

P. Althofer "Glen Ora", Dripstone, New Stone Wales (chiefly N.S.W. species)

A. Murphy Woy Woy, New South Wales, (Eucalyptus and Acacia, mainly eastern species)

Frapes Florist, Gladden Buildings, 66 William Street, Perth, Western Australia (West Australian species).

Law Somers Pty. Ltd. 21-23 Elizabeth Street, Melbourne, Victoria.
(limited stocks Australian seeds - tree species)

Gill and Searle, Elizabeth Street, Melbourne, Victoria. (Limited stocks)

Barkly Nurseries, 47 Barkly Street, Mordialloc, S12. Victoria. (Buyers of native seed)

Forestry Departments

Conservator of Forests, Forests Department, Perth, Western Australia.

The Secretary, Forests Commission of New South Wales, P.O. Box 2667 EE
G.P.O. Sydney, N.S.W.

Forest Commission, Treasury Buildings, Melbourne, Victoria.

The Conservator, Woods and Forests Department, Victoria Buildings,
Flinders Street, Adelaide, South Australia.

The Secretary, Forestry Sub-Department, Executive Buildings, Box 1150 P.
G.P.O. Brisbane, Queensland.

The Conservator of Forests, Hobart, Tasmania.

Other Institutions

The Chief, Division of Plant Industry, C.S.I.R.O., P.O. Box 109,
Canberra City, Australian Capital Territory.

Australian Forestry School, Canberra, Australian Capital Territory.

The Superintendent, Parks & Gardens Dept., Department of the Interior,
Canberra, A.C.T.

Waite Agricultural Research Institute, Private Bag, G.P.O. Adelaide
South Australia.

Adelaide Botanic Gardens has lately begun to issue an Index Seminar
with Australian plants included.

Melbourne Botanic Gardens, South Yarra S.E.1., Victoria) Will respond
to specific
Sydney Botanic Gardens, The Domain, Sydney, N.S.W.) requests.

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ON THE APPLICATION OF ARTS. 37, 37 bis., 40 and 44 OF THE INTERNATIONAL
RULES OF NOMENCLATURE TO CERTAIN NAMES PUBLISHED BY F. MUELLER AND PIERRE.

The exact status of many names published by or attributed to F. Mueller is often difficult to determine. The relative passages in the International Rules of Nomenclature as amended in 1935 at Amsterdam (official version, 1948) are as follows:

Art. 37: A name of a taxonomic group of recent plants is not validly published unless it is accompanied by a description of the group or by a reference to a previously published description of it

Art. 37 bis.: A name which is not accepted by the author who published it, but is merely proposed in the anticipation of the future acceptance of the group concerned, or of a particular circumscription, position or rank of the group (nomen provisorium) is not validly published. Note: This article does not apply to alternative names ... proposed ... for immediate use by those who accepted the wider circumscription of the genus ...

Art. 40: A name of the taxonomic group is not validly published when it is merely cited as a synonym.

Art. 44: The name of a species ... is not validly published unless it is accompanied (1) by a description of the group or by the citation of a previously and effectively published description of the group under another name;.....

The simplest kind of difficulty is illustrated in Fragm. 6; 128 (1868). At the head of the description appears:

Parsonia Langiana.

Lyonsia Langiana F.M. coll.

Bentham, Fl. Austral. 4: 322 (1869) accepted as the name of the species under Lyonsia "L. Langiana, F. Muell. Fragn. vi. 128" and cited as a synonym "Parsonia Langiana, F. Muell. vi. 128."

The problem is the exact nomenclatural status (according to our present rules) of the name Lyonsia Langiana in Fragm. 6. Is it a synonym or an alternative name? If it is an alternative name, then Bentham's quotation is in accord with the rules and the problem disappears. If it is a synonym, then the valid publication dates from Bentham's work (Art. 45); the name should be cited as Lyonsia Langiana F. Muell. ex. Benth. or perhaps as Lyonsia Langiana (F. Muell.) Benth. In some analogous cases, the second name might be regarded as a nomen provisorium, with a similar nomenclatural status as a name published in synonymy. In the case cited, very little time elapsed between the two publications, but often the interval has been much greater and other names may have been proposed for the group in the interval.

Chilocarpus australis F. Muell. in Fragm. 2: 90 (1860) was published as follows:

p. 89

"APOCYNACEAE

Chilocarpus.

Blume Bijdragen tot de Flora van Nederl. Indie 1025; Museum Botan. Lugd. Batav. 151. t. 52 (Sect. Rhytileucoma.)

p. 90

Chilocarpus australis

Rhytileucoma chilocarpoides, F.M. coll.

"Glaber, foliis ovatis"

This example is complicated by the introduction of a new generic name and a different epithet in the second name. If the second name is to be treated as an alternative name, then the generic name Rhytileucoma is valid according to Art. 43. This is important also, for this species (under a name which does not concern us here) is the type of another generic name published many years after Mueller's death (the taxonomy will be discussed elsewhere). It may be noted that Bentham, l.c. p. 303, did not cite Rhytileucoma or R. chilocarpoides in his treatment of the species.

The combination Melodinus chilocarpoides was introduced with a direct reference to a previously published description of the group under another name and is validly published. As it stands, it appears to be based directly on Chilocarpus australis and is therefore illegitimate because the epithet australis should have been chosen (Art. 54); it might be regarded as being based on Rhytileucoma chilocarpoides indirectly cited by the reference to Chilocarpus australis and its place of publication. In any case, the introduction of the name was made in a casual manner.

In Index Kewensis Suppl. 2; 116 is the entry under MELODINUS australis Pierre in Bull.Soc.Linn.Par. n.s. 1. 103 (= Chilocarpus australis). - Austral. In the paper cited ("Observations sur quelques Landolphiées" publ. 1898) Pierre discussed several genera and the generic position of certain species including Chilocarpus australis. The pertinent passages occur on pp. 99, 100, 103, and 104. Among other matters mentioned in the two consecutive paragraphs on pp. 99-100, Pierre stated in two places why Chilocarpus australis should be excluded from Chilocarpus and included in Melodinus: in the first passage there is a fairly direct mention of F. Mueller as the describer of the species ("Ainsi F. Müller ... a fait le Chilocarpus australis ...") On p. 103, Pierre mentioned "Melodinus australis" incidentally in an enumeration and later on used the phrase "Ces callosités sont ... très effacées chez le M. australis (F.Müll.) Pierre et chez le M. cambodiensis sp. nov". On p. 140 he mentioned "M.australis Pierre." Nowhere is there any positive evidence that the Melodinus australis mentioned on pp. 103-4 is the same as the Chilocarpus australis mentioned on pp. 99-100, only a strong presumption based on taxonomic (not nomenclatural) considerations. Only the citation "M.australis (F.Müll.) Pierre" on p. 103 suggests that the combination is based on some name of Mueller's, and this is contradicted by the citation on p. 104. There is no clear reference to any "previously ... published description" demanded by Art. 37 or to a "previously ... published description under another name" demanded by Art. 44. It seems to me to be straining both the letter and the spirit of the International Rules (cf. Arts. 1,3 and 4) to claim that Pierre validly published a combination Melodinus australis (F.Muell.) Pierre based on Chilocarpus australis F. Muell. Fragm. 2: 90 (1860). Melodinus australis as used by Pierre appears to me to be a nomen nudum.

Melodinus australis Maiden & Betche in Proc. Linn. Soc. N.S. Wales 24: 647 (1900) was validly published with a description. It refers to an entirely different plant and (if Pierre's name is regarded as a nomen nudum) prevents the transfer of Mueller's epithet.

The regular acceptance as an alternative name of the second name cited by Mueller in the examples quoted above may be justified by Art. 5 (established custom) and Art. 4 (fixity of names), although it should be mentioned that Bentham sometimes quoted the second name when he accepted it as "F.Muell. herb." or simply "F.Muell." in the same manner as he quoted manuscript names.

A similar course would have to be followed in the case of numerous names published by Domin in various places in Bibliotheca Botanica Hefte 85 and 89. On these interpretations, the correct name for Chilocarpus australis when transferred to Melodinus is Melodinus chilocaroides. If the combination be regarded as directly based on Chilocarpus australis, then the citation of the author's name is simply "F.Muell." and the name was illegitimate when published under Art. 62 (2), but is legitimate now because it is the only one available; if based indirectly on Rhytileucoma chilocaroides, then the author should be cited "(F.Muell.) F.Muell." the name was legitimate when published, and Pierre's name would be illegitimate even if valid.

The above examples illustrate a certain vagueness in the Rules, particularly as to the meaning of the terms "alternative names", "provisional

names", "names published in synonymy" and "reference".

Other solutions may be possible, and I would be pleased to receive any criticisms of the above treatment.

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NORTH QUEENSLAND HERBARIUM.

The North Queensland Naturalists' Club came into existence in Cairns in August, 1932, and soon began to forward specimens to the National Herbarium at Brisbane for determination. About a year later Mr. C.T. White, the Queensland Government Botanist, wrote as follows: "Personally I think if the North Queensland Naturalists' Club wants to do good work with flora, the best way, perhaps, would be to form a local herbarium, and to collect plants assiduously on your various rambles, sending specimens to me for identification and report. In this way, working in the rich flora of North Queensland, you cannot fail to make extensive additions to the knowledge of our flora, because the flora of North Queensland is far from being completely known."

At that time, there were no experienced botanists either amongst the club members or in North Queensland, so much had to be learnt about collecting, drying, mounting and classification, and of course this took time. Nevertheless through the most cordial and cheerful co-operation of Mr. White and his staff, and others a collection was steadily amassed, methods of drying and arrangements improved, and the specimens ultimately determined, mounted and classified. All local plants, which could be secured were collected, weeds, native as well as introduced, together with specimens from different localities and classes of country. The recompense was considerable inasmuch as originally the identities of very many plants which were taken to be correct were in many cases found to be quite false. Quite a number of new species were discovered, and also many others recorded for the first time in Australia. A list of both type specimens as well as of specimens recorded for the first time in Australia is being prepared.

For a while the collection was housed privately, but by January 1940, the Cairns City Council had erected for the purposes of the North Queensland Museum (which was originally intended to comprise also the Herbarium), a store room, which was of substantial timber construction with a concrete floor. It was located at the Cairns City Nursery, Edge Hill, about three miles out of town, next to the residence of the City Curator, the late Mr. Leslie Wright, who looked after the building. A very substantial botanical collection, of some 3,011 different species, of which 1772 were native plants collected in North Queensland, as well as many others awaiting determination had already been accumulated.

Naturally, the war impeded operations somewhat, and for a while the

building was commandeered by the army occupational authorities as a storeroom for Red Cross material. Nevertheless access to the collection was arranged so that collecting, arranging, labelling and classification still went on. The cupboards for the accommodation of the specimens were provided through the munificence of the Cairns City Council, which also supplied some furniture, whilst the boxes and other material, such as mounting sheets were provided by the Naturalists' Club. Upon the cessation of hostilities, with the co-operation of the different service organizations, an endeavour was made to establish a War Museum, and the contents of the store room at Edge Hill were transferred in 1947 to two large wooden buildings, which were part of the naval barracks, H.M.A.S. "Kuranda" erected for the Royal Australian Navy. These were situated in a prominent position on the Cairns Esplanade, near the centre of the city, and handy for tourists and business people generally, on land claimed before the war by the Cairns Harbour Board, which body later acquired the buildings and very generously and graciously permitted them to be used for museum purposes. The Herbarium occupied the northern extremity of one of the buildings.

However, owing to lack of interest on the part of the various services, the proposal for the War Memorial Museum was abandoned and a public meeting called by His Worship, the Mayor of Cairns on 22nd September, 1949 established a new body, the North Queensland Museum Committee, elected nine officers, but the Herbarium was not included and henceforth acted independently.

The collection at present comprises 5042 mounted species and varieties of which 2616, that is the majority, have been obtained in North Queensland where they are indigenous. Of the Phanerogams, 1077 species and 53 varieties are of dicotyledonous plants and 542 species and 13 varieties are monocotyledonous, whilst the exotics of the same groups comprise 1790 species and 37 varieties and 361 species and 8 varieties respectively. These were all obtained from numerous sources and come from all states of the Commonwealth, those from New South Wales being contributed in large part by Dr. F. A. Rodway of Nowra, N.S.W. A large collection of New Zealand plants has also been presented by Mr. Noel Lothian. North West Australia, Northern Territory and New Guinea are very poorly represented, the collection of those from New Guinea being hampered by the Administration of those Territories. However, quite a representative collection has been obtained from Central Australia.

Most of the specimens enumerated above were determined by the Government Botanist and his staff at the Queensland Herbarium. The majority of the Eucalypts and Loranthaceae were determined by the late Mr. W. F. Blakely. The arrangement of the Orchidaceae is due to the Rev. H. M. R. Rupp and Mr. W. H. Nicholls while to Mr. S. T. Blake is due the determination of the Cyperaceae and grasses.

Of the Pteridophytes, 174 species and varieties are indigenous to North Queensland and 88 from elsewhere. Most of the former were determined by Miss D. A. Goy (Mrs. L. S. Smith) and by Mr. L. S. Smith, whilst the others were mostly identified by the National Herbarium of Victoria and by others. The remainder of the collection consists of 307 species and varieties of indigenous and 170 exotic mosses, hepatics, lichens, fungi and algae. The collection of mosses is very considerable, and these were mostly determined by Mr. H. N. Dixon. Some New Zealand mosses from Dr. G. O. K. Sainsbury and a few from Fiji are also included. The hepatics, lichens and fungi were

chiefly determined at the National Herbarium in Melbourne, whilst most of the algae were identified by the late Mr. A. H. S. Lucas, some also being determined by Miss Valerie May (Mrs. Jones.)

A Census of North Queensland Plants has been published in the successive issues of the North Queensland Naturalist, commencing with Vol. I, No. 9. (May 1933) and continued until the last was completed in the Supplement to No. 90, (March 1949). These were all supplemented by Addenda and Corrigenda. Although no longer published in serial form, this Check List is still kept up and brought up to date. It is type-written and occupies 247 pages of foolscap. The names and authors of all species - including naturalized exotics - are given, together with observed flowering months, the localities where collected and the names of collectors.

The following botanical publications have been issued by the N.Q. Naturalists' Club:

- No. 1. Check List of North Queensland Orchids. Prepared with the assistance of the Rev. H. M. R. Rupp - March 1945.
- No. 3. Check List of North Queensland Ferns. A list of pteridophytes prepared with the assistance of Mrs. L. S. Smith - November 1946.
- No. 4. Edible Plants of North Queensland. By Dr. H. Flecker, Mr. G. B. Stephens and Mr. S. E. Stephens - May 1948.

H. FLECKER

North Queensland Naturalists' Club
Cairns.

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