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AUSTRALASIAN HERBARIUM NEWS

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

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VALID PUBLICATION AND NOMINA ALTERNATIVA

In "Australasian Herbarium News" No. 6 (March 1950) 12-15, S.T. Blake discussed the application of Articles 37, 37 bis, 40 and 44 of the International Rules of Botanical Nomenclature to certain names published by F. Mueller and Pierre. His interpretation of the Rules in these cases seems to be open to challenge.

The first principle involved is that of alternative names. The Note appended to Art. 37 bis, which is intended to validate alternative names, seems to be in direct opposition to the principle of the Rule itself. An author can hardly accept two "positions" for a group at the same time. It is noteworthy that Proposals 1 (Wheeler) and 6 (St. John) under Art 37 in the synopsis of Proposals concerning the Int. Rules submitted to the Stockholm Congress (1950) are definitely opposed to the acceptance of nomina alternativa. The relevant part of Prop. 6 was accepted by the American Taxonomists. Prop. 3 (Utrecht Conference - Fosberg) for the recasting of Art. 37 bis makes no provision for the acceptance of nomina alternativa except in the Note added by Hylander, which is "not recommended for acceptance." At the moment of writing I do not know whether this proposal has been accepted but it seems clear that there is a large body of responsible opinion against the acceptance of alternative names. With this opinion I strongly agree. Their acceptance raises problems such as the present one in which the application of the Rules would be unequivocal were nomina alternativa ruled invalid.

Even if alternative names continue to be accepted, do Mueller's cited examples fall within this category? The relevant passage refers to "alternative names.....proposed.....for immediate use by those who accepted the wider circumscription of the genus previously in use". I cannot see that either "Lyonsia Langiana F.M. coll." or "Rhytileucoma chilocaroides F.M.coll.", each cited under the respective accepted name, can be shown to be proposed by the author (Mueller) for immediate use by those who accepted wider (or narrower) circumscription of the genera concerned. I have looked at dozens of cases where Mueller has cited names similarly as "F.M.coll." reading his comments in each instance, and have found no indication that he proposed these names for alternative use, even though he sometimes states that the position of the species is subject to review. The method of citation is precisely that employed by Mueller for undoubted synonyms. The word "coll." refers to Mueller's labelling of his specimens and seems to be included as an indication of his former opinion, no longer held at the time of publication. In the second case, acceptance of "Rhytileucoma chilocaroides" as valid implies that Mueller was simultaneously both proposing and not accepting a segregate genus Rhytileucoma, which is absurd.

Consider the case of Grevillea Bleasdalei F.Muell., Fragm. V. (1865) 90, under which is cited "Bleasdalea cupanoides, F.Muell. coll." On p.91 Mueller discusses the difference between this plant and typical species of

Helicia, Cardwellia and Grevillea, and remarks that if the fruit were found to support its segregation then it would constitute a genus to be called Bleasdalea (sic). Bleasdalea (or "ia") is clearly a nomen provisorium and thus invalid. Rhytileucoma has less standing than Bleasdalea since Mueller did not remark that it would be a suitable name if the group were held to be a distinct genus, but merely indicated that he had written the name on some specimens. Its status is that of a herbarium name published in synonymy. In fact Mueller evidently proposed Rhytileucoma as a section of Chilocarpus Blume, though without a sectional description.

To be regarded as a nomen alternativum a name should surely be accompanied by a definite indication it is proposed for use by those holding generic concepts differing from those of the author, as in the case of Cyperus brevibracteatus, etc., published by Domin in Biblio. Bot. 85 (1915) 445 in a footnote reading "Im Sinne der Mehrzahl der australischen Botaniker, welche die Gattung Mariscus nicht erkennen, sind meine neuen Mariscus - Arten als Cyperus.....zu bezeichnen". Under the present Art. 37 bis these names are indubitably (though in my view, regrettably) valid. The Rule is indeed convenient for those authors who wish to see their own names cited, come what may.

Blake refers to Bentham's citation of Mueller's names in the "Flora Australiensis", but this does not seem relevant to the argument; Bentham did not work according to our present Rules nor were his methods of citation those of today. The authority for the name Lyonsia Langiana should be cited as "(F.Muell.) Benth.", not "F.Muell. ex Benth.", since in the view here taken it was not proposed (Art.46) by Mueller but merely attributed to him by Bentham when the latter made a new combination based on Parsonsia (errore Parsonia) Langiana F.Muell. What Bentham thought he was doing is not relevant.

Accepting for the moment Blake's contention that the name Melodinus australis Pierre is invalid, let us consider the case of the name Melodinus chilocarpoides F.Muell., Fragm.VI.(1868) 118. As Blake says, if this "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", since the earliest available epithet "australis" was not adopted (Art. 60(2), and not "62(2)" as cited). However, there seems to have been some confusion here in taking the terms "superfluous" and "illegitimate" as equivalent, for Blake goes on to say that the name "is legitimate now because it is the only one available". Now, Art.60 states that "a name must be rejected if it is illegitimate" and that "a name is illegitimate.....if it was nomenclaturally superfluous when published" (my emphases). The name Melodinus chilocarpoides was superfluous when published, consequently it is illegitimate whether other names are available or not.

The alternative interpretation (apparently accepted by Blake) is that if regarded as "based on Rhytileucoma chilocarpoides, then the author should be cited as "(F.Muell.) F.Muell.", the name was legitimate

when published, and Pierre's name would be illegitimate even if valid." This, of course, depends on the acceptance of Rhytileucoma chilocarpoides as a (valid) nomen alternativum. The Rules give no specific indication of procedure in such a case but it seems a little far-fetched to accept, on transference to another generic name, an epithet which was proposed in the first place as an alternative to the name given preference by the original author, especially as the combination in which this epithet first appeared would be illegitimate (under Art. 60(2)) if it had been published later (and therefore, unless in synonymy, undoubtedly validly) than the originally accepted name. The proposed interpretation seems to contravene the spirit of the Rules as laid down in Arts. 3, 4 and 5.

The second principle involved in this discussion is that of Arts. 37 and 44, regarding reference to a previously published description of a taxon. It is claimed by Blake that it is "straining both the spirit and the letter of the International Rules (cf. Arts. 1, 3 and 4) to claim that Pierre validly published a combination Melodinus australia (F. Muell.) Pierre based on Chilocarpus australis F. Muell., Fragm. 2: 90 (1860)" and he holds therefore that "Melodinus australis" as used by Pierre... is "a nomen nudum". Certainly Pierre's reference to Mueller's name (and thereby to his description) is indirect, but in its context it seems sufficient. Pierre's mention on p. 104 of "M. australis Pierre" scarcely contradicts (as claimed) his reference on p. 103 to "M. australis (F. Muell.) Pierre", but rather indicates that he used "short" and "long" citations indiscriminately as was common practice at that time, and is still to some extent. Unless there is evidence to suggest that Pierre intended to base his name on any other species-name of Mueller's which included the epithet "australis" it may surely be allowed that he made sufficient (though informal - as was common practice at the time) reference to the basonym Chilocarpus australis F. Muell. through a combination of his references on pp. 99, 100, 103 and 104.

In this connection Prop. 4 (Sprague) under Art. 37 is relevant. This is "recommended for acceptance" and reads: "Insert the words '(direct or indirect)' after 'reference'...." In the example given by Sprague the reference is admittedly more definite than that of Pierre but the idea of indirect reference is accepted for names published in the past. Unless a specialist on the Apocynaceae such as Mr. Blake can show that there is reason to believe that Pierre did not intend to base his Melodinus australis on Chilocarpus australis F. Muell., it seems best to accept it. The fact that Maiden and Betche later used the same binomial for another species is irrelevant, and in the view here taken Melodinus australis Maiden and Betche is illegitimate as a later homonym of the valid and legitimate name M. australis (F. Muell.) Pierre.

However, if it be still maintained that M. australis Pierre is a nomen nudum, then M. australis Maiden and Betche is valid and precludes the subsequent use of Mueller's epithet "australis" under Melodinus. Since Melodinus chilocarpoides F. Muell. is also illegitimate (v. supra) a new name must then be chosen.

Finally, Blake has appealed to Arts. 4 and 5 to justify "the regular acceptance as an alternative name of the second name cited by Mueller in the examples quoted above." Art. 5 reads: "In the absence of a relevant rule, or where the consequences of a rule are doubtful, established custom must be followed" but "established custom" surely does not mean the practice of 19th century botanists of accepting any name they thought fit, and attributing it to an author without critical consideration of its validity or legitimacy. The aims of Art. 4 (fixity - not indirect conservation - of names and avoidance of errors) seem better served by the more conservative application of the Rules advocated in the present note.

In summary this is: (i) that names cited by Mueller under an accepted name as "A...., b....., F.M.coll." are published in synonymy and are therefore invalid; (ii) that the nomenclatural practice of 19th century botanists is no guide to the correct application of the International Rules of Botanical Nomenclature; (iii) that in past literature sufficient reference to validate a name accepted by its author is made when the basonym^x and its author are indirectly referred to, provided that there is no reason to believe that some other basonym may be intended.

Finally it is contended that the acceptance of nomina alternativa under Art. 37 bis (Note) (a Rule) is opposed to Art. 4 (a Principle) of the International Rules.

All systematists interested in nomenclature will be grateful to Mr. Blake for airing a problem which will be encountered by everyone who is concerned with names published in F. Mueller's "Fragmenta Phytographiae Australiae".

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x Note: the form "Basonym" is to be preferred to the commonly used "basonym", since it is derived from βασις and ωνυμ and is thus "bas-onym", not "bas-o-num" or "Basi-nyum". This opinion is endorsed by Professor Trendall of the Greek Department, University of Sydney.

ROBERT BROWN'S MANUSCRIPTS HELD AT THE BRITISH MUSEUM OF
NATURAL HISTORY, SOUTH KENSINGTON

Readers may recall that one of the Resolutions passed by Section M (Botany) at the Hobart Conference of A.N.Z.A.A.S. dealt with a request that the Commonwealth Government make arrangements for the microfilming of Robert Brown's manuscripts. These on investigation in London, proved to be rather more complicated than had been anticipated. Consequently the Australian Scientific Liaison Office in London asked Miss Tindale, who is working at the Kew Herbarium, to inspect the papers and prepare a report. We give below some extracts from her notes on the papers held at the British Museum of Natural History at South Kensington.

"The most important manuscript from the point of view of the Australian herbaria is that of Robert Brown's diary. It contains 353 single pages. Most of the writing is in ink and is fairly legible. There is a detailed account of the expedition commencing on the 14th June, 1801, at Spithead, England, and ending on the 30th Jan., 1805, in New South Wales. It would be possible to ascertain the type specimens of a large number of Robert Brown's species by consulting this manuscript in conjunction with specimens which are mainly located in the British Museum of Natural History, South Kensington. Brown's account of his travels differs considerably from that of Matthew Flinders in "A Voyage to Terra Australis" Vol. II, 1801, 1802, and 1803 in H.M.S. "The Investigator" (1814).....

"In the two boxes labelled "Descriptions of New Holland Plants" there are 14 notebooks labelled I-XV. (No. VIII. is missing). All are worth microfilming, since they contain amplified descriptions of a number of R. Brown's Australian species which were so briefly published in the "Prodromus Florae Novae-Hollandiae" (1810). Unfortunately the bulk of these species were never validly published so must remain as manuscript names. In notebooks II. and IV. most of the handwriting is in pencil and is almost illegible. When photographed it may be possible to darken the lettering.....

"There are three green boxes labelled "Australian Floras". Box I. contains a leather-covered book in which are cited a number of type localities and habitat notes for a large number of Brown's Australian species. This book should be one of the first manuscripts to be microfilmed. Fortunately the writing is quite legible. Box II. contains fascicles I. to LXXV which are written in ink and should be legible when filmed. A locality is given for each species, so this should be useful in the determination of types. In box III. there are a number of fascicles dealing with Dicotyledons as well as Monocotyledons and Pteridophyta.....

"There is a brown paper covered booklet labelled "Florula vicinitatis Fluvii Hunteri", Oct.-Nov. 1804 comprised of 66 single pages (8" x 5").

This contains a list of plants (mainly Angiosperms and Pteridophyta) which he collected in the Hunter and Paterson River districts of New South Wales.....

"A brown paper covered book (8" x 7") labelled R. Brown's "Filices" should be microfilmed. It contains 44 single pages. The most important part is a "Catalogus Filicum quorum Exempla via dantur in Herbario Linnei Patris".....

"Another brown paper covered exercise book (8 $\frac{1}{2}$ " x 6 $\frac{1}{2}$ ") labelled "R. Brown's Notes on Withering's Herbarium (Cryptogams)" contains 8 pages of "Notes on the Ferns of George Forster's Herbarium in the possession of Mr. Lambert". These 8 pages should be filmed but the rest of the book is unimportant.....

"By far the largest manuscript is that of Robert Brown's "Prodromus Florae Novae Hollandiae" which is kept in 78 boxes which bear the names of the families. Each box contains between 500 and 800 sheets of paper which are 4" x 6". The manuscript is especially valuable as it contains the amplified descriptions and habitat notes of many species which were validly published in the 1810 edition of the Prodromus.....This huge manuscript would require a great deal of editing before being microfilmed, as the pages are unnumbered and some of them were found to be out of sequence. As the context is hard to read and is almost entirely in Latin, it would be advantageous to have parts of it typed.....the complete editing of this manuscript would take about a year, particularly as many non-Australian species are included in this prodromus. It is therefore suggested that only those portions containing genera which are being revised by Australian botanists, should be microfilmed at present."

CURRENT CYTOLOGICAL WORK IN AUSTRALIA AND NEW ZEALAND.

It may seem out of place to publish an account of this type in a journal devoted to matters connected with herbaria and systematic botany. However, it is becoming increasingly clear that a cytological analysis of the chromosomes of plants or animals, bound up as it is with the breeding systems prevailing in any particular group, is a most important adjunct to the morphological and ecological characters hitherto relied upon by taxonomists to classify their organisms. Taxonomists aim not only to be able to pigeonhole species with consistency, but to do it in a way expressive of the natural relationships between them. This can often be done quite well on purely morphological evidence, in other cases we have those genera notoriously difficult to classify because of variability or lack of clean-cut discontinuities between groups; the important cultivated crop and horticultural plants are a case in point, the genera Rubus, Rosa, Eucalyptus and many others. In such genera it is obviously worth-

while to make the relatively laborious cytological analysis; it will always give some explanation of the taxonomist's difficulties and often help him out of them.

In the recent book "The Evolution of Gossypium" (Oxford University Press, 1947, p.13), J.B. Hutchinson, SLOW and Stephens describe a study of this kind; they say "Revision of the classification of a genus including cultivated plants inevitably leads to difficulties with nomenclature.....Consequently the use of any of the established specific names to cover the varied assemblage of forms now included in a crop species involves the extension of the definition far beyond the intention of the original author. Nevertheless, such an extension in meaning is the only alternative to coining a completely new set of names, and agreement should be possible between taxonomists and economic botanists.....if the valid name according to the International Rules of Botanical Nomenclature is accepted wherever it is not positively misleading."

Cytological characters give no universal touchstone to test the limits of the species, they must be considered in the context of the group concerned; some large groups are fairly constant in cytological make-up (possibly Eucalyptus is one of these,) while others show a very helpful diversity. Taxonomists and cytologists collaborating upon a difficult group can elucidate many problems; though the experimental proof of some of their hypotheses will be a task for the geneticist.

It is hoped later to make a brief survey of accounts already published of the chromosome cytology of Australian native plants. Possibly some of the work done outside Australia may escape notice; the editor will therefore be glad to receive references to such work. The present list has been compiled in the belief that Australian cytologists will work more effectively when aware of Australian work as a whole.

Since cytologists usually appreciate receiving samples of seed (authentically labelled) of the species upon which they are working, colleagues are, therefore, urged to forward appropriate seed to them whenever it is available.

RESEARCH PROGRAMMES.

AUSTRALIA

UNIVERSITY OF TASMANIA - Botany Department.

Cytological surveys of the following genera are in progress:-

- (1) Wahlenbergia, Bulbine - Miss H. Gulline.
- (2) Pultenaea, Dianella - Miss W.M. Curtis.
- (3) Tmesipteris, Casuarina - Professor H.N. Barber
- (4) Acrididae (grasshoppers)- Mr. G.B. Sharman.

It is hoped to start a cytological survey of the Tasmanian Ranunculaceae and Gymnosperms.

UNIVERSITY OF SYDNEY - Botany Department

- (1) Cytology of Myrtaceae - Mr. S. Smith-White. Continuing previous work; interest lies chiefly in the Western Australian Darwinia and Verticordia spp.
- (2) Cytology of Epacridaceae.- Mr. S. Smith-White. Continuation; interest lies in the triploid Leucopogon juniperinus and in the basis of polarisation in the pollen mother cells of Styphelia, as well as in the cytotaxonomic significance of chromosome number differences.
- (3) Cytology of the Rutaceae (Tribe Boronieae) - Mr. S. Smith-White. continuation; chromosome number differences suggest two periods of speciation in this group. Almost ready for publication.
- (4) Cytology of Wahlenbergia; - Mr. S. Smith-White in collaboration with Dr. K.V. Krisnamurthy at Sydney and Professor Barber and Miss Gulline in Hobart. Sydney results generally confirm those of Miss Gulline, but we have an 8-series as well as a 9-18-27-36-series. The species problem is complex.
- (5) Cytology of Proteaceae - Miss H. Lancaster. Basic number in the family appears to be 7, but change in number has played an important role.
- (6) The relation of sulphanilamide to the mitotic cycle, and of the reversal of the sulphanilamide effect by para-amino-benzoic acid - Miss Mary Hindmarsh. An Honours student, Miss B. Macdonald, is also commencing work allied to this problem.
- (7) Cytology of Nicotiana species and hybrids. - Dr. K.V. Krisnamurthy in collaboration with the State Department of Agriculture breeding programme. (Dr. Krisnamurthy returned to India, July 1950)

Other problems proposed, but not yet begun:-

- (8) Cytology of Goodeniaceae - Miss Lancaster.
- (9) Cytology of Viola hederacea and V. betonicifolia - Mr. Smith-White.

UNIVERSITY OF SYDNEY, - Department of Agriculture

- (1) Cytogenetic studies of Triticum and related genera. Particular

attention at the moment is being given to monosomics in relation to rust resistance. - Miss L.M. Wyndham.

- (2) Cytological studies in Avena spp. with a special application of monosomic analysis in this genus - Dr. E.P. Baker.
- (3) Cytological studies in Linum spp. together with studies in the cytology of Melampsora lini (Flax Rust) - Mr. H.B. Kerr.

UNIVERSITY OF ADELAIDE - Botany Department.

- (1) Cytology of some Australian Liliiflorae and related groups (taxonomic and geographical aspects). Continuing work on Anigozanthus, Macropidia, Xanthorrhoea, Kingia and Bulbine. - Miss C.M. Eardley.

UNIVERSITY OF ADELAIDE - Waite Institute (Glen Osmond)

- (2) Cytotaxonomy and cyto geography of Australian species of Danthonia. Possibly also some aspects of Phalaris and Ehrharta later - Dr. K. Abele.

(The Adelaide workers definitely want seed material)

UNIVERSITY OF MELBOURNE - Botany Department

Dr. Jean Mathieson is concerned with the cytogenetics of micro-organisms and is continuing work on Neurospora.

Miss M. Blackwood, at present in Cambridge, will probably continue her work on the genetics of Maize on her return.

C.S.I.R.O., DIVISION OF PLANT INDUSTRY, Canberra

Dr. C. Barnard is testing substances obtained from native plants for effects upon mitosis and the nucleus. The effects obtained are shortening of the chromosomes, loss of polarity (whole or partial) with or without resultant polyploidy, bridging, fragmentation etc.. In short, mitotic aberrations due to the action of the substance tested. An attempt is being made to classify the action of the substances having effect, on the basis of differential toxicity to the dividing and resting nucleus and cellular cytoplasm.

The programme is primarily a screening project searching for substances with such action for testing as anti-cancer agents. Liaison is established with the Sloan Kettering Institute for Cancer Research in New York, where materials selected by our screening are sent for testing against tumor growth.

OTHER WORK

Mrs. G. Davis of New England University College, Armidale, N.S.W.

has completed a taxonomic monograph of the Australian genus Brachycome (Compositae) and is now attempting to work out cytological and breeding characteristics. She asks for seed of Brachycome and Lagenophora.

The Universities of Queensland and of Western Australia report no cytological research at present.

It can be seen that the emphasis is on Australian native plants, and in connection with work on the same species in different States of the Commonwealth, Professor Barber of Tasmania remarks "the cytological complexities in Dianella, Wahlenbergia and Pultenaea make duplication desirable."

NEW ZEALAND

Botany Department, Auckland University College, Auckland

- (1) Cytology of New Zealand Orthoptera - Dr. E.J. Godley
- (2) Cytological survey of native species of Ranunculus - Mr. F.J. Fulton-Fisher.

Grasslands Division, D.S.I.R., Palmerston North

Cytology of Poa caespitosa - Mr. P.C. Barclay.

Botany Division, D.S.I.R., Wellington

Cytology of Agropyron scabrum - Mr. J.B. Hair.

Crop Research Division, D.S.I.R., Lincoln

- (1) Further cytogenetic studies of chlorophyll mutants in Triticum. Cytotaxonomy of Hebe and Veronica - Dr. O.H. Frankel.
- (2) Cytogenetics of aberrant types of Avena sativa - Mrs. M.E. Johnson.
- (3) Study of chromosome mutations produced with pyrogallol under varying temperatures - Mr. J.B. Langridge.

SOME EARLY AUSTRALIAN PLANT COLLECTIONS.

ROBERT HELMS AND THE ELDER EXPEDITION COLLECTIONS.

Helms was the botanical collector for the Elder Exploring Expedition led by David Lindsay, 1891-92, in the north-west of South Australia and

across the Great Victoria Desert of Western Australia; he was also the zoological and entomological collector for the Expedition. The plant collections were reported upon by Baron von Mueller of Melbourne and Professor Ralph Tate of Adelaide, there were about 700 species, some new to science. Helms came from the New South Wales Department of Agriculture and was chiefly distinguished as an energetic naturalist collector and entomologist.

There is a set of Helms' Elder Expedition plant collections in the Herbarium of the University of Adelaide, and duplicates in various other Australian herbaria. His collecting labels are usually marked with camp number and date to indicate locality, sometimes a place name as well. It is felt that herbarium workers would find it helpful to have a guide to these localities, such as the one appended.

Besides the route followed by the main party, there were three flying trips extending up to 100 miles south of it (i.e., to lat $28^{\circ} 25'S$) in the north-west corner of South Australia. Then, after the main party broke up at Camp 113. (Annean Station Depot) near Mannine Goldfield, Western Australia, in January 1892, L.A. Wells led a small party (not including Helms) eastwards and back, a trip of six weeks covering 750 miles and finishing on April 7th. Wells travelled from Lat. 27° , Long. 119° to Long 125° keeping between lats. 26° and 28° . Presumably no plant collections were made during this short trip.

REFERENCES

- (1) Mueller, F.von and R. Tate "Phanerogams and Vascular Cryptogams" (Botany-Elder Expedn.) Trans.Roy.Soc.South Australia 16: 3. 1896.
- (2) Lindsay, David. Journal of the Elder Scientific Exploring Expedition, 1891-2. With maps. Adelaide 1893.

ITINERARY.

CAMP NO.	DATE 1891	LAT.	LONGIT.	PLACE NAMES (Chief names only)
	Apr. 24 - May 1st.	$28^{\circ}S.$	$136^{\circ}E.$	Warrina (Railhead)
	May 2	.....	.....	Nilpena Station
	3-7	.....	.....	Cootanoorinna Station
	12	.....	.....	Arkaringa Creek
	22	.....	.....	Arcoelinna Well
	27	.....	.....	Wa Wee Waterhole
	June 3	$27^{\circ}S.$	$132^{\circ}E.$	Mt. Illbillie, Everard Ra.
1.	7	"	"	
2.	8	"	"	

3.	9	27°S.	132°E.	
4.	10-18	.....	.....	Depot 1., Mt. Illilinna and trip south.
5.	19	"	"	
6.	20-22	"	131°E.	
7.	23	"	"	
8.	24	"	"	
9.	25	"	"	
10.	27-28	.....	.....	Flying trip southward also between camps 9-12.
11.	29	"	"	
12.	30	"	"	
13.	July 1	"	130°E.	
14.	2-3	"	"	
15.	4-6	"	"	
16.	7	"	"	
17.	8-9	"	"	
18.	10	"	"	
19.	11-12	.....	.....	Mt. Sir Thomas, Birksgate Ra. Also flying trip southward between camps 17-23.
20.	13	"	"	
21.	14	"	"	
22.	15	"	129°E	
23.	16	"	"	
24.	17	.....	.....	Blyth Hills, S.A. border
25.	18	"	"	
26.	19	"	"	
27.	20-24	26°S.	128°E.	
28.	25	"	"	
29.	26	"	"	
30.	27	"	"	
31.	28-1st.	"	"	
32.	Aug. 2	"	"	
33.)				
34.)	..... 3-29	.....	.....	Depot 2. Barlee Springs & Mt. Squires...Barrow Ra. Preparing to cross Desert.
35.)				
36.	30	"	127°E.	Starting to cross Desert
37.	31	"	"	Beginning of Great Victoria Desert.
38.	Sept. 1	27°S.	"	
39.	2	"	"	
40.	3	"	"	
41.	4	"	"	
42.	5	"	"	
43.	6	28°S.	"	
44.	7	"	"	
45.	8	"	126°E.	
46.	9	"	"	
47.	10	"	"	Limejuice Camp
48.	11	"	"	
49.	12	29°S.	"	

50.		13	29° S	125° E.	
51.		14	"	"	
52.		15	"	"	
53.		16	"	"	
54.		17	"	"	
55.		18	30° S.	124° E.	
56.		19	"	"	
57.		20	"	"	
58.		21	"	"	
59.		22	..... Streich Mound		
60.		23-24	"	123° E.	Queen Victoria's Springs
61.		25	31° S.	"	
62.		26	"	"	
63.		27	"	"	
64.		28	"	122° E.	
65.		29	"	123° E.	
66.		30	32° S.	"	
67.)	Oct.	1	"	"	
68.)		2-3	"	"	
69.)		5th Oct.-2nd. November.....			Depot 3. Simon's Hill
70.)					Fraser Ra. (Lindsay rode to Esperance)
71.	Nov.	3.	32° S.	122° E.	
72.		4.	"	"	
73.		5	31° S.	"	
74.		6	"	"	Lake Lefroy
75.		7	"	"	Mt. Monger
76.		8-9	"	121° E	Hunt's Slate Well
77.		10	"	"	
78.		11	"	"	
79.		12	"	"	
80.		13	"	120° E	Yerdanie
81.		14	"	"	
82.		15	"	"	Boorabbin
83.		16	"	"	Quardanooclagin
84.		17-18	"	119° E	Karoling
85.		19	"	"	
86.		20-22	"	"	Southern Cross
87.		23	"	"	
88.		24-25	"	"	
89.		26th Nov.- 6th December.....			Depot 4. near Golden Valley
90.	Dec.	7	31° S.	119° E	
91.		8	"	"	
92.		9	"	"	
93.		10	30° S.	"	Elijahputten
94.		11	"	"	
95.		12	"	"	
96.		13	"	"	
97.		14	"	"	
98.		15	"	"	

99.	16	29°S	119°E	
100.	17-18	"	"	Pindeburra Woll.
101.	19	"	"	
102.	20	"	"	Broad's Station
103.	21	"	"	Wargee Station
104.	22	"	"	
105.	23	"	"	
106.	24-26	28°S.	"	Yoweragabbie Station (Christmas)
107.	27	"	"	
108.	28-29	"	"	
109.	30	"	"	
110.	31	"	"	
111.	Jan. 1.1892	"	"	
112.	2	27°S	"	
113.	3	"	"	Annean Station.

(Note: Camps 77-113 were in the "settled areas")

NEWS AND NOTES ON CURRENT ACTIVITIES.

AUSTRALIA

New South Wales

The printing and distribution of No. 5 of our journal, "Contributions from the N.S.W. National Herbarium" has now been effected. The material for No. 6 has reached proof stage and it is hoped that publication will be effected shortly. It is anticipated that No. 6 will complete Vol. I. of the series.

Members of the staff have continued with the projects mentioned in the last issue of "Australasian Herbarium News".

One of the projects which has particularly engaged their attention recently is the suggested publication of a list comprising additions, corrections and deletions to Maiden and Betche's Census of N.S.W. Plants. This Census is apparently used as a standard authority by many botanical workers in N.S.W., especially by those engaged in other than taxonomic work. Since its publication, many changes of nomenclature have of course become necessary but these are not readily accessible to the non-taxonomist. It is recognised that the ideal solution to their problem would be the publication of a completely new Census. However the staff feel that it would be premature to attempt this at the present time, as a great number of problems still await solution, and the re-publication of names known or suspected to be

inaccurate would be inadvisable. It is hoped that the proposed list will at least temporarily fill the need, and it may be possible to prepare supplementary lists as information becomes available.

Miss Tindale is continuing her work at Kew as Australian Liaison Officer, and has supplied us with many useful items of information bearing on the research work of the various members of the staff. She has attended the International Botanical Congress at Stockholm, and has spent a few days at Paris examining type specimens.

Miss Tindale has recently drawn our attention to a paper by H.S. Marshall in the Journal of the Society for Bibliography of Natural History, Vol. I. part 3, July 1937, dealing with the dates of publication of the various volumes of Bentham's Flora Australiensis. This article is not yet available in our library, and perhaps may not be available in the libraries of other Australian herbaria. As the subject is of general interest to taxonomic workers it may be worth while repeating the dates here:

<u>Flora Australiensis</u>	Vol. 1.	30th May 1863
	" 2.	5th Oct. 1864
	" 3.	5th Jan. 1867
	" 4.	16th Dec. 1868
	" 5.	not later than Oct. 1870
	" 6.	23rd Sept. 1873
	" 7.	not later than 30th March 1878.

An Index Seminum has been prepared listing nearly 500 species of native and exotic plants. The seeds of native species have been collected from areas all over the State of New South Wales by the official botanical collector and those of exotic species have been gathered in the Botanic Gardens. Copies of the Index Seminum will be forwarded to interested institutions and sample quantities of the seeds will be available on application.

Preparation of a revised catalogue of the plants growing in the Botanic Gardens is proceeding. This work is slow because of the necessity of investigating the nomenclature of every species, as well as checking identifications when the plants are flowering. Many nurserymen's misnomers have been perpetuated in the Gardens in the past and numerous groups have been found to be confused. Unlabelled plants are inspected periodically to obtain flowering specimens, and contact has been made with the Royal Botanic Gardens, Kew, the United States National Herbarium and Herbaria in South Africa and South America in an endeavour to have some of these difficult plants determined or confirmed. Most of the upper and middle gardens have been checked except for the palms and succulents which will require special attention.

Victoria.

Mr. Jessep has visited botanical institutions in England and Ireland.

He has carried out some research on the nomenclature of Camellias, Azaleas, Rhododendrons and Magnolias. While overseas he will endeavour to purchase rare botanical and horticultural books, and parts missing from sets already in the Library, for the Herbarium.

Mr. P.F. Morris has published another 20 illustrated articles on weeds. He has carried out the provisional planting of native species to be used as stock plants for hybridization. The project is for the improvement of native flowers suitable for garden cultivation and market sale. Species of *Grevillea*, *Micromyrtus*, *Boronia* and *Olearia* have been chosen.

Mr. N.A. Wakefield has been working on rhamnaceous plants, especially Pomaderris.

The first volume of Mr. W.H. Nicholls' work "Australian Orchids" is expected before Christmas.

Visitors from overseas included Sir Basil Goulding, eminent horticulturalist, who has introduced many Australian plants into his large garden in County Meath, Ireland.

Queensland.

Mr. C.T. White has begun the examination of the collection made by Mr. L.J. Brass on the Archbold (American Museum of Natural History) Expedition to the Cape York Peninsula in 1948. He is hoping to have the results ready for publication in 1952 or early 1953. He has also prepared for publication an account of the genus Argyrodendron (Family Sterculiaceae) which comprises four species of large rain-forest trees the timbers of which are known in the trade as Tulip-Oaks. He has also been working on some Papuan and Solomon Islands Myrtaceae submitted to him by the Arnold Arboretum and has a paper well in hand for publication.

Mr. White expects to spend his long service leave next year at Kew, leaving Brisbane in either January or March.

In January Mr. S.L. Everist spent about a week in the Alice Springs-Wauchope area of the Northern Territory making field investigations of plants which might be the cause of 'Birdsville Disease' of horses. General plant collections were made. On the way back he spent two days at the National Herbarium, Melbourne, comparing, with types, some plants from far western Queensland. In February he visited the Dirranbandi area to continue succession studies on scalded areas and the Wyandra-Charleville area to continue studies on mulga regeneration.

Mr. S.T. Blake has completed the examination of type-material of nearly all names applied to species of Eucalyptus from the northern part of the Northern Territory and adjacent regions. A critical account of the species is about completed. Many of the types have been photographed.

Mr. J.M. Clancy has been temporarily appointed to the staff.

Western Australia.

Mr. C.A. Gardner visited the Gibb River and Kunmunya areas in July. The Gibb R. was visited by the Crossland Expedition in 1905, of which Mr. W.V. Fitzgerald was naturalist but apart from this no systematic botanical collecting has been carried out in this part of the north western Kimberley area.

In his will the late Dr. Blackall left his collection of plants to the State Herbarium but his manuscript Flora was presented to the University of Western Australia on condition that arrangements were made for its publication. The Flora is designed for the use of amateurs lacking detailed botanical knowledge and has a key based on diagrams. It is hoped that its publication, which is in the hands of the University Book Shop, will be completed before the end of this year.

Australian Capital Territory.

Following the passing of a resolution on the subject by Section M (Botany) at the Hobart Conference of A.N.Z.A.A.S. arrangements were made through the Australian Scientific Liaison Office in London, for the photographing of the plants in the Lindley Collection at Cambridge. As a result the Division of Plant Industry, C.S.I.R.O., Canberra has now received one negative microfilm, five positives and two sets of prints enlarged to approximately foolscap size. Copies of the positive film have been distributed to the herbaria at Brisbane, Sydney, Melbourne and Perth. The two sets of prints are being held at Canberra but one set is regarded as available on loan to botanists who are engaged on research work which involves study of the species in question.

Most of the specimens photographed were collected by Drummond in Western Australia or on the various Mitchell Expeditions in eastern Australia. There are also some Tasmanian specimens. Copies of the lists of species have been distributed to herbaria and to the botany departments at the various Australian Universities. Inquiries concerning the lists can be addressed to Miss N.T. Burbidge, Division of Plant Industry, C.S.I.R.O., Canberra.

Mr. R. Perry will carry out the botanical part of a survey which is to be undertaken by officers of C.S.I.R.O. in the Burdekin R. area in Queensland

New Guinea

Mr. Womersley reports that a complete set of "Botanische Jahrbücher" Vols. 1-74 with two indices and a complete set of "Nova Guinea" Vols. 1-18 have recently been added to the Library of the Department of Forests at Lae.

RECENT PUBLICATIONS

Readers are also referred to "Australian Science Abstracts" published as a regular supplement to the Australian Journal of Science. The entries given below are designed to fit standard 5" x 3" index cards.

ALLISON, K.W. 1950. New Species of New Zealand Bryophytes. Trans. & Proc. Roy. Soc. N.Zealand 78(1): 93-96.

BARNARD, C. 1949. Microsporogenesis, Macrosporogenesis and Development of the Macrogametophyte and Seeds of Duboisia Leichhardtii F. Muell. and D.myoporoides R.Br. Aust. Jour.Sci.Res. Ser. B. 2(3): 241-248. pl.1-3

CHASE, A. 1950. Pogonatherum Beauv. Jour. Arn. Arb. 31.: 130-132.

CLELAND, J.B. 1950. Fauna and Flora of the Greenly Islands. II. The Flora. Records Sth. Aust. Mus. 9(3): 349-351.

CLEMENTS, F.E. 1949 Dynamics of Vegetation. New York. (Selections from the writings of F.E. Clements ed. by B.W. ALRED & E.S. Clements)

COPELAND, E.B. 1950. Pteridaceae of New Guinea. Phil.Jour.Sci. 78(1): 5-40. March 1949.pl. 1-6

COOKSON, I. 1949. Yeringian (Lower Devonian) Plant Remains from Lilydale, Victoria, with notes on a collection from a new locality in the Siluro-Devonian sequence. Mem.Nat.Mus.Vict., Melbourne, No.16.: 117-131. 3 pl.

CROSS, D.O. & VICKERY, J.W. 1950. List of the Naturalised Grasses in New South Wales. Contrib. N.S.W. Nat. Herb. 1(5) : 275-280.

CUNNINGHAM, G.H. 1949. New Zealand Polyporaceae II. The Genus Irpex. D.S.I.R. Plant Diseases Bull. No. 82.

FORD, N. & VICKERY, J.W. 1950. The Correct Name of Sturt's Desert Pea, Clianthus formosus (G.Don) comb. nov. Contrib. N.S.W. Nat. Herb. 1(5) : 302-303.

- GARDNER, C.A. 1948 Contributions Florae Australiae Occidentalis XII. Jour.Roy.Soc. W.Austr. 32 : 75-83. 2 pl. 1945/46.
- HATCH, E.D. 1950. The Epiphytic Orchids of New Zealand and a new species of Pterostylis from Mount Egmont. Trans. & Proc. Roy.Soc. N.Zeal. 78(1) : 101-105.
- HERBERT, D.A. 1950 Present Day Distribution and the Geological Past. Vict. Nat. 66(12) 227-232.
- HUBBARD, C.E. 1949. A new species of Poa from Papua. Kew Bull. 4 : 474.
- KANEHIRA, R. 1941. The Kanehira-Matusina 1940 Collection of New Guinea Plants. II. IV. and V. Bot.Mag.Tokyo 55 : 385-392 and 489-513. 14 fig.
- KITAMURA, S. 1941. The Kanehira-Hatusima 1940 Collection of New Guinea Plants III. Compositae. Bot.Mag.Tokyo 55: 341-349 1 pl.
- KOSTERMANS, A.J.G.H. 1950. Notes on New Guinea Plants I-III. Bull.Bot.Gard.Buitenzorg, Ser.III 18(4): 435-448
- LANGDON, R.F.N. 1950. Studies in Australian Ergots, I. Claviceps pusilla Cesati. Univ. Qld. Papers Dept. Biol. II. No. 12. also Records of Queensland Fungi VI. l.c. No. 13 (published together)
- MARTIN, D. 1950. Eucalyptus in the British Isles. Jour. Roy. Hort. Soc. 75(5) : 186-190
- METRO, A. 1949. L'Ecologie des Eucalyptus son application au Maroc. Mem. de la Soc. des Sci.Nat. du Maroc, No.49 pp.109.
- MOORE, L.B. 1950. A "Loose-lying" Form of the Brown Alga Hormosira. Trans. & Proc. Roy.Soc. N. Zeal. 78(1) : 48-53.
- NICHOLLS, W.H. 1950. Additions to the Orchidaceae of Australia I. Vict. Nat. 66(11) : 211-215.

NICHOLLS, W.H. 1950. Additions to the Orchidaceae of Australia II. Vict. Nat. 66(12) : 223-226.

NICHOLLS, W.H. 1950 Pterostylis furcata - an additional note. Vict. Nat. 66(12): 239-240

PRYOR, L.D. 1950 A Hybrid Eucalyptus. Proc. Linn Soc. N.S.W. 75(1-2) : 96-98.

RUGGLES GATES, R. 1950. Genetics and Taxonomy of the Cultivated Brassicas and Their Wild Relatives. Bull. Torr. Bot. Club 77 (1) : 19-28.

RUPP, H.M.R. 1950. The Schlechter Collection of Orchidaceae in the National Herbarium of New South Wales. Contrib. N.S.W. Nat. Herb. 1(5) : 304-311.

SOEHNK, E.T. & McMASTERS, J.H. 1948. Procedure in Taxonomy, including a reprint in translation of the International Code of Zoological Nomenclature with titles of and notes on the opinions rendered to the present date (1907-1947). Rev. ed. enlarged and in part rewritten by A.M. Keen and S.W. Muller. Stamford Univ. Press, California.

STEPHENS, S.G. 1950. The Internal Mechanism of Speciation in Gossypium. Bot. Rev. 16(3) : 115-149.

WHITAKER, T.W. & BOHN, G.W. 1950. The Taxonomy, Genetics, Production and Uses of the Cultivated Species of Cucurbita. Economic Botany 4(1): 52-81. (a technical literature review with 65 references - ED.)

WHITE, C.T. 1950. Ligneous Plants from the Solomon Islands (and New Guinea). Jour. Arn. Arb. 31(1) : 81-116.

WILLIS, J.H. 1950. The Chequered Story of Two Tasmanian Mosses. Vict. Nat. 67(2) : 30-35.

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Van STEENIS, C.G.G.J. 1950. Miscellaneous Botanical Notes III. Bull. Bot.Gard. Buitenzorg, Ser. III. 18(4) : 457-461. (No.30 deals with Bussenillia novae-hollandiae collected near Botany Bay and Adesmia spinosa Lesson from Chili - ED.)

Van STEENIS, C.G.G.J. et al 1949. Flora Malesiana 2nd. Instalment Ser. I. vol. 4 pt.2. (Ceratophyllaceae, Hydrocaryaceae, Moringaceae, Saururaceae, Styraceae, Juncaginaceae, Trigonaceae, Cochlospermaceae, Zygophyllaceae, Podostemaceae, Amaranthaceae, Chenopodiaceae, Plumbaginaceae and Umbelliferae - ED.)

VICKERY, J.W. 1950. New Species of Danthonia DC. (Gramineae) from Australia. Contrib.N.S.W. Nat.Herb. 1(5) : 296-301.

VICKERY, J.W. 1950. The Species of Amphipogon R.Br. Contrib.N.S.W. Nat. Herb. 1(5) : 281-295.

BULLETIN OF ZOOLOGICAL NOMENCLATURE, The official organ of the International Commission on Zoological Nomenclature ed. by Francis Hemming. Vol. 3 pts 1/3 and 4/6, March 1950, Vol.4, 4/6 and 7/9 May 1950.
