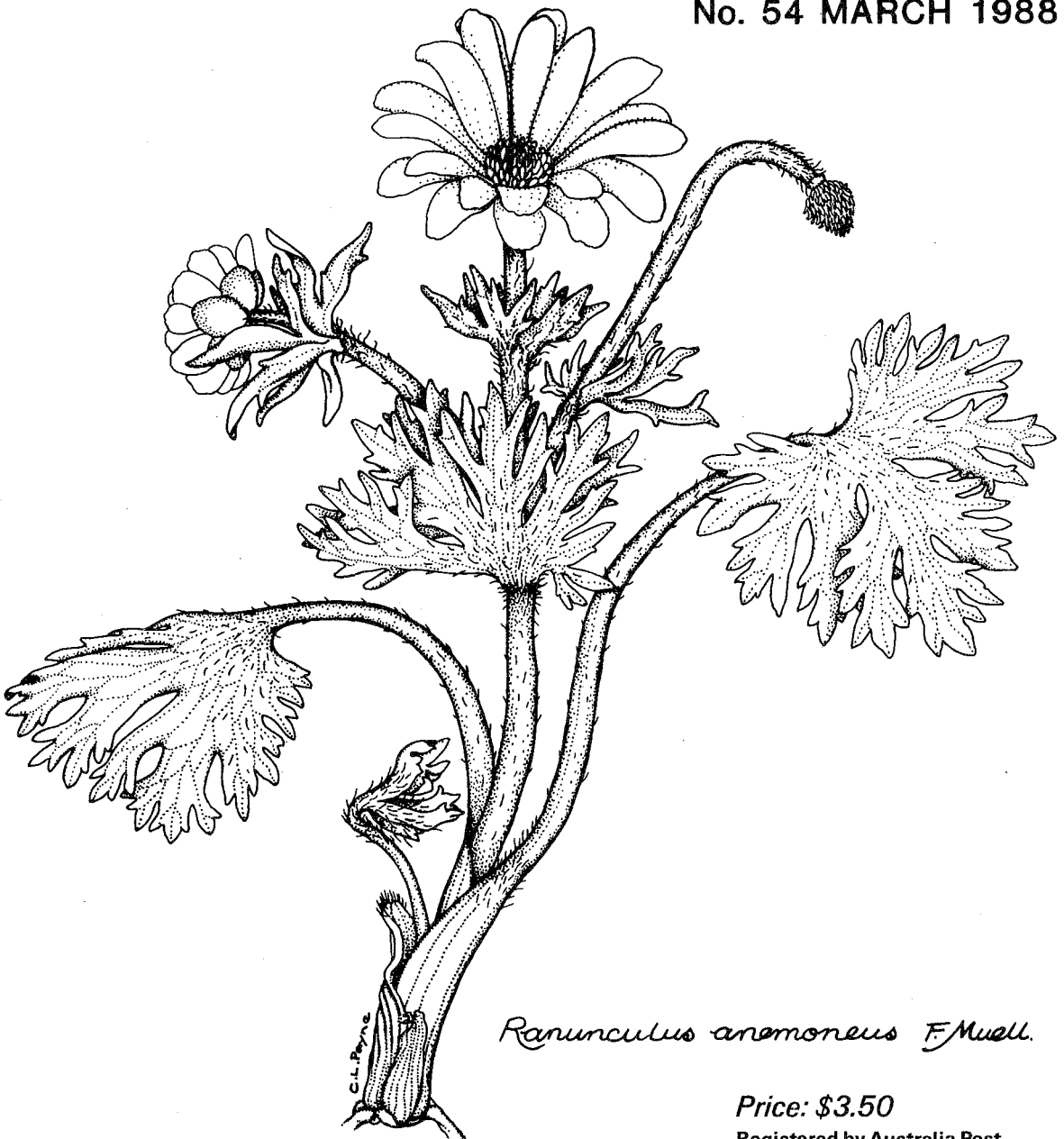




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EDITORIAL

As indicated in Newsletter no. 53, Helen Hewson has stepped down as Editor.

Helen has skilfully edited eight numbers of the Newsletter and is to be warmly thanked for maintaining a high standard.

A new Editor is still required. The present issue has been prepared on an interim basis by Barbara Barnsley and Alex George.

R.C. GUNN AND J. MILLIGAN; A cautionary note

Alex M. Buchanan

Tasmanian Herbarium, G.P.O. Box 252C, Hobart, Tas. 7001

Ronald Gunn and Joseph Milligan were prolific collectors in Tasmania during the 1830s and 1840s. Their specimens formed the bulk of the Tasmanian collections in the Hooker Herbarium at the Royal Botanic Gardens, Kew, many early types being based on this material. Milligan, and a small number of other collectors, forwarded their collections to Gunn for packaging and shipment to London. Consequently Gunn sometimes relabelled other collectors' material, numbered it with his own species numbers and retained part of the collection for his own herbarium. These duplicates remained in Australia and are now housed mainly at HO and NSW.

A survey of Gunn and Milligan specimens at HO and elsewhere showed that many specimens bearing Gunn's handwriting, and for that reason attributed to Gunn, were in fact collected by Milligan (Buchanan, 1987). This problem is most noticeable among the collections made by Milligan when he accompanied the overland expedition of Sir John and Lady Franklin to Macquarie Harbour in April and May of 1842. It was intended that Gunn should accompany the expedition, but he was disabled at the last minute by a fall from his horse in which he sustained a broken leg (Baulch, 1961). Three years later, however, Gunn did follow the trail of this expedition, but not having a boat he was unable to reach Macquarie Harbour. In fact I have found no specimens to suggest that he progressed beyond the Franklin River (about 15 km above its confluence with the lower Gordon River), 20 km short of Macquarie Harbour.

It is therefore recommended that specimens labelled in Gunn's handwriting be not necessarily accepted as Gunn collections, in particular any from Macquarie Harbour dated 1842. Milligan, besides giving the date and place of collection on his labels, often included habitat notes describing the vegetation and soil. Gunn labels very rarely contain habitat information, although he did provide such information on a species by species basis in his letters to Hooker.

While it is recognised that the recording of a collector's name is merely a means of identifying a particular specimen it is desirable that such details be as accurate as possible.

Two Milligan collections (both types) may be used to exemplify the above observations.

1. The isotype of Helichrysum pumilum at HO bears a label in Milligan's handwriting - Heathy & Peaty ground Macquarie Harb 8/10/46 - and signed with his initials and number (Fig. 1.) showing this to be a Milligan collection. The holotype at K bears a label with exactly the same wording but transcribed by Gunn and with his species number inserted in place of Milligan's initials and number. (Fig. 2.)
2. The holotype of Hewardia tasmanica at K was also attributed to Gunn (Hooker W.J., 1851) and was cited as such in a recent volume of Flora of Australia (Cooke, 1986). Yet it was collected at Macquarie Harbour in 1842, the year that Gunn was prevented from accompanying the vice-regal expedition. J.D. Hooker (1858) cited both collectors' names.

In some cases Gunn did write the initials of the collector in the lower right hand corner of his labels, viz.

M.B. - Mary Ballantyne
 J.L. - John Lillie
 R.W.L. - Robert Lawrence
 G.M. - George Moran
 J.M. - Joseph Milligan
 C.S. - Charlotte Smith

GUNN'S NUMBERS

It is appropriate to note here also that neither Gunn's (Haegi 1982) nor Milligan's numbers are sequential collecting numbers. Although some short runs of Milligan's numbers are sequential, they are in general species numbers. Gunn's numbers are also species numbers, but there are several sequences. When he began collecting in 1832 he used separate numbering for Bryophytes, Ferns and higher plants. However he soon adopted a single system and applied the same number to all specimens that he considered to belong to the same species.

GUNN'S DATES

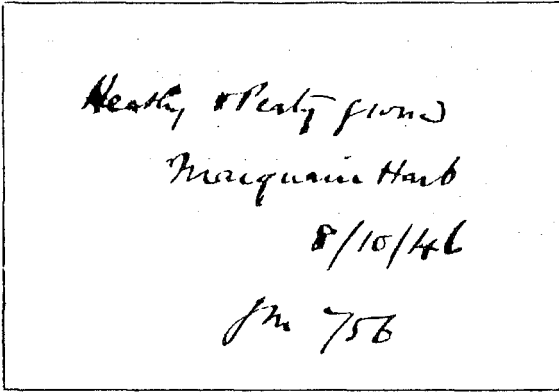
Gunn's own later collections are fully dated down to the day of collection e.g. 4/1/43. However collections passed on to him by other collectors may lack a date or only the month may be given.

Associated with his species number there is often a year e.g. ¹²⁴1847, this being the year of shipment and not necessarily the year of collection. In some cases the year of collection is the year following the year of shipment. This apparent anomaly occurred when he did not complete the packaging of a shipment until early in the following year and included some last minute collections. (Fig. 3.) Some of Gunn's specimens at K also bear the date on which they were received there.

The author is currently compiling itineraries for Gunn and Milligan which when completed should serve to elucidate much of the confusion that has persisted over the past 130 years.

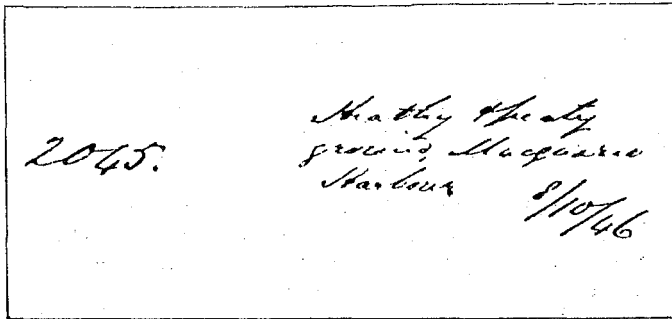
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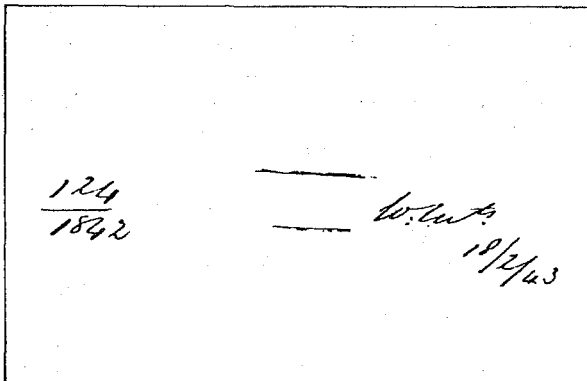
Heathly & Peaty found
Marquaine Harb
8/10/46
Jm 756

Fig. 1. Milligan's handwriting and usual label format.



2045. Heathly & Peaty
growing Marquaine
Harbour 8/10/46

Fig. 2. Gunn's transcription.



124
1842

60. 60. 60.
18/2/43

Fig. 3. Gunn's handwriting and usual label format.

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THE EARLY COLLECTING NUMBERS OF CHARLES A. GARDNER

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The plant collections of Charles A. Gardner (1896-1970) form an important part of the Western Australian Herbarium particularly as many of his specimens are types. The presence of a dual numbering system for Gardner's early collections has caused some confusion among botanists. This paper explains how the different numbering systems arose and how they may be recognised.

Gardner joined the Forests Department of Western Australia in 1920 but the first of his collecting notebooks that is held in the W.A. Herbarium commences in April 1921 when he was on an expedition to the Kimberley district. Prior to this date, and even before joining that Department, Gardner had lodged collections with its Herbarium but these may not have been entered into a formal notebook, although at least some of them were given Forests Department Herbarium (FDH) numbers.

When in the Kimberley region in 1921, Gardner appears to have used a field notebook in which the collections were described but not numbered; subsequently these notes were transferred into a formal collecting book, but not in strict chronological sequence. To these collections he gave the running numbers 1-325. Subsequently, in his formal collecting book he additionally numbered the same Kimberley collections with FDH numbers which ran from 1321 to 1645. The Kimberley numbers 1-325 appear never to have been used on herbarium labels or in publications.

For many of the specimens that Gardner contributed to the Forests Department Herbarium he incorporated duplicates into his own private herbarium, mounting them on small sheets approximately 26 x 19 cm. These were given Gardner Herbarium numbers which ran 500 below those of the corresponding specimens in the FDH. Not all collections were duplicated in Gardner's herbarium but for each FDH number a number was allowed for in his own series. Thus the Gardner numbers 821-1145 were allocated to the 325 collections made in the Kimberleys in 1921, corresponding to the numbers 1321 to 1645 in the FDH. The Gardner numbers appear on the sheets of his private herbarium but not in his Kimberley

collecting books of 1921. Only the FDH numbers were cited in his descriptions of new species found on the 1921 expedition.

The provision of two parallel sets of numbers, one for his private herbarium and another for the FDH, continued until 29 May 1924 when his personal herbarium number had reached 1730 and those of the FDH 2230. On 1 July 1924 Gardner was transferred to the Department of Agriculture (the Herbarium was transferred some years later). The FDH series was then dropped; the numbers given to his own subsequent collections that were lodged either in the Department of Agriculture's Herbarium or in his own herbarium, or both, were in the one sequence which was a continuation of the Gardner Herbarium numbers, that is, no. 1731 onwards. These then became Gardner collecting numbers. However, the change to being collecting numbers was not absolute since to occasional collections made by other people he would give his own collecting numbers.

One of the effects of having a dual sequence is that many of Gardner's own collecting numbers up to 2230 are the same as those for different Gardner specimens in the FDH series. Fortunately there are no overlaps in years of collection so that on reference to the associated table the two series can be clearly distinguished.

By the end of 1966 (the last date for which the Western Australian Herbarium holds a collecting book) Gardner's numbers had reach 19134. However, during the years 1924 to 1966 his numbers did not form a continuous series; there are large gaps in the sequence and many errors of numbering and chronology. Fortunately these errors are relatively insignificant and rarely confusing.

Owing to his long association with members of the Benedictine Community at New Norcia, Gardner bequeathed to it his personal herbarium. However, in June 1970, following representation from the Western Australian Department of Agriculture, the Lord Abbot and members of the community agreed that it should be made available to the Western Australian Herbarium. It is now lodged in that Herbarium and has been incorporated into the main collection, on specially labelled sheets.

I should like to thank John Green and Bruce Maslin for the substantial improvements they have made to this paper.

Summary of Specimen Numbers used by C.A. Gardner from 1921 to 1966

| Date | Gardner (1921) Kimberley Numbers | Gardner personal herbarium or collecting numbers | Forests Dept. Herb. numbers |
|--------------------|-------------------------------------|--|--------------------------------|
| April-Aug. 1921 | 1-325* | 821-1145** | 1321-1645 |
| 1922 | | 1201-1400 | 1701-1900 |
| 1923 | | 1401-1700 | 1901-2200 |
| to June 1924 | | 1701-1730 | 2201-2230 |
| 1925 | | 1731-1925 | |
| 1926-1966 | | 1926-19134 | |

* In notebook, not on herbarium sheets nor in publications.

** On sheets of his personal herbarium, not in notebook or in publications.

PROBLEMS IN THE ORGANISATION OF PLANT TAXONOMIC WORK⁺

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ABSTRACT

The final volume of the four-volume Tree Flora of Malaya is just being completed in 1987. This project has taken 22 years, for an area that is geographically small and floristically relatively well-known.

This paper is concerned with the slow rate of taxonomic progress in the tropics which makes taxonomic projects increasingly difficult to promote and organise.

It is suggested that the problems may be overcome by demystifying taxonomy. This involves acknowledging that a significant component of taxonomic decisions are subjective, egoistic and arbitrary, that no taxonomic decision or treatment can ever be final, that the principle of one correct name per species is not always tenable, and that stability in scientific nomenclature is unattainable.

⁺ Paper presented at the XVI Pacific Science Congress, Seoul, Korea, August 20-30, 1987.

INTRODUCTION: The Tree Flora of Malaya

Towards the end of 1987 the final volume of the Tree Flora of Malaya was being completed. This is a four-volume work covering 99 families of trees of the Malay Peninsula ("Malaya" in the phytogeographical sense). The project was started in 1965 when Britain provided Malaysia with the services of Dr T.C. Whitmore to initiate the project and to train two local botanists, Mr K.M. Kochummen and myself. It was anticipated that the project would last no longer than 10 years "so as not to discourage those waiting to use the results or those paying to keep the project going" (Ng & Whitmore, 1966). After all, we had Ridley's 5 volume Flora of the Malay Peninsula (1922 - 1925) as a precursor, which had, in turn, King's Materials for a Flora of the Malayan peninsula (1889 - 1936) as its precursor (Ng, 1983). We also had the ongoing Flora Malesiana project as an umbrella regional project orchestrated from Leiden. In our Institute itself, the most important tree family, the Dipterocarpaceae, had already been monographed by Symington in the 5 years before the Japanese invasion of Malaya. While Symington was working on the Dipterocarpaceae, (which was published by the Japanese military administration in 1943) Prof. E.J.H. Corner was busy at the Singapore Botanic Gardens writing his incomparable Wayside Trees of Malaya, which was published in 1940.

What actually happened was that our flora took 22 years instead of the projected 10.

Dr Whitmore edited volumes 1 and 2 and authored or co-authored 28 families in 6 years, before retiring from the project. Mr Kochummen authored or co-authored 26 families, and retired from the Institute in July 1986; he contributed his last chapter after official retirement. I authored or co-authored 20 families and edited Volumes 3 and 4; my efforts for Vol. 4 were essentially voluntary as I was no longer Forest Botanist after 1978. Sixteen other botanists, local as well as overseas, contributed as sole or joint authors:- P.F. Cockburn, B. Everett, R.D. Hoogland, H. Keng, R. Kiew, A. Latiff, D.J. Mabberley, J.F. Maxwell, C.M. Pannell, G.T. Prance, F.E. Putz, L.G. Saw, E. Soepadmo, B.C. Stone, K.M. Wong and S.K. Yap.

Although we ran over schedule by over 100%, this was not a complete disaster considering that nearly every other tropical flora is in time trouble, including Flora Malesiana which may never get finished at all.

Looking back over these past 22 years, I cannot help but feel that tropical plant taxonomy is being strangled by some of its own concepts or misconceptions.

In this paper, I would like to offer some reflections on the nature of the work we do in producing a flora and the factors that can make such work sterile and stultifying. I fear that unless we are critical enough to question the myths permeating the practice of taxonomy we will not be able to prevent the decline of taxonomy in the tropics, where taxonomy is most badly needed.

LOCAL IN RELATION TO REGIONAL FLORAS

When we began in 1965, we were quite apologetic about doing a local flora for Malaya (Ng & Whitmore, loc. cit.) because at that time the prevailing expert opinion was that the only scientifically respectable taxonomic endeavours were the regional monographs such as

those done for Flora Malesiana. It was argued that local floras in advance of Flora Malesiana would be premature, unstable and a waste of effort. Local floras done after Flora Malesiana would in contrast be worthwhile since the names and taxonomic entities (taxa) would have been stabilised across the entire region.

We now see that taxonomy is relatively healthy in terms of numbers of practitioners and demands for their services only wherever local taxonomic work has been actively pursued. It is dead or moribund wherever people have been waiting for the grand regional works to be delivered. This state of affairs is evident not only in our region, but throughout the world. It looks as if the grand regional taxonomies without local taxonomies are like trees without roots. Local taxonomists are evidently the main clients, interpreters and supporters of grand taxonomies and the latter cannot long persist without the former.

DEFINITIVE VERSUS PROVISIONAL WORKS

It is the dream of many taxonomists to produce a definitive work that will stand the test of time. In practice, every taxonomic work, without exception, has been lacking in something or other. All the chapters in Volumes 1 - 3 of the Tree Flora of Malaya were ripe for revision before Volume 4 was completed. Even the families already revised in Flora Malesiana are ripe for revision.

Maybe the authors did not spend enough time? I reject this argument because, beyond a certain minimum time depending on the size of the group or family studied, I cannot see any correlation between additional time spent and improvement in quality of work. Some monographs that took 10 - 50 years to complete are the most tedious, pedantic and devoid of inspiration. Some monographs never get finished. In the meantime, science suffers in many ways. Other taxonomists may avoid a group that somebody else has reserved. People wait indefinitely for the definitive work to emerge. People learn to live without it, just as many states have learnt to exploit their plant resources without the benefit of taxonomic knowledge. Taxonomy is finished when people have no use for it.

Maybe there are not enough scientific resources? It is difficult to accept this argument too. H.N. Ridley wrote the Flora of the Malay Peninsula all by himself after he retired from the Colonial Civil Service. Prof. Corner wrote Wayside Trees of Malaya almost as a hobby since he was officially a mycologist. C.A. Backer did the Flora of Java all by himself as a hobby. Indeed, there are probably more professional taxonomists now than there have ever been in any other period of world history. Yet effective productivity is down.

Maybe too many taxonomists have been wasting time trying to build dream edifices when what our clients need are stepping stones. I suggest that the ideal of the definitive work has slowed down work everywhere without resulting in anything definitive. Perhaps the way to restore a sense of balance and vitality is for taxonomists to view their efforts realistically as a series of ever-improving models, to be used, tested and improved in stages through feedback and interaction. The faster we make our work available, the faster is the feedback and interaction.

TAXONOMY WITHOUT TYPES

In 1967, the late Prof. C.G.G.J. van Steenis wrote a splendid article entitled "The herb flora of Taiwan, or How to master a Flora without types and with only a few books", in which he advised botanists in Taiwan how to do meaningful taxonomic work when the type specimens are overseas and inaccessible. Nearly all tropical countries are in the same situation as Taiwan, so this advice applies to many to us. Basically, van Steenis held up as role model, the example of C.A. Backer, a primary school teacher, who took it upon himself to write a flora of Java, starting from nothing.

He proceeded to make himself profuse well-annotated collections, and got in this way thoroughly acquainted with their structure and their variability. With a very limited number of books he gave them a provisional name, not bothering at the time about the intricacies of synonymy and nomenclature. In this way he succeeded after some two decades of thorough exploration, collection and study, to know exactly how many species occurred in Java and how they could be distinguished. He made the descriptions of these species, with the keys, all as a one-man job. This work is the main body of his Flora of Java.

By the distribution of duplicates, the consultation of literature, information from outside, etc., he gradually found improvements in the nomenclature, but the number of species he had remained the same. Much later this nomenclature was brought up to date by Dr Bakhuizen van den Brink, but this nomenclatural aspect is only polishing a body of facts which was a trustworthy, solid mass of knowledge he had gathered himself in his fanatical ambition to achieve something.

I might add that by now many of the names brought "up to date" by Dr Bakhuizen will need to be changed again but the scientific work of discriminating and describing the species has been done well. As a lesson in taxonomic strategy this account has no equal. If only we had primary school teachers like Backer in the various parts of Malaysia, Indonesia and Philippines!

WHAT'S IN A NAME?

The concept of one correct scientific name for each species has held sway for a long time. Finally, taxonomists are realising that the ideal is not achievable. Horticulturists, being more practical, have long gone their own way with horticultural names.

Prof. V.H. Heywood (1986) had this to say: "..... as botanical research continues, names constantly change, sometimes even back and forwards, as fashions in botany swing from one position to another. There is at present no one organization for Europe analysing each of these changes and recommending whether each be followed. Even if there were such a centre, not all botanists would agree with its proposals. It is quite possible in botany for there to be more than one nomenclaturally correct name for one plant, one chosen by one botanist, one by another, each denoting a different rank or a different genus for the same taxon. It is a matter of botanical judgement whether or not to accept Leopoldia or to sink it into Muscari, not a matter of nomenclatural rules."

For stability in nomenclature, Heywood propose the adoption of Standard Names, defined as names used in an agreed standard work.

Acceptable/Alternative Names would be taxonomic synonyms available for use if desired. For Malaya, we have already decided to stick to Eugenia, not Syzygium, and we will continue with Podocarpus and Casuarina in the traditional sense.

I believe standard names will contribute greatly towards a reconciliation between taxonomy and its clients who have long been baffled and irritated by name changes.

THE LIMITS OF TAXONOMY

In our attempts to organise plants into their natural species we have to depend on herbarium samples, only occasionally supplemented by studies on living plants. Some samples are adequate. Some are not. But we make do with what is available, sometimes describing a "species" from a single specimen.

Furthermore, while some species are sharply delimited from all others by certain unique features, others are not so obviously delimited, and the taxonomist has to make numerous comparisons, dissections, and measurements in order to discover the limits between species.

In my experience, roughly 25% of the species in any family practically sort themselves out by possession of unique features. The taxonomist makes 25% initial progress with little effort. Another perhaps 50% need careful study before satisfactory solutions are found; satisfactory in the sense of the solution being repeatable or confirmable independently by other taxonomists. Another perhaps 25% are really difficult and two taxonomists may not come to exactly the same conclusions. This last 25% can result in much wastage of time and minimum real progress. The Law of Diminishing Returns does not exempt taxonomy. As Editor, I have always had problems whenever two taxonomists have claimed an interest in the same group of plants. Never have I found two who fully agreed with each other, and the percentage disagreement may range between 5 and 30%.

There is a psychological factor involved in taxonomic decisions. The taxonomist may subscribe to certain ideas on evolution, morphology, plant geography, ecology, etc., which may colour the eventual decision. Another taxonomist with a different set of ideas will not see things the same way.

Taxonomists may also suffer mental blocks that are impossible to explain. For example, when I was studying the Ebenaceae of Malesia as a Ph.D. candidate, I had as my guide and foil the voluminous 1937 Revisio Ebenacearum Malayensium of Bakhuizen van den Brink, written in exhaustive detail, in scholarly Latin. Within a few months, I had taken out three rare species (known only by their type specimens) which did not look right: Diospyros hierniana Bakh., D. micromera Bakh. and D. sororia Bakh. With the help of other botanists these were assigned, without any doubt, to Salacia grandiflora (Celastraceae), Cleistanthus nitidus (Euphorbiaceae) and Ilex borneensis (Aquifoliaceae) respectively (Ng, 1970). How a painstaking scholar like Bakhuizen could have made such mistakes is beyond explanation.

However I was soon to commit an error in the Ebenaceae by describing a new species, Diospyros kochummenii Ng (1977) based on abundant specimens collected in many parts of Malaya. A few months later, it suddenly occurred to me that these specimens matched Diospyros singaporensis Bakh., known only by the type specimen collected from a

cultivated tree in the Botanic Gardens Singapore, without any indication of origin. I had the specimen with me as a Ph.D. candidate for three years but had convinced myself quite early that since the specimen was known only from a botanic garden plant, it must have been of foreign (non-Malayan) origin, therefore was not relevant to Malaya.

These examples suggest that we must always be wary of rare species known only by their types. Until another specimen has been matched to it, a type, being a sample of one, is hardly creditable as a "species".

In the course of studying each family for the Tree Flora of Malaya, I have had occasion to stick one name on a specimen, only to substitute another name on another day. Eventually all the really difficult problems are resolved and the final labels are stuck on. One might wonder how much of the final resolution is verifiable fact and how much is opinion that could have gone one way or another according to the way the taxonomist rationalises the situation.

When taxonomists were few, the taxonomic community routinely accepted the latest works as the best, and previous authors readily submitted to the later ones, in genteel fashion. Hence Wormia became Dillenia, without a fight. However, when taxonomists are more numerous, more narrow or specialised (some work on one genus or family for their whole lives) and are under pressure to prove their scientific originality by differing from their predecessors, we need to exercise more caution. New taxonomic proposals, especially those involving the lumping and splitting of genera, with the resultant chaos in nomenclature should be viewed with scepticism. Such changes should be placed under probation until tested and adopted by the standard floras of the areas concerned.

CONCLUSION

The plant resources of the tropics need to be managed upon a basis of scientific knowledge sustained by public appreciation. To create this situation, floristic information needs to be presented in timely and accessible packages.

In the developed, temperate regions of the world, there are all kinds of floras available, some covering a whole continent, others covering a single country or state. Some cover specific habitats, e.g. alpine, desert, or deciduous woodland. Some deal with weeds, others with wild flowers, and so on. Their presentation becomes more attractive with each new production, which in turn stimulates more interest and greater effort, in an upward spiral of feedback and improvement.

Tropical regions, in contrast, are badly served by taxonomy, and such works as are available are often difficult to use. Behind the wall of nomenclatural legalism and technical jargon, far worse in taxonomy than in any other discipline, one has to search hard to find indications of the joy and beauty of botany. For this reason, Corner's Wayside Trees of Malaya, of which the third edition is about to be published, stands out as a beacon, free of nomenclatural legalism, technical jargon and pedantry, but full of biological understanding. In tropical botany, there is so much to do, and so little time, that those involved really should select approaches that will make maximum contributions to the knowledge, understanding and appreciation of plants in the minimum time. My greatest

difficulties, as editor of a multi-author flora, were with authors who would not subscribe to the philosophy of the common approach adopted for the project.

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A COMMENT ON ACACIA MILLER

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Pedley (1987) has proposed that the genus Acacia should be subdivided into three genera: Acacia, Senegalia and Racosperma. He equates Racosperma with Vassal's subgenus Heterophyllum, to which most Australian representatives belong.

The fundamental problem with this equation is that not all species of Acacia that produce phyllodes as their mature foliage have their closest affinities with Australian species. This becomes apparent when the seed non-protein amino acid profiles are examined (Evans *et al.*, 1977; Murray, 1986). Thus Acacia confusa from Taiwan should not be converted to Racosperma confusum (Pedley, 1987) because its possession of oxalyl-substituted amino acids (predominantly α -amino- β -oxalylaminopropionic acid) links it with Asian-African species. None of the Australian species in the Heterophyllum grouping possesses oxalyl-substituted amino acids. Similarly the Hawaiian species Acacia kauaiensis is not closely related to Australian species, and should not be recognized as belonging to 'Racosperma'.

The proposed subdivision of Acacia is premature. The parsimony of retaining a single large genus is far more attractive at present. Unlike Pedley (1987), I believe there will be considerable resistance to a change seen by many as unnecessarily expensive, and unsound in its basic assumptions.

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RETIREMENT

JOHN GREEN

CURATOR OF THE WESTERN AUSTRALIAN HERBARIUM 1975-1987

Bruce Maslin, Western Australian Herbarium

John's 12 year stewardship of the Western Australian Herbarium came to an end on Dec. 31 1987. At a ceremony conducted in the gardens of the Herbarium he was bid farewell by the staff and a small group of invited guests.

John's association with this Herbarium began in 1954 when he was employed as Assistant Botanist by the then Government Botanist, Charles Austin Gardner. He left the Herbarium in 1958 to take up the position of Lecturer in botany at the University of New England (1958-1963). From there he transferred to Canberra for 7 years, employed as a Research Scholar at A.N.U. (1963-1966) and then Botanist at the Forest Research Institute (1966-1970). In 1970 he moved abroad, taking up the position of Assistant/Associate Professor at Laurentian University, Ontario, Canada. He was Chairman of the Dept. of Biology from 1971 to 1972. John remained at Laurentian until taking up the position of Curator, W.A. Herbarium, in 1975.

As can be seen from the publication list below, John had board botanical interests. I would include among his most significant contributions to science the revision of the genus Conostylis, the variation studies on Eucalyptus pauciflora and E. obliqua, the description of the new myrtaceous genera Corynanthera and Malleostemon, the 1980 paper on anther terminology and, of course, the Census of the Vascular Plants of Western Australia.

At the present moment the Herbarium is in the process of being transferred administratively from the Department of Agriculture to the Department of Conservation and Land Management. The official transfer will occur later this year. It is unfortunate that John's retirement coincided with such an important event in our history. In the coming months he will especially be missed for his sharpness of mind and his special facility of expressing thoughts and ideas.

We all wish John the very best in his retirement.

LIST OF PUBLICATIONS & THESES

- 1958 Cytotaxonomic Studies in the Haemodoraceae. M.Sc. Thesis, Univ. of Western Australia.

- 1959 The vegetation of Rottnest Island. J. Roy. Soc. W. Aust. 42: 70-71. (Storr, G.M., Green, J.W. & Churchill, D.M.)
- 1959 The genus *Conostylis* R.Br. I. Leaf anatomy. Proc. Linn. Soc. N.S.W. 84: 194-206.
- 1961 The genus *Conostylis* R.Br. II. Taxonomy. Ibid. 85: 334-73.
- 1964 Discontinuous and presumed vicarious plant species in Southern Australia. J. Roy. Soc. W. Aust. 47: 25-32.
- 1965 Nuytsia. Encyc. Britt. 16: 807.
- 1967 A study of altitudinal variation in *Eucalyptus pauciflora* Sieb. ex Spreng. Ph.D. Thesis, Aust. Nat. University.
- 1968 Tables of Random Permutations. Aust. For. & Timber Bur. Bull. No. 44, 161 pp.
- 1969 Temperature responses in altitudinal populations of *Eucalyptus pauciflora* Sieb. ex Spreng. New Phytol. 68: 399-410.
- 1969 Taxonomic problems associated with continuous variation in *Eucalyptus pauciflora* Sieb. ex Spreng. Taxon 18: 269-76.
- 1969 Continuous measurements of radial variation in *Eucalyptus pauciflora* Sieb. ex Spreng. Aust. J. Bot. 17: 191-98.
- 1969 Collection of *Eucalyptus* branch specimens with the aid of a rifle. Aust. For. Res. 4: 19-30. (Green, J.W. & Williams, A.V.)
- 1971 Variation in *Eucalyptus obliqua* L' Hérit. New Phytol. 70: 897-909.
- 1971 Genetic variation in *Eucalyptus obliqua* L' Hérit. 12th Pac. Sci. Cong., 3 pp. (Brown, A.G., Eldridge, K.G. & Green, J.W.)
- 1971 An electronic data-logger for recording linear plant measurements. Aust. For. Res. 5: 45-50.
- 1972 Genetic variation of *Eucalyptus obliqua* in field trials. Appita 26th Conf. Hobart, Tas., 6 pp. (Brown, A.G., Eldridge, K.G., Green, J.W. & Matheson, A.C.).
- 1976 Genetic variation of *Eucalyptus obliqua* in field trials. New Phytol. 77: 193-203. (Brown, A.G., Eldridge, K.G., Green, J.W. & Matheson, A.C.).
- 1979 Voucher specimens for published plant names. Search 10: 421-422.
- 1979 *Corynanthera*, a new genus of Myrtaceae (Subfamily Leptospermoideae, Tribe Chamelaucieae). Nuytsia 2: 368-374.
- 1980 A revised terminology for the spore-containing parts of anthers. New Phytol. 84: 401-406.
- 1980 *Thryptomene* and *Micromyrtus* (Myrtaceae) in arid and semi-arid Australia. Nuytsia 3: 183-205.
- 1981 Census of the Vascular Plants of Western Australia. Western Australian Herbarium, Perth. 113 pp.
- 1982 A new species of *Conostylis* R.Br. (Haemodoraceae) from the Fitzgerald River area, Western Australia. Nuytsia 4: 55-59.
- 1983 Botanical exploration and vegetational changes on Rottnest Island. J. Roy. Soc. W. Austral. 66: 20-24. (Pen, L.J. & Green, J.W.).
- 1983 Taxonomy of *Micromyrtus ciliata* (Myrtaceae) and related species, including three new species of *Micromyrtus* from eastern Australia and lectotypification of *M. minutiflora*. Nuytsia 4: 317-331.
- 1983 *Malleostemon*, a new genus of Myrtaceae (subfamily Leptospermoideae, tribe Chamelaucieae) from south-western Australia. Nuytsia 4: 295-315.

- 1987 The data systems of the Western Australian Herbarium. Austral. Syst. Bot. Soc. Newsletter 51: 1-3.
- 1987 The manifold uses of the Epson PX-8 lap-top portable computer in herbarium work. Austral. Syst. Bot. Soc. Newsletter 51: 5-8.
- In Press Plant collecting with the aid of a pocket computer. *Kingia* 1(2).
- In Press The calculation of latitude and longitude from plain language locality data. *Kingia* 1(2).
- WAHERB, the specimen data base of the Western Australian Herbarium. Submitted to *Taxon*. (Green, J.W., Macfarlane, T.D. & Maslin, B.R.).
- Bar code specimen sheet numbers in use in the Western Australian Herbarium. Submitted to *Taxon*. (Macfarlane, T.D., Green, J.W. & Maslin, B.R.)

BOOK REVIEW

BUSH FOOD: ABORIGINAL FOOD AND HERBAL MEDICINE

Jennifer Isaacs, 1987.
Publ. Weldon's Pty. Ltd. Sydney. \$39.95

This volume contains 256 pages including a table of food plants, a table of herbal medicines, reference notes to each chapter, a bibliography of about 140 references, an index and numerous colour plates. The text consists of 16 chapters covering most aspects of food gathering, cooking, plants and animals used and herbal medicine.

A good book on Aboriginal food would be a welcome addition to many libraries. In these days of superb photography, that depressing category of coffee table book consisting of fine pictures and vacuous text has flooded the shelves. This volume is better than that but I found it very irritating with its sloppy use of terms and some unnecessary errors.

When the Europeans arrived in Australia they applied familiar names to unfamiliar plants so we have native plums, peaches, cherries, apples, oranges, bananas, peanuts, onions and carrots which bear no relation at all to their namesakes. It really is unfortunate to have these misnomers carried on when many simple acceptable correct botanical terms are available. To describe Cyperus as "a small onion grass with bulbs": when it is a sedge not a grass, produces a rhizome or corm not a bulb and is certainly not an onion is plainly misleading. Such examples occur on almost every page describing plants. Tuberous roots become potatoes and carrots, Acacia seeds become beans and so on ad nauseam. I am not against the use of some popular terminology: most people know what a berry is and if they can't tell the difference between a corm and a bulb perhaps we have ourselves to blame. Do we need "ancient cycad nut palms" when "ancient cycad" is both shorter and accurate? A cycad is not a "dwarf palm".

The pods illustrated on page 107 are surely Cassia and not Acacia (see page 111), likewise the shrub on pages 112 and 216 appears to be a Cassia. The Melothria on page 210 looks suspiciously like Cucumis. It has never before been recorded (p.145) that the "northern desert people" used the strictly east coast species Duboisia myoporoides to drug Emus: the use of D. hopwoodii is well documented. The captions on page 80 should be transposed.

I hope the author will get her act together for any later editions of a potentially useful book.

David Symon, Adelaide

REPORT FROM THE BUREAU OF FLORA AND FAUNA

Alex George, Canberra

Volume 19 of the Flora of Australia (Myrtaceae - Eucalyptus, Angophora) is now with AGPS and should be published by mid-year.

Volume 3 is well through the refereeing stage, while Volumes 18 and 50 are mostly written.

Two more numbers in the Australia Flora and Fauna Series are in press-

No 8 The Banksia Atlas;

No 9 Plant Indumentum - a handbook of terminology.

Ms Helen Thompson has joined the Flora Section as Editorial Assistant.

NOTICES

REORGANISATION OF NORTHERN TERRITORY HERBARIUM

C.R. Dunlop

As of 1 July 1988, the collections of the Northern Territory Herbarium, NT (Alice Springs) and DNA (Darwin), will be combined to form a single herbarium for the Territory. This will be in new accommodation in Palmerston, a satellite city of Darwin. A reference collection with one botanist will remain in Alice Springs to service the southern region; this will retain the abbreviation NT.

All correspondence after 1 February with respect to loans, exchange, requests etc should be directed to the Senior Botanist:

Herbarium of the Northern Territory

Conservation Commission of the Northern Territory

PO Box 496

PALMERSTON N.T. 5787

Telephone: (089) 894411

Telex: Parks AA 85336

Facsimile: (089) 323849

Outstanding loans due for return to Alice Springs after 1 July should be sent to DNA.

ASBS FUTURE PROGRAM

Barbara Briggs, Royal Botanic Gardens, Sydney 2000

We look forward to the Botanical History Symposium being a very successful conference in May this year, but it is time to be looking ahead to plan the next conference. There have been Symposia in several centres in past years, but not yet in Sydney.

We propose a meeting in Sydney in July 1989 (dates depending on the new timing of university terms) on the theme Sources of Data in Plant Systematics.

We would hope to have papers reviewing as many as possible of the new sources of data affecting our field - macromolecular sequencing, allozymes, new concepts in genetics and karyology, but also to have papers and posters illustrating how particular fields of data have been relevant to better understanding of relationships at all taxonomic levels.

So if your work has made particular use of anatomy, fine structures (including pollen), ontogeny, phytochemistry, biosystematics or other fields it is relevant to the theme.

A meeting of the Willi Hennig Society in Canberra in 1990 will overlap with some aspects of the planned theme, but with a different emphasis the meeting should be complementary rather than conflicting.

Comments or expressions of interest in participating would be most welcome. Also ASBS Council members seek any suggestions for the Society's future program so that these can be discussed at the General Meeting in May.

REMEMBER!

ASBS General Meeting

Ormond College, University of Melbourne
Wednesday 25 May 1988 at 6.00 pm

Development of Systematic Botany in Australasia - Symposium, Ormond College, University of Melbourne, 25-27 May 1988.

AUSTRALASIAN PLANT PATHOLOGY SOCIETY CONFERENCE 1989

Experts from Australasia will gather to speak at the 7th Australasian Plant Pathology society Conference in Brisbane, in July 1989.

Subjects addressed by the speakers will include plant diseases and control including detection, assessment, quarantine and post-harvest problems.

Several pre-conference workshops are planned which will cover such topics as new developments in plant nematology, detection of plant pathogenic bacteria, phosphorous acid as a fungicide and plant molecular biology.

Chairman of the Organising Committee, Dr Ian Muirhead, believes the 7APPS Conference and workshops will provide a large forum for scientists and technologists to meet and exchange ideas in these important fields.

Date: 3 - 7 July 1989

Venue: University of Queensland, Brisbane, Australia

Contact: Dr Ian Muirhead, Chairman, Department of Primary Industries,
Plant Pathology Branch, Meiers Road, Indooroopilly, QLD 4068

Miss Julie Bartley, UniQuest Limited, Ph (07) 377 2733

AUSTRALIAN BRYOPHYTE WORKSHOP

FIRST CIRCULAR

December 3 - December 10, 1988

Location: Southeastern Tasmania, based in Hobart

Research facilities: Laboratories at University of Tasmania.

Cost: Between \$100 and \$150 for transport, accommodation at Youth Hostel and meals.

Program: One day field trips to Mt Field National Park, Tasman Peninsula, Hartz Mts National Park, Gordon River and Mt Wellington.

For additional information contact:

Dr R.D. Seppelt,
Antarctic Division, Channel Highway,
Kingston, Tasmania 7150, Australia

Please cut here and return to Dr R.D. Seppelt.

I hope to attend and wish to receive the second circular.

Name:

Address:

.....

.....

Phone:

I would prefer accommodation at:

1. Woodlands Youth Hostel \$6 per night (bed only)
I am / am not currently a member of the Youth Hostels Association.
2. A Hotel at \$A25-\$A45 per person per night
3. A Motel at \$A40-\$A70 per person per night

Detailed information on hotel/motel accommodation available on request.

8TH MEETING OF AUSTRALASIAN LICHENOLOGISTS

This meeting is to be held in the Caley Seminar Room, Herbarium Building, Royal Botanic Gardens, Mrs Macquaries Road, Sydney, beginning at 9.00 am on Saturday, 7th May. On Sunday, 8th May there will be a Field Trip to Castlereagh State Forest, and to the Mt. Tomah and Mt. Wilson areas of the Blue Mountains. We should also have an opportunity for a brief visit to the newly opened Mt. Tomah temperate garden.



8TH MEETING OF AUSTRALASIAN LICHENOLOGISTS

I will/will not be attending the AAL meeting at 9.00am, Saturday 7 May

My suggested items for the agenda are

-
-
-

I will/will not be attending the Field Trip on Sunday 8 May

Name

Address

RSVP 1st May 1988 to Joy Everett
National Herbarium of NSW
Mrs Macquaries Road
Sydney NSW 2000

The Society

The Society is an association of over 300 people with professional or amateur interest in Botany. The aim of the Society is to promote the study of plant systematics.

Membership

Membership is open to all those interested in plant systematics and entitles the member to attend general and chapter meetings and to receive the Newsletter. Any person may become a member by forwarding the annual subscription to the Treasurer. Subscriptions become due on the 1st January.

The Newsletter

The Newsletter appears quarterly and keeps members informed of Society events and news, and provides a vehicle for debate and discussion. In addition original articles, notes and letters (not exceeding ten pages in length) will be published. Contributions should be sent to the Editor at the address given below, preferably typed in duplicate and double-spaced. All items incorporated in the Newsletter will be duly acknowledged. Authors are alone responsible for the views expressed.

Notes

The deadline for contributions is the last day of February, May, August and November.

ASBS Annual Membership is \$16 (Aust.) if paid by 31st March, \$20 thereafter. Students (full-time) \$12. Please remit to the Treasurer.

Advertising space is available for products or services of interest to ASBS members. Current rate is \$30 per full page. Contact the Newsletter Editor for further information.

All address changes should be sent to the Treasurer or the Editor.

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