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Council

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Papua New Guinea Botanical Society

ASBS Web site
www.anbg.gov.au/asbs

Loose-leaf inclusions with this issue

- CSIRO Publishing publications pamphlet

Publication dates of previous issue
***Austral.Syst.Bot.Soc.Nsltr* 118 (March 2004 issue)**
Hardcopy: 28th April 2004; ASBS Web site: 4th May 2004

ASBS Inc. business

Annual General Meeting 2004, workshop and Canberra Chapter meeting 26th – 27th July

The Australian Systematic Botany Society held its Annual General Meeting for 2004 on Monday 26th July, at 5:30 pm at the Australian National Herbarium, Centre for Plant Biodiversity Research, Canberra.

The Workshop and Chapter meeting on the 27th July are outlined as follows.[1]

ASBS workshop: Preparation of a handbook to the families of Australian vascular plants

See *Austral.Syst.Bot.Soc.Newsletter* 118, p. 1 for details.

Venue: Crosbie Morrison Building, Australian National Botanic Gardens (ANBG), Clunies Ross St., Canberra, ACT.

Time: 9:30 a.m.–4:00 p.m.

ASBS Canberra Chapter Meeting

Speaker: Prof. Steve Hopper (University of Western Australia) – "Haemodoraceae: new insights on old questions in plant evolution and conservation".

Time: talk starts at 5pm, drinks and nibbles available from 4:30pm (by gold coin donation).

Venue: Australian National Herbarium, Centre for Plant Biodiversity Research (CPBR), CSIRO Plant Industry site, Clunies Ross St., Canberra.

Hansjörg Eichler Research Grants

Applications for this year's grants from the Hansjörg Eichler Research Fund close on the 31st August. Background notes listing the essential criteria, requirements of successful applicants and the application form are available from the Secretary or from the Society's web page.

Members of the research committee see applications as an important training exercise and take a very dim view of late applications. They offer the following hints for applicants:

The Society seeks to promote systematic botany through the Eichler Grant scheme. Be sure that your application clearly focuses on the contribution your project will make to this discipline. Some very good applications have failed in the past because the link to systematics has not been clearly shown.

- Answer all questions fully but be concise. Be sure to observe all space limitations.
- Applications should be completed solely by the applicant, but by all means have your supervisor or an experienced botanist read through your application before you submit it.
- Individual grants are not large. For larger projects, select a small part which you would like funded by the grant and explain how, if your application is successful, your project would be enlarged beyond what would otherwise be done.
- Applicants are reminded that it is a common courtesy to consult referees before nominating them. You would be surprised how many applicants do not.

Applications to date have been of a consistently high standard and very often success rests upon careful attention to these points.

This year will be the eighth year the grants have been offered. The first grants were awarded in 1997. In the past 7 years 48 people attached to 14 tertiary institutions and 4 state herbaria have applied for grants. Twenty-two have been successful.

Applicant status	Total applications	Successful applicants
Ph.D.	30	12
M.Sc.	3	2
B.Sc. (Hons)	9	6
Post Doctorate	2	1
Other	4	1

Grants totalling $19,750 have been awarded. All but three of the successful applicants remain financial members of the Society. The success of the grant scheme can be gauged from this response from a former recipient:

> I recall being thrilled at getting the Eichler Research grant - apart from providing some much needed funds to finish a project, it helped me gain the confidence to keep applying for other grants, including the one that pays my current salary! So, this student grant scheme definitely assisted me to go further in plant sciences.

John Clarkson
Chairman of the Research Committee

[1] More details on all of the Canberra events can be found on the ASBS website (www.anbg.gov.au/asbs).

Articles

Projects of the Papua New Guinea National Herbarium (LAE)

Barry J. Conn
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The Papua New Guinea National Herbarium (LAE) is part of the Papua New Guinea Forestry Research Institute (FRI), PNG Forest Authority. The old herbarium has been extended and now forms a wing of the large *Japan International Cooperation Agency* (JICA)-funded FRI complex. LAE is a major botanical institution within the region. It has the best collection of plants from Papua New Guinea, with extensive collections from Irian Jaya (Papua, Indonesia) and the Solomon Islands. The primary role of the herbarium is to improve and maintain its botanical reference collection for the management and documentation of Papua New Guinean forest resources. It also aims to undertake further plant inventories and exploration of priority areas in the country. Finally, it aims to carry out taxonomic research on the local flora, particularly the timber tree species and threatened groups. The herbarium maintains an extensive plant exchange program with other international herbaria and institutions. Botanical collections are available for loan to *bona fide* researchers.

Staff: The herbarium has three botanists (Robert Kiapranis (Program Leader – *Diospyros*, Ebenaceae), Kipiro Damas (Senior Botanist – *Syzygium*, Myrtaceae; *Madhuca*, Sapotaceae), Michael Lovave – currently studying in Japan, one technical officer (Billy Bau – Burseraceae), and five technical assistants (Bernath Suli, Simon Sennart, Kaigube Fazang, Dubi Damas, Thomas Magun). Secretarial support is provided by Balpina Tiki (currently on leave; Brenda Paul – Acting Secretary).The offices of Botanic Gardens staff are also based in the Herbarium. These include Mr Roy Banka, Joe Wiakabu and Endo Graf (Education Officer). Likewise, the Entomology section (formerly based at FRI, Bulolo) consisting of John Dobunaba, Tom Dama and Tagara Siliware is based at LAE.

During May and June 2004, Linn Linn Lee (NSW) and I visited the Papua New Guinea National Herbarium (LAE) to work on the new *PNGplants Database*, and the continuing *Interactive Keys to the Commercial Trees of Papua New Guinea* project. Both projects are designed to help to overcome the 'digital divide' between developed and developing countries, an issue already identified as an emerging problem by the 2nd Japan-South Pacific Forum Summit held in Miyazaki City, Japan (April 2000).

Data processing the LAE herbarium collections (PNGplants Database)

Billy Bau (co-ordinator – LAE); Barry Conn (Project Leader – NSW); Linn Linn Lee (Project Programmer and Technical Developer).

This is a collaborative project between the Australian National Herbarium (CANB), National Herbarium of New South Wales (NSW), National Herbarium of Victoria (MEL), Queensland Herbarium (BRI), and the Papua New Guinea National Herbarium (LAE). New Guinea herbarium data has been repatriated to LAE from the above Australian herbaria. These data form the basis of the *PNGplants* database. The database contains approximately 140,000 records. It is a simple Unix KE Texpress table (KE Software) that consists of 22 fields (some multi-fielded), including fields for plant name, collector name(s) and collection number, date of collection, the collection's spatial information, collector's notes, and fields describing the attributes of the collection (as held at LAE). The remaining fields are used for administration purposes. The database design is based on the *NSW Collections* database (held at NSW). *PNGplants* is housed at NSW and accessed via its own web page (Web Ref. 1) using a web browser and texhtml scripting. General access enables the user to view and query most fields of all records. The information from a query is displayed in both summary and detail formats. A password-controlled restricted site, to be used by selected LAE staff, enables the user to view all fields of all records, create copies of the existing non-LAE data and create LAE records, insert new LAE records into the database, and prepare various reports (such as herbarium labels and determinavit slips).

The final phase of the project will develop the capability to search and download data from the site, using GBIF protocols. This is currently being developed with the assistance of Ken Hill (NSW) and Greg Whitbread (ANBG).

The rationale for the web-based design was to minimise computer hardware costs for LAE, while excluding the need for additional software upgrade expenses, software licensing fees, annual

maintenance costs, and maintenance of data backup and development of data archiving facilities. Finally, but most importantly, the repatriation of data from BRI, CANB, MEL and NSW has given LAE the opportunity of rapidly capturing about a quarter of the data in their herbarium collection. It is hoped that this represents a significant saving to LAE in both time and resources. The generous support of the above Australian herbaria must be acknowledged. Their willingness to participate fully in this project is an example of full cooperation without financial or other rewards. The long-term partnership between the Council Heads of Australian Herbaria (CHAH) and the long association, at both the individual and agency level, with the Papua New Guinea National Herbarium (LAE) has enabled LAE to have a modern, albeit simple, database system which is widely accessible via the internet. Not many world herbaria can claim that level of accessibility. Additional funding from GBIF has significantly shortened the implementation time of this project. This support is gratefully acknowledged.

As part of the documentation of the LAE collections, all of the type specimens have been photographed and are currently being data processed. These collections, photographed by L.L. Lee of NSW, will soon be available for viewing on the Internet.

Fig. Back, left to right: Simon Sennart (Herbarium), Kipiro Damas (Herbarium), Kaigube Fazang (Herbarium), Dubi Damas (Herbarium), Tagara Siliware (Entomology), Tom Dama (Entomology).
Front, left to right: Robert Kiapranis(Herbarium), Thomas Magun (Herbarium), Barry Conn (Silly White Ring-in), Roy Banka (Gardens), Billy Bau (Herbarium), Josephene Wania (Student), Brenda Paul (acting Secretary, Herbarium), John Dobunaba (Entomology).
Absent: Balpina Tiki (on leave, Secretary, Herbarium), Michael Lovave (study leave, Japan), Joe Wiakabu (Gardens), Endo Guaf (Gardens), Tipeo Yagumo (Gardens).

Interactive Keys to the Commercial Trees of Papua New Guinea

B.J. Conn and Kipiro Damas

This joint project is preparing a DELTA dataset to produce keys and descriptions of the common commercial timber species of the Morobe Province. Images are also being incorporated wherever possible. Approximately 350 tree species have been included in the study. The focus is on commercial timber trees, but some non-timber species have also been included. The emphasis has been on trees that grow to at least 20 m high. Therefore, many trees species have been excluded to make sure that the project is manageable, within the timeframe and available resources. Currently, this project is being managed by *DeltaAccess* software which is based on *Microsoft Access* software. *DeltaAccess* has a web-based data input facility that is useful for maintaining the data, even though Kipiro and I are based in different countries. The data entry forms and natural language descriptions are accessible to both authors via a 'blind' URL. The information, in 'fact-sheet' format, will be released to a publicly accessible website when sufficiently complete to warrant public comment. *DeltaAccess* also produces automated natural language descriptions. To improve the readability of these descriptions only minor editing is required. *DeltaAccess* is generally very easy to use. However, it is occasionally rather unpredictable, sometimes giving error messages while completing the desired operations! I am still not sure why. It may prove to be a user-error rather than a software malfunction.

This three-year project has one more year before completion. Apart from the considerable institutional support, from both LAE and NSW, this project is supported by the *Pacific Biological Foundation*.

Initially, the aim of the project was to prepare an interactive key to the common trees of Papua New Guinea. The increasing social unrest throughout much of the country over the last few years has meant that it would have been unwise to undertake extensive and far-ranging field studies. In addition, the large number of taxa to be dealt with, under the original concept, meant that significantly more resources would have been required than were available. Therefore, the project has been confined to the trees of the Morobe Province. This Province has the advantages of being socially relatively stable and having good vehicle access to large parts of the Province (although both situations can change rapidly, for example, the Markham Bridge near Lae has been unusable to all both pedestrians for a number of months and many airstrips have been closed). Despite this, another advantage of the Morobe Province for the *PNGTrees* project is the long association that the PNG Forest Authority has had with the people of the region. Finally, the flora of the Morobe Province is relatively well-known, being supported by an extensive herbarium collection started in the 1950s.

Other Current Programs

These include:

- Floristic survey of Misima Island, Milne Bay Province
- Floristic survey of the Cromwell Ranges, Morobe Province

Issues facing LAE

The LAE Herbarium faces a series of significant issues that severely limit the staff's ability to achieve consistent outcomes. Foremost, the limited financial resources available to LAE make it difficult to carry out the most basic curatorial functions. The collections remain under continual threat from insect and fungal damage, and, dare I suggest, rodent attack, because of the unreliability of the building's air-conditioning and the lack of an active pest management strategy. The herbarium does have the capacity to physically curate the collections, according to best practice. However, this is currently not being achieved. Although the herbarium was extended as part of the JICA-funded building of the Forest Research Institute facilities in the Lae Botanic Gardens, this extension was inadequate for the expected expansion of the collections. Furthermore, the extension did not address the design of office spaces and other work areas. Many of these areas use space very inefficiently.

The botanical exploration program is frequently based on unplanned opportunities that arise from time to time because of the lack of consistent and adequate internal funding. This is part of the larger National financial crisis. The most dramatic decline in PNG has been in the quality of governance. The Government currently supports a wide range of programs that are not affordable within their current budget parameters. Budget appropriations are often inadequate and agencies rarely receive their allocated funds. The result is that service delivery is limited and biased toward urban areas. The fundamental weakness of governance undermines investment by government, the private sector and development agencies, threatening both prosperity and stability. For most of the 1990s, growth was based on the booming minerals sector. These industries are now drawing to a close and there has been little replacement investment. The Government has allowed its non-minerals sector to wither, particularly its agricultural services and transport infrastructure. The breakdown in transportation infrastructure, including a much-

reduced aerial capability, directly impacts on the botanical exploration capabilities of the Herbarium in this geographically demanding country.

However, it is unclear whether the lack of adequate funding is the only impediment to LAE's development. Investment in knowledge development is extremely low, resulting in intellectual stagnation. LAE is isolated from developments in botanical theory and practice because of the lack of adequate library facilities and the lack of contact and collaboration with overseas researchers. In addition, most significantly, there is a lack of a vigorous within-country expertise in disciplines such as plant systematics. New skills in botanical research, knowledge management, management of research programs and general herbarium management are needed to re-invigorate the capacity of LAE. To remain relevant, the Herbarium needs to develop conservation and biodiversity management skills, as well as environmental and botanical data delivery systems that will allow it to become an important within-country source of advice and policy.

The development of a secure and prosperous Papua New Guinea remains a high priority for the Australian Government through their AusAID program (estimated total aid of $435.6 million for 2004-2005). This increase in funding reflects Australia's renewed efforts through the Enhanced Cooperation Program to assist PNG overcome major constraints to stability and growth. PNG is facing unprecedented development challenges. The country has slipped to 133rd out of 173 countries in the UNDP's composite Human Development Index (Web Ref. 2). However, among other things, the sluggishness of the Australian economy has meant that Australian aid, which provides cooperation especially for Papua New Guinea, has tended to decrease. Since the early 1990s, growth in bilateral aid and multilateral aid to developing countries in the region has also remained stagnant. The PNG economy is in deep recession with no prospects for growth in the short term, with a very high risk. Funding agencies, like AusAID and JICA, are focussed on the development of personnel training programs so that a body of qualified people are available to work in economic management and other leading industrial fields. For example, JICA grants are going toward improvement and expansion at the Papua New Guinea University of Technology, Lae. AusAID and JICA also support project-type technical cooperation on forestry research in Papua New Guinea which aims for the sustainable use of resources in harmony with natural ecosystems. All of these endeavours are crucial to the development of the country. However, agencies like the herbarium are not covered by these programs, even though the PNG Forest Authority receives considerable support. Although these aid agencies are trying to promote and support good governance at the National level, the knowledge and expertise held by LAE is not broadly recognised as an essential component of sound environmental management. Therefore, LAE needs to develop it capacity to provide environmental information as a key National stakeholder, not just as a sub-branch of a program within the PNG Forest Authority. This change will only be achieved with considerable persistence from within the Herbarium, with considerable support from within FRI, and long-term staff development through extended exchange programs that allow for the mutual transfer of skills between LAE, Australian herbaria and other botanical agencies.

References

Web Ref. 1. http://plantnet.rbgsyd.nsw.gov.au/ PNGplants

Web Ref. 2. Australia's Aid Program to Papua New Guinea (21 October 2002). www.ausaid.gov.au/publications/pdf/png_framework.pdf

Comment

Australian *Acacia* to (mostly) remain *Acacia*

Tony Orchard & Bruce Maslin
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Readers of this newsletter will be aware that we proposed last year that the generic name *Acacia* be conserved with a new Type species, chosen from the subgenus *Phyllodineae* (Orchard & Maslin 2003).

The Orchard & Maslin proposal has now been considered by the Spermatophyta Committee of IAPT, and the Secretary of that Committee, Dr R. Brummitt, recently informed us that the proposal has been accepted by the Committee. A detailed

official report including reasons for their decision will be published in *Taxon*, probably in the August 2004 issue. The Committee's decision now needs to be endorsed by the General Committee of IAPT and ratified at the IBC in Vienna in 2005.

The Orchard & Maslin action was triggered by stated intentions of some workers in the genus to dismantle *Acacia* in the near future, recognising varying numbers (about five) of segregate genera. The original Type species of *Acacia* has generally been considered to be *A. scorpioides* (L.) W.F.Wright, which is usually accepted as a synonym of *A. nilotica* (L.) Delile. If (when) *Acacia* is dismantled, this would have resulted in 948 of the 957 current Australian *Acacia* species becoming *Racosperma*. Similar large scale name changes would have occurred in the other two continental strongholds of *Acacia s.lat.*: in the Americas, of 185 species only about 60 would remain as *Acacia s. str.*, and in Africa, of about 144 *Acacia s.lat.* only 73 would remain as *Acacia s.str.* In tropical Asia 36 species out of 89 would remain as *Acacia* with 10 becoming *Racosperma*. In Africa, tropical Asia and the Americas most of the remaining species would become *Senegalia*.

The strategy proposed by Orchard & Maslin, to move the Type species to the phyllodinous species *A. penninervis* Sieber ex DC. would mean that if (when) *Acacia* is dismembered, then the name *Acacia* will remain with the by far largest group of about 960 species, the 948 species mentioned above, plus about 10 in tropical Asia, seven in the Pacific and one or two in the Madagascar region. The 73 African and 60 American species mentioned above, plus 36 tropical Asian and 7 Australian species would become known as *Vachellia*. The African, Asian, American and Australian species destined for *Senegalia* (and a couple of other minor segregate genera) would be excluded from *Acacia* irrespective of the Orchard & Maslin proposal.

Some (but not all) of the arguments for and against the Orchard & Maslin proposal were previously canvassed in Walker & Simpson (2003) and Maslin (2004). Other discussion can be found at the "World Wide Wattle" website (Web ref. 1).

What does this mean for *Acacia* nomenclature? Until a formal proposal to dismantle *Acacia s.lat.* is published, nothing will change, anywhere. If and when someone formally publishes a proposal that, *inter alia*, separates *Acacia* subgen. *Phyllodineae* from the rest of the genus, then this decision means that the name *Acacia* follows its new Type species into the old *Phyllodineae*. For Australian taxonomy, this means that, apart from 7 species which will become *Vachellia* and 2 which will become *Senegalia*, the Australian taxa will remain as *Acacia*.

References

Maslin, B.R. (2004). Response to Walker and Simpson's views on the ICBN Proposal 1584 by Orchard and Maslin to conserve the name *Acacia* with a conserved type: ASBS Newsletter 117: 17–21 (2004). *Austral.Syst.Bot.Soc. Nsltr* 118:15–19.

Orchard, A.E. & Maslin, B.R. (2003). Proposal to conserve the name *Acacia* Mill. (Leguminosae: Mimosoideae) with a new type. *Taxon* 52: 362–363.

Walker, J. & Simpson, J. (2003). An alternative view to ICBN Proposal 1584 to conserve the name *Acacia* (Leguminosae: Mimosoideae) with a conserved type. *Austral.Syst.Bot.Soc. Nsltr* 117: 17–21.

Web Ref. 1: www.worldwidewattle.com/infogallery/taxonomy/

On the genus *Acacia*

David R. Murray
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Taxonomists are often classified as 'splitters' or 'lumpers'. To look at *Acacia* at the moment, the splitters are in the ascendent. So let us consider all those species with phyllodes replacing bipinnate foliage and showing greater water-use-efficiency – they must be closely related to one another, being descended from one common ancestor, the first phyllodinous acacia, right? Well, maybe not. The capacity to develop phyllodes from petioles may have arisen more than once during the evolution of this intriguing genus. We have to account for about a dozen phyllodinous species that occur naturally outside Australia, and we should not assume *a priori* that all phyllode-bearing species are most closely related to one another.

Back in the 1970s, studies of the distribution on non-protein amino acids in acacia seeds revealed a key difference between Afro-Asian species, and Australian (Evans, Qureshi and Bell, 1977). This is the ability to synthesize the oxalyl-substituted amino acids a-amino-ß-oxalylaminopropionic acid and a-amino-?-oxalylaminobutyric acid. These nerve toxins are missing from seeds of Australian species. They are also missing from the Mascarene Island species *A. heterophylla*, indicating an Australian origin for its progenitor. However, they are present in two other island species with phyllodes, *A. confusa* (from Taiwan) and *A. kauaiensis* (from Hawaii). The progenitors of these two have presumably floated as seeds from the Asian mainland (Murray 1986).

Which is the more parsimonious proposition? To believe that a complex pattern of amino acid metabolism involving numerous genes and enzymes evolved more than once, indeed on every island where such a species is found? Or to believe instead that the developmental switch for phyllode differentiation arose more than once?

If Subgenus *Phyllodineae* is not a valid phylogenetic grouping, then the two proposals to split *Acacia* outlined by Bruce Maslin (2004) are both unacceptable. Renaming the largest Australian group (plus unrelated island species with phyllodes) as *Racosperma* or anything else will entrench a classification that ignores phylogeny.

There is no pressing hurry to split *Acacia*. The molecular data that Maslin (2004) cites relate mainly to the chloroplast genome. They tell us nothing about nuclear genomes. And they tell us nothing about the genetic control of phyllode development. If we are truly concerned to minimize name changes, then there is a startling alternative – masterly inaction. Let us do nothing. The onus of proof is on those who want change, and in my view they do not have the evidence they need.

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Murray, D. R (1986). Seed dispersal by water. In 'Seed Dispersal' (Ed. D. R. Murray) pp. 49-85. (Academic Press: Sydney, Orlando, New York, London).

Obituaries

Vale Don Foreman 1945-2004

Neville Walsh

National Herbarium of Victoria

Don was born on May 27 1945 in Trangie, central New South Wales. He was the second eldest of four, with three sisters Elizabeth, Patricia and Jennifer. The family farmed a property 'Corolbigne' near Trangie until Don and Elizabeth were of secondary schooling age when the family moved nearer to Dubbo and farmed at 'Fairfield'. Each of the children won scholarships to university. Don's sisters attended The University of Sydney while Don was a student at the University of New England at Armidale. Don graduated in 1969 with majors in Botany and Zoology and in the same year took up a position as Forest Botanist at Lae, Papua New Guinea (see article by Barry Conn in this issue for details of Don's time in New Guinea).

After leaving Papua New Guinea in 1975, Don returned to his alma mater, the University of New England (UNE), Armidale, to complete his MSc and take up employment as a tutor in the Botany Department. He and Joy took up residence on a 5 acre block near Uralla (later to move into Armidale itself). At UNE he was responsible for preparation of the dreaded first-year plant biology pracs, and delivered lectures on plant biology to first and second year students. He was also a teacher/assessor for external plant biology students. UNE was a pioneering institution in distance learning (probably even before the term was coined) and remains a leader in this field. In recognition of his teaching contribution to the department, Don was promoted to the position of lecturer in the Botany Department. As well as his teaching duties, he was instrumental in establishing the student herbarium within the Botany Department. These were fruitful, if busy years for Don and Joy – not only long days teaching and writing theses, there were domestic changes with two children, Maryanne and John born in 1977 and 1979 respectively.

After being awarded his MSc, Don embarked on a Ph.D., 'The morphology and phylogeny of some Monimiaceae (*sensu lato*) in Australia', which he successfully submitted in 1985. Toward the end of his writing up period, Don was offered two jobs in botanical institutions - one in Cairns, and one in Melbourne. Don's wife Joy was a Colac (Victoria) girl, and this, coupled with perceived better prospects down south helped to swing the vote to take the Melbourne offer. In February 1984, Don joined the botanical staff at the National Herbarium of Victoria, Royal Botanic Gardens Melbourne. He and Joy moved to Lara (near Geelong) after being convinced that Melbourne was but a short train trip away. The proximity to the nearby Brisbane Ranges, to become one of his favourite botanising haunts, was another attraction. His duties at MEL were, apart from his ongoing Proteaceae and Monimiacae research, identification of *Cannabis*

for the Victoria Police and general identifications for the public. During this time, Don showed what was to be a hallmark of the man - an unquestioning readiness to take on new tasks. He took on the tasks of design and editing the fledgling *Flora of Victoria*, a project initially championed by Barry Conn before his defection to Sydney. This was also a time where far-sighted folk were beginning to acknowledge the potential of computer technology, when 'portable' disks were the size of LP vinyl records, and printers were not much faster than efficient handwriting. Don accepted the task of instigating and developing a computer databasing system for the herbarium collection, long before the AVH seed had produced its first epicotyl. At the same time, he quietly undertook the editing of the house journal *Muelleria*. Contributors to the volume, particularly taxonomic ingénues (I readily put my hand up here), vividly recall Don's tireless assistance in bringing sometimes pretty feral manuscripts into an acceptable format, and organising the preparation of illustrations and maps that brought to the author's submissions a sometimes generous air of professionalism.

This was a period of upheaval at MEL, with many staff and nearly all the collections having to relocate while substantial remodelling of and additions to the herbarium building were underway. This involved the movement of hundreds of cubic metres of specimens to temporary lodgings, construction and destruction of temporary shelving and keeping tabs on where everything was. Helen Aston guided and recorded the movement of every individual bundle of specimens, and created a system whereby mounted and unmounted Australian and foreign collections, kept apart for many decades, could be merged into a much more useful arrangement. Other staff were often called upon to lend muscle power in moving specimens and cupboards. None attacked these tasks more avidly than Don, and many times Don's grey Holden ute and his well-used handsaw were commissioned to move, build and destroy. Many lunchtime barbecues were enjoyed burning the many offcuts from the temporary shelving in now nearly forgotten structures known locally, if not affectionately as the 'T shed' and the 'Rat hut' (both named for good reason). The new Herbarium was officially opened in 1988, although things weren't back to anything like normal until well into the following year.

In the mid-nineties, responding to the whiff of corporate dynamics that permeated the air, the herbarium underwent significant structural change. Don took the position of Collections Manager in July 1994, where he continued in his *Muelleria* editorship and Proteaceae taxonomic work, but added to his quiver the arrows of responsibility for curation of the approximately 1.2 million MEL specimens, a large part of which task involved further development of the database. A close working relationship with our first (and now senior) databaser Joan Thomas, and curation staff member Cathryn Coles, created a team that allowed the potential of a completely databased collection to be glimpsed. During this time too, the introduction of fees for plant identification (another domain of Don's responsibility) was introduced without the walls of the bastille being rent asunder. A flood in the library, brought about by some dubious architectural modifications, threatened many irreplaceable volumes. The ankle-deep slosh on the floor called for a near-nautical 'all hands on deck' and inspired the preparation of an emergency plan, the likes of which the herbarium until then had never considered. With Librarian, Helen Cohn and Chief Botanist, Jim Ross, Don took this task in his stride and soon a series of handsome 'wheely-bin' emergency units, and associated instructions, designed to cope with almost anything from delivery of WMD to premature infants, appeared strategically throughout the building.

In all of his duties Don had extraordinary unflappable patience in the face of taxonomic, technological and human adversity, and a zeal for assisting others. This is an attribute that, perhaps above all others, colleagues and visitors to MEL will associate with Don. It is this trait that rendered him of value as Australian Botanical Liaison Officer (ABLO) at Kew, a position he filled from September 1996 to August 1997. Don's records show more than 260 enquiries from Australian and New Zealand botanists were fielded during this period, forty-two major enquiries dealt with for Kew staff, twenty-nine visiting botanists hosted, further works on Proteaceae, Monimiaceae and families for the Flora of Victoria completed. After completing his stint at Kew, Don worked with Susanne Renner at the University of Missouri, St Louis, attempting to use DNA evidence from Atherospermataceae to time major disjunction events. This work was published in 2000.

Don's association with MEL finished on returning to Melbourne in December 1997. During 1998 and 1999 he and Joy upped stumps and moved to Canberra where Don worked as an editor on the *Flora of Australia* project, assisting with the Poaceae volumes 43 and 44, and the second edition of the introductory volume 1.

Don was always a very keen gardener. The tea-table at MEL had frequently borne offerings from the Foreman's bounteous vegie patch, and the

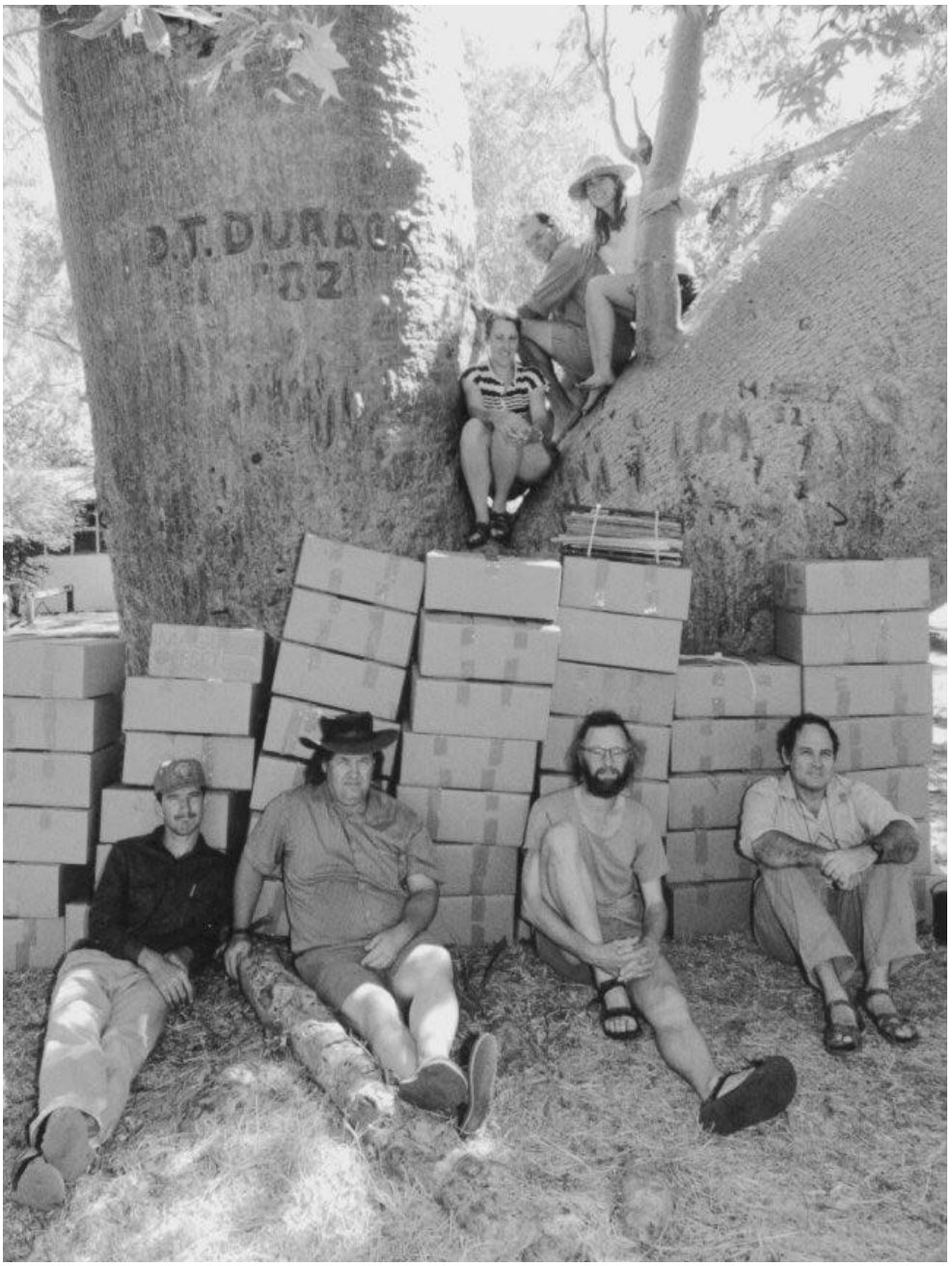

Fig. Don Foreman with participants (and collections) from the 1996 Mueller commemorative expedition to Gregory National Park, NT.
Seated on ground from left: Ron Booth (DNA), Don, Neville Walsh (MEL), Clyde Dunlop (DNA); up tree from base Cathryn Coles, Marco Duretto and Geraldine Jones (all MEL). Photo: Bill Bachman

quality of Don's weekend often seemed to be measured in cubic metres of soil or compost moved in the home garden. After returning from Canberra at the end of 1999, he and Joy decided to branch out and develop a gardening and maintenance business around his home patch in Lara. Both obtained certificates to operate as a franchise with the Yates company. Although the

parent company collapsed in the following year, Don and Joy had established an eager clientele who continued to demand their obviously professional and competent services. Further to their tending gardens, the couple were soon also tending grandchildren with the birth of Maryanne's children, Lachlan and Sarah in 2001 and 2002. Don's devotion to the grandchildren was legendary within the family and among friends. Soon too their son John was lending a hand with the business (which he continues) and Don, wishing to further his skills embarked on a Diploma of Horticulture course at a Melbourne TAFE college in 2003. It was there that one of Don's lecturers was John Arnott, Curator of the Geelong Botanic Garden. John and Don quickly developed a relationship of mutual respect and Don began an enjoyable association with Geelong Garden as 'occasional botanist in residence' from early 2003. Don commenced a systematic program to have all plants in the gardens accurately identified and logged into a cadastral database. In a eulogy at Don's funeral, John commented that in the Garden's 152 years history, Don was the first 'proper' botanist who had been on the staff. Don was much admired and deeply involved with activities with other staff, Friends of the gardens, voluntary guides and visiting groups. Within this period, Don began some more *Flora of Australia* editing work, assisting with contributions to the Poacaeae volumes. It was doubly tragic then that Don's re-emergence into taxonomic pursuits on two fronts should be halted by sickness. Don was reluctant to acknowledge his condition, but in late January was hospitalised and in February was diagnosed with a very aggressive pancreatic cancer. He was not to leave hospital and died on March 9.

Don's gentle and genuine qualities were admired by all who knew him. It was a privilege to have collaborated with him on the *Flora of Victoria* project, and always enjoyable to spend time in the field where he never failed to bring a pearl of tropical wisdom to my thoroughly temperate botanical repertoire. While visiting MEL only occasionally from 1997, he was a welcome presence and his passing was deeply felt by all his former colleagues here.

Farewell to a good man.

Herbarium collections at MEL

Don collected widely in Australia, but areas rich in Proteaceae and Laurales, e.g. south-west Western Australia and north Queensland, were a major focus. His last collections at MEL are from the 1996 Mueller Commemorative Expedition to northwestern Australia, a collaborative exp edition involving staff from DNA, MEL and NT. MEL holds a total of 1888 of Don's collections. His earlier collections are housed at NE, e.g. those in 1977 from Gibraltar Range and Lismore area NSW; in 1981 from Atherton area Qld; and in 1982 from North Coast and Northern Tablelands, NSW. Some of these are unnumbered. Duplicates of Don's collections were distributed to A, AD, BRI, CHR, DNA, K, HO, MO, NY, PERTH, QRS, RSA, WAU, WELTU.

There are some gaps in the numbering of specimens during his time at MEL. From collecting books it appears that collections for some of these numbers were discarded, but there are others (e.g. DBF 1740-1769, DBF 1965-2100) for which there is no obvious reason.

Acknowledgment

I am grateful to Joy Foreman for filling in some detail used in this article.

Table: Don Foreman's collections during his employment at the National Herbarium of Victoria (MEL)

State	Place	Date	D.B.Foreman nos.	Additional collectors
WA	Jurien – Ravensthorpe	Aug-Sep 84	350 – 847	
NSW	S Coast	May 85	848 – 861	
NSW	N Coast, N Tablelands	Aug 85	862 – 1032	
Vic.	Gilderoy - Mt Donna Buang	Sep 85	1033 – 1039	
Vic.	Marysville-Lake Mountain	Oct 85	1040 – 1048	
WA	South west generally	Nov-Dec 85	1049 – 1550	
Vic.	You Yangs	Jul. 86	1551	
Vic.	Brisbane Ranges	Aug-Sep 86	1552 – 1581	
Qld	Atherton – Ca Tribulation area	Oct 87	1589 – 1727	
Qld	Atherton – Ca Tribulation area	Oct 87	1769 – 1885	
Vic	Brisbane Ranges	Oct 88	1886 – 1894	Catling
Vic	Macclesfield -Mt Donna Buang	Oct 88	1895 – 1907	Catling, Walsh
Vic	Brisbane Ranges - Anglesea	Nov 88	1913 – 1931	Nilsson
Vic.	Orbost – Mt Ellery	Nov 89	1932 – 1964	
NSW	Armidale – Dorrigo area	Aug 94	2100 – 2141	Robbins, Warner
Vic	Mt Donna Buang	Feb 96	1728 – 1740	Dobson
NT	Gregory National Park	Apr 96	2142 – 2297	Duretto, Hartwig, Gaston

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Donald Bruce Foreman in Papua New Guinea (1969-1975)

Barry J. Conn

National Herbarium of New South Wales

As a 23 year old, Don arrived in Papua New Guinea on 20 May 1969 to take up duty as Botanist Class 1 at Forest Botany (at the Lae Herbarium, later to be known as the Papua New Guinea National Herbarium, LAE), Office of Forests. Like so many before him and after, he was initially accommodated at TransAir Lodge (later Air Niugini Lodge, now the Lae International Hotel) from 20–27 May 1969 while more permanent accommodation was finalized. Don's initial salary was $1,950, plus an overseas allowance of $1,744 and A.T.S. allowance of $71.00, a sum that now appears to be a very modest total of $3,765. On the 28 May, the day after his 24th birthday, Don was provided a room in a three bedroom house in the Markham Estate at a rental of $10.43 per fortnight. For those of us who were in PNG during this period, or soon after, will have a major flash-back to be reminded that he was issued with a single Duralium bed, dressing table and stools, a 9 cubic foot refrigerator, sideboard, plus dining table, chairs and lounge chair, all in glorious Duralium! Total value $420.70. Like many others, Don's accommodation problems continued, with him requesting a transfer to another residence on the 5 June.

Don's work program over the first 12 months typifies John Womersley's (then Assistant Director) policy of maximizing staff exposure to field botany. From 5-7 June 1969, Don collected in the Bulolo, Mt Kiandi, Edie Creek region (Morobe province), with Mark Coode and Andrew Kanis); 20 June–4 July he collected in the Frieda River area (West Sepik province)(with a travelling allowance of $1.75 per day); 16-18 July Mumeng, Mt Kaindi and Wau (Morobe province); 21–27 July Mt Albert Edward (Central province), via Woitape. The Papua New Guinean guides were paid 10c per hour to assist the LAE expedition to the top of Mt Albert Edward. Eleven days later (7 August) he found himself on his first trip to Bougainville, where he collected until 8 September. On the 21st September he visited Open Bay, on the north coast of New Britain, on board the government trawler "Andrewa", before heading back to Bougainville (29 September–14 October; 27 October–8 November Ok Tedi (Western province). The pace continued, leaving little time to adequately process the herbarium collections obtained, from 17–22 December visiting Kassam Pass (Eastern Highlands province), via Dumpu and Amiaba River (camping allowance $1.05 per day); 30 December collecting at Busu (Morobe province).

The new year continued the same way as the last ended; 6–16 January 1970 returning to Dumpu and Amiaba; 23–27 January to Mt Otto and Goroka (Eastern Highlands province); 3–6 February Aiyura and Kassam Pass (Eastern Highlands province); 12–17 February Mendik and Arigenang; 9 March–14 April Kilifas (West Sepik province) as part of a combined expedition with the Natural History (BM). In the midst of this, Don's appointment was confirmed (25 March 1970).

During this frenzied botanical activity, Don's personal life was quietly developing, first indicated in the official records by his request (25 May 1970) for married accommodation. He took local leave from 2–27 July to marry Lorraine Joyce (Joy) Shaw (Swan Marsh, Victoria) on the 11th July 1970. On their return, they moved into 761 Drayton Street, Lae, with four wooden lounge chairs, with cushion – no Duralium for married couples! Married life was to continue to improve, probably because of Joy's influence; a water heater for the kitchen sink was requested. It seems strange now, but most residences did not have flowing hot water. Even in 1979, like many others, our home in Bulolo (Morobe province) did not have hot water in the kitchen. Returning to Don's request for a water heater, he was informed by no less than the District Commissioner that "Minor New Works funds do not run to the supply of sink heaters" – truly a luxury item, unnecessary in the tropics! However, the installation of security screening on the main bedroom was approved.

Professor Noel C.W. Beadle (University of New England) suggested that Don could undertake a research-based post-graduate M.Sc. thesis (23 January 1970) through the UNE. John Womersley agreed to act as co-supervisor (2 February) and to assist in the development of a suitable research program. It was during August 1970 that discussions with Professor Noel C.W. Beadle started about the planning of Don's preliminary M.Sc. program, with John Williams proposed as a suitable supervisor.

By 1 August, John Womersley must have decided that Don and Joy had had enough of being newly weds, as we find Don off to Mt Albert Edward and Murray Pass to act as a tour guide for an ANZAAS tour group (1–12 August 1970). This tour was part of the 42nd Congress of the Australian and New Zealand Association for the Advancement of Science which was held in Port

Moresby. Bob Johns also acted a tour guide for this Congress.

With the Congress out of the way, Don concentrated on processing his numerous herbarium collections from mid August 1970–17 March 1971. From 18 March–27 May, Joy and Don took their first recreational leave from duty in PNG, visiting friends and relatives in New South Wales and Victoria. He was issued a new two-year employment contract (5 April 1971), effective from the 20th May 1971 ($5,752 per annum). Up until this time, Joy had been working with Posts and Telegraphs in Lae, resigning on 23 July 1971.

It was in July 1971 that Don started his taxonomic review of the Myristicaceae, particularly *Horsfieldia*.

Don undertook a M.Sc. preliminary examination at the Institute of Technology, Lae (13 August 1971) before leaving for field work in the Kiunga area (Western Province) from 16–27 August. On his return to Lae, he concentrated on his Myristicaceae work, it being his primary research effort until early June 1972. Occasional references to the preparation of a 'Myristicaceae Technical paper' (first mentioned 1 February 1972) appear in his monthly diary during 1972. He completed this manuscript on 23 November 1972, in what appears to be his paper on *Myristica* (Foreman 1974). He completed his manuscript of the Myristicaceae for the Handbooks series on 1 December 1972 (Foreman 1978).

On 24 November 1971, Don started a preliminary review of the Proteaceae as part of developing a suitable M.Sc. research project. He was officially enrolled in the Degree with his candidature to commence from 4 January 1972, with the first Proteaceae loan material arriving in July 1972. He began to focus his research program on the taxonomy of *Helicia* (Proteaceae) from 12 December of that year.

On the 29th November 1971, Don began his compilation of the Bougainville species checklist, which was finally published 1972 (Foreman 1971, 1972).

Very little field work was undertaken during much of the first half of 1972, visiting the Mt Hagen area (Western Highlands Province) (15-18 March); Buso (Morobe Province) with Greg Leach and Heinar Streimann (27 April–1 May); Goroka (Eastern Highlands Province)(31 May–1 June) – presumably to collect Peter Stevens and Jan-Fritz Veldkamp. The first major expedition for the year was to Sulu, Open Bay, Powell Harbour (New Britain)(12 June–4 July 1972); soon followed by a visit to Mt Ialibu and Mt Giluwe (Southern Highlands Province)(9–20 August); Kainantu area (Eastern Highlands Province)(16–18 October) to collect *Myristica womersleyi*; and finally Morehead area (Western Province)(6–17 November). While compiling this summary of his botanical field trips it reminded me of the time that Don told me that he actually spent more time (sometimes days) waiting beside airstrips for aeroplanes that did not arrive, when scheduled, compared to the amount of time he spent collecting plants!

Throughout much of the 1970s, there was an increasing emphasis on the Australian government's directive that there must be a reduction of the expatriate component of staff by 15% per annum. Early on in this program (from about January 1973), the 'on-ground' staff thought that this reduction would be achieved by 'normal wastage' by resignation, retirement and voluntary non-renewal of contracts by individuals. However, everyone was aware that as 'localisation' occurred, the replacement of expatriate staff with Papua New Guinean nationals might necessitate the termination of the services of a number of expatriate staff. The Australian Caretaker Government expected some expatriates to leave before Self-Government (1973) or before Independence (1975), but every encouragement was to be given so that many could remain in service as long as they were required by the Papua New Guinea government. These were uncertain times for all expatriates. However, Don and Joy continued on in PNG, Don's contract being extended for another two years, until 20 May 1975[2].

I first met Don and Joy in August 1974, when I arrived in Lae (Conn 1991), with my wife Helen and daughter Lori. Many of our social gatherings included both of them as very welcomed guests. Although Don and Joy did not have any children while in PNG, Joy gave Don a book on how to mix cocktail drinks for Father's Day! By the time Helen, Lori and I arrived for an afternoon barbeque at the Foreman's, they were both very relaxed and relatively incapable of preparing food for us.

I have in the past acknowledged the considerable professional assistance and friendship that Don provided me when I first arrived in Lae (Conn 1991). His willingness to share his knowledge

[2] Don left earlier than his contract termination date from the PNG Office of Forests, taking leave owing. His farewell was held in March 1975 when he left the country and continued writing up his M.Sc. thesis before starting his Tutorship at the University of New England (Barker 1975). *Eds.*

and practical experience provided me with a framework in which I was able to develop my career in botanical systematics. I was fortunate to have the opportunity of working once again with Don at the National Herbarium of Victoria (MEL) during the 1980s.

Don was one of the few expatriates who was fortunate to be given the opportunity of working with one of the most diverse and challenging floras, in an extremely rugged demanding country, with Papua New Guineans who so generously and openly welcomed a group of very inexperienced white guys. Botanically, it was an extremely important period in Papua New Guinea.

All of us who worked with Don are richer for that experience.

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Table: NGF Collections details for Don Foreman 1969- 1974, from records of the National Herbarium of Papaua New Guinea (LAE). Based on the following summary, Don made 2,114 collections from PNG. Note that field books and the LAE Herbarium Registers have not been checked, and that the collections are ordered chronologically, not numerically.

Province	Place	Date	NGF Nos	Additional collectors
Morobe	Wau/Mt Kaindi	Jun 1969	40174 – 40175	Coode & Kanis
E. Sepik	Wewak		41994 – 41995	Henty
W. Sepik	Telefomin-Prospect Ck		41996 – 42000	Henty
			42502 – 42659	Henty
	Telefomin-Komo Ck		42662 – 42669	Henty
	Telefomin-Prospect Ck		42700 – 42704	Henty
Bougainville	Buin/Tonolei Harbour		45604 – 45606	Coode & Dockerill
Central	Goilala/Mt Albert Edward	Jul 1969	45501 – 45544	Wardle
	Murray Pass/Wharton Ra		45543 – 45550	
			45555 – 45564	
	Naiung Valley		45565 – 45566	
	Mt Albert Edward		45567 – 45582	
	Woitape		45584 – 45600	
	Murray Pass/Wharton Ra		45601 – 45602	
Bougainville	Buin/Tonolei Harbour	Aug 1969	40386 – 40397	Coode & Dockerill
			40404 – 40450	Coode & Dockerill
Morobe	Lae		45603	
Bougainville	Buin/Tonolei Harbour		45607 – 45610	
			45611	Coode & Dockerill
	Buin		45612 – 45622	
	Buin/Tonolei Harbour		45626 – 45644	
			45648 – 45710	
		Sep 1969	45711 – 45719	
New Britain	Talasea/Open Bay		45721 – 45727	
	Talasea/Wileto/Navo		45728 – 45730	
			45732 – 45733	
Bougainville	Buin/Helipad 13		45734	
	Buin/ Tonolei Harbour		45735 – 45750	
			45751 – 45757	Terry
Western	Kiunga/Edinburgh Camp	Oct 1969	42816 – 42841	Henty & Galore
			42859 – 42862	Henty & Galore
New Britain	Rabaul/Powell Harbour		45756 – 45757	
Western	Kiunga-Base Camp		45758 – 45780	Galore
Western	Kiunga-Berlin	Nov 1969	45781 – 45819	Galore
	Kiunga-Base Camp		45820 – 45841	Galore
Madang	Madang/Dumpu	Dec 1969	42866 – 42898	Henty

E. Highlands	Kainantu/Aiyura		42899 – 42901	Henty
Morobe	Lae/Butibum		45842 – 45849	Farley & Noble
Madang	Madang/Usino/Amiaba R		45850 – 45901	Farley & Noble
		Jan 1970	45951 – 46000	Dobunabu & Smith
			48001 – 48018	Dobunabu & Smith
E. Highlands	Goroka/Helipad		48019 – 48057	
Morobe	Finschafen/Arigenag	Feb 1970	48058 – 48135	
			48136	Winter & Higgins
			48137 – 48150	
			48151 – 48152	Kumul
Morobe	Finschafen/Mendik		48153	
W. Sepik	Amanab/Kilifas	Mar 1970	48154 – 48359	Kumul
Central	Goilala/Woitape	Aug 1970	48360	
			48362	
	Goilala/Avois		48363 – 48366	Lelean
	Murray Pass/Wharton Ra		48367 – 48373	Lelean
	Goilala/Avois		48374 – 48376	Lelean
	Murray Pass/Wharton Ra		48377 – 48386	Lelean
	Goilala/Avois		48387 – 48412	Lelean
	Murray Pass/Wharton Ra		48413 – 48415	Lelean
Western	Kiunga		52001 – 52016	
W. Highlands	Mt Hagen	Mar 1972	52017 – 52024	
Morobe	Lae	Apr 1972	52025 – 52067	
E. Highlands	Kainantu	May 1972	52068 – 52070	
New Britain	Sulu, Open Bay, Powell Harbour	Jun 1972	52071 – 52193	
Morobe	Lae/Buso	Jun 1973	52326 – 52339	
	Lae/Mt Kawea	Jun 1973	52340 – 52344	
	Lae/Buso	Jun 1973	52345	
Manus	Derimbat	Jun 1973	52346 – 52406	
		Jul 1973	52451 – 52459	
Central	Port Moresby/Efogi	Sep 1973	52460	
	Port Moresby/Efogi	Sep 1973	52461 – 52470	Lelean
	SW of Efogi	Sep 1973	52471 – 52500	
	Port Moresby/Efogi	Sep 1973	60001 – 60038	
	Port Moresby/Bodiri	Sep 1973	60039 – 60291	Vinas
Morobe	Wau/Garaina	Oct 1973	60292 – 60294	
	Lae Botanic Gardens	Oct 1973	60295 – 60296	
Madang	Madang/Gogol	Nov 1973	60305	Whiffin
Madang	Madang/North Coast	Nov 1973	60306 – 60307	Whiffin
		Nov 1973	60308 – 60315	
Morobe	Wau/Bulolo	Nov 1973	60330 – 60338	
	Lae/Markam Rd	Nov 1973	60339 – 60340	Whiffin
Central	Port Moresby	Nov 1973	60341	Burbidge
	Variata Natl Park Rd	Nov 1973	60342 – 60345	
Morobe	Lae/Sankwep Rd	Feb 1974	60346 – 60348	
	Lae/Busu R	Feb 1974	60349	
	Wau/Mt Kaindi/Bulolo	Feb 1974	60350 – 60358	
	Lae/Gurakor Ck	Feb 1974	60359 – 60361	
	Lae/Oomsis	Apr 1974	60362	Lelean
E. Highlands	Kainantu/Kassam Pass	Jun 1974	60363 – 60368	
Morobe	Lae/Sankwep R	Jun 1974	60369	
Western	Daru/Mabaduan	Jul 1974	59080 – 59096	Stocker
	Daru/Gnao/Kudoro	Jul 1974	59100 – 59107	Stocker
	Daru/Kudoro	Jul 1974	59110 – 59111	
		Jul 1974	59112 – 59113	Stocker
E. Highlands	Kainantu/Kassam Pass	Jul 1974	59114 – 59117	
Western	Daru/Woroi/Oriomo/Pawa	Jul 1974	60370 – 60433	Stocker
	Daru/Uparua/Morehead	Jul 1974	60434 – 60445	
	Daru/Iokwa	Jul 1974	60448 – 60460	
	Morehead/Arufi	Jul 1974	60462 – 60470	
		Jul 1974	60471	Stocker
		Jul 1974	60472	
		Jul 1974	60473 – 60475	Stocker
		Jul 1974	60477	
	Morehead/Wassi Kussa	Jul 1974	60478 – 60491	Stocker
	Morehead/Sibidiri	Jul 1974	60492 – 60495	
	Daru/Mabaduan	Jul 1974	60496 – 60500	Stocker
Morobe	Lae Botanic Gardens	Sep 1974	59118	Zwar

Activities at the Lae Herbarium in Don Foreman's time

Robyn and Bill Barker
State Herbarium of South Australia

David Frodin produced an extremely comprehensive review of botany in New Guinea for the 1988 *History of Systematic Botany in Australasia* symposium (Frodin 1990). However he passed over what to some of us were extremely formative (and enjoyable) times with the comment on the Lae Herbarium (LAE) that "Non-national staff on average stayed only a few years", mentioning very few people by name. As Barry Conn also, in his article in this issue (p. 2), has mentioned few of those who spent time at the Herbarium while Don was there, we take this opportunity to try and present a brief snapshot of LAE of the time, the surprising number of botanists who share these memories, and their sense of loss at the passing of one of the quiet stalwarts of this time.

As indicated in Barry's article, Don joined the staff of LAE at a time when knowledge of the Papua New Guinea flora was in a major phase of expansion under the direction of John Womersley (Frodin 1990). It was a time of high international contribution and Womersley sponsored visits by overseas specialists as well as taking advantage of the Australian colonial administration and its final push towards self-government and independence to build an active, well-staffed, national herbarium (e.g. Barker, Conn & Croft 2003).

Botanical staff were drawn from various quarters and the following botanists/ecologists were all on the Herbarium staff during Don's time: local plantation owner and agriculturalist Ted Henty (Barker, Conn & Croft l.c.), nationals Michael Galore, Paul Katik, Artis Vinas and Yakas Lelean, Australian Alick Dockrill, New Zealander/New Caledonian Andree Millar (in charge of Botanic Gardens), Britons Mark Coode (1966-72) and Peter Stevens (1970-73), Jo Vandenberg (1969-?1971), Heinar Streimann (1971-2), Greg Leach (1972), Jim Croft (1973-1987), Fiji/New Zealander Nigel Clunie (1974-197?), Barry Conn (1974-1975, then to Bulolo) and Bill Barker (1974-1976). Artists employed at the time included expatriates Terry Nolan and Faye Owner, eventually to give way to nationals, Taikika Iwagu and Semeri Hitignuc in the early 1970s.

New Zealander Bob Johns, who started his New Guinea ecological work in about 1968 on a postgraduate course under Donald Walker at Australian National University was, we think, probably on LAE staff for some of the time; he was based in Lae in the early 1970s, before his move to the Bulolo Forestry College. He and Don shared a lasting friendship from this time.

In the same year as Don started in Lae, John Womersely continued a practice he had initiated a couple of years before of offering work in the Herbarium for botany graduates during the long Christmas vacation. Robyn Barker, Ian Noble and Ken Farley from the University of Adelaide spent 3 months at LAE under this scheme, Robyn sharing the single women's quarters with Joy Shaw (later Foreman) and Jo Vandenberg, and Ian and Ken the single men's quarters with Don.

Cooperative expeditions with British Museum/Kew and Leiden herbaria provided opportunities for interaction with overseas botanists.

David Frodin, on the staff of the University in Port Moresby (established in 1965), was a regular visitor to the herbarium. The new University of Technology at Lae had some Forestry studies and there was some minor involvement with the herbarium, but by far the greater contact was with the Bulolo Forestry College. This had a rather large expatriate staff at this time and links between it and LAE (also under the Division of Forests umbrella) were forged by interchange of staff and the presence of a teaching herbarium in Bulolo.

The Wau Ecology Institute (then part of the Bishop Museum of Hawaii) was an active field centre, for entomological research in particular, and the Australian National University's New Guinea Research Unit had a steady stream of postgraduate research students conducting their research in the highlands of Papua New Guinea. For many years the Lae Herbarium, as the main institution servicing plant systematics with a broader involvement in plant ecology, was a focus for a constant flow of visiting researchers, many of whom also happened to need their plant collections identified. This, coupled with the fact that John Womersley oversaw the use of the ANU residences in Lae (both of them were close to the John's house), meant that many scientists from all over the world were able to visit and live relatively economically ($2 a day rental if we recall correctly). Since the Herbarium had an active nationwide collections program at this time, as can be seen from Barry Conn's account of Don's activities, it was also relatively easy for visiting scientists to spend time in the field.

Figures: Top. Papua New Guinea colleagues reunited at the ASBS 1988 *History of Australasian Systematic Botany* symposium at Melbourne University. Back row: Robyn Barker, Jim Croft, Bill Barker, Don and Joy Foreman, Jocelyn Powell; front: Barry Conn, (on the knee of) David Frodin.

Ph. Bill Barker

Bottom. January 1970. Bob Johns, Joy Shaw and Don Foreman.

Ph. Robyn Barker

With his departure to Armidale in March, Don just missed the formation of the Papua New Guinea Botanical Society in June 1975. Later in the same year also came the departure of John Womersley and soon after severe budget cuts for the herbarium (references in Barker et al. 2003). The world had changed but links forged in those days remain – so much so, that we first heard of Don's illness from a concerned email enquiry from Mark Coode and Bob Johns at Kew. There are some times you share that leave a lasting impression on your life and an unbreakable bond with those who shared it with you.

References

Barker W.R., B.J. Conn & J.R. Croft (2003). Ted Henty: the quiet achiever of New Guinea botany. *Austral.Syst.Bot.Soc. Nsltr* 110: 8-9.

Frodin, D.G. (1990). Explorers, institutions and outside influences: botany north of Thursday. In P.S. Short (Ed.) *History of Systematic Botany in Australasia* (Australian Systematic Botany Society), pp. 193—215.

New taxa and combinations

Helicia blakei Foreman
Helicia celatus Foreman
Helicia fragilis Foreman
Helicia grayi Foreman
Helicia insularis Foreman
Helicia laiagmensis Foreman
Helicia lewisensis Foreman
Helicia recurva Foreman
Helicia versteeghii Foreman
Isopogon formosus subsp. *dasylepis* (Meisn.) Foreman
Isopogon gardneri Foreman
Isopogon inconspicuus (Meisn.) Foreman
Isopogon scabriusculus subsp. *pubifloris* Foreman
Isopogon scabriusculus subsp. *stenophyllus* Foreman
Isopogon teretifolius subsp. *petrophiloides* (R.Br.) Foreman
Petrophile aculeata Foreman
Petrophile arcuata Foreman
Petrophile aspera C.A.Gardner ex Foreman
Petrophile cyathiforma Foreman
Petrophile ericifolia subsp. *subpubescens* (Domin) Foreman
Petrophile glauca Foreman
Petrophile helicophylla Foreman
Petrophile imbricata Foreman
Petrophile merrallii Foreman
Petrophile misturata Foreman
Petrophile recurva Foreman
Petrophile stricta C.A.Gardner ex Foreman
Petrophile wonganensis Foreman
Stenocarpus verticis Foreman
Triunia erythrocarpa Foreman
Triunia montana (C.T.White) Foreman
Triunia robusta (C.T.White) Foreman
Xylomelum cunninghamianum Foreman

Buckinghamia ferruginiflora Foreman & B.Hyland

Eponymy

Wilkiea foremanii W.R.Philipson, *Blumea* 26: 365 (1980)
Psychotria foremanii S.H.Sohmer, *Bishop Museum Bull. Bot.* 1: 105(1988)

Source: *Australian Plant Name Index*

Sophie Ducker 1909–2004

Noted phycologist and botanical historian, Sophie Ducker passed away on 20th May 2004.

Determinavit slips

Nouvelle cuisine

There was a young diner of Lockley
Whose salad was painfully prickly
As spines pierced her cheeks
She uttered loud shrieks
As she crunched on *Cirsium vulgare.*

A doctor I know brought in ten square centimetres of green leaf for identification. It had been removed from a woman diner's mouth. This proved to be Spear Thistle, presumably harvested with the lettuce. The main concern was whether or not it was poisonous.

The restaurateur was duly contrite and offered to pay expenses.

The leaf fragment was pressed and dried as a record and is now housed in the State Herbarium of South Australia.

David Symon
State Herbarium of South Australia

News

Queen's Birthday honours

Public Service Medal (PSM)

Barbara Waterhouse, of the Northern Australia Quarantine Strategy of AQIS, working out of Mareeba, is the latest member of the Society to gain one of the nation's awards. Barbara was awarded the Public Service Medal for her work in detection and control of weeds.

Medal (OAM) in the General Division

Darrell Nairn Kraehenbuehl of Millswood South Australia will be known to many members for his interest in botanical history and his book on the pre-European vegetation of the Adelaide Plains, which involved delving into old collections in herbaria such as MEL and Kew. He gained his award for: "service to botany, nature conservation, and research/recording of Australian botanical history.

Steve Hopper moves to University of Western Australia

From July this year, our President has moved from his long-standing position as Director of Kings Park and Botanic Gardens to a newly created Professorship in Conservation Biology at the University of Western Australia.

Head of AD advertised

Applications for the position of Professor of Conservation Biology in the University of Adelaide, with a joint responsibility as Head of Science in the Science & Conservation Directorate of the South Australian Department for Environment & Heritage, which includes responsibility for the State Herbarium of South Australia, closed on 19th July.

Australian Weeds position in Queensland

The CRC for Australian Weed Management through Dr Dane Panetta of the Department of Natural Resources, Mines & Energy, Queensland, has provided resources to the Queensland Herbarium for a position advertised as:

> A national weed detection project officer with responsibility for detecting new weed incursions in regional Australia. With an initial focus on Queensland, the project will target weeds of the natural environment as well as those of agricultural production, and bring botanists and community-based groups into a new network. The officer, to be based at the Queensland Herbarium in Brisbane, will train field collectors, promote Australia's Virtual Herbarium and be expected to take other strategic action to build regional capacity in the campaign against weeds.

Jane Morton has recently been appointed to the position. More information is on the WeedWatch pages on the CRC's *www.weeds.crc.org.au* website.

Papua New Guinea data on global biodiversity website

The *PNGplants* site, referred to in Barry Conn's article on projects in the Papua New Guinea National Herbarium (p. 2), is now accessible on the Global Biodiversity Information Facility (GBIF) website (www.gbif.org.).

Data is accessed from a National Herbarium of New South Wales portal. This is the first herbarium site for our region to deliver biodiversity information as a GBIF provider.

Bob Johns retires

Bob Johns, well-known to many working in Papua New Guinea in the 1970s to mid 1980s retired on 16th July from his position at the Herbarium, Royal Botanic Gardens, Kew, having reached the mandatory retirement age of 60.

Fig. Bob Johns, then of Bulolo Forestry College, and Bernard Verdcourt, Royal Botanic Gardens, Kew, below Mount Wilhelm, Papua New Guinea in 1976, with intrigued locals, one of whom assisted by collecting material from the *Albizzia tree*; on field trip assisting Bernard with his *Handbook to New Guinea Legumes*.
Ph. Bill Barker

New ancient DNA position

Professor Alan Cooper has been offered a Federation Fellowship in the School of Earth and Environmental Sciences at Adelaide University. Professor Cooper is currently Professor of Ancient Biomolecules in the Department of Zoology at Oxford University and he has been in that position since 1999. He is a researcher of the highest quality and it is hoped he will join the school towards the end of this year.

It is seen as a key position in fostering novel research across the environmental disciplines, including systematics.

Personalia

Happy Birthday Winifred Curtis

On June 15 Winifred Curtis turned 99!

During her distinguished career Winifred made important contributions to science teaching, to botanical research and to the advancement of women in science. For example, in the 1940's when she became aware of the absence of a suitable textbook for biology in high schools she wrote *Biology for Australian Students* (published in 1948, with new editions in 1952, 1959 & 1962). In 1942 she was the second woman appointed to a full-time teaching position at the University of Tasmania and in 1956 she was the first woman appointed Reader at the University. She was also the first woman to head a department at the University.

She almost single-handedly built up the modern knowledge of the taxonomy of the Flora of Tasmania. She has an impressive publication record (including 15 books and c. 30 published papers) that includes the *Students Flora of Tasmania* and *The Endemic Flora of Tasmania*. Colleagues have named several plants in her honour including the unusual genus *Winfredia* (Restionaceae) which is confined to Tasmania.

Honours in recognition of her achievements include the Royal Society of Tasmania Clive Lord Memorial Medal (1966), the Australian Natural History Medallion (1976), Membership of the Order of Australia (1977), an honorary Doctorate of Science from the University of Tasmania (1987), the SGAP Australian Plants Award (1988), and the Mueller Award by the Australian and New Zealand Association for the Advancement of Science (ANZAAS) (1995). A floral reserve north of Scamander on the East Coast of Tasmania, the Winifred Curtis Scamander Reserve, was named in her honour. Her contribution to the understanding and documenting Tasmania's Flora was highlighted in the Centenary of Federation celebrations through 'The Peoplescape' exhibition in Canberra (2001).

Winifred Curtis has had a long association with the Tasmanian Herbarium and is one of its Honorary Staff members. She worked very actively at the herbarium on the revised *Students Flora of Tasmania* until 2000.

A biographical sketch of Winifred Curtis (Kantvilas 1991) was published in *Aspects of Tasmanian Botany: A tribute to Winfred Curtis* (Royal Society of Tasmania).

Happy Birthday Winifred !!!

Marco Duretto
Tasmanian Herbarium

Fig. 1. Winifred Curtis discussing a grant application with Gintaras Kantvilas (1999).

Fig. 2. Winifred Curtis with the then Governor of Tasmania, His Excellency Sir Guy Green, at a graduation ceremony held at the University of Melbourne where Winifred gave an occasional address recalling the University's early history (1998).

Curator, Weed Taxonomy: a new position at the Tasmanian Herbarium

These days, with budget cuts and staff freezes (or worse) becoming the norm and not the unusual, it is refreshing to report on the creation of a new botanical position at an Australian herbarium. On 17 June 2004, the position of Curator, Weed Taxonomy, at the Tasmanian Herbarium (HO; Tasmanian Museum & Art Gallery) commenced. The creation and filling of this position is the result of many years of hard work by Gintaras Kantvilas (Head of Herbarium, HO) and a few of his colleagues.

The start of this story probably goes back to Joseph Dalton Hooker and Leonard Rodway who wrote the early accounts of the Tasmanian Flora. More modern players in the game include Winifred Curtis and Dennis Morris, with their expertise mainly appreciated through the *Student's Flora of Tasmania*. While Winifred worked for the University of Tasmania, teaching students about botany and the Tasmanian flora, Dennis was working for the Tasmanian Department of Agriculture as Weed Officer. During this time he became the recognized expert on weeds in Tasmania and wrote and illustrated a number of handbooks and some educational material on weed-related subjects. He contributed directly to documenting the weed flora in Tasmania, and provided botanical advice to the extension services operated by the Department of Agriculture. After his retirement from the Department in 1985 he joined Winifred as one of the Honorary Botanists at HO.

For the last 20 years Dennis has provided a world class weed identification service through the Herbarium and has trained and inspired many a botanist and field researcher in Tasmania and beyond. The herbarium has been very fortunate to have such a distinguished person working for them in an honorary capacity (see Baker, 2004, *Austral.Syst.Bot.Soc. Nsltr* 117: 21-22). With such a wealth of knowledge and expertise at their disposal it was obvious to herbarium staff that one of the best ways to utilize these skills was the training of a new weed botanist. But how to place someone in the position of being able to be an 'understudy' to Dennis Morris? This is the continual problem of scientific institutions - the passing on of decades of experience.

Fortunately, a few years ago, the Tasmanian Government estab-lished a graduate development program incorporating a Vocational Education and Training Scheme (a nationally recognised certificate). Through the direct involvement and personal interest of the then Head of the Department responsible for HO, Jeff Kelly, HO gained a Graduate Weed Taxonomist. Through this program, Matthew Baker (out of a wide field of excellent applicants) came to HO in 2002. For the next two years Matthew, a Hobart-born and educated Agricultural Science graduate, under the tutelage of the various herbarium botanists and especially Dennis, honed his skills as a weed botanist.

During this time, Matthew developed his graduate position into a key client service of HO by representing the organisation across a wide range of initiatives concerned with weed detection and control. He has been heavily involved in weed education through the

Fig. Matt Baker (right) with Andrew Crane (Southern Regional Weed Officer, Dept. of Primary Industries, Water & Environment, Tas.) accosting a likely weed (*Cortaderia* sp.).

production of regular articles in the *Tasweeds Newsletter* and through coor-dinating several Open Days and other public programmes.

We can proudly say that he, building on the work of Dennis Morris, has made HO the first point of enquiry with respect to the identification of weeds and other exotic plants in Tasmania.

Towards the end of this two-year scheme, and not without quite a few anxious discussions at many levels of government, the position of Curator, Weed Taxonomy was created at HO. After due process, the position was filled, again out of an excellent field of applicants, by Matthew Baker.

Over the next few years we expect Matthew to build upon the solid foundations he has formed over the previous two years and to play a lead role in Weed Preparedness and Response for Tasmania. He will also contribute to the revised *Student's Flora of Tasmania* and the Australian Virtual Herbarium projects and, no doubt, still work closely with Dennis Morris.

Congratulations firstly goes to the Tasmanian Herbarium for gaining a new position in these frugal times; and secondly to Matthew Baker who I wish all the best in his botanical career.

To quote Matt "Weedy in stature – weedy in career".

Marco Duretto
Tasmanian Herbarium

ABRS report

ABRS Participatory Program

The Minister for the Environment and Heritage recently approved 57 taxonomic research grants for 2004/05. Also this year, for the first time, a proportion of the grant funds have been allocated to directly support the research and production of biodiversity information products, such as identification keys and electronic catalogues. Successful grant applicants have been notified by letter and details of these projects will be included in the next edition of *Biologue*, to be published around September.

The 2004/05 Australian Government budget provided funding of $1.827 million for the ABRS Participatory Program. ABRS received applications for 96 new and 27 renewed grants, requesting over $4 million in total. Unfortunately many excellent projects could not be funded.

Flora of Australia Online

The *Flora of Australia online* database was launched by the Hon. Dr Sharman Stone, MP, Parliamentary Secretary to the Minister for the Environment and Heritage in March. However, further progress on this database is underway. Information from a number of the published volumes of the *Flora of Australia* is now online, but some volumes are not yet loaded, and some volumes are not yet published. To assist in completing the framework of the online delivery we have loaded into our development database information for additional families and genera from the *Families of Flowering Plants of Australia* CD-Rom. Included are links to the *Australian Plant Name Index* (APNI) and, through APNI, links may also be made to any online images in the *Australian Plant Image Index* held at the Australian National Botanic Gardens. The genera in the *Flora of Australia* online database will need to be checked for current correctness before they are made available online, so we may be seeking your assistance with this. The composite picture (Fig. 1) provides a preview of what is in the development database.

Global Biodiversity Information Facility (GBIF)

I am delighted to report that ABRS will receive Australian Government Natural Heritage Trust funds in 2004/05 to establish an Australian GBIF node at ABRS, enhancing integrated national and international access to Australia's biodiversity data by all Australian governments, scientists, educators, land managers and community groups or individuals. The Australian node (ABIF) will provide a portal to link the Australian contributors to the GBIF network. At present, ABIF data providers are ABRS (Australian Faunal Directory), the Australian Antarctic Division (Seabirds, Elephant Seals, Weddell Seals) and CSIRO Entomology (Australian National Insect Collection). Other data providers, such as *Australia's Virtual Herbarium* (AVH), *Online Zoological Collections of Australian Museums* (OZCAM - Australia's Fauna), and the *Australian Plant Pest Database* (APPD), are expected to come online shortly.

The data in the interim ABIF node is now functional and accessible (Web Ref. 1). It is planned to develop a data portal that provides access to checklists of species names and allows for searching of those specimens and observations contained in the biological collections of ABIF participants. ABRS will provide a co-ordinating role in integrating new providers into GBIF.

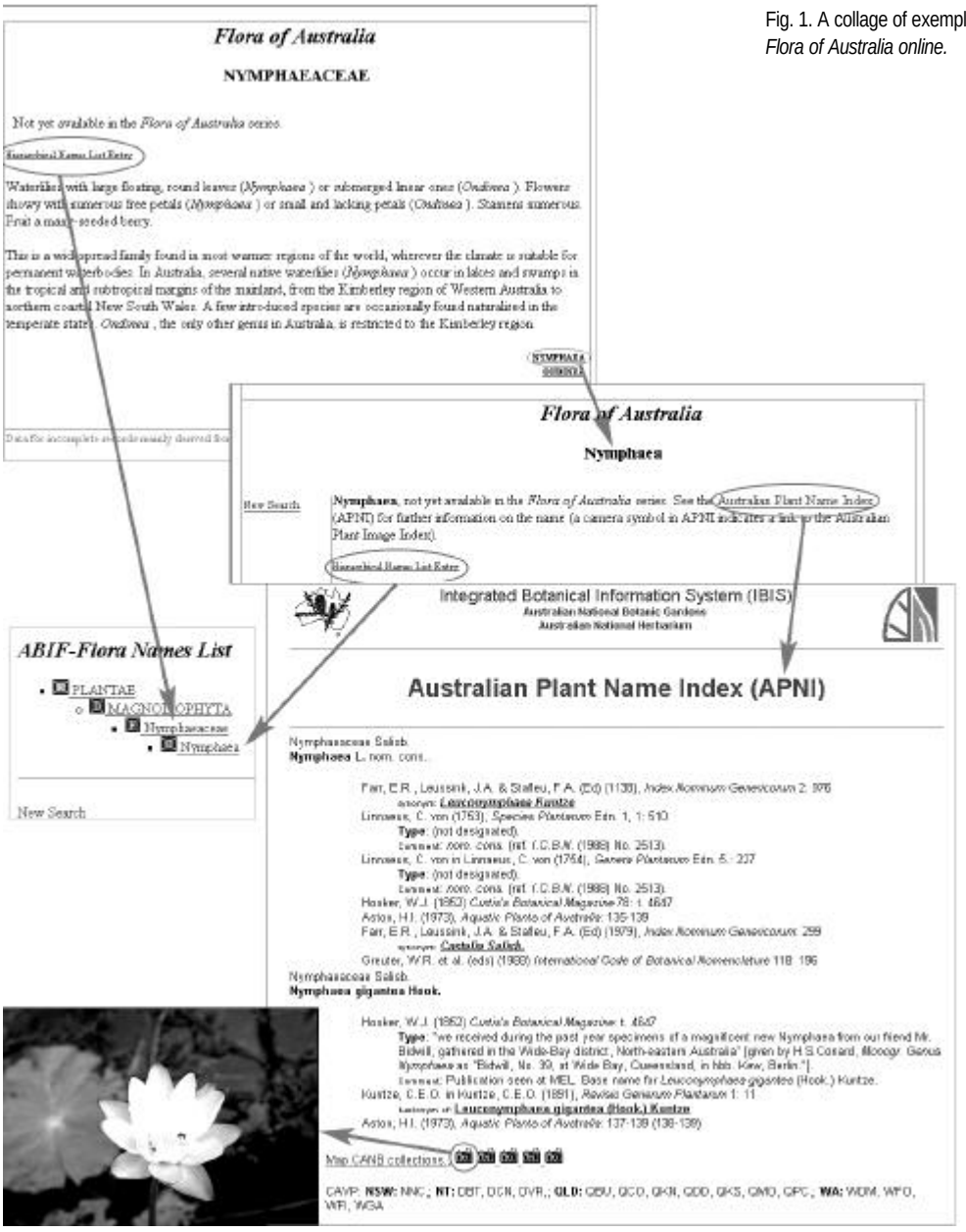

Fig. 1. A collage of exemplar pages from *Flora of Australia online.*

New Publications

Key to Genera of Australian Macrolichens, *P.M.McCarthy & W.M.Malcolm, Flora of Australia Supplementary Series, Number 23 Australian Biological Resources Study, 2004 ISBN 0 642 5683 4*

Size: 210 × 148 mm (A5), viii + 64 pages, index, bibliography, glossary
Binding: soft cover, spiral bound
Illustrations: 115 colour plates
AUD 33.00 (price includes surface postage for overseas orders, and GST and postage within Australia).
Available from ABRS (Web Ref. 2)

Macrolichens are not necessarily large lichens. Instead, the term has been used traditionally for lichens other than crustose types, i.e. scaly, leafy or shrubby lichens, usually with discrete organs of attachment to the substratum; in other words,

distinctly three-dimensional, in contrast to their closely appressed or immersed, two-dimensional relatives.

This key to the genera of Australian macrolichens follows recently published guides to apothecial crusts and pyrenocarps. It covers all 135 genera of macrolichens known to occur in Australia, and illustrates two-thirds of them in full colour. To ease identification, it uses mostly traits that are visible with the naked eye or a 10× hand lens, and for all genera it adds information on habitat, distribution within Australia, and literature references.

Evolution of Behavioural and Ecological Diversity: Australian Acacia Thrips as Model Organisms, *B.J.Crespi, D.C.Morris & L.A.Mound, Australian Biological Resources Study/Australian National Insect Collection, CSIRO, 2004*
ISBN 0 975 02061 7

Size: 250 × 176 mm (B5), vi + 328 pages, index, bibliography
Binding: hard cover, section stitched
Illustrations: 27 colour plates, 475 black and white plates, 1 map
AUD 55.00 (price includes surface postage for overseas orders, and GST and postage within Australia).
Available from ABRS (Web ref. 2):

This book presents a novel, 'model clades' approach to the study of biodiversification, explicitly integrating behaviour, ecology, taxonomy, phylogenetics, and evolution.

The subjects comprise a single lineage of phytophagous thrips that has radiated on Australian Acacia, yielding over 250 species in 30 genera, of which 140 species and nine genera are newly described. This radiation has generated four ecological suites of species: gall-inducers (some with defensive 'soldier' castes); species that glue phyllodes together; parasites of these two types of domicile-formers; opportunistic species using old domiciles or other microhabitats.

The causes and consequences are explored of this behavioural-ecological diversification, with special emphasis on how this study has provided insights into the evolution of social behaviour, of host-plant use, and of exploitative behaviours.

The driving force behind the system is the arid and unpredictable Australian climate, which has selected for diverse means of creating, usurping, and co-opting domiciles. These ecological pressures have generated a positive feedback mechanism, such that adoption and modification of new host-plants by some thrips species creates further niches for additional ones.

The remarkable morphological, behavioural and ecological variation represented by these thrips means that they can be considered as a microcosm for understanding the processes that generate biodiversity among all phytophagous insects, and indeed among all animals.

This book includes Botanical Annexe by B.R. Maslin and indexes to subjects, plants and insects.

Flora of Australia Vol 56A (Lichens 4) *Various Authors, Illustrators & Photographers Flora of Australia Series Australian Biological Resources Study/CSIRO Publishing, 2004 Hardcover: ISBN 0 643 09056 8 Softcover: ISBN 0 643 09057 6*

About the book
Size: 250 × 176 mm (B5), xvi + 222 pages, index, glossary, bibliography
Binding: Hard cover, section stitched
Illustrations: 56 colour plates, 3 black and white plates, 287 maps
Available from CSIRO Publishing (Web Ref. 3).

Volume 56A provides treatments of *Pertusaria* and *Lecanora*, two of the most speciose and ecologically significant, crustose genera on rock and bark in Australia. *Pertusaria*, second only to *Xanthoparmelia* (Parmeliaceae) in terms of the diversity of Australian species, exhibits a high degree of species endemism and is often dominant in tropical, temperate and alpine communities in eastern Australia. The Australian species of *Lecanora* occur on rock, soil, and on trunks and canopy branches of trees in all ecosystems; some are especially prominent in the comparatively species-poor lichen floras of semi-arid and arid regions. Also included here is *Usnea*, a genus of robust and often luxuriant lichens ranging from almost rigid tufts on exposed, alpine rocks to metre-long skeins hanging from the canopies of temperate rainforest trees.

Complete or partial accounts of nine families are provided in Volume 56A, including 17 genera and 287 species and infra-specific taxa. This brings to 1168 the number of Australian lichen species and infra-specific taxa treated in the four volumes published.

References

Web Ref. 1. www.deh.gov.au/biodiversity/digir/index.html.
Web Ref. 2. www.deh.gov.au/biodiversity/abrs/publications/order/index.html
Web Ref. 3. www.publish.csiro..au/pid/3887/htm

Mary Colreavy
Director ABRS

ABLO report

Time certainly flies when one is enjoying oneself—by the time you are reading this I will have nearly completed my stay here, and I wish I could have had twice as long. As the weather improves, life gets busier at Kew, with more visitors, and many more staff members engaged in fieldwork, in Africa, Asia and the Americas.

My own travelling has been more modest: I have visited the herbaria at Cambridge and Paris both to answer Australian queries and to carry out my own research on *Astroloma*. Paris and Cambridge have some similarities in addition to their important historical Australian material: towering herbarium cupboards, layers of grime on the older collection sheets and a shortage of bench space, as well as staff who are very helpful and welcoming. However, if you plan to visit either institution, contact them beforehand to make sure that someone will be available to assist you. The Paris herbarium has a surprisingly large number of Robert Brown duplicates, as well as material from early French expeditions to Australia. Dr Philippe Morat, who has retired as Director at Paris, is still responsible for the Oceania area, in which Australia is included, and he welcomes Australian researchers. The herbarium at Cambridge is likely to move to a new building in the botanic gardens, which will probably mean a period in which access to the collections is difficult or impossible, especially since they do not send specimens on loan. One of the reasons for this is apparently that the herbarium has no CITES registration, another is a fear that Australian Quarantine might irradiate specimens, making them unusable for some forms of analysis.

I also visited Wakehurst Place, Kew's garden in the country, which includes the Millenium Seedbank, a project with which several Australian states have partnership agreements. It is an awkward place to drive to, but worth the effort both for the garden (I visited during the Bluebell season) and for the Seedbank itself, where I was given an interesting tour through the facility. Wakehurst also provides temporary housing for lesser-used specimens which cannot be crammed in to the main herbarium building at Kew.

Recently I have also attended a workshop *Towards a working list of known plant species*, discussing ways to achieve Target One of the Global Strategy for Plant Conservation: "A widely accessible working list of known plants species, as a step towards a complete world flora". Participants considered that this was an achievable goal within 5 years, though funding, as always, will speed the process. I hope that more information on the workshop and the target will be available soon, especially details on how to participate. In the meantime, if you have a checklist for a taxon or region, please consider making it available for use in this project. This is to be a working list, not a perfect one, so works in progress will be important.

Kew news

After the bulb displays of spring I have enjoyed the succession of flowering trees and shrubs which seem to change every day I walk through the garden to and from work. Last year a variety of crop species were also grown in different areas of the garden, including some hops. These have been used in the production of Kew Brew, a rather tasty ale which is available at the local pub the Coach and Horses as well as restaurants in the Gardens and "selected" supermarkets.

With almost all rest of the staff, Paul (my husband) and I turned out to see the Queen and Duke of Edinburgh, who visited the gardens on June 4 to unveil a plaque commemorating Kew's naming as a World Heritage Site. Fortunately the weather was warm and sunny for the occasion. A few weeks later we turned out again for the staff summer party, at which we were able to sample Kew Brew.

The extension to the Jodrell Laboratory is due to start in Autumn, and the proposed extension to the herbarium may begin as early as next year. Fortunately the ABLO room is on the opposite side of the building to the extension area, so disruption should be slight, at least until they start moving specimens and people into the new building in a few years time.

People

Since my last report I have attended a retirement party for Sandy Atkins, who worked in the office next to mine, and on July 16 Bob Johns, who is well-known to many Australian botanists, will also retire. This year also sees the retirement of Steve Renvoize and Brian Stannard among others.

John Beaman has been awarded the Asa Gray award, the highest award of the American Society of Plant taxonomists, for contributions to botany and botanists over the course of his career.

The Director of Kew, Peter Crane, received a knighthood in the Queen's Birthday honours list. *The Genus Lavandula* by Tim Upson and Suzyn Andrews has been published, and the beautiful

paintings that illustrate it won a Royal Horticultural Society Gold Medal for the three Kew artists involved in the project, Christabel King, Joanna Langhorne and Georita Harriott.

Correspondence of past ABLOs.

During her term as ABLO, Roberta Cowan brought the ABLO files into line with current record-keeping practises and correspondence is now sorted into a file for each ABLO. Kew records management does not intend to keep these correspondence files permanently and will routinely process them for destruction after five years. However, nothing has yet been destroyed, and the staff at records management are happy for me to send the older papers to any past ABLO who would like to keep their own files. Please let me know if you are interested.

Visitors to Kew

The warmer weather (and assorted meetings, research or holidays) has brought the Australians to Kew - in the last few months Bob Hill, Mike Crisp, Barbara Kent, Lise Summers, Judy West, Ruth Raleigh, Karen Wilson and Peter Mahoney have all visited.

Annette Wilson

AUSTRALIAN BOTANICAL LIAISON OFFICER (ABLO)

CALL FOR APPLICATIONS

Applications to be Lodged by 30 July 2004

Applications are invited from experienced botanists wishing to be considered for the position of Australian Botanical Liaison Officer (ABLO) at the Royal Botanic Gardens at Kew in the United Kingdom for up to 12 months from September 2005.

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Email: abrs@deh.gov.au

Book reviews

Tree ferns

Review by Peter Bostock
Queensland Herbarium

Tree Ferns. *M.F.Large & J.E.Braggins. CSIRO Publishing. Hardback. ISBN 0643090762*

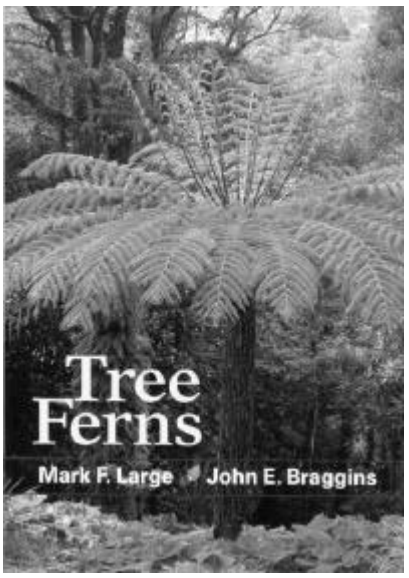
$59.95 plus $9.00 postage & handling (in Australia) from CSIRO Publishing, Collingwood, Victoria. 2004.

This book consists of three chapters: (1) Introduction, (2) Cultivation and Propagation, and (3) The Tree Ferns, and three appendices. The third chapter is by far the largest, 262 pages out of a total 360, and covers taxonomy, both modern and historical, of the chosen species, as well as descriptions and notes on each of the treated species and their genera and families. A key to genera is provided, but keys to species are not.

By choosing to title this book 'Tree Ferns', the authors have taken an each-way bet on the arborescent ferns, combining the 'true' tree-fern families Cyatheaceae and Dicksoniaceae with some others popularly described as tree ferns. That this definition is somewhat flexible is not really a problem. Gardeners will always make up their own mind about such things, and the most that authors can hope to do, is to cover the topic to the satisfaction of their target audience. This is certainly achieved here, with most arborescent ferns mentioned, whether they are in the majority in their genus or family or not. Ferns covered by the book are drawn from the families Cyatheaceae, Dicksoniaceae, Athyriaceae, Blechnaceae, Marattiaceae, Osmundaceae and Thelypteridaceae. Only the Cyatheaceae, Dicksoniaceae and *Todea* (Osmundaceae) are treated to detailed species descriptions.

Chapter 1, Introduction, discusses the morphology and biology of tree ferns in general, the evolutionary history of arborescent ferns, age and growth rates and their distribution around the world. Conservation and ethnobotanical uses are discussed, albeit rather briefly. I am a little disappointed in the section on conservation. A search of the web for '*Dicksonia* harvesting', for example, retrieves some 250 references, suggesting that there is a great deal of interest in

such matters. There is certainly considerable sensitivity in the UK, following adverse publicity (eg Lawson 2000), to the widespread sale of wild-collected Australian plants of *Dicksonia antarctica*. The authors make the following statement 'this species [*Dicksonia antarctica*] is now protected on mainland Australia', citing Neyland (1986). However, regulation of wild-harvested native plants in Queensland, for example, did not occur until the mid 1990's and the Victorian Tree-fern Management Plan was not published until late in 2001 (Bramwells 2001).



Chapter 2, Cultivation and Propagation, covers aspects of cultivation, such as temperature, humidity, soils, light, fertilizers and nutrition, and modes of propagation, quite concisely, but nevertheless adequately for the most part. The authors are ever mindful of colder climates, often mentioning the known or presumed frost tolerance of species. Heat tolerance, on the other hand, is less often quoted. The section on diseases and pests is well-written, and is in accord with other similar manuals.

The most difficult aspect of a book such as this is the encyclopaedic part—in this case the description of included species (Chapter 3). Mark states in his preface that 'Although some emphasis is placed on those species cultivated in Australasia and the United States, unusual or little-known species from around the world are also included.'. Consequently, of the c. 470–600 species (their tally) of *Cyathea* in the broad sense, as currently known, some 432 species and hybrids, plus the 11 'Tree ferns that require further study' of Appendix 1 are treated with descriptions and notes on propagation, history of discovery or sometimes on taxonomy or nomenclature. This is a sterling effort.

Descriptions are brief, and may in some cases be of little use in identifying the species. However, if one has in hand a named plant, it may at least be possible to confirm that identity. The authors handle the taxonomic problems within Cyatheaceae quite well, probably in the only way possible for a book of this type. They place all species in *Cyathea* wherever possible, but refer them to the relevant 'clade', and are left with only those 11 difficult species mentioned in the preceding paragraph. Distribution maps are given for each clade in *Cyathea* and on a genus by genus basis for the remaining genera in Cyatheaceae, Dicksoniaceae and Osmundaceae.

Appendices 2 and 3 cover 'Tree ferns by Geographic region' and 'Tree ferns for Gardens' respectively. Species listed in each geographic region are cross-referenced to their total distribution. The table in Appendix 2 categorises species by climate, and suggests a maximum height that may occur in cultivation. The book closes with some miscellany viz. metric conversion tables (cm to inches and metres to feet), a glossary of terms, a bibliography and an index which includes synonymy in *Cyathea*. Some terms in the glossary might be better defined e.g. *scale*, a 'dry membranous outgrowth consisting of a plate of cells', does not equate to the sometimes massive and multi-layered scales that occur in some species of *Cyathea*.

There are 131 colour photographs, mostly two per page, ranging over all the families mentioned above. Representative photographs include gametophytes and sporelings, cross-sections of trunk, macro photos of sporangia and sori, fossils, artefacts made from tree ferns and the ferns themselves in all their glory. The plates are a little variable in their printed quality; some photographs are overly dark, and sometimes detail in the shadows cast by fronds is quite obscure.

Putative errors in the plates:

- page 165, plates 9 and 10; Calochlaena straminea and C. dubia. The captions are surely reversed. Although the plate of C. straminea (plate 9) is dark and thus not very clear, it seems to have a sizeable erect trunk with a number of fronds clustered at the crown. This doesn't agree with most recent descriptions of the species.
- page 202, plate 85: supposedly Cyathea robertsiana, but this seems unlikely to me. The trunk of the illustrated plant is too robust, and the crown neither elongated nor green. Moreover the fronds are not finely divided enough.

There is a minor mystery here that could have been explored further. In *Tree Ferns*, both *C.*

javanicum and *C. straminea* are described thus: 'the creeping or barely erect rhizome is as much as 50 cm long and 6 cm in diameter'. No two authors seem to agree on the nature of *Calochlaena* rhizomes, particularly *C. straminea*. Brackenridge (1854), Copeland (1909, citing Raciborski, possibly *in sched.*) and Holttum (1963, citing Brackenridge) suggest that *Calochlaena straminea* can have an ascending or (sub)erect caudex. Indeed, Brackenridge mentions *Dicksonia torreyana* = *Calochlaena straminea* as having a trunk 'from 8 to 10 feet high', possibly a case of mistaken (caudical) identity. White and Turner (1988) point out that 'references in the literature to arborescent *Calochlaena* are probably in error'. It seems that this genus at least is barely worthy of inclusion; perhaps it makes it in only by association with *Dicksonia*, so to speak.

With regard to *Cyathea exilis*, p. 130, a very rare fern from Cape York Peninsula in Australia, I described the plant (Bostock 1998), as 'rhizome to 4 m tall ... suckering from rhizome buds, with one bud near each stipe base'; contrast this with the description herein viz. 'it produces several buds, usually one at each stipe base'. Also, the note following the description of *Todea barbara*, p. 308, reads in part 'plants are almost composite'. I assume this should be 'almost always composite'.

The breadth of coverage of the literature of tree ferns, even if sometimes brief or superficial, is impressive. Of the c. 92 references to morphology, taxonomy or genetics of Cyatheaceae and Dicksoniaceae that I have in my own bibliographic records, Mark and John cite all but 12, and additionally they cite at least 11 that I did not have.

All in all, an informative and wide-ranging book, with much to appeal to tree fern enthusiasts, both amateur and professional.

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A history of Australian botanical endeavour

Review by Tony Orchard
Australian National Herbarium

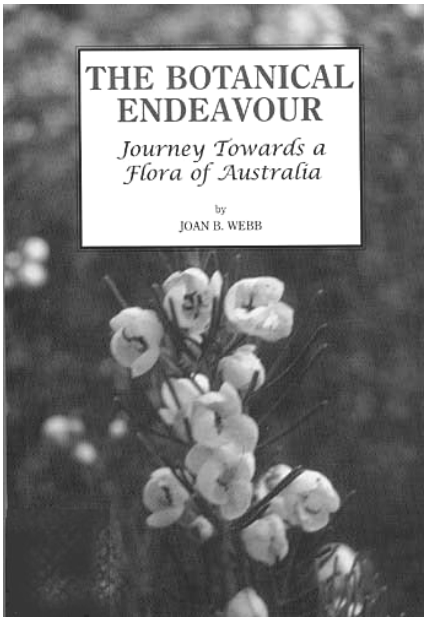
The Botanical Endeavour. Journey Towards a Flora of Australia, *by Joan B. Webb. Foreword by David Mabberley. Surrey Beatty & Son, Chipping Norton, NSW. (2003). Paperback, 289 pp, 16 b/w figures, 14.8 × 22.0 cm. Price not stated.*

This modest paperback tackles a major subject, the history of taxonomic botany in Australia over some 200 years. In the space available it has obviously not been possible to treat the subject comprehensively, and the author has chosen instead to discuss some of the major figures only, with brief reference to others. The result is a book which breaks new ground in some areas, and provides a useful introductory bird's eye view of the subject, but which left me feeling dissatisfied. The 12 chapter headings themselves provide an indication of the coverage:

A Century of Botanical Endeavour - Introduction
It seems that the intention here was to survey the 19th century, but a large part of the chapter is a superficial discussion of Linnaeus (18th century) and his sexual system, contrasted with the later natural systems of Jussieu and Ray, and discussion of the collections and work of people such as Dampier (17th century), Plukenet (18th century) and the Banks & Solander explorations. Only later is there a very brief synopsis of the rest of the book.

The Botanical Fraternity and Major Herbaria
The focus in this chapter is on the major botanical figures of the late 18th and 19th century, principally those of Britain. All the usual suspects are mentioned, albeit briefly (1–2 paragraphs each): Banks, Robert Brown, the two Hookers, Lindley, Bentham, Lambert, Webb, Asa Gray, de Jussieu, de Candolle, Moquin-Tandon, and Sonder. The recent publication of Robert Brown's Diary is not included (Vallance *et al*., 2001), nor Mabberley's biography of Brown (Mabberley, 1985). Other useful biographies that might have been mentioned include Desmond (1999) and Duyker & Tingbrand (1995). This is followed by

a discussion of the role of herbaria, which begins with a resurrection of the unfortunate Clifford, Rogers and Dettman paper in *Nature* of 1990. That this was given such prominence is indicative of one of the major problems with the book, a lack of perspective on the science of taxonomy. The chapter then gives a snapshot of "Major Herbaria of Europe" (BM, K, Deless-ert, Lambert, Lemann, Herbarium Webbianum, Museum Godeffroy, and the Vineyard Nursery, Hammer-smith) an interesting selection to say the least (where is the discussion of E, CGE, GOET, HBG, M, P, B, PR, S, LINN, and many others that hold significant Australian mater-ial or historical collections relevant to the introduced flora?). This is followed by a discussion of "Herbaria in Australia" of which only two are apparently of importance, MEL and NSW.



Botanica Europea – P.B.Webb

This chapter is probably the best in the book. It provides a detailed history of Philip Barker Webb (1793–1854), a wealthy dilettante who during his lifetime assembled a major private herbarium and library, including major accessions from early Australian exploration (Labillardière, Drummond, Cunningham, Preiss *et al*.). On his death it was donated to the Florence herbarium (FI), where it remains, and is still significant, particularly for the Labillardière collections including many types. To me, and I suspect to many Australian botanists, Webb has always been a somewhat shadowy figure, and it is good to have, at last, a biography. However, it is clear that his role in Australian botany was principally that of hobbyist and accumulator of others' collections. That they were saved for posterity is of course of great importance, but Webb's predominant influence in the development of the *Flora of Australia*, as outlined in this chapter and throughout the book, is, I feel somewhat overstated.

Just a Gardener? – Lieut.Colonel William Paterson.

Paterson is another figure who has been a assigned a chapter to himself, to my surprise. As for Webb, it is good to have an expanded biography, but his contribution to the development of knowledge of Australian botany was decidedly minor. Many others, who receive no mention, collected more widely and wrote more authoritatively.

Kew Collector – Allan Cunningham.

This chapter of 50 pages is the longest in the book, and rightly celebrates the achievements one of Australia's most under-acknowledged botanists. It is based to a large extent on correspondence in Kew between Cunningham and W.J.Hooker. A full bio-graphy of Cunningham is long overdue, but in the meantime this chapter will add to the limited information available in McMinn's biography (McMinn 1970).

Resident Botanists in Western Australia

This chapter provides sketches of the work of James Drummond and Georgiana Molloy. They are based principally on the two published biographies, Erickson (1969) and Lines (1994).

Resident Botanist in Tasmania – Ronald Campbell Gunn

Buchanan's paper on Gunn (Buchanan, 1990) and Burns & Skemp (1961) seem to have been the main sources of information for this chapter. It is a pity that Webb was apparently unaware of Buchanan (1988) which provided much more information on Gunn, and on Milligan as well as minor Tasmanian resident collectors. Buchanan (1988) provides detailed itineraries and maps of Gunn's major expeditions, which are more informative than that provided here as Fig. 8.

The "foreign literati" – Ludwig Preiss and Amalie Dietrich

These two collectors are lumped together because they were German, visited Australia principally to collect plants for sale, and published little themselves. Webb's summary is that "The contribution of Ludwig Preiss and Amalie Dietrich to Australian systematic botany is little known today". This is misleading. The collections of both were extensively used by many botanists in Australia and overseas to describe a substantial proportion of the Western Australian and Queensland floras. Every practicing plant taxonomist will at sometime have had cause to consult Preiss and Dietrich collections. A major omission in this chapter is a discussion of the role of Karel Domin, the Czech botanist who visited Queensland at about the

same time, made extensive collections, and then used these plus those of Dietrich in his very important phytogeographic and taxonomic works on the Queensland flora. He rates just one short paragraph in this chapter. Charles von Huegel, another German botanist/collector to visit Australia somewhat earlier does not get a mention at all, despite the availability of a translation of his journal (Clark, 1994).

George Bentham and Flora Australiensis and A Rising Australian Consciousness –F. Mueller
The story of George Bentham, his prodigious botanical output, his strained relationship with Ferdinand Mueller, and his championing by the Hookers has been told many times before, as has the ground-breaking exploration, research and publications of Ferdinand Mueller. These short chapters (17 pp and 24 pp.) provide only a summary of the work of these two seminal figures, with reference to some of the more important biographies and correspondence compendia.

An Australian Identity Achieved – J.H.Maiden
Maiden is chosen as the example of "the independent Australian scientist". Why he should be given this title, instead of his contemporary (and fellow immigrant) Ferdinand Mueller is not clear, but he was British. Maiden's substantial achievements in laying the foundations of the National Herbarium of NSW, and his enormous contributions to taxonomy are rightly praised in this chapter. It is a pity though that a reference to Gilbert's biography of Maiden (Gilbert, 2001) could not have been included.

Flora Australia – The Twentieth Century
To me this is by far the most disappointing chapter in the book. The main source of information for this chapter seems to have been Alex George's introduction to *Flora of Australia* vol. 1 in 1981, which is now long out of date and of course does not cover the last 25 years. Far better and more comprehensive source material is available (George *et al*., 1999). In addition to the threadbare discussion of the process leading to the establishment of ABRS and the new *Flora of Australia* project, this chapter utterly fails to document the development of taxonomic botany in Australia in the 20th century. The reader is left with the impression that after Mueller and Maiden nothing much happened. This of course is not true. Amazing advances were made in describing the flora of Australia. More species have been described in Australia since the completion of Bentham's *Flora Australiensis* than were included in that landmark work. Scores of taxonomic botanists have contributed to this process. It is unfair to single out individuals, but I will do so anyway (my apologies to the very many others who should have been listed). In the last 100 years, apart from Mueller and Maiden, people such as Charles Gardner, Paul Wilson, Barbara Rye, Judy Wheeler and Bruce Maslin in Western Australia, George Chippendale, Clyde Dunlop and John Maconochie in the Northern Territory, Ralph Tate, J.M.Black, J.B.Cleland, John Jessop and Hansjoerg Eichler in South Australia, F.M.Bailey and C.T.White in Queensland, Lawrie Johnson, Barbara Briggs, Gwen Harden and Mary Tindale in New South Wales, Nancy Burbidge in the ACT, A.J.Ewart, Jim Willis, Neville Walsh and Helen Aston in Victoria, and Winifred Curtis, Dennis Morris and Leonard Rodway in Tasmania have all published very extensively on the Australian flora and should have been mentioned. Many of the above wrote or edited State or regional Floras which have provided essential stepping stones to *Flora of Australia*. Again, source material is readily available but has been overlooked (Orchard, 1999, and references therein).

In summary, there is much in this book that irritated me. It seems to have been written some time ago, with few references beyond the early 1990s and the latest dated 1999. Consequently several useful sources are overlooked. The lack of good illustrations is unfortunate. I understand it was the publisher's decision not to include colour plates (perhaps wise, as the coloured photographs on the covers are all out of focus), but some more detailed maps of itineraries would have been useful. Throughout the text there are painfully detailed transcriptions of herbarium labels "discovered by the author in Herbarium X", and contorted explanations of base names, valid publication and new combinations etc. These present as rather naive, and add nothing to the story, particularly as they seem to be selected at random, and will not be news to any botanist who has worked on the Australian flora. They would have been better omitted, or a small selection illustrated rather than transcribed.

Many of the conclusions struck me as strange. For example, the statement that Amalie Dietrich "caused barely a ripple on the expansion of botanical knowledge for Australia" (p. 215) after 10 pages describing her extensive collecting expeditions, her wide ranging collections in botany, zoology and anthropology, of the many botanists who used her collections to describe the Australian flora, and the significant numbers of species named in her honour. Another strange statement is that Dietrich's "collection of Australian birds was possibly the largest ever made by a single person" – amongst others J. Gilbert, A.J. Campbell, W.R. McLennon, S.A. White and R. Schodde each collected many times the numbers made by Dietrich. Again, Webb (p. 185) says that the works published in Europe on

the collections of Preiss and Dietrich "achieved little recognition in England, and perhaps less in Australia", yet on pp. 201–204 she states "McGillivray (1975) said that no one since Robert Brown had made such a notable contribution in so few years as Ludwig Preiss rendered to the exploratory phase of Australian systematic botany", and goes on to chronicle the use of his specimens by Bentham and others, and lists a few of the many species named in his honour.

On the other hand, this book will be a useful first reference to check historical facts for some of the pioneers of Australian plant taxonomy, and has quite a bit of new information scattered through it, particularly the account of Webb and his herbarium, and extracts from correspondence in Kew, the Natural History Museum and elsewhere. I was pleased to see that here Cunningham gets his rightful credit as a major figure in Australian botany. Buy the book as a quick reference, but if you need in-depth information, or details on other than the limited numbers of botanists treated, there are better sources, such as the five chapters making up *Section 1: Bibliography and Classification* in *Flora of Australia vol. 1 Introduction* (2nd edn).

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Australian lichens

Review by Simone Louwhoff

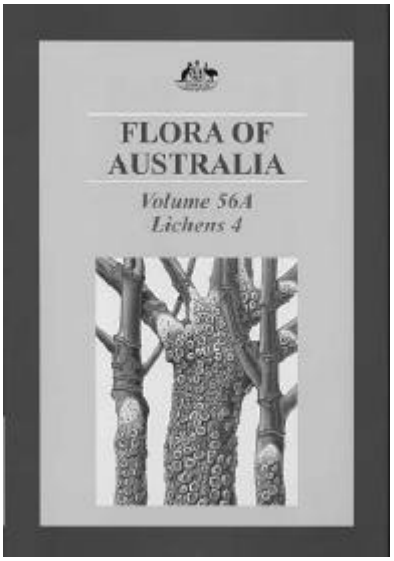
Associate at the Royal Botanic Gardens, Melbourne

Flora of Australia Volume 56A, Lichens 4.
Canberra & Melbourne: ABRS and CSIRO Publishing (2004). P.M. McCarthy & K. Mallett (eds.).
48 Colour photographs, Maps, Index, 240 pages.
Hardback - ISBN: 0643090568 - AU $95.00,
Paperback - ISBN: 0643090576 - AU $80.00

This is the fourth lichen volume in the Flora of Australia series, published by the Australian Biological Resources Study. Like the three preceding it, this Flora publication is an immense contribution to our knowledge of Australian lichens. Volume 56A contains a key and detailed taxonomic descriptions to 287 species and infra-specific taxa in 17 genera. This includes the diverse and ecologically significant crustose genera *Pertusaria* and *Lecanora*, as well as the conspicuous genus *Usnea*, familiar to many a non-lichenologist as “Old Man’s Beard”. Several excellent colour photographs, mostly taken by the New Zealand lichenologist Dr Bill Malcolm, accompany the text. Bill also prepared the cover illustration.

With one exception, all contributors of text are Australian, which is a real feat and credit to this Volume as lichen taxonomists are few and far between and it is great to have local talent supported. Dr Gintaras Kantvilas from the Tasmanian Herbarium in Hobart contributed ten of the genera (*Steinia, Miltidea, Roccellinastrum, Loxospora, Sarrameana, Fuscidea, Hueidia, Maronea, Orphniospora, Ropalospora*). One of these (*Hueidia*) was written together with the senior editor of this volume, Dr Patrick McCarthy, who also contributed *Maronina*. Professor Jack Elix, associate at the Australian National University in Canberra contributed three genera (*Haematomma, Ramboldia, Lecanora*), the latter together with Dr Thorsten Lumbsch from the Field Museum in Chicago. Dr Nell Stevens, associate at the Queensland Herbarium in Brisbane contributed two genera *Usnea* and

Neuropogon and Dr Alan Archer, associate at the National Herbarium of New South Wales in Sydney contributed the large genus *Pertusaria*. It is evident from all accounts that the authors have considerable expertise in the groups they contributed.



Volume 56A has a logical and consistent layout, very much following the format of existing volumes. It has a general introduction, which briefs the reader on the background of the *Lichen series*, and includes the scope and presentation of treatments covered in the current volume. There are some great colour photographs and drawings scattered throughout the text, breaking it up nicely. The taxonomic treatments cover complete or partial accounts of nine families: Aphanopsidaceae, Haematommataceae, Lecanoraceae, Miltideaceae, Roccellinastraceae, Sarrameanaceae, Usneaceae, Pertusariaceae and Fusideaceae. Descriptions and discussions are "concise and supplemented by important references, synonymy, and information on type collections, chemistry, distribution, habitat and published illustrations" (quoting the editors).

It's a relief to see some of the Australian Lecanoraceae treated here, particularly *Lecanora*, as this group has traditionally been a mixed bag and also because they are widely distributed in most habitats in Australia. The authors provide a key to the Australian genera that they believe belong in the Lecanoraceae but concede that its circumscription remains a subject of debate. This also applies to the Usneaceae, which here is treated as separate from the Parmeliaceae. At times the treatment of *Usnea* is confusing, most probably because the taxa display great morphological and chemical variability, and because the author is not always consistent in her approach. Sometimes chemical variability in morphologically similar taxa is recognised at the species level and at other times they are considered varieties or chemical races. Nevertheless this treatment, based primarily on the author's 1999 monograph (Stevens 1999), improves our insight into Australian *Usnea* and the colour photographs, taken by the author, are very helpful. *Pertusaria* is another large contribution, based primarily on the author's 1997 monograph (Archer 1997), and is significant in that it attains great diversity in Australia, with many endemics reported. The artificial division of the *Pertusaria* key into groups (based on characters such as apothecia type, spore size, etc) is very useful. Some may consider the author's "pigeon hole" approach too rigid to reflect natural variability, but the *Pertusaria* are a difficult group to tackle and the author has created some order in the chaos.

I believe a full glossary would have been preferable over a supplementary glossary, even if it meant a smaller font size. The quality of colour photographs is excellent and a useful identification tool, perhaps if they were smaller the editors could include more in the next volume? However, these two comments only reflect a personal preference. There are a couple of technical typos in the keys (in *Pertusaria* group K, couplet 8 comes from 7 rather than 8; in *Haematomma*, couplet 6 comes from 3 rather than 4). But these are negligible in the light of the immense effort that has no doubt gone into editing Volume 56A and which has resulted in a first class taxonomic account. I expect it will soon find its way to the desks of amateur and professional lichenologists alike, as an invaluable identification tool.

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A field guide to Queensland wetland plants

Review by Bruce Wannan
PO Box 802 Kuranda 4872

Wetland Plants of Queensland – A Field Guide
K.M. Stephens and R.M. Dowling, Queensland Herbarium.
160 pages including colour photographs and maps. Price $39.95. Published January 2002, paperback. CSIRO Publishing PO Box 1139 Collingwood Vic 3066.

I admit to being a little excited when I first saw the early publicity for this field guide. Being a

field botanist in North Queensland, where there is a dearth of floras, I thought here at last might be a guide to help with all those plants you get muddy feet chasing.

The Guide has been produced at the request of the Queensland Wetlands Advisory and Coordination Committee, which felt that it would assist operators and builders of artificial wetlands to identify the plants they were using or likely to use.

The Guide:

- describes and illustrates 90 common and widespread wetland plants found in Queensland and provides a distribution map for each.
- provides a series of keys to help identify species
- provides a glossary of terms
- provides advice on getting specimens identified

So, has the guide lived up to my early hopes?

Descriptions and illustration

Illustrations, distribution maps and descriptions are provided for 90 species, one each to a page.

Unfortunately, the photographs are too often of poor quality - not sharply focused and of low resolution. Additionally, most are too small in size, puzzling, as there is often so much space left unused on each page. The illustrations are overall disappointing. One need look no further than Jenny Milson's (2000) books of North-west Queensland plants to see how well it can be done. In these there are mostly two photos per species, one showing habit and the other flower and or fruit.

The distribution maps are very good but could be improved by adding a few main centres.

The descriptions for each species are generally good though would be improved by tightening. Some of the descriptions could be shortened by having close up photos of, for example, flowers.

The species descriptions are generally sound though there are a few inaccuracies. For some species (eg *Limnophila brownii, Nelumbo nucifera, Ludwigia* spp.), the flowering period is inaccurate suggesting that specimens have not been consulted. For some species the descriptions are botanically inaccurate (eg glandular trichomes described as *oil dots* in leaves of *L. brownii*) but may be appropriate for the non-botanist.

Keys

There is a key to genera and 59 separate keys to species. The key to genera works well but is poorly laid out with 198 couplets that are not indented, making it difficult to use at times. This layout would be improved with a main indented key to major groups of genera and then subsequent indented keys. Its current layout does not assist the reader to get to the right answer.

The keys to species (for 59 genera) work very well. They are also not indented but this matters less with fewer taxa in each key. These keys are perhaps the highlight and strength of the book. It would be nice to see more keys, but those included work well and it is a rare treat to be able to work with a key that includes all of the species in Queensland. Due to the brevity of the book, however, one is frequently unable to check the description of the keyed species.

Glossary of terms

The glossary is very good providing a short explanation of many terms used in the text. It would, however, benefit from a thorough check. For example: the term *included* usually means not projecting above a certain level (Debenham n.d., Jackson 1928, *Harden 2000*) rather more often than is stated here: *bent or curved inwards or upwards.*

Advice on getting specimens identified

The Guide usefully includes information on how to get specimens identified. It would have been good to see some instruction on how to press some of the more tricky wetland species such as *Myriophyllum* which have finely divided verticels of leaves that collapse when lifted from the water.

In these cases it is effective to refloat the material in water, slide a piece of cartridge paper under the fully expanded floating leaves and gently elevate the cardboard and specimen thereby preserving the position of the leaves in the aquatic condition. Other options include pressing a single node with the leaves laid out transversely.

Conclusion

So would I recommend the Guide for your library? Yes, if you are a botanist likely to be using it for the keys, especially in Queensland.

However, for the more general audience I would find it difficult to recommend due to its poor picture quality.

Is it good value for money? Not compared with the other books available (Sainty and Jacobs 1994, Cowie *et al.* 2001*)* which have either better quality illustrations or contain more species.

Overall, the field guide is good, but inadequate photographs and poorly laid out keys diminish its effectiveness.

References

Cowie, I.D., Short P.S., and Osterkamp Madsen M. 2001. *Floodplain Flora – A Flora of the Coastal Floodplains of*

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Milson J. 2000. *Pasture Plants of North-west Queensland*. Queensland Department of Primary Industries, Brisbane.
Milson J. 2000. *Trees and Shrubs of North-west Queensland*. Queensland Department of Primary Industries, Brisbane.
Sainty G.R. & Jacobs S.W.L. 1994. *Waterplants in Australia - A Field Guide*. 3rd Edition. CSIRO & Sainty and Associates.

Meetings

Taxonomic Databases Working Group (TDWG) annual meeting

The meeting will be held from 11-18 October 2004 in Christchurch, New Zealand. Details are available at: *www.tdwg.org/2004meet/TDWG_2004.htm* or via the main TDWG site at: *www.tdwg.org*.

If you would like to pre-Register for the meeting (without commitment) go to the "Registered Delegates" link on the Meeting page for instructions.

Ecological Society of Australia

The ESA's annual meeting will be held at the University of Adelaide on 7-10 December 2004. For more details see *www.ecolsoc.org.au/Conference/ESA2004/ESA2004.htm*

FASTS

A summary of information coming from the the Federation of Australian Scientific and Technological Societies (FASTS) desk is given below.

Call for Applications for Federation Fellowships and ARC Centres of Excellence

Applications for 2005 Federation Fellowships and ARC centres of excellence close on 15 October 2004 For more information see *www.arc.gov.au*

Nominations for Australian Academy of Science Awards

The Australian Academy of Science is a private organisation of some 370 of Australia's leading research scientists, elected for their personal contributions to science. The Academy recognises research excellence by conferring medals and awards on younger scientists and recognises lifetime contributions to specific disciplines by more senior scientists.

Information about the awards is available at *www.science.org.au/awards*. Closing date is 30 August 2004.

FASTS and Free Trade agreement

FASTS has warned the AUS-US Free Trade Agreement undermines the long term capacity for Australia to benefit from commercialisation of publicly funded R&D. For its submission to the Senate FTA inquiry see *www.fasts.org*.

Response to Research reviews

The Government has published its response to the recommendations of the three research reviews. Last year, Minister Nelson initiated three reviews on aspects of research:

- Evaluation of *Knowledge and Innovation* Reforms (1999 White paper)
- Closer collaboration of universities and major publicly funded research agencies
- National Research Infrastructure Taskforce

The Government has now responded to all recommendations in the three reviews. For the full response see *www.dest.gov.au/highered/research/review_resp.htm*

Science Meets Parliament (SmP)

Executive have decided to postpone SmP which was scheduled for August due to uncertainty around the election date. The event will be held in March 2005.

More funding for *Sleek Geek Week* show

Minister McGauran announced an increase in funding for Dr Karl Kruszelnicki and Adam Spencer's famous *Sleek Geek Week* show of $197,000. The increase in funding is particularly targeted at getting this science show into regional Australia. See *http://abc.net.au/science/sleekgeeks/*

Senate Inquiry into the Office of the Chief Scientist

A copy of the FASTS submission to the Senate inquiry into the Office of the Chief Scientist is available on the FASTS website at *www.fasts.org*. FASTS policy position is that the Chief Scientist should be a full-time position and the submission expands on that and other related matters.

New CEO for Australian Research Council

Professor Peter Høj has been appointed to the position of Chief Executive Officer at the Australian Research Council. He will commence a five-year term from 1st October 2004.

ASBS Publications

History of Systematic Botany in Australia
Edited by P.S. Short. A4, case bound, 326pp. ASBS, 1990. $10; plus $10 p. & p.

For all those people interested in the 1988 ASBS symposium in Melbourne, here are the proceedings. It is a very nicely presented volume, containing 36 papers on: the botanical exploration of our region; the role of horticulturists, collectors and artists in the early documentation of the flora; the renowned (Mueller, Cunningham), and those whose contribution is sometimes overlooked (Buchanan, Wilhelmi).

Systematic Status of Large Flowering Plant Genera
ASBS Newsletter Number 53, edited by Helen Hewson. 1987. $5 + $1.10 postage.

This Newsletter issue includes the reports from the February 1986 Boden Conference on the "Systematic Status of Large Flowering Plant Genera". The reports cover: the genus concept; the role of cladistics in generic delimitation; geographic range and the genus concepts; the value of chemical characters, pollination syndromes, and breeding systems as generic determinants; and generic concepts in the Asteraceae, Chenopodiaceae, Epacridaceae, *Cassia*, *Acacia*, and *Eucalyptus*.

Ecology of the Southern Conifers
Edited by Neal Enright and Robert Hill.
ASBS members: $60 plus $12 p&p non-members $79.95.

Proceedings of a symposium at the ASBS conference in Hobart in 1993. Twenty-eight scholars from across the hemisphere examine the history and ecology of the southern conifers, and emphasise their importance in understanding the evolution and ecological dynamics of southern vegetation.

Australian Systematic Botany Society Newsletter

Back issues of the Newsletter are available from from *Number 27* (May 1981) onwards, excluding *Numbers 29, 31, 60-62, 66, 84, 89, 90, 99, 100* and *103*. Here is the chance to complete your set. Cover prices are $3.50 (*Numbers 27-59*, excluding *Number 53*) and $5.00 (*Number 53*, and *60* onwards). Postage $1.10 per issue.

Send orders and remittances (payable to "ASBS Inc.") to:

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Evolution of the Flora and Fauna of Arid Australia
Edited by W.R. Barker & P.J.M. Greenslade. ASBS & A.N.Z.A.A.S., 1982. $20 + $5 postage.

This collection of more than 40 papers will interest all people concerned with Australia's dry inland, or the evolutionary history of its flora and fauna. It is of value to those studying both arid lands and evolution in general. Six sections cover: ecological and historical background; ecological and reproductive adaptations in plants; vertebrate animals; invertebrate animals; individual plant groups; and concluding remarks.

Special arrangement. To obtain this discounted price, post a photocopy of this page with remittance to:
Peacock Publications, 38 Sydenham Road, Norwood, SA 5069, Australia.

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These listings are published in each issue. Please inform the Editors of any change.

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

The Society

The *Australian Systematic Botany Society* is an incorporated 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. Membership entitles the member to attend general meetings and chapter meetings, and to receive the Newsletter. Any person may apply for membership by filling in a "Membership Application" form and forwarding it, with the appropriate subscription, to the Treasurer. Subscriptions become due on January 1 each year.

The ASBS *annual membership subscription* is $40(Aust.); full-time students $20. Payment may be by credit card or by cheques made out to *Australian Systematic Botany Society Inc.*, and remitted to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

The Newsletter

The Newsletter is sent quarterly to members and appears simultaneously on the ASBS Web site. It 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 published pages in length) will be considered.
Citation: abbreviate as *Austral. Syst. Bot. Soc. Nsltr*

Contributions

Send to the Editors at the address given below. They *preferably* should be submitted as: (1) an MS-DOS file in the form of a text file (*.txt* extension), (2) an MS-Word *.doc* file, (3) a Rich-text-format or *.rtf* file in an email message or attachment or on an MS-DOS disk or CD-ROM. *Non-preferred* media such as handwritten or typescripts by letter or fax are acceptable, but may cause delay in publication in view of the extra workload involved.

Formatting of submitted copy. Please use Word in formatting indents, bullets, etc. in paragraphs and for tables. Do not format primitively with tabs, which change with the Normal style sheet. If embedding tables or references or other Objects from other software (Excel, bibliographic software, etc.) ensure that these are converted to Word tables or paragraphs. Letters in abbreviations of Australian States (SA, WA etc., but Vic.) and organisations (e.g ASBS, ABRS) should not be separated by full-stops, but initials should be (e.g. W.R. Smith, not WR Smith).

Images: their inclusion may depend on space being available. Improve scanned resolution if printing your image is pixellated at a width of at least 7 cm (up to a 15 cm full page). Contact the Editors for further clarification.

The *deadline* for contributions is the last day of February, May, August and November. All items incorporated in the Newsletter will be duly acknowledged. Any unsigned articles are attributable to the Editors.

Authors alone are responsible for the views expressed, and statements made by the authors do not necessarily represent the views of the *Australian Systematic Botany Society Inc.* Newsletter items should not be reproduced without the permission of the author of the material.

Advertising

Advertising space is available for products or services of interest to ASBS members. The current fee is $100 per full page, $50 per half-page or less.

Fliers may be approved for inclusion in the envelope for products or services of interest to ASBS members. The current fee is $100 per flyer, plus the cost of inserting them (usually roughly $25-30). Fliers are not part of the Newsletter and do not appear with the Newsletter on the ASBS Web site.

A 20% discount applies for second and subsequent entries of the same advertisement. Advertisements from ASBS members are usually exempt from fees but not the insertion costs in the case of a flier. Contact the Newsletter Editors for further information.

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