

ASBS

*Australian  
Systematic  
Botany  
Society*



**Newsletter**

No. 129 December 2006

*Price: \$5.00*

ISSN 1034-1218

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**ASBS Web site**

[www.anbg.gov.au/asbs](http://www.anbg.gov.au/asbs)

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**Loose inclusions with this issue**

- Annual membership fees form (see Newsletter envelope for what you owe)

**Publication dates of previous issue**  
**Austral.Syst.Bot.Soc.Nsltr 128 (December 2006 issue)**

Hardcopy: 1<sup>st</sup> November 2006; ASBS Web site: 2<sup>nd</sup> November 2006

## From the President

By the time this Newsletter arrives we will be well into the new year. I hope you and your families have all got safely through the festive season. On behalf of Council I would like to wish you all the very best for the year ahead. I know 2006 was a particularly difficult year for a number of members and their loved ones who have had to cope with serious health problems throughout the year. My thoughts are with you. Hopefully 2007 will be a much kinder year.

I would like to extend a special thank you to Paul Gadek and his team in Cairns for hosting a very successful conference on behalf of the Society in November and to Michelle Waycott and her small band of helpers for a very informative class on molecular techniques. A full report of these appears elsewhere in this Newsletter. I am looking forward to seeing lots of you at the next ASBS conference which will be held in Darwin in September. Mark the week 24<sup>th</sup> to the 28<sup>th</sup> September in your diaries now. This coincides with the AVCC common week for Australian universities and follows the CHAH/HISCOM meeting which will be held in Darwin the week before. The dates were chosen to provide as many as possible with the opportunity to attend what will be the first ASBS meeting in the Northern Territory. The weather in Darwin should be very pleasant at that time of the year, certainly a whole lot warmer than in the southern states. I am sure Dale Dixon and his team will turn on some real Top End hospitality.

We now have firm offers to host conferences for the next few years. Adelaide will follow Darwin in 2008 and Armidale the year after that. I think this is a sign of a healthy society. With

the International Botanical Conference coming "down under" for only the second time in 2011, I am encouraging Council to give some thoughts to what the Society can do that year to be part of it.

In the week prior to the Cairns conference the establishment of the Australian Tropical Herbarium (ATH) was formally announced. The ATH is a joint venture between CSIRO, Queensland Department of State Development, Trade and Innovation, Queensland Environmental Protection Agency, Commonwealth Department of Environment and Heritage and James Cook University. The new herbarium, which will be located with the Australian Tropical Forest Institute (ATFI), is currently under construction on the Cairns campus of James Cook University at Smithfield (for details see Web ref. 1). It will bring together the specimens currently located at the CSIRO Tropical Forest Research Station in Atherton (QRS), the Queensland Herbarium collection in Mareeba (MBA) and the James Cook University Herbarium from Townsville. The announcement brought to an end fears that the QRS herbarium would be lost to Far North Queensland by being transferred to Canberra. The Society welcomes this decision. The newly appointed curator, Frank Zich, has already been signed up as a member of the Society. In due course I imagine Robyn or Bill will prevail upon someone to write up a short Newsletter article on the new facility.

I value your thoughts on how the Society is progressing. If you have any suggestions do get in touch. I would be glad to hear from you.

Web ref. 1. [www.anbg.gov.au/cpbr/ath-cairns/ath-info-kit.pdf](http://www.anbg.gov.au/cpbr/ath-cairns/ath-info-kit.pdf)

John Clarkson

## ASBS Inc. business

### Hansjörg Eichler Research Fund

Only two applications were received for the September 2006 round. These were of a high standard and the Research Committee decided to fund one of these for the amount requested, \$2000: *Jasmine Janes (University of Tasmania) – The ecology and fine scale genetic diversity of Pterostylidinae (Orchidaceae) in Tasmania.* On behalf of the Research Committee I would like to wish Ms Janes the very best for her studies and we look forward to seeing a report on her findings published in the newsletter in due course.

As always the expertise and enthusiasm of the Research Committee (Barbara Briggs, Rod Henderson, Betsy Jackes, Tom May, Chris Quinn) is gratefully acknowledged.

Potential applicants are advised that the closing date for the next round is 14th March 2007.

Application guidelines are available from the Society's website

Darren Crayn

### New members

Council is pleased to welcome the following new members for 2007 to the Society:

- Mr Ashley Field, James Cook University, Townsville, Qld.
- Mr Matthew Flower, GHD Pty Ltd, Darwin, N.T.
- Mr John Gardiner, Wiluna, W.A.
- Dr Hervé Sauquet, Royal Botanic Gardens, Sydney, N.S.W.
- Mr Ned Wales, Gold Coast City Council, Qld.
- Mr Frank Zich, Australian Tropical Herbarium, Atherton, Qld.

Anna Monro,  
Treasurer

## Article

### Infra-specific variation in *Colocasia esculenta* (L.) Schott (Araceae)

A.E. Orchard

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In Australia taro is generally treated as a unitary species, without infraspecific taxa (see, for example, Hay 1996; APC 2006). It is my understanding that this will also be the view adopted in *Flora of Australia*. It reflects the widespread view that the taxonomic varieties recognised until recently are not entirely satisfactory. This is a valid view. However in agronomic and horticultural contexts these varietal names are still frequently encountered, and it seems useful to maintain them, if only for their utility in these contexts. In addition, I believe that there are valid taxonomic reasons to maintain 3 varieties: *C. esculenta* var. *esculenta*, var. *antiquorum* and var. *aquatilis*, and for those that agree, I provide a summary of the resultant synonymy below. For the most part, only names that have appeared in Australian literature, or their basionyms, are listed here. For a full synonymy, see Wunderlin & Hansen (2006).

The most frequently cited taxonomic authority for *Colocasia esculenta*, at least in agronomic works, is still Purseglove (1972). In this work Purseglove recognised two varieties, *C. esculenta* (L.) Schott var. *esculenta* and *C. esculenta* var. *antiquorum* (Schott) F.T.Hubb. & Rehder. These equate with the broad "Pacific Taro", "Dasheen" or "Large Corm Taro" (var. *esculenta*) and the "Eddoe" or "Small Corm Taro" (var. *antiquorum*) of commerce. Other authors, particularly in archaeological fields, have recognised a "Wild Type Taro" with usually inedible corms and propagating by stolons. This is often referred to as *C. esculenta* var. *aquatilis* Hassk.

Despite its great importance as a staple crop in the Pacific, parts of Africa and the West Indies, and its cultivation as a minor crop in other countries, particularly in Asia, *Colocasia esculenta* has received little attention taxonomically. In recent Floras (e.g. Nasir 1978; Nicholson 1979, 1987; Thompson 2000) authors have usually adopted a unitary species (although Thompson was ambivalent about acceptance of *C. esculenta* var. *aquatilis*), usually with little or no discussion, other than statements that the species was complex or variable. Thompson's ambivalence is reflected by the US Department of Agriculture Natural Resources Conservation Service website (USDA 2006) where *C. esculenta* is listed as adventive in the USA, and three varieties (var.

*esculenta*, var. *aquatilis* and var. *nymphaeifolia*) are recognised. Others to recognise varietal ranks in this species recently include Hirai et al. (1989); Wilson & Siemonsma (1996); Onwueme (1999); Bown (2000); Ivancic & Lebot (2000); Yoshino 2002; Chay-Prove & Goebel (2004); Hicks & Nguyen (2004); Daniells et al. (2004); Tyagi et al. 2004; Horsburgh & Noller (2005); and James et al. (2007). The views of those such as Onyilagha et al. (1987) who recognise two taxa at species rank (*C. esculenta* and *C. antiquorum*) seem to have little or no support,

On the other hand, those who definitely reject (rather than just ignore) recognition of formal varieties in *C. esculenta* (other than the Floras already cited) include Vinning (2003); Midmore et al. (2006) and Hay (1996). Of these, the only one to provide formal taxonomic arguments in support of abandoning formal taxonomic infraspecific classification was Hay (1996), and this is discussed below. Other authors relied on generalised arguments revolving around plasticity, doubts on the true 'wild type', and/or a desire to use local cultivar names.

Hay (1996) noted that the stoloniferous 'wild type' taro is found from southern Japan through Malesia to northern Australia, and cited evidence that the populations in Australia and New Guinea are probably indigenous (see references in Hay 1996). Ivancic & Lebot (1999) argued that some New Caledonian races may also be indigenous. Sauer (1993) considered that taro reached the Pacific Islands with the Polynesians, who probably acquired it from the Melanesians around 1500–1000 BC. Hay pointed out that taro is therefore introduced throughout most of its present range in the Pacific, yet 'wild type' (i.e. stoloniferous) populations are found in Polynesia, presumably as reversions from escaped cultivated populations. Hay considered that *C. esculenta* var. *aquatilis* was thus polyphyletic and could not be maintained. As a consequence there was no need to recognise a *C. esculenta* var. *esculenta*, and the simplest solution was to recognise no varieties at all. He also considered that the cultivated forms were very probably derived from the wild type several times (see references in Hay 1996).

I believe that an alternative interpretation is possible. Hay (1996), and references therein, seem

to agree that there is a 'wild type' (stoloniferous) form, and if so, this has the name var. *aquatilis*. The agreed phylogeny seems to be that from this 'wild type' selections were made at various times, perhaps in Melanesia/New Guinea, and one of these (a large corm type) was carried eastwards to the Pacific, and northwards and westwards to the Mediterranean, Africa and the West Indies. One of the West Indian plants eventually became the type of *C. esculenta*. There is thus no problem in characterising *C. esculenta* var. *esculenta*: it is the large corm (dasheen) type. Whether its minor variants (cultivars) arose from separate selections from the wild type at various times, or whether they represent radiating horticultural selections from a single domestication, or a mixture of both, is probably unknowable, but, I suggest, irrelevant. They can all be traced back ultimately to the same gene pool, ancestral *C. esculenta*. In fact, what evidence there is suggests that horticultural selection from a single domestication or very few is the most likely scenario. Maemouri (2003) has presented evidence that at the present time in the Solomon Islands (part of the postulated Melanesian centre of origin) selection of new cultivars continues apace.

Sauer (1993) noted that taro was being grown in China by 500AD, and it was there or in Japan that the 'small corm' form was subsequently selected, probably from a triploid strain, and this has since been maintained and diversified particularly in northern Asia. It is the form that has been given the name *C. esculenta* var. *antiquorum*. While the large corm (dasheen) types of Melanesia and Polynesia are generally diploid ( $2n = 28$ ), the large corm types of Asia (India to China, Japan and the Philippines), and the small corm (eddoe) types of northern Asia are generally triploid ( $2n = 42$ ) (Ivancic & Lebot 2000; Xu et al. 2001; Matsuda 2002), although there is some intergradation, and the differentiation is becoming less marked as a result of modern plant breeding (Ivancic & Lebot 2000).

Hay argued that because cultivated taro (var. *esculenta* and var. *antiquorum*) sometimes reverted to wild type in various localities, var. *aquatilis* was polyphyletic. I suggest that this view is unnecessarily restrictive. Taro as a species is generally agreed to be monophyletic, so the various populations of var. *aquatilis* are the result of, at most, reticulate evolution from a common ancestor. The other two varieties, var. *esculenta* and var. *antiquorum*, are maintained by selection pressure from human cultivators. When this selection pressure is removed (i.e. when they escape) the mechanism to maintain their special characteristics (presumably some form of recessive genes) disappears, and their 'wild genes' reassert themselves to some extent.

This is not unusual among cultivated plants. Hay's argument, that a taxon must be derived ultimately from a single individual, and not reticulately from a population, would, if carried to its logical conclusion, make all taxa arising from vicariance (isolation followed by genetic drift) polyphyletic, a situation that seems to me to be untenable. It is also worth noting that Ivancic & Lebot (2000) differentiated "true" wild taros with fast leaf regeneration, extremely long stolons, small elongated corms, continuous growth and a predominantly high concentration of calcium oxalate. Their corms are never used as food. In addition they recognised two other kinds of wild taros:

- those with some characteristics of cultivated genotypes, characterised by larger well shaped corms, and with determinate growth. They spread by stolons, and can sometimes be eaten (when calcium oxalate levels are low). They are found in Guadalcanal, the Solomon Islands and the highlands of Papua New Guinea.
- those with some genetic material originating from cultivated genotypes. Ivancic & Lebot (2000) suggested that these arose from hybridisation between cultivated and wild types, and showed in their progeny selection towards wild traits.

Ivancic & Lebot (2000) also recognised true "escapes" or "desertions" of taro in, for example, New Caledonia. These plants retained most of their cultivated characters.

I therefore believe that it is phylogenetically acceptable to recognise three varieties in this species, and that these can be adequately characterised, by their habit, inflorescence and corm characteristics, to be useful entities in horticulture, agriculture and commerce. They can also be characterised culturally/culinarily as well: var. *esculenta* is generally preferred by those of Polynesian/Melanesian ancestry, var. *antiquorum* by those of Asian ancestry, and var. *aquatilis* is usually considered inedible by all, but use of such characters might be a little difficult to apply in practice. If one of the tasks of taxonomy is to provide a utilitarian means of communication about organisms (and I believe that it is) as well as reflecting theories of phylogeny, then I think that in this case it is possible to recognise varieties without doing violence to natural classification.

For those who have a need to recognise varieties, the following provides a brief synopsis of nomenclature and characterisation for the three main varieties currently recognised. For those who have no need of an infraspecific classification, or believe that such a classification is untenable, the plants can all continue to be treated as just *Colocasia esculenta*.

**Colocasia esculenta** (L.) Schott in H.W.Schott & S.F.L.Endlicher, *Melet. Bot.* 18 (1832)

*Arum esculentum* L., *Sp. Pl.* 965 (1753); *Caladium esculentum* (L.) Vent., *Jard. Cels.* t. 30 (1800), & *Descr. Pl. Nouv.* pl. 30 (1801) T: Jamaica; lecto: H.Sloane, *Voy. Jamaica Nat. Hist.* 2: t. 106(1) (1725), *fide* D.H.Nicolson in A.C.Smith, *Fl. Vit. Nov.* 1: 456 (1979).

*Colocasia esculenta* (L.) Schott var. *esculenta*

*Colocasia antiquorum* var. *esculenta* (L.) Schott ex Seem., *Fl. Vit.* 284 (1868); *Colocasia antiquorum* subsp. *esculenta* (L.) Haudricourt, *Rev. Bot. Appl. Agr. Trop.* 21: 62 (1941).

*Colocasia esculenta* var. *typica* Engl., *Vers. Entwicklungsgesch. Extratrop. Florenggeb.* 1: 8 (1879), *nom. inval.*

Inflorescence with sterile appendage of the spadix very short (sometimes reduced or vestigial); spadix free and protruding above the neck of the spathe. Main central corm with few daughter corms (up to about 6), large, to 30 cm long, to 15 cm diam., glabrous (petioles shed cleanly at leaf death), with, only very rarely, stolons.

The central corm is harvested as the main crop, the lateral corms being discarded or used as planting stock. This variety, known variously as Pacific Taro, Large Corm Taro, Dalo, or Dasheen Taro, is the main crop of the Pacific, Africa and the West Indies, and is known to have been used as food in the Solomon Islands for at least 28,000 years (Spriggs 2002). It is believed to have been one of the earliest crop plants, with a cultivation history of perhaps 8,500–10,000 years in the New Guinea region, predating domestication elsewhere of wheat, barley and rice (Spriggs 2002). Cultivated in Australia and escaping in Christmas Island, WA, Qld, NSW, Norfolk Island and Lord Howe Island where it may 'revert', in part, towards a stoloniferous form resembling var. *aquatilis*.

**Colocasia esculenta** var. *antiquorum* (Schott) F.T.Hubb. & Rehder, *Bot. Mus. Leafl.* 1(1): 5 (1932)

*Colocasia antiquorum* Schott, in H.W.Schott & S.F.L.Endlicher, *Melet. Bot.* 18 (1832), based on *Arum colocasia* L., *Sp. Pl.* 965 (1753); *Colocasia antiquorum* var. *typica* Engl., in A. de Candolle, *Monogr. Phan.* 2: 491 (1879), *nom. inval.* *Colocasia antiquorum* var. *typica* K.Krause, *Pflanzenr.* 71: 66 (1920), *nom. inval.* T: not cited; lecto: LINN 1079.4, *fide* Mayo, in Bosser, et al., *Fl. Mascareignes* 192: 18 (1984).

*Colocasia antiquorum* var. *globulifera* Engler & K.Krause, *Pflanzenr.* 71: 68 (1920); *Colocasia esculenta* var. *globulifera* (Engler & K.Krause) Young, *U.S.D.A. Dept. Bull.* No. 1247 (1924). T: not cited.

Inflorescence with the sterile appendage of the spadix long, c. 3 times the length of that in var. *esculenta*, and retained within the inrolled tip of the spathe. Main central corm surrounded by numerous daughter corms, small, to 4–7 cm long, 2–5 (–6) cm diam., globose to obpyriform, with long shaggy "hairs" comprising the fibrous bases of persistent old petioles; apex rounded

with a small central tuft of petioles; base usually gradually tapering; lateral buds numerous (up to 200 per corm).

The lateral corms constitute the main crop as well as the new planting stock: the central corm is generally considered inedible. This variety, known variously as Japanese Taro, Small Corm Taro, Eddo(e) Taro, and Sato-imo is thought to have been selected in China and/or Japan many centuries ago. Cultivated in Australia.

It was suggested by Onyilagha et al. (1987), based on Nigerian cultivars, that this taxon should be recognised at species rank (*C. antiquorum*), distinct from *C. esculenta*, but this view has little support.

**Colocasia esculenta** var. *aquatilis* Hassk., *Pl. Jav. Rar.* 150 (1848)

*Colocasia antiquorum* var. *aquatilis* (Hassk.) Hassk. ex Engl., in Engler & K.Krause, *Pflanzenr.* 71: 68 (1920) T: The plate *Caladium aquatile* Rumph., *Herb. Amboin.* 5: t.110, fig. 1 (1747)

*Caladium acre* R.Br., *Prodr.* 336 (1810) as '*Calladium*'; *Colocasia acris* (R.Br.) Schott in H.W.Schott & S.F.L.Endlicher, *Melet. Bot.* 18 (1832); *Colocasia antiquorum* Schott var. *acris* (R.Br.) Engl., in A. de Candolle, *Monogr. Phan.* 2: 492 (1879); *Colocasia esculenta* var. *acris* (R.Br.) Schott, *Syn. Aroid.* 41 (1856). T: R.Brown, Australia, *n.v.*

Characterised by small, poorly developed, acrid (often inedible) corms, no daughter corms, and long lateral stolons. Considered by many to be the wild type from which modern cultivars were developed in southern Asia and perhaps New Guinea (Xu et al. 2002; Yoshino 2002). The native type in northern Australia.

**Ornamental cultivars**

A number of other varieties are occasionally recognised, although less often than the above. As the characters used to recognise these taxa are of a lesser order of magnitude than those above, cultivar status seems more appropriate for these plants. The most frequently encountered in the literature are:

**Colocasia esculenta** var. *euchlora* (K.Koch & Linden) A.F.Hill, *Bot. Mus. Leafl.* 7: 117 (1939)

*Colocasia euchlora* K.Koch & Linden, *App. Sem. Hort. Bot. Berol.* 4 (1854); *Colocasia antiquorum* var. *euchlora* (K.Koch & Linden) Engl., in A. de Candolle, *Monogr. Phan.* 2: 492 (1879). T.: not cited.

This taxon, similar to *C. esculenta* var. *esculenta*, but with dark green leaves with purple margins and petioles, is usually only mentioned in horticultural contexts, sometimes as cultivar *Colocasia esculenta* '*Euchlora*'.

**Colocasia esculenta** var. *fontanesii* (Schott ex Engl.) A.F.Hill

*Colocasia fontanesii* Schott, *Oesterr. Bot. Wochenbl.* 4: 409 (1854), *nom.*

*illeg.*, based on *Arum colocasioides* Desf., *Tabl. Ecole Bot.*, ed.3, 7: 385 (1829). T: not cited.

*Colocasia antiquorum* var. *fontanesii* Schott ex Engl., in A. de Candolle, *Monogr. Phan.* 2: 492 (1879), based on *Colocasia fontanesii* Schott, *nom. illeg.*, and *Arum colocasoides* Desf.

Similar to *C. esculenta* var. *esculenta*, but with violet stems and leaves with wine red veins, margins and petioles. An ornamental plant, usually seen in trade under the cultivar name *Colocasia esculenta* 'Fontanesia'

***C. esculenta* var. *illustris*** (Bull) A.F.Hill

*Alocasia illustris* Bull., Cat. 4 (1873). T: not cited.

Similar to *C. esculenta* var. *esculenta* but with purple markings between the leaf veins. An ornamental plant, usually seen in trade under the cultivar name *Colocasia esculenta* 'Illustris'.

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## Obituaries

Vale Jennifer Anne Chappill:  
July 26<sup>th</sup> 1959 – August 8<sup>th</sup> 2006

Ryonen Butcher, Juliet Wege and Kelly Shepherd  
Western Australian Herbarium

When the systematic botany community was informed of Jenny's death from ovarian cancer, many of the condolences received here in Western Australia echoed a similar sentiment; that Jenny's quiet dedication to the advancement of legume systematics, and systematic botany in general, would be missed. Her funeral in Perth on August 14<sup>th</sup> was well attended and, although a sad occasion, it was of quiet amusement to all her family, friends and colleagues that the recurrent word on the lips of all who presented eulogies in her memory was stubborn. Jenny embarked on all aspects of her life with a fierce tenacity. This, along with her direct and honest nature, and devotion to her family, defined her until the last.

Jenny's botanical career began when she commenced her Honours project in plant ecology, working at Wilson's Promontory, followed with a Master's degree, under David Ashton, in the School of Botany at the University of Melbourne. She then commenced her PhD on the phylogeny of the *Symphomyrtus* eucalypts of south-eastern Australia under the supervision of Pauline Ladiges. She applied cladistic methodology to this project, an approach that was still somewhat controversial at the time, and had the grit and determination to tackle this challenging work. She published significant scientific papers in this area (Chappill et al. 1986, Chappill et al. 1990, Chappill & Ladiges 1992; 1996), including a well-cited paper on the methodological issue of character coding (Chappill 1989).

Professor Peter Stevens subsequently offered her a prestigious postdoctoral position at the Harvard University Herbarium. This was not only a chance to work in the international arena, but an opportunity to travel — something Jenny loved until the end of her life. Such experience placed her in a good light to secure her position at the University of Western Australia in 1990. Her subsequent studies on the systematics of the legumes involved the analysis of over 300 plant features ranging from gross morphology, through anatomy, genetics, to the molecular. She formed important collaborations with Mike Crisp from the Australian National University and Bruce Maslin at the Western Australian Herbarium (PERTH), and employed a number of research assistants including Carol Wilkins, Diana Corbyn, Teresa Lebel, Ainsley Calladine, Juliet Wege and Kelly Shepherd.

Jenny's taxonomic passion was the Tribe Mirbelieae, particularly the genera *Jacksonia* and *Gompholobium*. Many of the genera she studied had not been revised since George Bentham and the concomitant increase in recognised taxa is significant. There are 60 Chappill names in manuscript: 36 species of *Jacksonia*, 10 species of *Gompholobium*, four species of *Latrobea*, two species of *Aotus* and eight species of *Eutaxia*. This work will be an important contribution to the *Flora of Australia* project.

While her main research interests have been with the legumes, Jenny's taxonomic versatility is evident in the work of the post-graduate students and researchers she has supervised. This has included groups from Ericaceae (*Andersonia*, Kristina Lemson), Stylidiaceae (Juliet Wege), Malvaceae s.l. (Carol Wilkins, Kelly Shepherd, Raimond Orifici), Proteaceae (*Synaphea*, Ryonen Butcher), Fabaceae (*Sphaerolobium*, Ryonen Butcher; *Eutaxia*, Gemma Henderson), Myrtaceae (*Hypocalymma*, Joshua Foster), Cyperaceae (*Reedia*, Cate Tauss) and, most recently, the bryophytes (Louise Biggs). Following the untimely death of Professor Sid James, Jenny became a co-supervisor of John Bussell (phylogenetic patterns in *Isotoma petraea*). She also made substantial improvements to the University herbarium (UWA), which was in a state of some disarray when she arrived.

In 1994 Jenny took on the role of Botany Department representative on the Faculty of Science Library Liaison Committee and then became the Faculty of Science representative on the main University Library Committee. Here she made an important contribution in developing a new budget model for dispersal of library funds.

When Professor Brian Grieve passed away in 1997, Jenny took on the task of revising the multi-volume taxonomic guide *How to Know Western Australian Wildflowers*. With the assistance of botanist and botanical artist Lorraine Cobb, she developed working keys for the families and genera in the Monocotyledon volume. Sadly, a lack of funding prevented this work from being completed.

We can but admire Jenny's incredible courage over the past four years and despite her illness she maintained her professional commitments to



the end. Three weeks before her death she was on her feet supervising a group of her colleagues and friends to help sort her plant collections. Only a few days before her death, and confined to bed, Jenny was checking parts of her *Jacksonia*

and submitted this paper to *Australian Systematic Botany*. Carol, who has worked closely with Jenny since her arrival in Western Australia, has also been tasked with finalising the remaining taxonomic work that Jenny had commenced.



Fig. 1. Jenny Chappill at Matilda Bay foreshore, 2006

Ph. Kelly Shepherd

revision. Although having been a part participant in the formal recognition of three taxa during her career (*Eucalyptus elaeophloia* Chappill, Crisp & Prober, *Pultenaea daena* Orthia & Chappill and *Pultenaea calycina* (Turcz.) Benth. subsp. *proxena* Orthia & Chappill), it is most sad that Jenny died before seeing her taxonomic revision of *Jacksonia* published: the manuscript being so close to completion and comprising descriptions, maps and illustrations for 74 species. It was with a mixture of sadness and relief that Carol, together with Mike Crisp, recently completed

### **Collections**

Upon taking up her appointment at UWA, one of Jenny's early goals was to determine the main gaps in the University herbarium and to set about systematically filling the voids. In her first year at UWA she collected over 1500 plant specimens from the south-west and over the following years visited most major vegetation systems throughout the State adding new material. To fill the gaps in the collection, and to increase the enthusiasm of her students towards collecting the more interesting plants they saw in the field, Jenny

offered bonus marks to anybody who submitted a specimen that was not represented in the UWA herbarium.

Jenny scheduled collecting expeditions around Australia to facilitate her research, amassing a total of 6590 collections. Of these, 855 were obtained prior to her employment at UWA — these specimens are thought to be stored at MELU. The bulk of Jenny's collections remained at UWA as an active research collection. Whilst some were mounted and incorporated into the UWA collection, a significant number were stored in bundles and in many cases remained unlabelled. In recent weeks, Carol, Kelly and Juliet have commenced the arduous task of sorting through this material. This process has regrettably resulted in a number of specimens being discarded — some sterile, others damaged or lacking watch tags. Thus far her *Jacksonia* collections have been prepared for distribution to AD, BRI, CANB, DNA, K, HO, MEL, MO, NSW and PERTH.

We are not aware of Jenny venturing into the field by herself and so the accompanying summary of her collection effort (Table 1) remains frustratingly incomplete. It has been surprising to discover that her collecting books often bear scant information, and that additional collectors are often not listed. Further examination of her records may result in some modifications to this summary. We assume that for some south-west trips she was accompanied by family members, combining plant hunting with sight seeing, and the odd winery visit.

### Recollections

Lorraine recalls Jenny's arrival in Perth as a lecturer in 1990, describing her as a nervous but very knowledgeable novice who faced a baptism of fire in the hands of her 18 to 40+ year old charges. Her early field trips were often a case of the students keeping track of the teacher. Completely absorbed by the south-west flora, Jenny would wander off into the never-never, and no amount of horn blasts, whistle blowing or cooees would entice her back to the bus until she had had her fill. Always one for a cold beer after a long day's work, she would subsequently chaperone rowdy second year students to the local pub. It was on one such occasion that, much to her amusement, she was the only person asked for ID at the door. It is also noteworthy that the only time she assisted Carol with changing one of many flat tyres was when there was only half an hour to closing time at the Kalgoorlie pub!

A favourite story involves Jenny spending well over an hour scouring the ground at a precise, geocoded locality in the Northern Territory looking for a new species, *Jacksonia dendrospinosa*, only to eventually gaze upwards

and realise she had been standing under it all along. Another classic tale — a health and safety disaster — relates to Jenny's habit of storing both her 70% ethanol and drinking water in identical containers. Kelly was stopped short of taking a large swig by a dry comment from Jenny. Carol wasn't so lucky and recalls that, even though she spat it out immediately, all the flowers seemed very pretty and she was unable to drive for several hours.

A little known side to Jenny is that she was a Trekkie. Many a long, straight drive would be eased by animated conversations about the adventures of life in the 24<sup>th</sup> Century. While the dishy Captain Jean Luc Picard was openly drooled over by all in attendance, it came as no surprise that Jenny held a soft-spot for the logical, loyal Data — striving for perfection in all things, and incomprehensive of the impulsive behaviours of others. Ryonen remembers a field trip to the Goldfields in which, after taking a 4WD track notorious with the locals, they rounded a bend and found themselves in a minefield of slippery mud and water-filled ditches. Hearing Jenny's sharp intake of breath from the passenger seat and feeling her body go completely rigid with anxiety, Ryonen dropped into the appropriate

Fig. 2. Jenny after an unexpected snow fall on the Nunniong Plateau, eastern highlands, Victoria, Dec. 1987.

Ph. Mike Crisp.



gear and surged forward with a yell of “Engage inertial dampeners — Brace for Impact!”. Jenny laughed and relaxed, and they made it out alive with nary a scratch on the Starship Landcruiser.

Jenny preferred to navigate on field expeditions rather than drive, and would have the collecting route marked out 100 kilometres in advance. She would typically instruct her driver as follows: “In about 38 kilometres we’ll pass a track to the right, about 17 kilometres after that there’ll be another track to the right and we need to turn left about 42 kilometres after that”. Needless to say we all performed many three-point turns on those remote country roads, having hurtled past the required track as we had long forgotten our directions. Despite her excellent navigation skills, Jenny would occasionally come unstuck. Juliet amusingly recalls a trip to Tutanning Nature Reserve in which she prompted Jenny for directions, having become deeply suspicious that they were driving in circles, only to have the map thrown at her and Jenny exclaim “Well you get us out of here then!”.

Making the last plant collection of the day by torchlight or car headlights is an experience all her field colleagues share. This phenomenon was partly due to Jenny’s dedication to botany and determination to make the most of each day spent in the field, but also because she tended to linger in her warm motel bed each morning. Jenny certainly enjoyed life’s little luxuries, favouring a motel room and a fine restaurant to a night camped under the stars. A detour of 100 km was not unheard of in order to sample some epicurean delights (Merivale Farm east of Esperance was a favourite). It was not uncommon that the 4WD had to be repacked just prior to departure from UWA in order to accommodate the last minute inclusion of picnic chairs, or a box containing a few bottles of good red.

We are grateful for these memories, for the contribution to Australian plant taxonomy that Jenny has made, for her role as an educator in land plant systematics, and for the encouragement she gave us in continuing on in the botanical arena.

### Acknowledgements

Thanks to Pauline Ladiges and Bill Loneragan for the use of their eulogies in this preparation.

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- ABRS (1993). Taxonomic revision of Sterculiaceae, Tribe Lasiopetalae. Investigators J.A. Chappill, C.F. Wilkins and E.M. Bennett (\$28,485)

Table 1. Jenny Chappill's collection effort during her employment at the University of Western Australia. (WA locations largely summarised according to IBRA region).

Place	Date	JC nos.	Additional collectors
Swan Coastal Plain, Northern Jarrah Forest, Geraldton Sandplain	July–Aug 1990	856–997	P. Grayling, D. Bell and/or D. Waldie
Geraldton Sandplains	Sept 1990	998–1058	Undergraduate student trip
Coolgardie	Sept 1990	1059–1170	Undergraduate student trip
Northern Jarrah Forest	Oct 1990	1171–1286	D. Waldie
Jarrah Forest, Avon Wheatbelt, Esperance	Oct 1990	1287–1554	
Mallee, Esperance, Coolgardie	Dec 1990	1555–1967	
Northern Jarrah Forest, Avon Wheatbelt, Swan Coastal Plain	Feb 1991	1968–2130	
Northern Jarrah Forest	April 1991	2131–2151	
Northern Jarrah Forest	April 1991	2152–2175	M. Henwood
Swan Coastal Plain, Northern Jarrah Forest	July 1991	2176–2200	
Swan Coastal Plain, Southern Jarrah Forest, Warren, Fitzgerald	July 1991	2201–2300	
Swan Coastal Plain, Geraldton Sandplains	July 1991	2300a–2425	
Swan Coastal Plain	Aug 1991	2426–2436	
Avon Wheatbelt, Coolgardie	Aug 1991	2437–2658	C. Wilkins, D. Corbyn
Northern Jarrah Forest	Aug 1991	2659–2668	D. Waldie
Avon Wheatbelt	Aug 1991	2669–2818	C. Wilkins, A. Morgan
Northern Jarrah Forest, Geraldton Sandplain	Sept 1991	2819–2992	Undergraduate student trip
Avon Wheatbelt, Coolgardie	Sept 1991	2993–3295	Undergraduate student trip
Swan Coastal Plain, Geraldton Sandplain, Avon Wheatbelt, Murchison	Oct 1991	3296–3784	C. Wilkins
Northern Jarrah Forest, Avon Wheatbelt	Oct 1991	3785–3887	A. Calladine
Cannington, Lesmurdie	Oct 1991	3888–3893	D. Waldie
Avon Wheatbelt, Mallee, Esperance, Warren, Southern Jarrah Forest, Swan Coastal Plain	Nov–Dec 1991	3894–4386	T. Bell
Avon Wheatbelt, Geraldton Sandplain, Swan Coastal Plain	Dec 1991	4387–4656	C. Wilkins
Pilbara, Kimberley, Northern Territory	April 1992	4657–4810	C. Wilkins, I. Telford
Northern Territory	May 1992	4811–4859	C. Wilkins, J. Palmer, B. Makinson, I. Telford and/or J. West
Northern Territory, Pilbara, Murchison, Avon Wheatbelt	May 1992	4860–4948	C. Wilkins, I. Telford

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Southern Jarrah Forest	Aug 1992	4949–4977	
Geraldton Sandplain, Avon Wheatbelt	Sept 1992	4978–5042	C. Wilkins, K. Lemson
Northern Jarrah Forest	Sept 1992	5043–5048	
Geraldton Sandplain	Sept 1992	5049–5107	Undergraduate student trip
Swan Coastal Plain, Southern Jarrah Forest, Warren, Fitzgerald	Oct 1992	5108–5186	K. Lemson
Avon Wheatbelt, Western Mallee, Esperance, Northern Jarrah Forest	Nov 1992	5187–5469	C. Wilkins, T. Lebel
Tasmania	Jan 1993	5470–5493	
South Australia	Jan 1993	5494–5508	C. Wilkins
Avon Wheatbelt, Western Mallee	Feb 1993	5509–5577	J. Wege
Northern Territory	June 1993	5578–5693	M. Duretto, G. Howell, and/or K. Brennan
Avon Wheatbelt, Western Mallee	Sept 1993	5694–5742	M. Crisp, W. Keys
Swan Coastal, Geraldton Sandplain	Nov 1993	5743–5789	C. Wilkins, K. Shepherd, J. Wege
Avon Wheatbelt, Western Mallee	Nov 1993	5790–5802	K. Shepherd, J. Wege
Queensland	June–July 1994	5803–5843	C. Wilkins
Swan Coastal Plain	Sept 1994	5844–5845	
Geraldton Sandplain	Sept 1994	5846	Undergraduate student trip
Swan Coastal Plain, Southern Jarrah Forest, Esperance	June 1995	5847–5863	C. Wilkins, R. Orifici
Northern Jarrah Forest	Sept 1995	5864–5868	Undergraduate student trip
Southern Jarrah Forest	n.d.	5869	
Geraldton Sandplain	Aug 1996	5870–5872	R. Butcher, J. Foster
Western Mallee	Sept 1997	5873–5877	Undergraduate student trip
Jarrah Forest, Avon Wheatbelt, Fitzgerald, Warren	Oct 1997	5878–5908	R. Butcher
Southern Jarrah Forest	Dec 1997	5909–5912	J. Koch, D. Papenfus
Avon Wheatbelt, Western Mallee, Coolgardie	Aug 1998	5913–5972	R. Butcher, G. Henderson
Northern Jarrah Forest, Avon Wheatbelt, Geraldton Sandplain	Oct 1998	5973–6045	C. Wilkins, R. Butcher
Avon Wheatbelt, Western Mallee, Esperance, Warren	Nov 1998	6046–6221	R. Butcher
Western Mallee	Sept 1999	6222–6224	Undergraduate student trip
New South Wales	Sept 1999	6225–6237	R. de Kok, G. Chandler
Mallee, Coolgardie, Murchison, Pilbara, Geraldton Sandplain	Oct–Nov 1999	6238–6399	C. Wilkins
Northern Jarrah Forest	June 2000	6400–6401	L. Cobb, H. Ngo
Coolgardie	Sept 2000	6402–6416	Undergraduate student trip
Avon Wheatbelt, Western Mallee, Coolgardie, Esperance	Sept 2000	6417–6510	M. Crisp, L. Cook
Northern Jarrah Forest	Sept 2000	6511	Undergraduate student trip
Geraldton Sandplain, Avon Wheatbelt	Sept 2000	6512–6539	M. Crisp, L. Cook
Western Mallee, Esperance, Warren, Swan Coastal Plain	Nov–Dec 2000	6540–6587	C. Wilkins
Western Mallee	Sept 2003	6588–6590	

## Neridah Clifton Ford (1926–2006)

Barbara G. Briggs  
National Herbarium of New South Wales

Neridah Ford joined the staff of the National Herbarium of New South Wales as a botanist in about 1948, part of an influx of young graduates from the University of Sydney injecting new energy into what had been a somewhat somnolent organization. Under the guidance of Senior Botanist Joyce Vickery, in company with Lawrie Johnson and Joy Thompson (née Garden), Neridah took a very active part in updating the collection in accord with current publications. Her distinctive neat handwriting is widely found at NSW, on her own collections, identifications and much more, especially in Asteraceae. Opportunities for fieldwork were then quite limited, but 681 of her collections are included in NSWDATA and her collections are holotypes of *Derwentia arcuata* and *Olearia lasiophylla*.

She published jointly with Joyce Vickery on the 'correct name of Sturt's Desert Pea', but was

generally reluctant to put her conclusions into print. It is characteristic that, when *Gnaphalium fordianum* [now *Euchiton fordianus* (M.Gray) P.S.Short] was named, Max Gray noted that her 'annotations and sorting of the specimens ... indicate that she was the first to recognize the distinctiveness of this taxon'. Much else was studied and annotated and her observations have been valued by subsequent researchers. She took a huge share of the work of identifying specimens for members of the public and, as a new staff member, I benefited much from her kind help.

Neridah's career was cut short in 1971 when she left botany to care for her parents who were in poor health. As Aunt and Great-Aunt she was greatly valued by her extended family. After suffering the painful complaint scleroderma for many years, Neridah died on 16 December 2006, aged 80 years.

Loc.	N.E. below summit, Kosciuszko	N.S.W.
Coll.	M.C. Ford	Date 17.1.1954
Notes	in clumps in bog near stream from melting snow. Fls. yellow.	

st 7069

Yes, very interesting and un-matched here.  
Appears closest to *B. microcarpa*. Habit similar but more fern-like, fruit size good but generally thicker & with a much less conspicuous calyx than *B. microcarpa*.  
Anthers have tips  $\therefore$  does not belong to the *Metabrychocne* and  $\therefore$  not *B. trachycarpa*.  
Two other specimens - from Weston & Murrumbidgee are somewhat similar in habit but the flower-heads are larger & the fruits smaller.  
In one, the fruits show signs of a wing & Dr. Davis determined them as possibly *B. multifida* var. *dilatata*. Your specimen definitely shows no sign of wing.

Fig. 1. Samples of Neridah C. Ford's handwriting, from specimens in the National Herbarium of New South Wales..

## Personalia

Bob Harwood

Philip Short & Glenn Wightman  
Herbarium of the Northern Territory

As noted in the previous Newsletter, Bob Harwood from the Northern Territory Herbarium (DNA) retired in early October. About a week before his last official day of work I asked if he could find time for an interview, just so we could get a bit of factual data about him for a note in the *Newsletter*. With so many last-minute things to arrange before his departure for Thailand this didn't eventuate. However, on the day of a well-attended farewell barbecue at East Point he handed over a handwritten summation of his life and achievements. Rather than rehash it, we present it here in its entirety. For the uninitiated, much of this note refers to Bob's career as an Australian Rules Footballer, a subject about which he was always ready to chat, although his ability as a tipster was sorely tested in this year's round of AFL.

Robert Kevyn Harwood, born 9 Jan. 1949, lived at Leongatha [Victoria] till 5 y.o., then Ringwood till 10 y.o., then Mentone till 20 y.o.

Good student till senior year 6 (matriculation) including head prefect at Aspendale Technical College. Lost interest during 2<sup>nd</sup> year diploma at Caulfield, while studying for Electrical Engineering Diploma.

Recruited from Mentone to Richmond U19s, played 2 years U19s, one year Reserves, then married and moved to Brisbane to play for Windsor Zillmere for 2 years, worked as van driver for Daffodil products (margarine etc.).

Marriage failed and spent two years at Port Hedland working for the ship-loading part of the mining (iron ore) company. Played footy as well (coached Panthers the 2<sup>nd</sup> year – 1972) and was recruited by West Perth. Spent 1973 and 1974 there, and spent the season in Darwin playing for Wanderers. When Cyclone Tracy hit in 1974 was working for YMCA as Bagot Recreation Officer, and got involved in other Aboriginal work instead of returning to West Perth. Lived at Mindil Beach Caravan Park with Natalie's mum, and Natalie born the following year 1976. Played some Rugby League with Brothers when not out of town with work (Aboriginal communities). In 1977 or 1978 (not sure) went to Adelaide to try out with Central Districts, but ended up playing for Robertstown. Coached in Townsville in 1980 and 1981, and Darwin in summer between. In 1982 went to the Gold Coast for first year of non-playing coaching, but it drove me mad and I

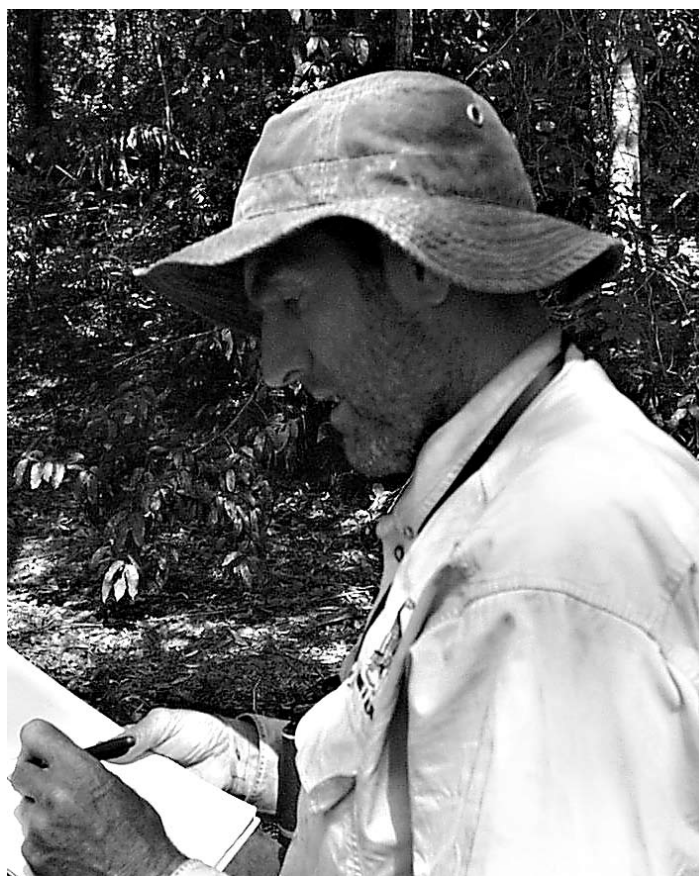


Fig. 1. Bob Harwood. Ph. Herbarium of Northern Territory

quit. Spent most of 1980s in building industry on the Gold Coast and in Brisbane.

Backpacked in 1989, starting with 2 months in Indonesia, then Malaysia, Thailand, Nepal and India. After 3 months in India returned to Thailand, and lived there till November 1994. Got interested in botany in Thailand, and decided to return to Australia to see if I could get a job in that field. Eventually got technicians job at herbarium and worked there for ten years (till Oct. 2006). Got a lot of encouragement from Clyde Dunlop, and revised N.T. *Spermacoce*.

Feel that I have brought DNA up to scratch, and will now work on getting the rangers at the reserve in Thailand operating efficiently.

Bob's low-key comment about his revision of N.T. *Spermacoce* – and although co-authored, it was primarily his work – is typical of him. The fact is, it was a great achievement. Much of the work towards the revision was done out of

hours. It would not be much of an exaggeration to say that for five years or more he spent every weekend working on his project, either collecting specimens from local populations, sorting through herbarium material, or writing descriptions. In 1987 there were only 13 species of *Spermacoce* (then referred to *Borreria*). At the end of his labours, Bob recognised 53 native species for the N.T., 39 of which were new (Harwood & Dessein 2005). Bob also looked beyond the boundaries of the N.T., making trips to W.A. and Qld to collect specimens and begin sorting taxa. However, the task of writing up this work is primarily in the capable hands of Belgian botanist, Steven Dessein, who worked at DNA from Feb.–June last year (2005).

As well as this revision, Bob also assisted Steven with a paper on pollen morphology in *Spermacoce* (Dessein et al. 2005), and co-authored with Ron Booth (now BRI) and Chris Mangion, an illustrated field key for the monsoon rainforest flora in the Darwin region (Booth et al. 2001).

Much of Bob's every-day work focused on general curatorial work and plant identifications. He enjoyed going bush, which is just as well as

he was frequently sought for help in carrying out plant surveys, many for the monitoring of long-term fire plots and others for animal survey people wanting habitat data.

Everyone at DNA enjoyed Bob's company and his positive attitude, and many visiting botanists greatly benefited from his cheerfulness and readiness to assist them. We are not alone in wishing him all the very best in his retirement in Thailand. Indeed, staff even went so far as to give him a GPS as a farewell present, just so he wouldn't get lost in the mountains of Thailand.

### Publications

Booth, R., Harwood, R. K. & Mangion, C. P. (2001). Field Key for the Monsoon Rainforest Flora of the Darwin Region. (Published as *Northern Territory Botanical Bulletin* no. 28, and as *Centre for Tropical Wildlife Management Occasional Paper (Northern Territory University)* no. 2).

Harwood, R. & Dessein, S. (2005). Australian *Spermacoce* (Rubiaceae: Spermaceae). I. Northern Territory. *Australian Systematic Botany* 18: 297–365.

Dessein, S., Harwood, R., Smets, E. & Robbrecht, E. (2005). Pollen of the *Spermacoce* (Rubiaceae) species from the Northern Territory of Australia: morphology and taxonomic significance. *Australian Systematic Botany* 18: 367–382.

## News

### Teaching awards for systematics at University of New England

The teaching of systematics at the University of New England has been recognised through two Carrick Awards<sup>1</sup>. These awards, bestowed by the Carrick Institute, celebrate Australia's most outstanding university teachers in their fields. The awards give recognition to teachers (individuals and teams) renowned for the excellence of their teaching, who have outstanding presentation skills and who have made a broad and deep contribution to enhancing the quality of learning and teaching in higher education. Citations were as follows:

- Mr Ian Telford (The Sciences). *For inspiring and enthusing students to excellence in botany, and independent and life-long learning in science through passionate and dedicated teaching in a voluntary capacity.*
- A/Prof Jeremy Bruhl, Adjunct A/Prof Greg

<sup>1</sup> The Carrick Institute was launched in August 2004 as The Carrick Institute for Learning and Teaching in Higher Education. It is named in honour of Sir John Carrick KCMG who served as the Commonwealth Minister for Education between 1975 and 1979. The aim of the institute is to promote and advance learning and teaching in Australian higher education. Further information about the background and objectives of the Institute can be found on their website at [www.carrickinstitute.edu.au/carrick/go/home/about](http://www.carrickinstitute.edu.au/carrick/go/home/about)

Nominations for 2007 awards are due by 13 July 2007.

Edgecombe, Adjunct A/Prof George (Buz) Wilson, Adjunct A/Prof Karen Wilson, Adjunct A/Prof Peter Weston (The Sciences). *For inspiring students' learning and appreciation of systematics through a unique integrated research-driven program devised and delivered by researchers from three premier Australian research institutions.*

The first award to Ian Telford recognizes all the excellent work Ian Telford does as honorary Curator of the N.C.W. Beadle Herbarium and in associated ways in connection with teaching and co-supervision of students of plant taxonomy at UNE.

The second citation for their development and delivery of teaching in systematics was to a subset of the UNE systematics teaching team (the maximum allowed in the nominations by the Carrick Institute is five) that involves the Australian Museum, the Botanic Gardens Trust Sydney and UNE. The full team also includes: Adjunct Associate Professors Don Colgan and Dan Faith, Adjunct Professor Winston Ponder (now retired), all of the Australian Museum and Adjunct Lecturers Elizabeth Brown and Darren Crayn and Adjunct Associate Professors Surrey Jacobs and Peter Wilson of the Botanic Gardens Trust, Sydney.

### Web references

[www.une.edu.au/news/archives/000538.html](http://www.une.edu.au/news/archives/000538.html)  
[www.carrickinstitute.edu.au/carrick/go](http://www.carrickinstitute.edu.au/carrick/go)



## CHAH Inc. business

### Australian Plant Census

The past few months have seen some changes in the *Australian Plant Census* (APC) project, following the departure of Tony Orchard (*ASBS Newsletter* 127: 15). Anna Monro has stepped in to fill the role of APC Coordinator, half-time only due to existing ABRs *Flora of Australia* editing commitments. Anna has recently completed her first list, comprised of the families that will make up vol. 5 of the *Flora* (Amaranthaceae, Portulacaceae, Caryophyllaceae, Polygonaceae etc.), and this is under consideration by the Working Group. She is currently working on a list based on the *Flora* grass volume 44B (Arundinoideae–Chloridoideae).

Compilation of an additional list (Meliaceae, Rutaceae, Zygophyllaceae) has been completed by Bronwyn Collins. These families will be published as vol. 26 of the *Flora*. This list is also currently with the Working Group. Brendan Lepschi has completed two lists including families from *Flora* vol. 6 (Dilleniaceae and Theales) and those partly from vol. 10 (Ebenales) and vol. 24 (Linales). Both Anna and Bronwyn were previously actively involved in data editing and entry for APC/APNI, and their new roles means this activity has slowed somewhat. However, APNI stalwart Kirsten Cowley continues to be a mainstay for the project, and we are maintaining the effort and momentum as best we can.

Early on in the project it was suggested that botanists other than the APC Coordinator could assist by compiling first draft lists for their groups of interest, which could then be finalised by the Coordinator and passed onto the Working Group for comment. This has become more critical as the project progresses, particularly as we have exhausted the published *Flora of Australia* volumes. We have used this system with a few families in conjunction with Laurie Jessup and John Clarkson and this has proved very successful. We therefore urge others to consider compiling draft lists for their particular groups. These lists do not have to be definitive but an indication of accepted names and synonymies is a very good start. Please contact us for further information.

Jim Croft and Brendan also met recently with Cam Slatyer and Annette Wilson from ABRs, to affirm the continued involvement of ABRs in the APC.

For the time being, please continue to address any APC queries, comments and related correspondence to *both* of us.

Brendan Lepschi (Brendan.Lepschi@csiro.au)  
Anna Monro (Anna.Monro@csiro.au)

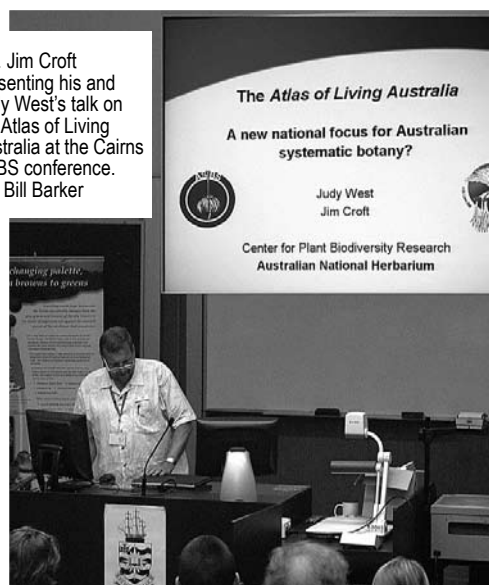
### Funding for an Atlas of Living Australia

Following an intense period of consultation amongst representatives of herbaria and museums and other biological collections \$7.5 million has been granted to them by the Commonwealth National Collaborative Research Infrastructure Strategy (NCRIS) to develop a common web-based infrastructure, known as the *Atlas of Living Australia* (Web ref. 1). The *Atlas* will enable access and utilisation of on-line data and information relating to collections, taxonomic concept and names, descriptive and image data, and infrastructure for analytical tools. This project will bring CHAH's vision for the *Australia's Virtual Herbarium* (Web ref. 2) to reality by 2011. The *Atlas* will embrace and extend greatly the current capacity of the Australia's Virtual Herbarium and the zoological equivalent OZCAM (Web ref. 3), which at present deal with specimen data, as well as other dynamic national projects, such as the *Australian Plant Census* and the *Australian Plant Names Index*.

NCRIS is an adjunct to ARC and the NHMRC (medical) research grant schemes and supports world class collaborative research infrastructure across 16 major areas of the physical and natural sciences. The funding came under the initiative directed at biological collections

Attempts at including capture of specimen data as a key research infrastructure need, where regional and university herbaria, non-vascular groups, and the wider Australian region were

Fig. Jim Croft presenting his and Judy West's talk on the Atlas of Living Australia at the Cairns ASBS conference. Ph. Bill Barker



strongly promoted, failed, largely through the magnitude of the funding needed.

Web. ref. 1: [www.ncris.dest.gov.au/capabilities/integrated\\_biological\\_systems.htm](http://www.ncris.dest.gov.au/capabilities/integrated_biological_systems.htm)

Web. ref. 2: [www.chah.gov.au/avh/avh.html](http://www.chah.gov.au/avh/avh.html)

Web. ref. 3: [www.ozcam.gov.au/](http://www.ozcam.gov.au/)

Bill Barker

## New Australia's Virtual Herbarium data capture funds

Australian state and territory Herbaria have gained through the AVH Trust an additional \$1.1 million of Commonwealth Natural Heritage Trust funds, mainly for specimen data capture. The original allocation of \$9.8 million came largely from Commonwealth and State matched

NHT funds, but there was a shortfall through difficulties raising private funding. CHAH has targeted actively researched and well-named bryophyte, fungal, algal and lichen collections of high national value in individual institutions.

A portion, of the new grant, \$100,000, has been allocated to the Australian National Herbarium to extend support for the *Australian Plant Census*, a CHAH collaborative project.

Bill Barker

## 2007–08 ABLO appointed

CHAH and ABRS have approved Associate Professor Jeremy Bruhl as the next Australian Botanical Liaison Officer based at Kew to follow the current incumbent Jenny Tonkin later this year.

# Miscellaneous

## Thanks

Thank you to so many of my friends and colleagues who sent get well wishes concerning my recent unexpected illness. This was a pretty big shock and a bit scary and I sincerely appreciated the thoughts and kindness and it is nice to know that so many people care.

From the note in the September ASBS Newsletter and the various networks, some of you will be aware of my illness and may have some background as to what the problem was. Since it is now just over 2 months since my operation I thought I should let you know how I am progressing.

I'm actually doing pretty well now and making good progress I believe, and certainly feeling stronger day by day. I am now able to do many more tasks around the house and being able to drive makes such a difference – I feel less like a dependent grandma at least. The cardio rehab program under the guidance of physios and nurses provides an idea of the level of exercise and strain you can put on the chest and sternum.

Briefly, the heart issue that I had – endocarditis - is rare and especially in individuals who are fit and normally healthy, and because of other symptoms (gastro issues, lethargy, hot sweats) it took the medicos a little while to diagnose the problem. I was not well for some 6 weeks before going into hospital emergency and by the time the problem with the heart started to manifest itself and they picked up the murmur and the valve malfunctioning, things were pretty serious. The short of it is .... a bacterium (normally in our mouth) got into the blood stream and attached itself to the arterial valve of the heart and proceeded to perforate the valve so that it was 'leaking' badly and I was getting very little oxygenated blood around the body.

The valve has been replaced under open heart surgery with a mechanical valve and things seem to be progressing well. A 5-week course of intravenous antibiotics (infusion every 4 hours) seems to have killed off the bug, but the cardiologist and disease physicians are monitoring me for another 6 months to ensure full recovery.

My family and friends and colleagues have been amazing helping me through all this, and picking up all the activities and commitments that dropped off the radar instantly. It was particularly disappointing that I wasn't able to attend and present the paper at the 2006 ASBS meeting in Cairns. The laminated card from participants of the conference was a great tonic to recovery.

This has been a shock to all of us and certainly not the sort of illness one might expect – perhaps a timely reminder to manage our busy lives carefully. I will need to make some changes!

The plan at the moment is to return to work in the new year – whether at full capacity initially will depend on how I am coping.

Judy West

## Request for Brassicaceae seed

We've had a request for seeds for genomic analyses of Australian endemic genera *Arabidella*, *Blennodia*, *Ballantinia*, *Carinavalva*, *Cuphonotus*, *Drabastrum*, *Geococcus*, *Harmsiodoxa*, *Irenepharsus*, *Menkea*, *Monoploca* (= *Lepidium* sect. *Monoploca* sensu Hewson 1982; e.g., *Lepidium linifolium*, *L. leptopetalum* etc.), *Pachymitus*, *Phlegmatospermum*, *Scambopus*.

Send to:

Prof. Dr. Klaus Mummenhoff,

University of Osnabrueck, Dept. of Biology/Botany,  
Barbarastrasse 11, 49069 Osnabrueck, Germany.

Email: [Mummenhoff@biologie.Uni-Osnabrueck.de](mailto:Mummenhoff@biologie.Uni-Osnabrueck.de)

## ABRS report

### Advisory Committee

The new chair of the Advisory Committee is Professor Marilyn Sleight, CEO and Managing Director, EvoGenix Limited. Professor Sleight is a pharmacologist and molecular biologist, and in 2001 retired from the position of Dean in the Department of Life Sciences at the University of NSW. She has since become involved in developing the biotechnology industry in Australia. The other new Advisory Committee Members are Mr Andrew Inglis, Dr Anna Lavelle, Dr Robin Wilson, and Dr Brett Summerell.

We would also like to take this opportunity to thank the departing members of the Advisory Committee, Guy Fitzhardinge, Ian Gould, Jane Gilmour, John Pitt and Winston Ponder, for their hard work in making the Advisory Committee run smoothly and efficiently.

### Staffing

Cathy Crozier, our Administrative Assistant, has been permanently appointed to the Commonwealth Environment Research Fund team in DEH. Her replacement, Gail Kenmuir, will continue to act in Cathy's position until it can be permanently filled next year.

### Australian Botanical Liaison Officer 2007–08<sup>1</sup>

The next ABLO will be Dr Jeremy Bruhl, Associate Professor in Botany at the University of New England. In addition to his duties as ABLO and those associated with Australia's participation in GBIF, Jeremy plans to concentrate his research efforts on systematic studies in Cyperaceae, working with Kew scientists Dr David Simpson, Prof. Mark Chase and Dr Paula Rudall as well as colleagues in Australia and the U.S.A.

Jeremy will also participate in Monocots IV, 11–15 August 2008, in Copenhagen. He also hopes to extend his current studies of Phyllanthaceae with Ian Telford, by obtaining some molecular data to resolve particular Australian complexes.

Jeremy scores several firsts in his appointment. He is the first person from UNE and the first person from a regional university and/or Herbarium to be appointed to the position of ABLO. It seems he is also the first university staff systematist to take on the role of ABLO. He hopes it will pave the way for his colleagues to also have this great opportunity.

<sup>1</sup> Applications for the 2008–09 term are required with ABRs by 31 August, 2007. *Eds.*

### Grants and Bursaries

Applications for the 2007/08 round of grants funding through the ABRs Participatory Programme have closed and are being assessed. The ABRs Advisory Committee will meet in March 2007 to discuss them and prepare a list of recommended grants for the Minister.

### NCRIS funding and the Atlas of Living Australia

For anyone who may not have heard, the big news is the announcement that a joint proposal put together by a consortium of herbaria and museums as well as CSIRO, the Department of Agriculture, Forestry and Fisheries and the Department of the Environment and Heritage (ABRS) has been successful in obtaining \$7.5 million dollars of funding over the next four years. The funding is to be used in the development of an "Atlas of Living Australia", for making biodiversity information publicly available over the internet.

It seems inevitable that ABRs's future activities will be closely aligned with the fortunes of the Atlas and we look forward to working with collections around Australia to make the goal of the Atlas a reality.

### Publications

- *Flora of Australia volume 2 - Winteraceae to Platanaceae* is in press and we expect it will be available in February 2007.
- The Introductory volume of *Algae of Australia* is also in press, and should be available in March 2007.
- *Fungi of Australia - Septoria* was published on 26 September 2006.
- *Algae of Australia - Nemaliales* was published on 20 November 2006.

All these books are, or will be, available from CSIRO publishing.

### Other Publications

- *Undersea Jewels, A Colour Guide to Nudibranchs of Southern Queensland* was published in October 2006. It is available from ABRs.

We wish everyone the compliments of the season and look forward to a successful and busy 2007.

Cameron Slatyer  
Director

## ABLO report

As all new ABLOs before me, I wish to acknowledge and thank my predecessor, Dr. Juliet Wege, for her thoughtfulness and generosity during the short induction and handover period. Juliet, for those of you who didn't have cause to engage her extraordinary capabilities during her period as ABLO, accomplished a great deal and truly will be a 'hard act to follow'.

Probably unlike all previous ABLOs, it has taken me some time to accommodate the enormity of the 'Kew institution'. It is an organization typified by friendliness, and the generous support and positive encouragement of its staff. I encourage all young taxonomists to think seriously about applying for this post of ABLO as it provides a wonderful opportunity. The learning curve is exponential, but well worthwhile, especially in an environment as conducive to enquiry as that provided by Bernard Verdcourt and his ever varying and amusing cohort. To reassure all of you who have enjoyed the bounty of his coffee mornings, they continue to flourish and certainly provide the ABLO with support, stimulation and at times, much needed humour. Special thanks should go to MEL for the ABLO food and treats parcel sent in October – Bernard did so enjoy the Tim Tams.

On to the news ... I suspect that most readers of this report are eager for news of Kew's new director – Steve Hopper. Kew too, awaited his arrival with much curiosity, but an attitude exemplified by genuine warmth. It is one which I suspect, will be rewarded many times over by Steve's proven track record, enthusiasm and desire to 'speak for, inspire and demonstrate best practice in plant conservation – the basis of life on earth and one of the world's greatest challenges'. He faces enormous challenges, especially in the face of significant funding and budget shortfalls this year and the next. The ABLO (that is, lucky me) was fortunate enough to dine with Steve and Chris Hopper one Tuesday evening in late October, and at dinner were members of the Kew and Wakehurst management team, and our Australian High Commissioner, the Hon. Richard Alston and his wife Megs. It was a remarkable evening, when Australians outnumbered the English at their own institution ... if only von Mueller could have seen us all!

### Changes at Kew

My first three months at Kew has seen the late summer and strangely Antipodean appearance of the Kew landscape – dry and brown – metamorphose into a truly green and verdant garden with the advent of autumn. It had been the

driest summer since records began in the 1600's, and many of the mature trees were showing significant signs of drought. This was the culmination of a worrying trend for horticulture staff, whose concerns have mounted over the last 10–15 years regarding water shortages at Kew. There are now plans to install an irrigation system for the gardens during 2007, at a cost of c. £2 million. This will facilitate water delivery around the property, but still doesn't allay anxiety regarding water shortages.

I noted the demolition of the Mycology building when I first arrived. This was a rather delightful but idiosyncratic building that housed mycology staff, the offices of the British Mycological Society, all of the British mycological collections as well as the mycology library. Foreign mycological collections were housed separately in the basement of the main herbarium. Mycology is now housed in the new Wolfson Wing of the Jodrell laboratory, opened in June of this year. This facility firmly places Mycology at Kew in the fortunate position of enjoying greatly expanded laboratory facilities as well as providing very sophisticated and commodious accommodation for the herbarium. The new laboratory further reinforces Mycology's link with the Jodrell molecular program, and the new herbarium facilities include monitoring of temperature and humidity and have expansion room for many years to come. Of special note for visiting mycologists is that the herbarium now houses both British and foreign materials thus making them more readily accessible for research. What hasn't changed however, is the willing help of the Mycology staff offer to all their visitors – the ABLO included.

The contract for construction of the new herbarium is out to tender, but will not be finalized before the end of November. Commencement of construction is therefore scheduled for some time during 2007, so I will keep you posted. Much however, has been done to facilitate this process. The site is cleared and fenced, and at the end of September, the entrance to the herbarium was reinstated to its original position at the front of Hunter House.

### Loans

AQIS is changing the import conditions for fully processed plant herbarium specimens moving from an overseas Herbarium listed in *Index Herbariorum*, to an equivalent institution in Australia. These conditions will remove the current requirement for full inspection of the consignments on arrival, and providing the documentation is in order, and all other

requirements are met, the Quarantine Officer will release the consignment to the receiving institution without further quarantine impediment. Until these new conditions are launched however, please continue to supply Kew with the appropriate loan documents, especially the AQIS 'Permit to Import' and fluorescent packing labels. These packing labels should state 'details enclosed', rather than list enclosed as Kew is unable to generate such a list.

All other specimens, including microorganisms and their derivatives will continue to require a permit, but here too import conditions are being standardised for easier reference.

I would also like to remind prospective borrowers of Kew vascular herbarium material, that Kew does not 'routinely' permit harvesting of tissue for DNA extraction. Where this is required, Kew in some circumstances will undertake DNA extraction on behalf of the borrowing institution. The situation is a little different for mycology specimens, but is detailed in the Kew 'Loans Regulations' document (Web ref. 1).

#### Visits, visitors, exhibits and seminars

I have as yet to visit many herbaria other than the Smith and Linnean collections located at The Linnean Society, and since commencing, I have made regular visits to the Natural History Museum. Early in November, I made a sortie to Wakehurst and was fortunate to be shown the facilities of the Millennium Seed Bank by Tim Pearce, as well as meet a number of staff from their Australian partners. I plan to visit Edinburgh in March, and perhaps Paris and Gent next summer, so those of you with requests for these herbaria, please contact me in good time to ensure that I can fulfill the requests on your behalf.

On October 6<sup>th</sup> The Linnean Society hosted the Ernst Mayr Symposium for which the refurbishment of Society's rooms at Burlington House was almost complete. Refurbishment had been organized primarily to ensure that The Linnean Society would be well prepared to support a very strenuous year of celebrations for the tercentenary of the birth of Linnaeus which is launched on December 7<sup>th</sup> this year. The

symposium itself provided a very exciting array of talks highlighting the extraordinary contribution of Mayr to systematics.

During August – October, '500 years of blooming Botany' exhibit was held at the BM. It was a fabulous display of beautiful materials all necessary for the study of botany. On display were artists of note and these included Arthur Church, Sidney Parkinson, Ehret, and the Bauer brothers.

Australian visitors to Kew have been Pam Catcheside (State Herbarium of South Australia, Mycology), Barbara Briggs (Royal Botanic Gardens, Sydney, Restionaceae and Ecdeicoleaceae), Kevin Thiele (PERTH, Bioinformatics), and Daphne McCurdy (University of New England, Human Resource Services).

#### Publications

This last year has seen a diverse range of Kew publications. For those of you with interests in the flora of Papua New Guinea, a further volume has been published: the *Field Guide to the Palms of New Guinea* (by W. Baker and J. Dransfield; Kew Publishing). A new CD-Rom, Biodiversity Conventions for Botanists, contains all of the recent CITES plant checklists published by Kew and copies of the *CITES User's Guide* series, and also includes a copy of the updated version of *CBD for Botanists*. Savannas and dry forests feature in *Neotropical Savannas and Seasonally Dry Forests – Plant Diversity and Biogeography and Conservation* (Eds RT Pennington, GP Lewis and JA Ratter, Systematics Association/CRC Press). A special issue of the *Botanical Journal of the Linnean Society* (Vol 151, part 1, May 2006) features the proceedings of the International Palm Symposium, held at Kew and The Linnean Society in April 2005. Finally, *Seeds – Time and Capsules of Life*, (published by Papadakis Publisher in collaboration with Kew) by artist Rob Kessler and Kew seed morphologist Wolfgang Stuppy, is a new popular science book, and provides a highly readable account of the natural history of seeds.

Web ref. 1. [www.rbgekew.org.uk/collections/loans.pdf](http://www.rbgekew.org.uk/collections/loans.pdf)

Jenny Tonkin

### *Australian Systematic Botany Society Inc.*

#### Membership fees now due

Members are reminded that your annual fees are now due. The annual fee, set at each Annual General Meeting, is shown inside the back cover of this issue. You may owe funds from previous years or already have paid.

What you owe is indicated on the envelope enclosing your copy of this issue.

## Book reviews

### A first volume on Australian fungal pathogens

Review by Ian Pascoe

Consulting Mycologist, 66 Hunter Rd. Camberwell, Victoria 3124

***Fungi of Australia: Septoria.* By Michael J. Priest. 268 pages, 250 x 176 mm  
CSIRO Publishing / Australian Biological Resources Study (ABRS).  
ISBN: 0643093761 Price: AU \$110.00**

When Michael Priest told me that he was going to do *Septoria* for his PhD, I must confess I offered some unwanted opinions about his sanity. *Septoria* is one of those large, important plant pathogenic genera about which most plant pathologists (and a fair proportion of taxonomists) can be relied upon to say "but they all look the same!". So tackling it on one's own volition is an act of considerable courage, not to mention foolhardiness.

Nevertheless Michael did tackle it successfully and his thesis is now one of the valued reference books on the shelves of the fungal taxonomy lab at DPI Knoxfield. Now we have this handsome volume in the *Fungi of Australia* series, derived from the thesis but in a more compact and accessible format.

The volume is all the more valuable when we consider that there is no world monograph of *Septoria*. There are a few regional monographs from other parts of the world, and a small number of treatments of *Septoria* on particular host groups. Many of the existing treatments have very brief descriptions and meagre illustrations. In contrast this new volume boasts clear illustrations and comprehensive descriptions and is probably the most thorough treatment of *Septoria* available anywhere.

Michael has taken a pragmatic approach to the delimitation of species in a genus with an almost unparalleled shortage of diagnostic characters. *Septoria* species are characterised by more or less globose conidiomata containing slender needle-shaped conidia, and there is not much else for the morpho-taxonomist to hang his hat

on. It becomes clear after examining as many specimens as Michael has that conidial length and septation are frequently too variable to be of much use, which leaves us with conidial width as the only really reliable character at species level. And width varies only between 1 and 4  $\mu\text{m}$  for the entire genus! So it is necessary to adopt the host plant on which the fungus occurs as an additional taxonomic character. This was the approach taken by taxonomists of the nineteenth and early 20<sup>th</sup> centuries – if a fungus was on a new host, then regardless of its morphology it was treated as a new species. Needless to say when this approach went out of fashion in the second half of the twentieth century, there was a rash of lumping of morphologically indistinguishable species from different hosts of large and difficult genera such as *Phoma*, *Ascochyta*, *Colletotrichum* and *Septoria*. Surprisingly, recent molecular studies of other genera with similar problems have vindicated the old timers by showing that many indistinguishable taxa from unrelated hosts are indeed genetically distinct. So one feels much

more comfortable about using host as a criterion in these difficult genera.

So I have no problem with Michael's approach of using host and conidial width as his primary criteria in delimiting species of *Septoria*, not that he had much choice. In the key to *Septoria* species on Asteraceae (the largest group) the only characters used are length, width and septation of conidia, and host. Of course he uses supplementary characters where they are informative, and his approach is otherwise reasonably conservative, without unnecessary splitting based on host. In most cases the host criterion is used in an hierarchical manner – if two morphologically indistinguishable taxa are from different host families then they are almost automatically treated as distinct, but if they are



merely from different genera of the same family then the approach is more circumspect, with all available characters considered carefully. In one case he has recognised as a single species an unidentified taxon which appears to occur on a range of unrelated hosts; it is believed to be saprophytic or endophytic rather than pathogenic. It will be interesting in the future to see how many of Michael's taxonomic decisions are vindicated by DNA sequencing. I doubt if there will be many surprises.

In light of the above the book is usefully laid out in host family order. There is no complete key to species but where there are several *Septoria* taxa from species of a single family, a key to species is provided for that family.

Before the species descriptions the introduction consists of a thorough account of the genus *Septoria*, its history, typification, circumscription, taxonomic characters, similar anamorphic taxa, teleomorphs, previous research, host relationships and biogeography.

In the taxonomic part the descriptions follow the well-known ABRS format. Illustrations are simple and clear line drawings showing conidiomata, conidia and conidiogenous cells where appropriate. One wonders about the usefulness of the illustrations of conidiomata, since they really do all look the same, except in taxa that have been removed from *Septoria*. On the other hand the illustrations of conidia frequently demonstrate the variability of the species by providing drawings of conidia from several specimens. In another case the four *Septoria* species from *Chrysanthemum* are illustrated separately, and then (in Fig. 33) conidia of each species are combined in a single plate to show the different species side by side, a very useful diagnostic tool. I found one minor irritation with the illustrations in which, where there are several specimens illustrated on the one

plate, there is no clear indication in the caption as to which conidia belong to which specimen. One assumes that (a) is the first specimen from the left and (b) is the second but this is not spelt out. One other minor irritation with the illustrations is that the bar lines for illustrations of conidia, while all representing 10 µm, have not been standardized between plates, so that not all conidia are illustrated at the same scale. The user, while scanning the illustrations for an identification, will naturally assume that all are at the same scale (that is, those conidia are larger than those ones), but this is not entirely true and could be mildly misleading. The user should check the scale bar and the description.

Eleven new species are described including a newly described teleomorph for *S. aureocorona*, described as *Mycosphaerella aureocorona*. There are also descriptions of newly observed teleomorphs for several other *Septoria* species, but none of them are named. There are three recombinations. The book includes a number of species previously described in *Septoria* which have been reassigned here to other genera. One of these, *Septoria matthiolae* is transferred to *Ascochyta* – in one of the few errors found in the book, its host *Matthiola incana* does not appear in the host index.

The minor quibbles mentioned above (most of them editorial in nature) do not detract from the significant achievement of this monograph of one of the more notoriously difficult genera in mycology. At last mycologists and plant pathologists have a monograph of *Septoria*. While the monograph deals only with species that occur in Australia, so many of these are on agricultural and ornamental and weedy hosts that the monograph will be very welcome on mycology bookshelves all over the world.

## The first volume of Australia's algal Flora

Review by R. N. Baldock

Mawson Lakes campus, University of South Australia

*Algae of Australia: Nemaliales.*

By J.M. Huisman.

Published in 2006 by ABRS, Canberra & CSIRO Publishing, Melbourne

What a pleasure to review such a beautifully produced publication in an often neglected area of natural history – the algae.

Huisman writes clearly and simply without compromising accuracy and without the turgid and convoluted language that sometimes creeps into taxonomic works. This, the first on algae from ABRS could well be a model for, hopefully, many more in the series. Hard covered, with a total of 153 pages, it has 18 excellent colour

plates, mostly in situ photographs which avid divers would easily relate to, 52 figures, a mix of black and white habit photos and line diagrams, and four tables. The photos are generally very good. Unfortunately I could not see the divided carposporangia referred to in the captions of the photomicrographs of Figures 1 and 2. I checked a stained slide of one of the illustrated species: divided sporangia are not easy to find, nevertheless the caption could have been an accurate reflection of the visible features of the photo.

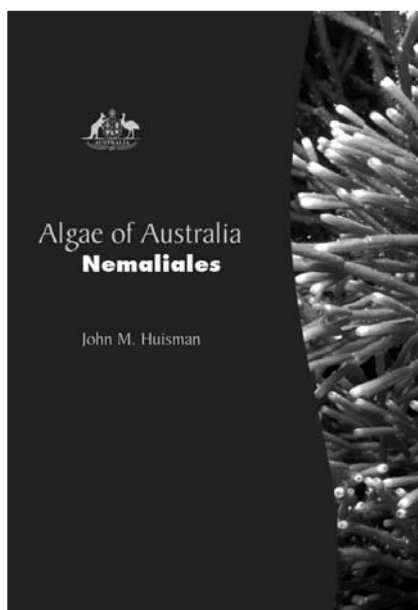
Which points to the perennial difficulty of this and, unfortunately, other algal groups — without

good fertile material, species identification is virtually impossible. Nemiales, of delicate pinks and vermilions, or almost stark white, may look solid and compact in structure. But the slippery or crusty surface or rubbery feel and translucency of some hint at their true nature. Stained, squashed and viewed under the microscope, their forked branches reveal a central twisted mass of delicate threads running longitudinally and a firmer coating of stubbier cells pointing outwards. Hardly compact tissue. Two of the families hold this diffuse arrangement of cells together with a gel! Some genera add limey cement on the surface or impregnate it into the gel. Mixed amongst the filaments or barely emerging through the surface cells are patches of reproductive cells — female, male or sporangial, some of pin-prick size, elegant but needing experience to recognize, and good descriptions of quality and clarity such as those of Huisman's to successfully explore the diversity of the Nemiales.

I have a personal (eccentric?) interest in the iconography of botanical illustrations. The line diagrams in this publication are beautifully and clearly presented — I envy the uncluttered and spacious layout the editors have allowed, having been tightly constrained myself in my few algal publications. Readers constantly exposed to biological illustrations probably have no difficulties interpreting the various conventions used to convert 3-dimensional anatomical details gleaned from many focus levels into 2-dimensional line diagrams that make sense and look a bit like the real thing. Huisman has a judicious mix of stippled and unstippled cell outlines, mainly to attract the eye to key features rather than to create a 3-D impression. Outlines of underlying cells are generally not included which improves the clarity of the subject, but occasionally produces a peculiar tiling effect, as in Figure 4. However, I have always wondered what the untrained eye makes of botanists' visual manipulations of the real world.

The written diagnostic features are crisply presented with sub-sections that make scanning the text easy. There is a section on specimen preparation, with asides on possible difficulties and identification clues based on texture, colour and form throughout the text which will please

the novice phycologist. However, fixing the stained preparations using dilute HCl wasn't mentioned, which was surprising. An adequate glossary supports the reader struggling with technical terms, and these are expressed without the circular definitions unfortunately found in some publications. I noticed "thalloid" wasn't explained, although "thallus" is listed — there is always a problem of what to include within the exigencies of publication costs and the expected background knowledge of the reader.



Documentation/arguments on typification, including DNA sequence analyses are "quarantined" in an appendix section, allowing the body of the descriptions to flow unhindered. Clear distribution maps are found in a separate section.

There appear to be few errors, and only heavy usage may bring these to light: for example, a duplication of a specimen number for *Ganonema* was communicated to me — the specimen in AD numbered A51995 applies only to *G. codii* (page 38) and not to *G. farinosum* (page 43).

I tried the keys using two available named specimens. A linear key of this type is unforgiving if you don't have material with all diagnostic features present. Some of the important features such as straight carpogonial branches versus curved ones, and finding post-fertilisation filaments amongst the jungle of cortical ones can be difficult (divided versus mainly undivided carposporangia has already been mentioned). Reasonable persistence is needed to get a satisfactory result, but then that is the lot of a phycologist generally.

Which points to the fact that the Nemiales are a infuriating group to investigate. Herbarium specimens hardly resemble their live counterparts; reproductive features, some minute and tenuous, are needed for identification at practically every level, and some species have lain hidden for centuries partly until the development of genetic techniques, partly because of historical conservatism — a daunting task for a worker to tackle. Although I am no expert on this algal group, I believe this publication is an admirable monograph of the knowledge to date, successfully and relatively painlessly steering the reader through the complex anatomy and taxonomy of the Nemiales.



## An illustrated glossary of mosses

Review by Alison Downing

Department of Biological Sciences, Macquarie University

*Mosses and Other Bryophytes – an Illustrated Glossary*. Second Edition. By Bill and Nancy Malcolm, 2006. 336 pp.

Micro-Optics Press, Nelson, New Zealand

ISBN 0-9582224-7-9 Price: NZ\$98.00

Available from Manaaki Whenua Press,

P.O. Box 40, Lincoln 8152, New Zealand

(www.mwpress.co.nz)

This magnificent publication is the second edition of *Mosses and Other Bryophytes - an Illustrated Glossary* by New Zealand botanists, Bill and Nancy Malcolm. The work is difficult to discuss in other than superlatives, not only for the quality of the text and the photographs but also for their understanding of the needs of a very wide range of end-users, from amateurs to professionals. As the authors themselves state, the *Glossary* is a resource to be utilised not only by “bryology and botany students, but also gardeners and anyone interested in plants”. The *Glossary* is almost 50% longer than the original, it has 336 pages, includes almost 1400 illustrations and illustrates more than 500 bryophyte taxa.

I have been delighted with the very wide range of terms included in the glossary. Bryological terminology predominates, of course, but there are also many botanical, chemical, geological, geographical and environmental words that are essential for the study of bryophytes. The definitions are written clearly and concisely and are enhanced by the illustrations. Terms used in definitions that are explained elsewhere in the *Glossary* appear in **boldface**.

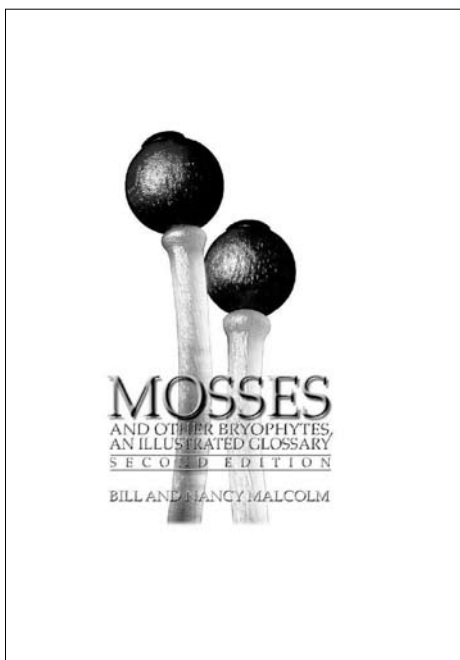
For terms relating specifically to characteristics of bryophytes, such as ‘**protonema**’, ‘**calyptra**’ and ‘**peristome**’, the *Glossary* provides extensive descriptions of structure and function. For some terms, such as ‘**cavitation**’, a process vital for the dispersal of liverwort spores, in addition to the definition, there is a comprehensive description of how the process actually works. On the other hand, for some terms, such as ‘**gymnostomous**’,

the definition has included only a few words: “– in mosses, lacking a **peristome**”.

Many of the terms defined in the *Glossary*, particularly those relating to plant morphology, anatomy and physiology, are widely used botanical terms. These days when courses in botany are often no longer available to students before they embark on studies of ecology, plant physiology, molecular biology, environmental studies or land management, so-called ‘simple’ terms, for example those relating to leaf arrangement, leaf shape and leaf margins, are a mystery. For these students the *Glossary* will be valuable well beyond its immediate role in bryology. I particularly like the inclusion of not just one, but often a number of illustrations, to highlight a particular feature, for example leaves of five different moss taxa, placed side by side, are used to illustrate ‘**lanceolate**’ leaf shape. I also like the inclusion of both noun and adjective in many combinations, for example “**nerve** (adjective **nervate** or **nervose**)”. It is also convenient to have the ‘Comparison of “hairiness” terms’ lumped together, similarly the ‘Comparison of “Spreading” Terms’ placed together.

Many people not associated with herbaria are confused by the puzzling jargon of taxonomy and systematics. For this group, the inclusion of terms, such as: type specimen, author citation, holotype, isotype, ICBN, syntype, synonym, basionym, comb.nov., determinavit and exsiccatae, will be incredibly useful. Without the *Glossary* I could imagine a student definition of ‘paraphyletic’ as being the unfortunate consequences of a heavy night on the town.

The *Glossary* also includes many terms that relate to the environment, such as circumboreal, polyedaphic, cline, savannah, calcareous, basic, travertine, neotropic and oligotrophic. These days, understanding of bryophyte chemistry is becoming increasingly important and to fill this need the authors have included numerous chemical terms,



such as carotenoid, chromatography, cellulose, cytokinin, KOH reaction, tannin and terpenoid, many illustrated with space-filling models. For most of these terms, the definition is followed by a description of the relevance of these substances to bryophyte biology. And of course, the *Glossary* includes a number of important scientific terms not usually found in botanical glossaries, such as lux and micrometer.

The inclusion of many botanically-relevant prefixes and suffixes are extremely helpful. Examples include: “**a-** (or **an-**) – a prefix meaning *not, without, or lacking* (Greek, (Greek, *synonym* in Latin **e-** or **ex-**)”; “**-aceous** – a suffix meaning *resembling or having the nature of*, as in **chartaceous** (papery)”; “**-cola** – a suffix meaning *living in or on*, for example **saxicolous**, growing on rock.”

The *Glossary* also includes common names used for mosses that exhibit certain distinguishing features, such as ‘apple moss’, ‘pipe-cleaner moss’ and ‘extinguisher moss’; for those that grow in specialised habitats such as ‘copper moss’ and ‘dung moss’; and for those that have been utilised for particular purposes such as ‘caulk moss’ and ‘tinder mosses’.

A colleague (zoologist and geneticist), looking over my shoulder, commented on the superb quality of this book, then, much to my surprise, told me that “*as a student he had abandoned botany because he found it almost impossible to visualise plant structures based on a written descriptions*”. I have no doubt that given the opportunity to use a publication such as this, he would have persisted with plant sciences. The *Glossary* includes over 1400 illustrations, including photographs, photomicrographs, drawings and paintings. The illustrations cover a great range from growth forms, whole plants including stems, leaves and capsules, sections of stems, leaves and capsules, cells and spores. Not only does each illustration provide clear and accurate information but also confirms the exceptional artistic ability of the authors. It is very easy to take the design of this book for granted, but how often have books been published where illustrations are published in blocks at intervals throughout the text, an arrangement that is not particularly convenient for the users. Here the text is always adjacent to the illustrations.

I like the use of the moss *Polytrichadelphus magellanicus* to illustrate a number of terms. The plant is large and the leaves clearly separated. On page 7, to illustrate ‘adaxial’, the terms ‘adaxial’ and ‘abaxial’ have been written above and below a leaf respectively, but the term ‘adaxial’ here highlighted in white, whereas on page 1, ‘abaxial’, the reverse applies. The drawings are always clear and simple. *Liverwort leaf insertion*,

and the associated terms *incubous*, *succubous* and *transverse*, are extraordinarily difficult to understand from written descriptions, but six simple and unambiguous drawings clearly show both upper and lower view of stems to illustrate each of the three types of insertion. Unusual illustrations included in the *Glossary* are stereo pairs of ceramic models or paintings, the first of these illustrating ‘diplolepeidous peristome tooth’ is accompanied by instructions for viewing. (And, no, *Diplolepeidous* is definitely not a new species of dinosaur). Paintings and stereo pairs have been included to illustrate features that are either extremely small or difficult to photograph.

Although the *Glossary* is not intended to be used as a flora, the *Illustration Index* allows users to readily refer to images of all taxa in the *Glossary*. For example, *Calomnion complanatum* in the index will refer users to photographs of the leaf arrangement featuring leaves and underleaves (amphigastria) on page 23(3), cuspidate leaf apex on page 104, and whole plant of stems and leaves on page 215. For most of us, not only those new to bryology, the dearth of available illustrations can be extremely challenging when attempting bryophyte identifications, and so the reference to illustrations provided by the *Illustration Index* is extremely useful

Bill and Nancy Malcolm have a reputation for being unbelievably generous in teaching others the photographic techniques which must have taken them an incredible amount of time to develop and refine, and that others, certainly, would have kept to themselves. This book is no exception, and in the appendix, *Photographing bryophytes without a camera*, they have done it again. In detail they outline the steps necessary to produce an outstanding image of a moss, liverwort or hornwort using a scanner and computer. Although I have not yet made the recommended ‘matte black’ cover for the scanner, I have managed to produce some remarkably good images. It is an also an excellent technique to quickly produce prints for field work, particularly when those assisting may have limited bryological experience.

The text and illustrations are of such superb quality that it is virtually impossible to find fault with this publication. The following are comments rather than criticisms. *Bryum* has recently been reviewed by Spence & Ramsay (2006) so perhaps references to *Bryum billardierei* should more appropriately be referred to *Rosulabryum billardierei*, and *Bryum dichotomum* referred to *Gemmabryum dichotomum*. On page 58, the second (lower illustration) of “*Orthotrichum tasmanicum* var. *parvithecium* bristle moss” could be omitted as it shows a capsule lacking the hairy capsule for which it takes its name. Also, I would like to have the ‘achlorophyllose’

cells of *Aphanorrhagma serratum* on page 3 placed next to the 'chlorophyllose' cells of *Phaeoceros*, *Lepidozia* and *Mittenia* on page 79. The 'alternation of generations' diagram is a little confusing, with two gametophyte plants included in the '2N' side of the diagram. I understand that the illustration of 'hyaloderm' is a section from a *Sphagnum* branch rather than from a stem. However, these sorts of comments are insignificant and should not be seen as detracting in any way from the exceptional quality of the book.

The *Glossary* is an absolute necessity for every botanical laboratory. It is an essential companion when using publications with few illustrations. It includes many more terms and many more illustrations than the first edition and much of the text and many of the illustrations used previously have been refined and extended. It will be a valuable asset not only for bryologists but for those with interests in many other aspects of botany. I have great hopes that Bill and Nancy Malcolm will consider expanding this work into an illustrated botanical dictionary.

## A third edition of Australia's *Eucalyptus* identification tool

Reviewed by John Clarkson

Queensland Parks and Wildlife Service, Centre for Tropical Agriculture, Mareeba

***EUCLID: Eucalypts of Australia (3<sup>rd</sup> Edition).***  
**By Centre for Plant Biodiversity Research.**  
**CSIRO Publishing, 2006.**  
**ISBN 0 643 093354. \$120.00 plus \$9 postage**  
**and handling (\$15 International orders)**  
**from CSIRO Publishing, PO Box 1139,**  
**Collingwood, VIC 3066.**

*EUCLID* is the definitive electronic identification and information system now covering all 894 eucalypts in the one publication.

This is the bold claim made on the cover of latest interactive CD produced by CSIRO Publishing, *EUCLID: Eucalypts of Australia*.

When first published in 1997, *EUCLID* included only 310 taxa from South-Eastern Australia. This was followed in 2002 by an expanded second edition which dealt with 609 taxa found across Southern Australia. The third, and latest edition, which includes 205 taxa from northern Australia has been eagerly anticipated by professional and amateur botanists who live and work across the vast northern half of the continent. It has been a long wait, but then northerners have become accustomed to being last in line to gain access to tools of this type. It would seem that the tyranny of distance still prevails. For this reason, it would have been good to have seen the only two non Australian species, *E. deglupta* and *E. urophylla*, included rather than have others wait for the treatment to be fully comprehensive. As both species can be found in cultivation in North Queensland, their omission could be seen as a minor deficiency in the key.

The program comes as a single DVD neatly presented in a book-like plastic box measuring 190 × 135 × 14mm which will be familiar to purchasers of previous CSIRO interactive keys or those who frequent video shops. On the front cover is an attractive photo of the North Queensland endemic *Corymbia rhodops*. The system

requirements should not tax a reasonably modern computer. Any of the Windows operating systems 98, ME, NT, 2000 or XP will support the program. A minimum of 32Mb of RAM are required although 64Mb or higher are recommended. The monitor should be SVGA with a resolution of 800 x 600 or better. The program utilises Internet Explorer 5.0 or greater. It will be necessary to install this before proceeding with installation of the program. A copy of Internet Explorer 6 is provided on the DVD. A mouse or other pointing device is essential. The program will work stand alone but an internet connection will allow access to the many web based links provided, including future updates to the program.

Installation is simple and straight forward and should not challenge even those with only basic computer literacy. Clear, easily followed instructions are provided. There are two installation options. The files necessary to run the package can either be loaded on the hard drive and the image, html and text files run from the DVD or, all files, including the media files, can be installed on the hard drive and the package run entirely from there. The latter will require about 2.2Gb. I have only tested the program under the first option. The delays while the media files load from the hard drive are not excessive on my computer however, as this is a function of the hardware not the program, some users may find the delays unacceptable on their machines. Running the program as I do on a laptop, perhaps I should have opted for a complete installation as I'm sure to leave the office sometime without the DVD.

Users of other Lucid keys will feel comfortably at home with *EUCLID*. First time users with some experience with Windows based programs or experience on the internet should be able to get started with no problems. On starting the program the user gets the first hint that, as claimed on the

cover, this is more than an interactive key. My suggestion is to start by exploring what the package has to offer by setting some time aside to open every link you can find. This time will be repaid by improved efficiencies when you get down to the serious job of identifying your first specimen. I would also urge first time Lucid users to peruse the short Lucid tutorial which is available from Help on the menu toolbar and to at least skim through "How to use the key" from "About EUCLID" on the start up screen. In this way they will be in a position to fully utilise the many features offered by the Lucid. Some users, particularly those who have a reasonable amount of experience with eucalypts and are abreast of the recent literature, may find the introductory essays and history of *EUCLID* somewhat lean, but it should be remembered that for many users, this package may be their first experience with the group. The authors have provided a not overly technical explanation which is both informative and easy to read.

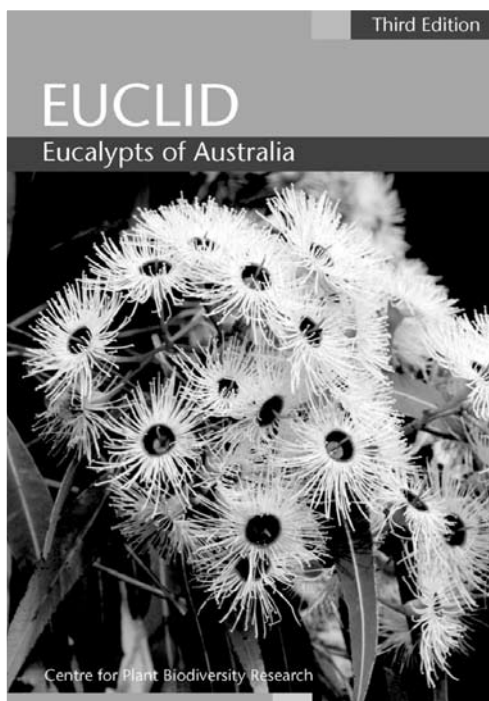
The colloquial term "eucalypt" has been used in *EUCLID* to include species in the genera *Eucalyptus*, *Corymbia* and *Angophora*. Until now, the authors of previous editions of *EUCLID* have adopted a conservative approach to Hill and Johnson's genus *Corymbia* and included the bloodwoods and ghost gums in the genus *Eucalyptus*. Authors of the third edition have finally adopted *Corymbia* for what is an important group of eucalypts in Northern Australia. A brief summary of the latest research which has led to this decision is included in a short essay by Judy West entitled "Evolutionary relationships". In a review of the second edition of *EUCLID*, which appeared in this Newsletter, Robyn and Jennifer Barker (2003) called for just such a discussion. While most systematists can probably reach an informed opinion on these matters from their own reading of the literature, it must be a most perplexing issue for the amateur botanist. If professional botanists are to be taken seriously, we must explain our reasoning in terms which can be easily understood. Judy's essay has done this. I think two points raised in her summary are important. Firstly, that:

There is a dynamic tension between presenting a natural classification reflecting phylogenetic relationships and the pragmatic treatment that maintains nomenclatural stability

and secondly, that:

It is likely that the current level of activities surrounding the eucalypts will result in further hypotheses being proposed, and potentially, additional changes in eucalypt classification.

These are critical messages to convey to many users of the key who may question the need to change names they have become accustomed to.



It is sad to note that the decision to use the name *Corymbia* led to one of the major contributors to *EUCLID*, John Connors, choosing not to be acknowledged publicly for his efforts. ASBS members who are aware of John's work on *EUCLID* might find it strange not to see his name listed amongst the contributors. John's decision is noted with some regret by the other contributors in the Acknowledgements.

Now to the nitty gritty bit. How good is the key at identifying an unknown eucalypt? The simple answer is very very good.

I tried the key out with a dozen or so local species and could not fail it. I did not reach a single answer in every case but managed to shorten the list of possibilities so that I could arrive at a final decision by referring to the copious information available for all taxa. I asked a couple of non botanist colleagues to see if they could successfully identify a few plants. They had no problems arriving at a correct name with no more prompting on my part than starting the key and showing them how to select character states. Neither had any real knowledge of botanical terminology and both said they found the illustrations of the character states very useful.

Few users will have access to an herbarium or an adequate reference collection to confirm an identification. The authors have addressed this by providing descriptions, images and distribution maps for each taxon. The package contains over 9,000 colour photographs showing the habit, bark, adult and juvenile leaves, leaf venation, buds, flowers, fruits, seeds and seedlings. It is by far the best collection of eucalypt illustrations I

have ever seen. Further web-based information is offered through a net-search feature which directs users with internet connections to a number of popular search engines. With web links such as this being incorporated in the package, a link to the AVH site could have been used to supplement the distribution maps. Could the fact that this has not been done have something to do with different names being used by different herbaria for the same taxon in the Virtual Herbarium?

As would be expected when dealing with such a large character set and so many taxa, there are what appear to be some coding errors. I found a few, but not enough to be cause for serious concern. In due course I will pass these onto the authors who will no doubt combine them with other corrections drawn to their attention and include them in a future update as was done with the second edition (Web ref. 1). I think this will be better than listing them here. I was able to find a few minor discrepancies between the names used for some taxa and those used by the Queensland Herbarium. I guess this would be true for other states. I did not check. For example, BRI recognises *Eucalyptus tardecidens* at the species level whereas in *EUCLID* it is reduced in rank to a subspecies of *Eucalyptus persistens*. *EUCLID* deals with *E. uvida* and *E. portuensis* as synonyms of *E. acmenoides* whereas BRI considers *E. portuensis*, with *E. uvida* as a synonym, to be distinct from *E. acmenoides*. The authors do however point out that *EUCLID* does not purport to be a revisionary treatment of the eucalypts and they acknowledge that, in some instances,

they disagree with the concepts of other workers. Where a taxon name has not been accepted, the resulting nomenclatural changes can be traced through a section titled "All Eucalypt Names" or an explanation found in the notes section of the relevant species fact sheet. I am sure professional botanists are not fazed by these disparate views but as many, if not most, of the users of *EUCLID* will not have this training, one hopes they will not be left totally confused. Although suggesting they have done so, the authors' reasoning for these changes is not always given. For example, the decision to lump *E. uvida* and *E. portuensis* with *E. acmenoides* is discussed in the relevant fact sheet but the reasons why *E. tardecidens* is not recognised at the species rank are not.

In summary, I think I would have to agree with the claim made by Helen Hewson in the foreword where she said,

Armed with a little knowledge of botany and a little computer literacy, this tool makes our most significant group of plants, the eucalypts, available to all from the enthusiastic amateur to the practical users and the professional scientists.

I think the bold claim on the dust cover is acceptable. *EUCLID* is a must have for anyone with an interest in this ubiquitous group of Australian plants. If you need a further teaser before ordering a copy a sample can be viewed on-line (Web ref. 2).

#### References

Barker, R. & Barker, J. (2003). The new version of Euclid. *Australian Systematic Botany Society Newsletter* 115:25-26.

## A fifth edition of the classic *Forest Trees of Australia*

### Review by Gwen Harden

P.O. Box 186, Nambucca Heads, N.S.W. 2448

***Forest Trees of Australia Fifth Edition.*  
By D.J. Boland, M.I.H. Brooker, G.M.  
Chippendale, N. Hall, B.P.M. Hyland, R.D.  
Johnston, D.A. Kleinig, M.W. McDonald and  
J.D. Turner.  
CSIRO Publishing, December 2006. 768 pp.  
ISBN 0 643 06969 0 . Price AU \$125.00**

This classic publication has stood the test of time, with this its fifth edition published 49 years after it was first released in 1957. The first edition, authored by Norman Hall, R.D. Johnston and C.D. Hamilton, described 67 species of *Eucalyptus*. With successive editions over the years (1962, 1970 and 1984) additional species of eucalypts and non-eucalypts were added, and now in 2006 a total of 300 species are treated. The two-page format of the descriptions, maps and photographic layout illustrating features of interest have become an integral part in concisely presenting the relevant details for the identification of the species covered.

The publication is very attractive, with a modern colourful hard cover (without a dust jacket), beautifully bound and presented. With current technology the presentation of information and layout are much more consistent and easier to compare between species, with each species limited to a two-page format. The composite black and white photographic plates clearly present the identification characters for each species treated. Many of the older photographs have been sharpened with a white background, while the plates prepared for the additional species are usually much clearer and at times more informative. Unfortunately the black and white photographs in the fourth edition that focused on historical aspects of forest trees have been deleted, as have the number of botanical line drawings that were used as fillers for pages where species extended to three pages.

The 16 pages of coloured plates (neither listed in the Table of Contents nor numbered) are placed

before the Introduction and are a welcome and informative addition to this edition. These plates illustrate various vegetation types (from mangrove swamps, tropical regions and deserts, to alpine areas and temperate forests), species in cultivation and bark types.

The material in the Introduction is similar to that in the fourth edition, though it has been updated and photographs replace the original line drawings of the fruits in the margins. This chapter includes much basic information such as: origin of Australian trees, some important Australian families, factors controlling the distribution of Australian tree species with information on past climates, present climates, topography, soils, animals, microbes, effects of fire and human-induced changes. This section will be particularly valuable to students and others who are not familiar with the Australian landscape.

The species are treated alphabetically within families (for example species of *Acacia* in Mimosaceae), which are also listed alphabetically within the main groups of Gymnosperms, Angiosperms (Dicotyledons and Monocotyledons). The eucalypts appear in phylogenetic order that follows Brooker. The family name is usually listed as a running head on the right-hand pages, except for some reason when there is general text for a larger group or genus, such as eucalypts or banksias. The position of the family name certainly makes it easier to find the species that are treated.

The criteria used to select species were that "they should be important to the timber industry, conspicuous in the landscape, of environmental value, or of ornamental interest". As a result of these criteria a total of 178 eucalypt species and 121 non-eucalypt species have been treated, an increase of 41 eucalypts and 21 acacias from the 1984 edition. Additional species include *Acacia bakeri*, *A. elata*, *A. estrophiolata*, *A. peuce*, *A. victoriae*, *Eucalyptus terminalis*, *E. setosa*, *E. exima*, *E. gongylocarpa*, *Casuarina equisetifolia*, *Melaleuca alternifolia*, *Syzygium gustavioides* and the Wollemi Pine *Wollemia nobilis*. I have my doubts that a number of the additional species included under the stated criteria would make these species significant 'forest trees' of

Australia as were the species included in the earliest editions, though all could be considered to be 'significant trees' of Australia. Though many other more significant species could have been included, but they would have skewed the coverage to species of eastern Australia.

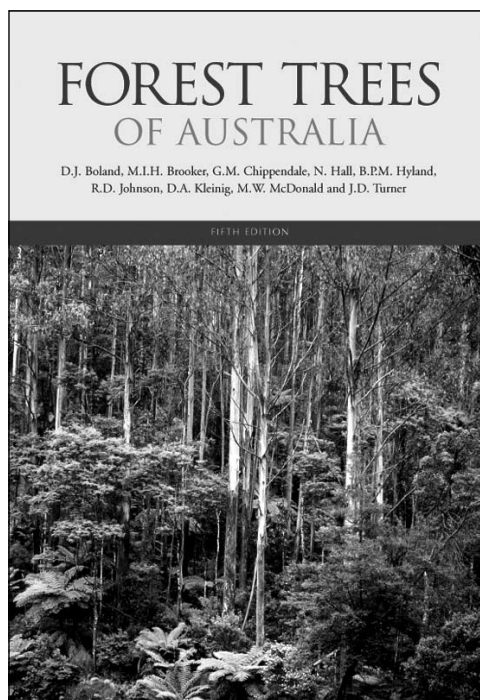
The Norfolk Island Pine, could have easily been included in this edition, as it is both conspicuous in its indigenous landscape as well as of 'ornamental interest'. Unfortunately photographs of this species in the earlier edition have been deleted (due to lack of space). Incidentally, two of the three index entries for *Araucaria heterophylla* (pages 42, 147, 168) are incorrect; the first entry (page 42), correctly refers to the species as related to Hoop Pine, the second entry on page 147 has no reference to the species on this page of photographs for *Acacia crassicaarpa*. While the third entry (page 168) does refer to *A. heterophylla* under 'Related species' of *Acacia melanoxylon* as an extra-Australian species of the Mascarene Islands, i.e. the reference is to *Acacia heterophylla!* *Acacia heterophylla*, along with other species listed as related species *Acacia koa*, *Acacia frigescens* and *Acacia cyclops* are

not listed in the index while *Acacia oraria* in the same section is indexed. In this time of electronic marking for indexes nothing compensates for the time required in checking entries manually!

As in the earlier edition, within the eucalypt section there is a general introduction with a description of the significant features (with many photographs) used in their identification. There is a key to the natural groups of eucalypts in this introductory section rather than a dichotomous key to species in each section as in the fourth edition. Without a detailed key it is much more difficult to identify a particular species and separate it from closely related species.

As outlined in 'Changes for the fifth Edition' there are conflicting generic concepts within the eucalypts and these:

... were difficult to reconcile for this edition ... While there is general acceptance of the genus *Corymbia* by the botanical scientific community in Australia, its application in other areas is still somewhat controversial. We have given *Eucalyptus* sens. lat. precedence over genus *Corymbia* in this edition.



*Angophora* is treated as a separate genus, but is included within the eucalypt section.

For the rainforest entries *Elaeocarpus angustifolius* and *Diploglottis cunninghamii* (listed without synonyms) the accepted names by rainforest botanists within Australia are *Elaeocarpus grandis* and *Diploglottis australis* respectively. If for some reason the alternative name is used the other name should have been included in synonymy.

The role of such an authoritative publication is surely not only to inform the users but also to educate. In this regard it would have been preferable to use the botanical names accepted by the 'botanical scientific community in Australia' (e.g. *Corymbia* and *Diploglottis australis*) rather than continue using non-preferred names, even though some users are more comfortable with them. As this publication is probably being referred to more and more by non-foresters (more so than in the earlier editions), greater prominence should be given to the scientific name rather than the one or more common names.

This edition of 'Forest Trees of Australia' is dedicated to Norman Hall and Doug Boland, two outstanding gentlemen of Australian botany and forestry. Norman initiated the first edition and was a principal contributor to all subsequent editions of the book. Doug was the coordinator and a major contributor to the enlarged fourth edition.

Maurice McDonald must be congratulated for coordinating this revision and contributing various descriptions, information and updated maps.

*Forest Trees of Australia* is an essential reference for horticulturists, botanists, foresters, students, farmers, environmentalists and all those who are interested in our native trees. With the detailed information for each species it complements floras and identification guides where space is very limited. As with the earlier editions it will be widely used as a valuable reference to assist in the identification and recognition of 300 of our most important indigenous trees.

## Matthew Flinders, his scientific gentlemen, and the 1801–05 *Investigator* expedition to Australia

Reviewed by John Clarkson

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***Matthew Flinders and his Scientific Gentlemen: The Expedition of HMS Investigator to Australia, 1801-1805.* Edited by Juliet Wege, Alex George, Jan Gathe, Kris Lemson and Kath Napier (Eds.). 2005 ISBN 1 920843 20 5. \$59.95 plus postage and handling from Western Australian Museum Shop, Locked Bag 49, Welshpool DC, WA 6986.**

From December 2001 through to February 2003 the Australia Systematic Botany Society, in association with various state herbaria and other groups, organised a series of lectures and symposia to celebrate the bicentenary of Matthew Flinders' voyage of discovery on *HMS Investigator*. As 2001 approached there was no doubt that this great voyage of discovery, linked as it was to the coining of the name Australia, was going to be marked in some way by Australians at large. ASBS was keen to ensure that the great natural history discoveries made during the voyage and the role of the voyage's scientific gentlemen did not go unrecognised. It was an opportunity to get botany and the work of botanists into the public eye.

The first of a varied program of events which were held in every Australian state and territory was a very successful symposium, *Investigator 200*, which was held in Albany, Western Australia

under the auspices of ASBS, the Wildflower Society of Western Australia and the Western Australian Herbarium. The symposium, which ran on the 11<sup>th</sup> and 12<sup>th</sup> of December, was timed to coincide with the actual time of the year that the *Investigator* was in King George Sound. *Matthew Flinders and his Scientific Gentlemen: The Expedition of HMS Investigator to Australia, 1801-1805* published by the Western Australian Museum is based upon papers presented at that symposium. It is ironic that the proceedings of the first event held should be the last to appear in print. This delay has been unfortunate for, in the almost 5 years between the symposium and publication of the proceedings, a number of major works which deal at length with material presented at the symposium have been published (Vallance et al. 2001, Estensen 2002, Thomas 2002) and the general interest in the bicentenary, for some, has waned. However, nowhere will readers find a single work which focuses on the activities of the *Investigator* in south-west Australia presented by so many recognised authorities on the voyage and its personnel.

The editors suggest that all but one of the oral presentations from the symposium have been written up for inclusion in the book. This is not quite correct. Marchant and Hopkins' paper is indeed missing, as the editors point out, but so too is one by David Mabberley on Ferdinand

Bauer. This was the first of a nation-wide series of lectures by David sponsored by ASBS and the Australian Embassy. However Bauer has not been omitted from the book for much of the material covered by David's lecture is included in the chapter by Janette Gathe and Ellen Hickman.

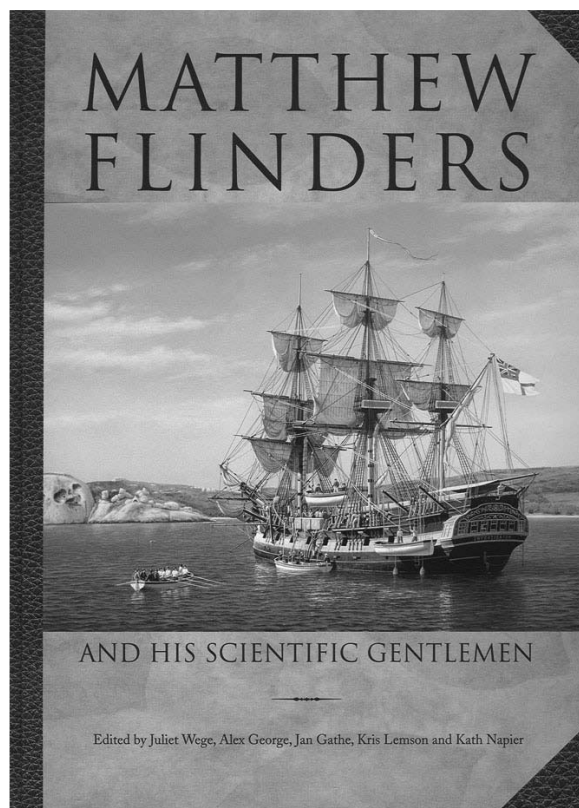
There are fourteen chapters covering four broad areas. Three early chapters deal with Flinders and his ship. These are followed by seven chapters which cover the work of the scientific gentlemen while they were aboard the *Investigator*. The next three deal with Robert Brown on his return to England while the final chapter discusses what the voyage has meant to the Albany area.

Three early chapters deal with Flinders, his successes as a navigator and his ship the *Investigator*. Miriam Estensen, whose scholarly biography of Flinders (Estensen 2002) appeared the year after the symposium, provides a brief history of Flinders noting that, as leader of the voyage, he was an "inspired choice". Robert Sexton's chapter outlines Flinders' place in the coastal exploration of Australia, describing how his early career, under the command of William Bligh on the *Providence* followed by the time he spent surveying the coastal areas in and around the recently established colony of New South Wales in vessels like the *Tom Thumb* and the *Norfolk*, led him to write to Sir Joseph Banks setting out his ideas for a survey of the Australian coastline. This letter led to the *Investigator* voyage. Nigel Rigby of the National Maritime Museum in Greenwich in the United Kingdom discusses how vessels were modified for the British voyages of exploration during the late 18<sup>th</sup> and 19<sup>th</sup> century boom in maritime exploration. Although Rigby drew heavily on Cook's ships the *Endeavour* and the *Resolution*, of which much more is known, he describes the *Investigator* as the best-supplied vessel of exploration since Cook. However, he points out that, for a three-year voyage, the rotting and structurally unsound vessel was distinctly

flawed from the outset. He suggests that, such was Flinders' desire to undertake his investigation of Terra Australis, that he sailed in her fearful of not being offered another. One wonders what might have been the outcome had he stood his ground.

Seven papers discuss the work of members of the scientific party. In a well researched narrative of *Investigator's* brief 18 day stopover at the Cape of Good Hope, John Rourke from the National Botanical Institute at Kirstenbosch in South Africa sets the scene for what was to confront the botanists and artists when they eventually reached Western Australia. Here Flinders' cautious choice to anchor in Simon's Bay rather than Table Bay gave easy access to the poorly collected southern part of the Cape Peninsula at what, fortuitously, was the peak of the flowering season for both geophytes and shrubs. Readers get a hint of the energy of the botanical gentlemen

who, in the brief time available to them, collected extensively and traversed nearly the entire length of the Cape Peninsula. David Moore, one of the authors of *Nature's Investigator*, a transcription of Robert Brown's diaries (Vallance et al. 2001) which was launched at the *Investigator 200* symposium, provides a summary of Brown's itinerary and collecting sites for the voyage. In this he explains Flinders' system of numbers for anchorages and letters for uncharted features and discusses some of the problems these caused and how they were resolved. A chapter by Greg Keighery and Neil Gibson from the Western Australian Department of Conservation focuses on Robert Brown's influence on the botany of Western Australia. In this they argue that despite his brief sojourn in Western Australia, no other person has made a greater impact on the taxonomy of the flora of the state than Brown. They provide a list of 312 Australian vascular plant genera named by him and figure that, at the species level, he named 1450 vascular plants of which 1137 are still current.





John Dell from the Western Australian Department of Environment brings together what is known of the fauna encountered and/or collected along the south west coast of Western Australia. His chapter has the intriguing subtitle “its culinary value and scientific legacy” for many of the animals encountered found their way into the *Investigator*'s cooking pots. Dell discusses the fate of Brown's fauna collection and explains why its significance was never realised. Mark Webb from Kings Park in Perth gives a brief account of Peter Good the gardener, a hard working and diligent member of the scientific party, who unfortunately died of dysentery just three days after the *Investigator* returned to Sydney in May 2003. Some of the seeds Good collected did however find their way back to England. The 1810–13 *Hortus Kewensis* listed 116 Australian plants growing at the Royal Botanic Gardens Kew from seed collected by him.

Those who have seen the natural history illustrations of Ferdinand Bauer cannot fail to marvel at their beauty and accuracy, more so when one realises the conditions under which he had to work while aboard the *Investigator* and the rate at which he worked. Janette Gathe and Ellen Hickman discuss some of the artists who influenced Bauer's early work and led to his appointment as the voyage's natural history draughtsman. The authors explain Bauer's technique for painting using a numbered colour code which by the time of the *Investigator* voyage consisted of 994 shades. The chapter concludes with a brief outline of Bauer's life after the voyage and a summary of the institutions which hold important works by Bauer.

The final chapter on the botanists and artists of the voyage is an introduction to the landscape artist William Westall by Kay Stehn and Alex George. This includes a brief biography of his life before and after the voyage and a detailed discussion of the four landscapes he produced while in the King George Sound area and a number of other drawings made while the *Investigator* was in West Australian waters. Westall's habit of embellishing the paintings he produced later from the original pencil and wash drawings is well illustrated in three figures showing the view from Stony Hill. These show Westall's original sketch in pencil and wash, a painting based on this completed somewhere between 1809 and 1812 and a photograph taken by Barbara Madden from the same location in 2001. The authors have attempted to locate the vantage points used by Westall to capture the views at King George Sound. All but one appear today much as they did in December 2001. There is an interesting account of the apparently successful search for the elusive fourth site. Extending Westall's contribution to places beyond Western Australia, the authors provide a

summary of the other drawings he produced and, in Appendix II, they have attempted to identify the plants which appear in drawings and paintings reproduced in Perry and Simpson's *Drawings by William Westall* (Perry & Simpson 1962).

Robert Brown arrived back in England in October 1805 aboard the dilapidated and patched-up *Investigator*. From then until his death on the 10 June 1858 his reputation as a scientist grew. He eventually became one of the foremost and influential botanists of his time. Three chapters deal with this part of his life. The natural history collections from the *Investigator* voyage arrived in Liverpool with Brown in 1805. It was 1876 before a full set of specimens was ready for presentation to the National Collection and a further 5 years before the first large sets of duplicates were distributed. This drew criticism from the likes of John Lindley. In a very interesting essay, Eric Groves tracks the collection from its arrival in Liverpool to its current home in the Natural History Museum, London through difficulties caused by staff shortages, three moves, changes in administration and two world wars. In doing so he demonstrates that Brown was never an idle man and that Lindley's criticisms were ill-founded.

Robert Brown's writings related to the *Investigator* voyage and the vast natural history collections accumulated on the voyage have been drawn on extensively by biographers and archivists, but interestingly, only in very recent times. For example, the first detailed biography of Brown only appeared in 1985 (Mabberley 1985). There could be few better to summarise this store of information than David Moore who, with Eric Groves and Tom Vallance, spent many years working through this material in preparing their transcription of Brown's diary (Vallance 2001). David provides a summary of the manuscripts, diaries, note books and correspondence related not just to the botanical collections but also aspects of Brown's geological and zoological collections. He also compliments Eric Groves's treatment of the botanical collections by providing a brief outline of the fate of the geological and zoological collections.

The penultimate chapter begins at the end so to speak, with David Mabberley, Brown's biographer (Mabberley 1985), describing the events of the morning of 15 June 1858 as the body of Robert Brown was laid to rest in a simple grave in the Kensal Green Cemetery. David goes on to touch on many aspects of Brown's long career which followed his return from Australia. Here we find glimpses of Brown's eye for detail, his early pioneering work in microscopy, pollination and fertilisation, his preference to deal monographically with the world's flora rather

than be distracted by floristic treatments and, in the final paragraphs, some idea of the way his relationship with part of the British botanical establishment soured in his later years.

The final chapter is written by an Albany local, Valerie Milne. In this she discusses the three aspects of the voyage that impacted most on her town: the legacy of place names in and around Albany, the expedition members' contact with the indigenous people and Flinders' charts which came back fairly quickly in the hands of ship's captains. Valerie notes that, apart from the later, little else was returned to Albany. However she points out that Flinders' party was not alone in this. Visiting scientists, even today, often visit the area, take away copious collections and return nothing. Valerie saw the symposium as one way of bringing information back to Albany. I think there is an important message here for all scientists.

The book is beautifully illustrated with a particularly well chosen mix of maps, photographs and reproductions of sketches and paintings by Bauer and Westall. The series of photographs matched to Westall's drawings in the chapter by Kay Stehn and Alex George show just how little some of these areas have changed in 200 years. Albany is truly fortunate in this regard. The photographs of the herbarium of the Natural History Museum, London with some of Brown's original papers and specimens bring a feeling of life to the chapters by Eric Groves and David Moore. The photograph of Brown's microscope in David Mabberley's chapter brings back memories of seeing the actual instrument in Sydney in 2002. One marvels at how Brown was able to

achieve so much with such a simple instrument. As the editors point out in the foreword, cross-referencing between chapters is worthwhile for the illustrations selected for one chapter serve to illustrate points raised elsewhere.

If I may indulge in one small gripe, it would be that the ASBS logo does not appear on the book. In fact, other than a very small acknowledgement in the foreword and one or two mentions by individual authors, the Society gets little recognition for the part it played hosting and partially funding the symposium. However, this is just me, in my role as president of ASBS, representing the Society's interests. In no way does this detract from the quality of the book. The editors are to be commended for gathering such an interesting series of papers. There is now a rich literature relating to the *Investigator* voyage. *Matthew Flinders and his Scientific Gentlemen* is a valuable addition to this and has been well worth waiting for.

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## A biography of Peron

Review by Neville Marchant

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***François Péron: an impetuous life*. By Edward Duyker. Published in July 2006. Hard back, 352 pp., 25 black & white illus. Miegunyah Press. ISBN 0-552-85260-2. A\$59.95.**

Dr Edward Duyker's *François Péron: an impetuous life*, published in 2006 by the Miegunyah Press, Melbourne, is a scholarly work that gives a detailed background to the character and accomplishments of Péron and equips the reader to decide whether Baudin or Péron, or indeed both of them, deserve censure for their behavior over the Baudin voyage of discovery to Australia.

The Baudin New Holland expedition which left Le Havre on the 19<sup>th</sup> October 1800 was arguably the most thorough scientific investigation of the

Australian coastline ever planned. The *Géographe* and the *Naturaliste* set off with around 240 persons, including 22 scientists with expertise in anthropology, astronomy, botany, hydrography, mineralogy and zoology. There were also gardeners and official and unofficial artists; the latter including Charles-Alexandre Lesueur, being employed directly by Baudin to illustrate his private journal. The "learned" members of the expedition, the 'savants', included François Péron and others well known in Australian botanical history such as Louis Leschenault de La Tour, Antoine Guichenot and Anselme Riedlé. During the 41 month duration of the expedition Péron was to rise from the most junior position on the zoologist team to the senior scientist and compiler of the official report, largely through defection or death of his scientific colleagues and the death of Baudin himself.

In the early chapters Dr Duyker presents a very detailed, well written exposé of Péron's background in post revolutionary France. The reader is introduced to village politics, learns of Péron's limited vision in one eye and his war experiences, including capture and imprisonment by the Prussians. During his internment he was able to read many books, probably including some on natural history. Later, as a medical student who incidentally didn't complete his course, he studied under well known medico-naturalist luminaries such as Louis Richard, Léopold Cuvier and Lacépède. His varied life experiences, his impetuosity and ability to be a sycophant, well prepared him to survive the Baudin expedition and to write its official account.

The voyage is well known for the strong personality conflicts between the expedition members, especially the ill feeling between Baudin and the savants, notably Péron. Edward Duyker in his introduction describes a number of previous biographies where Baudin or Péron were marginalised or vindicated. Baudin's view of Péron was only made readily accessible to scholars after publication of Christine Cornell's mammoth English translation of Baudin's journal by the Libraries Board of South Australia in 1974.

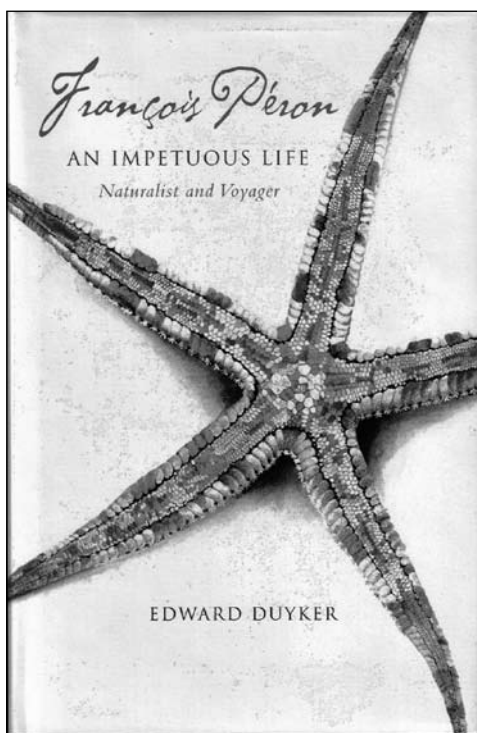
At Ile de France, *en route* to Australia, officers and scientists and some 40 sailors, left the expedition. These included the botanists André Michaux and Jacques Delisse and the zoologists Charles Dumont and Bory de Saint-Vincent. The journey from Le Havre had been marked by squabbles between savants and their contempt for Baudin; many decided to defect as soon as possible, even before Baudin had forged additions to the written instructions he had received from the Ministry of Marine. He gave himself the authority to replace any officer who was disruptive or whose performance was poor. Despite this black mark against Baudin, he had a huge task to maintain authority over so many scientists of mixed temperaments, navigate two cumbersome vessels and try to satisfy the insatiable demands for extended shore visits of the savants. To the consternation of some of

the scientists Baudin chose not to follow orders; after sighting Leeuwin's Land on 27<sup>th</sup> May 1801, he decided to travel north rather than along the south coast. After all, it was the beginning of the southern winter and Baudin's experience would tell him that it was a dangerous time for sailing ships in the Southern Ocean.

The chapters that follow deal with Péron's experiences at Geographe Bay, Shark Bay, the north west coast of Australia to Timor then the long voyage to south west of Cape Leeuwin and east to Van Diemen's Land. When ashore, Péron frequently failed to meet deadlines to rendezvous with a shore party to return to the ship, often he became so engrossed in his explorations that he vanished at landing sites and had to be searched for. His reckless enthusiasm for discovery was boundless but according to Baudin he was uncooperative and insubordinate. Baudin didn't appreciate Péron's scientific investigations, illustrated at King George Sound by a comment that compared to the gardener Guichenot's botanical collecting whose efforts were "work and not wit" those of Leschenault and Péron he expected would be "all wit and no work". In fact Péron recognised the ancient weathered nature of the Albany landscape lack-

ing nutrients yet "supporting one of the areas richest in plant life that it is possible to find". Duyker regards Baudin as "... simply intellectually ill equipped to recognise the full importance of Péron's efforts during the expedition". Yet the skills and the huge responsibilities of Baudin are also recognised. There are fascinating accounts of Péron's time in Van Diemen's Land, Port Jackson (where Baudin took on board a convict mistress), Kangaroo Island, King Georges Sound and the second visit to Shark Bay.

The *Naturaliste* reached Le Havre on 7<sup>th</sup> June 1803 and the *Géographe* the following March. On 16 September 1803 Baudin died of tuberculosis on Ile de France on the way back to France. The final chapters of the book describes Péron's efforts to lodge material in museums (100,000 animal specimens were collected), transfer plants and live animals to the gardens at Malmaison, publish papers on jellyfish etc. and prepare the



official written account of the voyage before his untimely death, also from tuberculosis, on 14<sup>th</sup> December 1810.

If Baudin had not died of tuberculosis Duyker suspects that he would have muddied Péron's reputation. Instead Péron certainly muddied Baudin's; especially in volume 1 the published account *Voyage découvertes aux Terres Australes* published in 1807 (the remaining 2 volumes were published in 1816 and 1817 after Péron's death). Péron never mentioned Baudin's name in print, referring to him simply as "the commandant" or "our leader".

About one third of the 349 page book is comprised of an epilogue, an excellent glossary of scientific and of French terms, comprehensive notes and bibliography as well as botanical, zoological and general indices. The only annoyance with the publication is a very minor one. It is not easy for the botanical user who wishes to use the index to glean information on the expedition naturalists or the places they visited. There is no mention of Lesson on pages 143 or 178 but perhaps this is the only index error. Some of the geographic places visited, such as King George Sound, Shark Bay and Encounter Bay do not have a separate entry; they are found in the index under "New Holland". Kangaroo Island, Victoria and New South Wales and Van Diemen's Land place names are under these respective headings. These are trifling matters compared to the incredible amount of

enjoyment to be gained in reading *François Péron: an impetuous life*

## Editorial note: Two other recent botanical history works

We have just received a copy of Janet Somerville's *Botanical History of Tasmania 1642–1820* and hope to bring you a review in the next issue of the Newsletter. Work on this history began in 1958, but the author died before it could be completed; it has been resurrected by Brad Potts, Gintaras Kantvilas and Jean Jarman. See also Web ref. 1.

The latest *Journal of Australian Garden History* (Vol. 18 No. 3 Nov/Dec/Jan 2006/2007) contains an article by Tony Fawcett entitled *Tasmania's first gardener*. This is based on a yet to be published article on the French garden established in Tasmania and the gardener, Lehaye by F.K. Jourroy-Gauja of Museum National d'Histoire Naturelle, J.P. Beaulieu of Institut d'Astrophysique de Paris and J. Donatowicz of the Technical University of Vienna. The paper was made available by the Tasmanian Land Conservancy, now owners of the land concerned.

Web ref. 1. <http://fcms.its.utas.edu.au/scieng/plantsci/newsdetail.asp?lNewsEventId=1786>

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## Botanical Riches

Review by Philip Short

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***Botanical Riches. Stories of Botanical Exploration.* By Richard Aitken.**

**Published 30 September 2006 by The Miegunyah Press. (An imprint of Melbourne University Publishing). ISBN 0 522 85201 7. Hardback, 320 x 240 mm, 256 pp., 300 colour and black & white illustrations throughout.**

**RRP: \$59.95, from [mup-info@unimelb.edu.au](mailto:mup-info@unimelb.edu.au). See [www.mup.com.au](http://www.mup.com.au)**

With the subtitle of "Stories of Botanical Exploration" I opened this book thinking that I would be reading individual accounts of the exploits of a considered selection of a few of the hardy souls who ventured to foreign shores and introduced new plants to European gardens. I was wrong, it is a book packed with aspects of plant use and discovery from ancient times to the present. It consists of four parts.

The first part, entitled "Plants of the Ancient and Classical Worlds: from the Dawn of Time to the 1450s", touches on aspects such as development

of agriculture in the Fertile Crescent and the importance of the date; the role of fragrant oils in ancient Egyptian culture, the rich and varied cuisines of India; the early domestication of species such as the lima bean, chilli pepper and root crops such as the potato in Mesoamerican and Andean civilisations; early Mediterranean botanical writers such as Theophrastus; trading of Chinese fruit such as the peach via the Silk Road; and the galvanisation of botanical scholarship during the Renaissance.

Entitled "The Great Age of Maritime Exploration: from the 1450s to the 1750s", the contents of the second part is perhaps equally obvious. But if not, then I can tell you that topics include the increased experimentation in the heating of greenhouses as attempts were made to introduce tropical plants into northern Europe; the influx into Europe from the Near East of bulbous plants such as crocuses, cyclamens and lilies, a phenomenon which led to the rise of the florist as a new profession and the publication of florilegia; exploitation of the East

Indies for spices; discovery and introduction of the rich horticultural flora of North America; the unveiling of the rich and diverse flora of southern Africa; and the development of classificatory systems and the introduction and acceptance of the binomial system of naming.

Part three is headed “Scientific Imperialism and Exotic Botany: From the 1750s to the 1900s”. This is the period when:

Scientific imperialism and exotic botany came together in the creation of colonial botanic gardens ... [with] the British and Dutch colonial trading networks encouraged the creation of important botanic gardens as widely spaced as the Caribbean island of St Vincent (1765), Sydney (1816), and Colombo (1821) under British rule, and Bogor (1817), on Java ... (p. 138).

It is also the period when the Wardian Case was developed and plants could be more reliably transported around the world, and when the likes of Joseph Banks, Karl Ludwig Blume, Robert Fortune, Joseph Hooker, David Douglas, Andre Michaux and Nathaniel Wallich were active. They are all mentioned, along with many other botanists who added much to Western plant knowledge and commercial botany. It concludes with the statement that:

... as the twentieth century dawned, a great era of plant collecting was drawing to a close. Remote parts of China yet remained to yield their riches, but this was to be the botanical swansong in a rapidly changing world. (p. 219).

The final part is simply entitled “Living Fossils: the 1900s and beyond”. It is a short section, consisting of but one chapter, chapter 25, which is entitled “Wollemi Dreaming”. It commences with accounts of collectors such as Ernest “Chinese” Wilson, who relocated the handkerchief or dove tree, *Davidia involucreata*, and who dispatched to the West new found species of *Rhododendron*, *Magnolia* and *Viburnum* and the Chinese gooseberry, now more commonly known as Kiwi fruit and “initially grown for its modest flower”. He was followed in his work by George Forrest, Frank Kingdon Ward (also Kingdon-Ward) and Reginald Farrer, these last two being not only collectors of importance, but also authors who

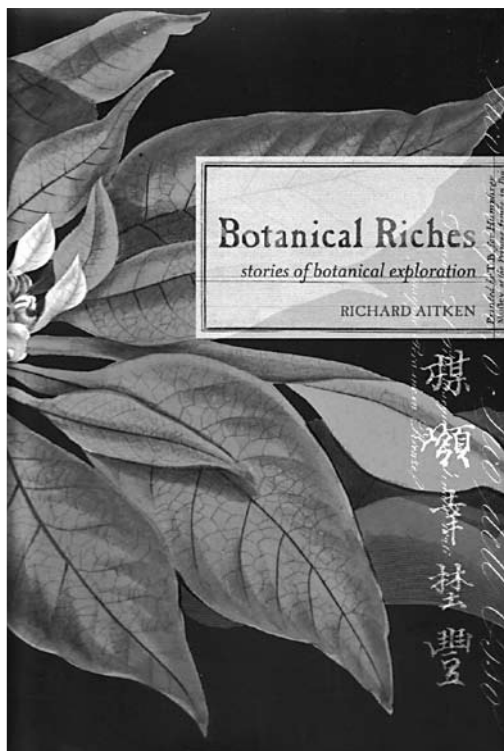
published books about their exploits. Following this somewhat brief summation of collecting in China, a distinctly Australian flavour enters the work, with reference to “several illustrated botanical books of outstanding size and quality” produced during the last century, these being Margaret Stones’s *The Endemic Flora of Tasmania* (1967–78), Celia Rosser’s *The Banksias* (1981–2000) and the *Banks’ Florilegium* (1980–90). The chapter concludes with mention of the discovery in 1994 of the Wollemi Pine and the statement that:

The Wollemi pine gives us fresh hope that plants yet exist that have not been located, identified, appreciated, or utilised, be it for the seductive pleasure of ornament or the life-giving imperative of medicine. (p. 227).

As a taxonomist I was disappointed with the concluding sentences of both parts three and four, suggesting as they do that there are virtually no plants left to be discovered. Perhaps they may not be of horticultural interest but, as any taxonomic botanist knows, there are many still to be found and catalogued. However, apart from this there appear to be no other glitches of importance, although the following statement is partly misleading:

From at least the eighteenth century, fishermen from Makasar ... had sailed to Australia’s north coast in search of trepang for the Chinese market. Makasan words entered Australian Aboriginal languages and trading networks ensured that south-eastern Asian plants such as tamarind (*Tamarindus indicus*) became part of the local diet (p. 177).

I consulted my colleague Glenn Wightman about this. He informed me that tamarind trees, which are widespread around the Northern Territory coast and sometimes locally common, are important to local people at places such as Milingimbi and Moyle River plains. Furthermore, it is accepted that tamarinds were introduced by Macassans, with the trees featuring in Aboriginal stories and ceremonies which relate to Macassan visits. However, although it is implied in the above quote, there is no strong evidence that other species of importance to Aboriginal people were introduced to the Northern Territory by visiting Macassans.



Apart from these quibbles I feel that Richard Aitken has delivered a good summation of plant use and discovery. As evident from the seven pages of "Notes on Sources" he has had to read widely and synthesise a lot of knowledge into a readable account, wondering all along what to include and leave out. That's not an easy job and he's done it well.

I now come to the illustrations in this book, which are copious, well-presented, and a major focus of the publication. That this is the case is because the book was commissioned as the result of a desire to show off the diverse and expensive collection of illustrated botanical publications held by the State Library of Victoria. These include works such as Robert Thornton's *Temple of Flora* (1799–1807), Sibthorps' *Flora Graeca* (1806–40), and Redouté's *Les liliacées* (1807–16). I'm not familiar with all of the books from which illustrations have been taken but, considering the ones I do know, the selection seems to be extremely good; anyone with knowledge of other popular works dealing with botanical illustration will recognise quite a few.

Most illustrations are accompanied by detailed captions which often add information not in the general text. They are usually very good, and as such it was a surprise to see that there are some which fail to name the subject matter. Thus, on pp. 138–9 six illustrations are reproduced from Roxburgh's *Plants of the Coast of Coromandel* (1795–1819) but none of the species illustrated is named. Nor are they named on p. 160, where what I assume to be five species of *Erica* illustrated in Andrews's *Coloured Engravings of Heaths* (1794–1830) are reproduced. The same is also true for the illustrations of five species taken from Berthe Hoola van Nooten's *Fleurs, fruits et feuillages choisis ... de l'île de Java* (p. 176), and for four species of orchid from James Bateman's *The Orchidaceae of Mexico & Guatemala* (pp. 198–9).

By the way, not all the reproductions are of strictly "botanical illustrations", with – for example – maps, plans of gardens, and paintings of plants *in situ* also featuring. In the latter category I particularly liked the juxtaposition of the illustrations of two giants of the plant world, the saguaro cactus (*Carnegiea gigantea*) and *Sequoiadendron giganteum*.

Now I'm going to have a grizzle. This book measures, by my calculation, about 325 by 250 mm, and I always have problems with largish books such as these. I like to relax when reading, usually by propping a leg over the end of the kitchen table and leaning back in my chair with the book in my lap, or alternatively propping myself up in bed with a couple of pillows. However, I

find books this size aren't built for comfortable reading; you are almost forced to sit rigidly at a table. And perhaps it is my imagination, but if you do attempt to recline in a more comfortable position, dust jackets seem to more readily work their way off big books than smaller ones. Certainly that's what I found this time, and I promptly removed the jacket and popped it under the bed out of harm's way. This, incidentally, was an error of judgement. It ended up with several unwanted folds and much general creasing. Smoothing it off with an iron also revealed that the modern dust jacket is plasticized. However, I digress. My point is this: if a book is meant to be read and absorbed then nothing bigger than A4, and preferably smaller, is desirable.

Having got that off my chest, I must admit that it is nice to see large, page-sized illustrations of plants such as the Madonna lily from J.-J. Rousseau's *La Botanique de J.-J. Rousseau, ornée de soixante-cinq planches, d'après les peintures de P.J. Redouté* (1805), *Grevillea banksii* from Ferdinand Bauer's *Illustrationes florae Novae Hollandiae* (1813), *Amorphophallus campanulatum* from Blume's *Rumphia, sive commentationes botanicae imprimis de plantis Indiae Orientalis* (1835) and the paw-paw from Berthe Hoola van Nooten's *Fleurs, fruits et feuillages choisis ... de l'île de Java* (1863). I also understand that to attract some potential buyers it is important to have large-format books; indeed an artist friend with a botanical bent said this layout was the way to go.

I've noted several little errors and/or omissions in this book and have complained about its size. However, there is much I like about it. It is well-priced, and contains not just good quality illustrations but generally good text. Indeed, taken as a single package, *Botanical Riches* is a very good work, promoting both the world of plants and the splendid botanical holdings of the State Library of Victoria. I recommend it.

I'll conclude with a word of warning. The back of the dust jacket has these words from the plant collector Frank Kingdon Ward, relating to his first sighting of the blue poppy (*Meconopsis*):

Suddenly I looked and there, like a blue panel dropped from heaven – a stream of blue poppies dazzling as sapphires in the pale light.

And on reading on p. 225 that Kingdon Ward's "travel adventures were Biggles' tales for the horticultural world", you may have an urge to order copies of his books, sight unseen. Don't. Look at one first, have a trial read. You may like it – even if you don't suffer from insomnia – but for me Kingdon Ward's discoveries generally far outshine his prose. (I never liked Biggles either.)

## Meeting reports

### I'll be home on a Sunday sometime around three – ASBS 2006 Cairns Symposium Report

Dale Dixon

Herbarium of the Northern Territory

If this title evokes memories of a song then it was intended. For those members that don't know my background, North Queensland is my home - well it was until I moved to the Top End in 2001. In the days preceding my flight 'home', the song *I'll be home on a Monday* by the Little River Band, had firmly planted itself in my subconscious, such that one line, 'I'll be home on a Monday somewhere around noon', was repeating continually.

Sunday the 11<sup>th</sup> November 2006, I arrived in Cairns at around three – I was home – I was in the 'real' rainforest, and didn't the hills surrounding Cairns look green and inviting! Smiling faces abounded everywhere in the arrivals' hall of the Cairns Airport, in particular John Clarkson – my personal chauffeur for the afternoon. John and I met some colleagues - Jim Croft from ANBG, who was also on the same flight from Sydney, Peter Wilson (NSW), who unbeknownst to me was on the same flight, and Annette Wilson (ABRS) who arrived on a Virgin flight around the same time. So here we were, ready for some real fine North Queensland hospitality – and it was laid on immediately.

Our first stop, even before we checked into our accommodation, was to the ASBS organised Botanical Art Exhibition at the Tanks in Flecker Botanic Gardens. Here we were greeted with more smiling faces – Betsy Jackes and Louise Hucks, who are both part of 'my' botanical family, Betsy as my lecturer, supervisor and friend, and Louise as a fellow JCU Botany Undergraduate Student and friend. I duly registered and was given my bag of goodies for the next three days of the Symposium. I was then sent forth with instructions to drink, socialise, view and vote.

The theme chosen by our Cairns hosts, 'Plant Diversity in the Tropics' was immediately evident in the art work on exhibition. The paintings ranged from the very abstract to the very conventional and portrayed native and exotic tropical plants. After careful appraisal I cast my vote. My personal favourite was the large painting of *Corymbia ptychocarpa*. However, by popular vote, Marion Clarkson's paintings of *Pandanus* won the prize. The next couple of hours was spent socialising and catching up with friends and colleagues. Then it was off to our accommodation for a bit of R and R.

Quite a few of us had chosen to stay at the Cairns Student Lodge which is just over the

road from the University, where we were all to gather bright and early the next morning. Cairns Student Lodge was described to me as 2.5 stars, even with the Pocahontas Sheets. Well at least we had somewhere to rest our weary bones. I had arranged to share a unit with fellow ASBS Councillor Marco Duretto from HO and Frank Zich, the new Curator of ATH/QRS.

On Monday morning, at the Crowther Lecture Theatre, James Cook University, we gathered, everyone enthusiastic about the day's program and eager to fill our minds with new botanical information. We were ushered into, and then out of one theatre, and then into another theatre – it seems that the IT people were not aware of our meeting and they had scheduled maintenance of the audio-visual IT equipment. We were very nearly reduced to using the old fashioned out-of-date 'Soft Point' (chalk and blackboard) instead of the more sophisticated Power Point. With IT to the rescue we were off, albeit a little late.

It just so happened that I was the Chair of the first session, a Myrtaceae session. Now with no disrespect to our presenters, I have never considered myself an admirer of the Myrtaceae. I find some the bloodwoods difficult and to my embarrassment and to Jim's chagrin this was pointed out in the very first paper. Jim presented a paper on the Atlas of Living Australia pointing out DNAs conflicting concept of a group of bloodwoods shared between the Northern jurisdictions. Suitably embarrassed and determined to change my opinion of this group, I introduced the presenters, and listened attentively.

The presentations by Matthew, Adele, Carlos, Mike and Ed were excellent, and I now have a newfound understanding of this highly complex and difficult family. Adele's paper on the Eudesmid eucalypts was especially note worthy winning her the prize for best student presentation. Mike's explanation of the dangers that can be encountered when using ITS sequences was especially appreciated. And Jim don't worry, we (DNA) will rethink our concept of *Corymbia dichromophloia*, and *C. carpentariae*. In the following sessions we learnt more about *Lepidosperma*, *Athrostylis*, *Huperzia*, *Dracophyllum*, *Nepenthes*, and the Proteaceae. Talk about diversity! We were off to a good start.

Tuesday, a little wearier after our second night on the Pocahontas sheets, we again gathered,





Fig. 1. (Clockwise from top left) – a, Yukiko Saito of Japan presenting her poster paper; b, Nanette Hooker and new curator Frank Zich at the Australian Tropical Herbarium development; c, Eda Addicott, a Snake Sister and ASBS member, performing at the conference dinner; d. From Cairns 2006 to Darwin 2007: Paul Gadek handing the conference torch to Dale Dixon. Photos: Bill Barker (a-c), Jeremy Bruhl (d).

same time, same place. This day was special as we were all to hear about the progress of the ATH and the Australian Tropical Forest Institute. Later we were invited to inspect the construction progress to-date. We were all suitably impressed and eagerly await the opening of the newest Australian Tropical Herbarium. Frank and I have had detailed discussions about forming an alliance between the Tropical Herbaria.

The speakers on Tuesday again presented a diversity of papers. Steve Turton spoke about the effects of Cyclone Larry on the North Queensland

Rainforest; however the main theme of the morning session was on systematics and conservation. The series of papers delivered by Bruce Wannan, Gay McKinnon, Greg Keighery, Jeremy Bruhl, and Bronwen Keighery sparked vigorous debate and most attendees agreed that we should include a discussion of this topic at the Darwin meeting in 2007. The Tuesday afternoon speakers provided insight into the placement of the Idiospermaceae (Stuart Worboys), the Phylogeny of *Boronia* section *Cyanothamnus* (Marco Duretto), diversity in the tropical tomentose *Hibbertia* (Hellmut Toelken), useful



morphological synapomorphies in the Scrophulariaceae (Bill Barker) and a revision of Rhamnaceae (Jürgen Kellermann). I am certainly looking forward to the papers dealing with the latter three as these groups are somewhat problematic for us botanical folk in the Top End. With the formal part of the day over everyone ventured over to the JCU Student Club for a bit of socialising and the Conference Dinner.

Well what can I say – the food was excellent, the company superb, but the entertainment – just out of this world. For those who missed it, the Snake Sisters aka Eda Addicott and Karen Benn gyrated around the Student Club to the rapturous attention of every conference participant. Hips, scarves and jewellery - yes that's what I remember, gyrating hips, colourful scarves and shiny glittering jewellery.

Day three, Wednesday the 15<sup>th</sup>. Even after the previous evening's merriment everyone arrived eager to listen to the day's proceedings. Again we were not disappointed. Although the morning session had no formal theme the papers delivered focussed on endemism and diversity in the Wet Tropics rainforests (Trevor Whiffin), factors influencing rainforest diversity (Maurizio Rossetto) and an update on the continuing documentation of the Kimberley Flora (Russell Barrett). Russell reported that the NT endemics *Utricularia arnhemica* and *U. hamiltonia* were recently discovered in the Kimberley and we could (NT) no longer claim them as endemics.

The afternoon session focussed on the aquatic realm. Barbara Briggs presented a paper on a new basal aquatic angiosperm clade, Michelle Waycott gave us an update on her seagrass work, and Surrey Jacobs spoke about progress with the Australian *Aponogeton*, *Vallisneria* and *Nymphaea*. However, most interestingly for me, John Conran delivered a paper describing a new minute species of *Utricularia* near Iron Range. This paper created some enthusiastic discussion as John had proposed to erect a new section to accommodate this new species. Some participants were against this, not liking a section with only one



Fig. 2. John Clarkson presenting Robyn Barker with her ASBS Life Membership certificate. See *ASBS Newsletter* 126, pp. 14–15. Ph. Bill Barker

taxon. Not to be outdone I quickly responded that we (DNA) had also recently discovered a minute *Utricularia* close to Darwin. Then to everyone's surprise John Clarkson also revealed that he had found a minute *Utricularia* near Aurukun on the west coast of Cape York Peninsula. So potentially there are three new minute *Utricularia* species.

With all the papers delivered, Paul concluded and awarded the prizes to the speakers and participants. We welcomed some new ASBS members over the three days of the symposium – Ned Wales, Fanie Venter, Mathew Flower and Ashley Field. Next it was time to sell Darwin as the next venue for the ASBS Symposium. I outlined my plans for our joint meeting with CHAH and ASBS and encouraged everyone to send me suggestions. And so with the meeting at an end the torch – in the form of a spectacular torch ginger – was handed to me in a very formal ceremony. See you all in Darwin in 2007.

## ASBS Workshop: Molecular Tools in Plant Systematics, Cairns, November 2006

**Robyn Barker**  
State Herbarium of South Australia

The day following the conference was dedicated to a workshop on molecular tools – an opportunity for some of the members not exposed to this topic on a regular basis to brush up their knowledge in this area. The workshop was conducted by Michelle Waycott with contributions from Andy Lowe (AD), Ivan Biros (GE Bio-sciences) and Richard Hodgson (QUIAGEN); Ainsley Calladine

and Ashley Field provided assistance in running of the workshop.

The morning session was predominantly on the methods – collection and preservation of samples including the dos and don'ts, and the usefulness of some unattainable Chinese teabags for the process, extraction of DNA with a demonstration

of the automated process (Monsanto deals with a 100,000 per week) and the replication and amplification of DNA using PCR. Later we moved on to consideration of the different types of DNA, the different loci and considerations of which loci to use for the taxonomic problem being investigated. A final discussion on DNA bar-coding somehow veered into unrelated areas but the fact that discussion ran freely indicated that participants had gained from the experiences of the day. Most then gathered later in the evening for a meal at *Sonya's by the Sea* at Machans Beach – many on a repeat visit. This café is highly recommended for anyone visiting Cairns – as are the several eateries we sampled in Yorkeys Knob.

This is not meant as any reflection on the workshop since it was extremely well run and we owe much to Michelle for the relaxed and entertaining way in which she conducted it; we all came away much better informed and with a solid basis for future work, but for me at least, a day was simply not enough and no workshop will ever be as good as some “hands-on” experience in the lab on groups on which I work. Perhaps some of the plant molecular labs operating in Australia might like to look at offering short (1-2 weeks) training courses for those of us whose undergraduate days are further in the past than we care to admit, those who now have a use for the techniques but no exposure to it in undergraduate or post-graduate courses, for those teaching science at secondary level or even for community

interest. Such courses are relatively common in other parts of the world e.g. Dolan DNA Learning Centre, Cold Spring Harbor Laboratory (Web ref. 1), Continuing Education Programmes of Pennsylvania State University (Web ref. 2) and the University of British Columbia which is conducting the 5<sup>th</sup> Canadian Plant Genomics Workshop in Vancouver from July 30 – August 2, 2007 (Web ref. 3) or the *Intensive Course in Molecular Systematics* being offered by the University of Reading on 16–26 April 2007 (Web ref. 4).

#### References

- Web ref. 1: [www.dnalc.org/ddnalc/teacher\\_training/](http://www.dnalc.org/ddnalc/teacher_training/)  
Web ref. 2: [www.huck.psu.edu/overview.html](http://www.huck.psu.edu/overview.html)  
Web ref. 3: [www.ubcbotanicalgarden.org/research/](http://www.ubcbotanicalgarden.org/research/)  
Web ref. 4: [www.biosci.reading.ac.uk/Teaching/intensivecourses/molecularcourse07.htm](http://www.biosci.reading.ac.uk/Teaching/intensivecourses/molecularcourse07.htm)

#### Editorial addendum

*We neglected to get someone to report on the field trip of the Saturday and so will have to assume that all went well.*

*Special thanks here to Bronwen & Greg Keighery who came to the aid of Pam Catcheside when she had a nasty fall and had to visit doctor and dentist at the same time as she was supposed to be giving her talk. A determined Pam still delivered her talk, albeit a bit later in the day, with stitches in place, a quickly developing “shiner” and painkillers to hand.*

## 10<sup>th</sup> Evolutionary Biology Meeting at Marseilles, September 2006

Hannah McPherson

National Herbarium of New South Wales, Botanic Gardens Trust Sydney

The tenth Evolutionary Biology Meeting (EBM) was held last September in Marseilles, France.

Approximately 130 people, representing 25 countries, participated in the meeting. The largest contingent was from France, then a variety of other European countries and just a handful of representatives from the southern hemisphere. A couple of participants from New Zealand can boast the greatest distance travelled.

The meeting, organised by the Association pour L'étude de L'évolution Biologique, ran very smoothly – hardly any sessions running over time. Even the delicious three course lunches with wine and coffee didn't throw the timing out. The atmosphere was very relaxed, friendly and supportive and coupled with the stunning hot sunny days my first impressions of Marseilles were very good indeed. As the week progressed and we sampled *pastis*, *bouillabaisse* and explored the markets and the busy Vieux Port the feeling that this was a fascinating city to be in was only confirmed.

But we were there for an Evolutionary Biology Meeting weren't we? And the relaxed atmosphere and all the fabulous food did not preclude plenty of stimulating discussion on a very diverse range of topics.

The program of 37 talks began with day one focused on genome evolution and for a wet-behind-the-ears evolutionary biologist like me it was fairly heavy going. My ignorance aside though, there were a wide range of topics from alien genes in viruses, a model for analysing whole genome duplications to intron evolution in eukaryotes. I found a presentation on the evolution of Y chromosome gene functions, using the dioecious *Silene latifolia* as a model, particularly interesting.

Approximately half of the 45 posters were accompanied by short presentations (five minutes each) which was great for putting a face to the research and really generated a lot of interest and discussion during the poster sessions and tea breaks.

The late afternoon session saw the beginning of a section entitled “concepts in evolution and evolution at organism level” and included the first of three talks on the evolution and classification of *Radiolaria* (planktonic protozoa) with hundreds of fascinating images of these beautiful organisms. Based on morphology, this talk was a contrast to the genetics focus of the rest of the meeting. By day three, the *Radiolaria* lab from Russia took out the conference prize.

Day two continued where the previous day left off with talks on early mechanisms of sex chromosome evolution; a test of the hypothesis of a microsatellite life cycle in mammals and evolution of hypervariable polymorphisms in non-coding chloroplast DNA and their potential for use in plant systematics. This last speaker presented some really interesting work comparing the usefulness of a range of different markers. Genotyping microsatellites, minisatellites, direct repeats and inversions, isolated from 80-300 samples of palm species, enabled separation of very closely related, morphologically very similar taxa for several species complexes within very different plant groups.

The phylogeography and systematics session began after lunch and included population studies of flightless dung beetles *Scarabaeus (Pachysoma) gartepinus* from South Africa; a “ring species” of salamanders (*Ensatina* species complex) and two closely related wild tomato species (*Solanum peruvianum* and *S. chilense*). My talk on the molecular phylogenetics of *Tetralochea* was first up on day three which allowed me to relax and take the rest of the session in with a clearer mind (and settled belly!). A talk exploring the use of the fossil record to test the accuracy of conflicting sister taxa hypotheses in canid (Caninae) phylogenies was very thought-provoking. There was also a presentation in this session from a fellow Aussie on the endangered western barred bandicoot (*Parameles bouganville*) which is

now only known from two natural populations on islands in Shark Bay, Western Australia. This study investigated divergence between natural and captive populations as part of a captive breeding program and highlighted the conflict between managing for retaining evolutionary lineages versus maximising genetic diversity.

The last session focused on probabilistic models and statistical tools for concepts in evolution. Talks highlighted the power of mathematical models and statistical methods for better understanding modes of evolution and the usefulness of specific parts of genomes for use in genetic studies e.g. indels, and so-called “junk” DNA.

Overall the meeting covered such a diverse range of topics and spanned so many disciplines that there was less focus on phylogeography and systematics than I had expected. Nevertheless it was a great opportunity for biologists, statisticians, mathematical modellers and bioinformaticians to meet and discuss where our interests overlap and the potential for future collaborations utilising such a wide range of expertise.

A “walk to the discovery of Marseilles” was organised for the day after the meeting. Much to our surprise we were divided into teams, handed a book of cryptic clues and sent on a scavenger hunt around the oldest part of the city. It must have been a funny sight to see a bunch of scientists stumbling around, lost for half a day, following a chaotic trail that including having to buy worms from a 24 hour live bait vending machine! But it was a fantastic way to discover all the nooks and crannies of an amazing city, learn a bit about the history and taste even more of the local delicacies (no, not the worms - they were for the fish!).

The EBM is held yearly in Marseilles and the official language is English. For information about the 11<sup>th</sup> Evolutionary Biology Meeting see: [www.up.univ-mrs.fr/evol-cgr/](http://www.up.univ-mrs.fr/evol-cgr/)

## Coming meetings

2007

Web site: [www.rbgekew.org.uk/scihort/genome\\_conf0407.htm](http://www.rbgekew.org.uk/scihort/genome_conf0407.htm)

### Linnaean Tercentenary

See the website for the full list of events planned by the Linnean Society of London to celebrate the Linnaean Tercentenary throughout 2007. Note that some of these events are already fully booked.

Web site: [www.linnean.org/index.php?id=208](http://www.linnean.org/index.php?id=208)

### Plant Genome Horizons – Vistas and Visions

16–17 April, 2007, Jodrell Laboratory, Royal Botanic Gardens, Kew, marking the retirement of Professor Mike Bennett

### 5th World Conference of Science Journalists

16–20 April, 2007, Melbourne, Australia

Web site: <http://scienceinpublic.com/scienceinmelbourne2007/index.html>

### Fungimap IV

31 May–5 June, 2007, Camp Bornhoffen, south-east Queensland

Web site: [www.rbgekew.vic.gov.au/fungimap\\_welcome](http://www.rbgekew.vic.gov.au/fungimap_welcome)

**21st New Zealand Fungal Foray**

6–12 May, 2007, Masterton, North Island, New Zealand

Web site: [www.landcareresearch.co.nz/research/biodiversity/fungiprogram/foray/foray\\_2007\\_info.doc](http://www.landcareresearch.co.nz/research/biodiversity/fungiprogram/foray/foray_2007_info.doc)

**Flora Malesiana VII,**

17–22 June, 2007, Leiden, The Netherlands

Web site: [www.nationaalherbarium.nl/FMVII/](http://www.nationaalherbarium.nl/FMVII/)

**Evolution 2007**

16–20 June, 2007, Christchurch, New Zealand. A joint meeting of the Society for Systematic Biologists, the American Society of Naturalists and the Society for the Study of Evolution.

Web site: [www.evolution2007.com](http://www.evolution2007.com)

**21st Pacific Science Congress: Diversity and Change: Challenges and Opportunities in Managing Natural and Social Systems in Asia-Pacific**

12–18 June, 2007, Okinawa, Japan

Web site: [www.psc21.net](http://www.psc21.net)

**Tercentenary of the Birth of Carl Linnaeus. A Festival of Systematics and History.**

25–27 June, 2007, Royal Botanic Gardens, Sydney. For registration and presentation of papers or posters contact: Dr Elizabeth May ([lizmay@bio.usyd.edu.au](mailto:lizmay@bio.usyd.edu.au)).

**21st Annual Meeting of the Society for Conservation Biology**

1–5 July, 2007, Port Elizabeth, South Africa

Web site: <http://www.nmmu.ac.za/scb/>

**World Conference of Bryology 2007**

23–27 July, 2007, Kuala Lumpur, Malaysia

Web site: [www.bryology.org/html/klumpur07.html](http://www.bryology.org/html/klumpur07.html)

**Botany 2007**

7–11 July, 2007, Chicago, Illinois, USA. Yearly meeting of the American Fern Society (AFS), American Society of Plant Biologists (ASPB), American Society of Plant Taxonomists (ASPT), Botanical Society of America (BSA)

Web site: [www.botanyconference.org/](http://www.botanyconference.org/)

**Systematics 2007: Sixth Biennial Conference of the Systematics Association**

27–31 August, 2007, Royal Botanic Garden, Edinburgh, UK

Web site: [www.systass.org/biennial2007/index.html](http://www.systass.org/biennial2007/index.html)

**Seed Ecology II**

9–13 September, 2007, Perth, Australia. This meeting will follow the **11th Mediterranean Ecology Conference (Medecos XI)**, also in Perth on 3–5 September 2007. Both meetings will share the conference field trip.

Web sites: [www.seedecology2007.com.au](http://www.seedecology2007.com.au)  
[www.medecosxi2007.com.au/](http://www.medecosxi2007.com.au/)

**9th International Conference on the Ecology and Management of Alien Plant Invasions (EMAPi9).**

17–21 September, 2007, organised by The Weeds Society of WA (Inc.), Perth, Western Australia,

Web site: [www.congresswest.com.au/emapi9/](http://www.congresswest.com.au/emapi9/).

**11th Evolutionary Biology Meeting**

18–21 September, 2007, Marseilles, France. See Hannah McPherson's account of the 10<sup>th</sup> meeting elsewhere in this newsletter .

Web site: [www.up.univ-mrs.fr/evol-cgr/](http://www.up.univ-mrs.fr/evol-cgr/)

**14th Biennial NSW Weeds Conference "Weeds, People and Partnerships"**

25–27 September, 2007, University of Wollongong, Wollongong, NSW,

Web site: [www.weeds2007.com.au](http://www.weeds2007.com.au)

**Australian Systematic Botany Society (ASBS)**

24–28 September, 2007, Darwin, Northern Territory. To be preceded by CHAH/HISCOM.

Web site: [www.anbg.gov.au/asbs/](http://www.anbg.gov.au/asbs/)

**The Third Biennial Victorian Weeds Conference**

3–4 October 2007, Bendigo, Victoria

Web site: [www.wsvic.org.au/w\\_functions.php#six](http://www.wsvic.org.au/w_functions.php#six)

**Ecological Society of Australia (ESA)**

26–30 November, 2007, Perth, Western Australia

Web site: [www.ecolsoc.org.au/conferences.html](http://www.ecolsoc.org.au/conferences.html)

## 2008

**16th Australian Weeds Conference: Weed Management 2008: Hot Topics in the Tropics**

18–21 May, 2008, Cairns Convention Centre, Queensland

Web site: [www.16awc.com.au/](http://www.16awc.com.au/)

**12th International Congress of Mycology**

5–9 August, 2008, Istanbul, Turkey

Web site: [www.iums2008.org](http://www.iums2008.org)

**5th International Weed Science Congress**

23–26 June, 2008, Vancouver, Canada

Web site: <http://iws.ucdavis.edu/5intlweedcong.htm>

**The 4th International Conference: The Comparative Biology of the Monocotyledons, and The 5th International Symposium: Grass Systematics and Evolution**

11–15 August, 2008, Copenhagen, Denmark

Web site: [www.monocots4.org](http://www.monocots4.org)

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

## 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

*Austral.Syst.Bot.Soc.Nsltr* 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*.

### 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, apart from \$1.75 for the Large Genera issue (Number 53).

### Evolution of the Flora and Fauna of Arid Australia

Edited by W.R. Barker & P.J.M. Greenslade. Peacock Publications, ASBS & ANZAAS, 1982.  
\$20 + \$8.50 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.

Also available from. Peacock Publications, 38 Sydenham Road, Norwood, SA 5069, Australia.  
(To obtain this discounted price, post a photocopy of this page with remittance).

### Ecology of the Southern Conifers (Now out of print)

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.

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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, available on the Society website, and forwarding it, with the appropriate subscription, to the Treasurer. Subscriptions become due on January 1 each year.

The ASBS *annual membership subscription* is \$45(Aust.); full-time students \$25. 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.

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*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.

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