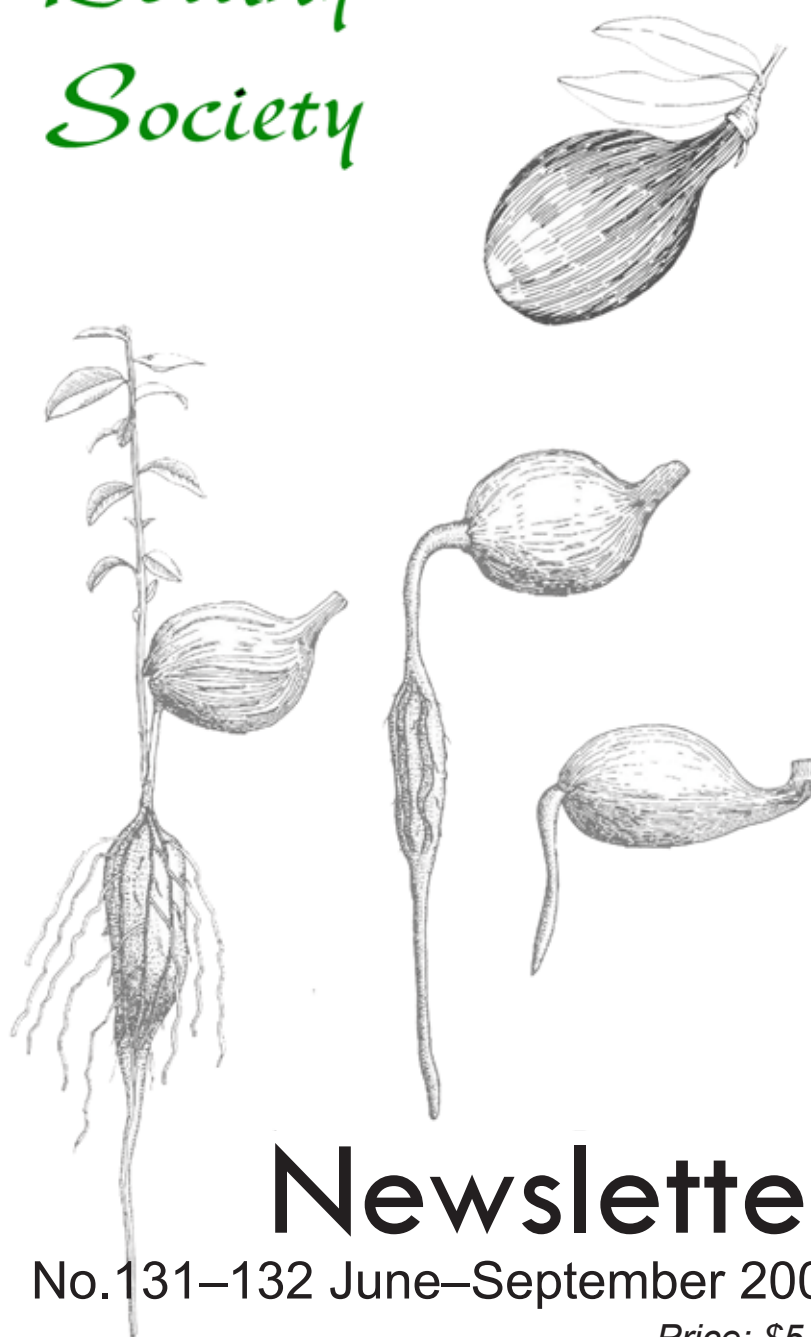


ASBS

*Australian
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Society*



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No loose inclusions with this issue

Publication dates of previous issue
Austral.Syst.Bot.Soc.Nsltr 130 (March 2007 issue)

Hardcopy: 3rd May 2007; ASBS Web site: 16th May 2007

From the President

This year marks the tenth anniversary of the first research grants from the Hansjörg Eichler Research Fund. Though the maximum grant is currently only a modest \$2,000, I think the Society can be proud of the way it is supporting and encouraging students of plant systematics in the early parts of their careers. Thirty six students have received financial support from the fund over the past 10 years. Vice President, Darren Crayn, the current chair of the Research Committee, and I plan to write a short history of the Research Fund which will appear in the Newsletter after the second round of grants are finalised for this year. We are keen to hear from members who might have stories of the early fund raising efforts and from past applicants who might like to let us know what they are doing now.

As I hope you know, the ASBS conference and associated workshops is being held in Darwin during the week beginning September 24. Darwin is also hosting the CHAH and HISCOM meetings the week before. Ilse Breitwieser and Patrick Brownsey from New Zealand will be attending the CHAH meeting and staying on for the ASBS conference. Council will be taking this opportunity to continue our discussions with Ilse and Pat about strengthening botanical ties across the Tasman.

I look forward to catching up with many of you in Darwin.

John Clarkson

ASBS Inc. business

New members

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

- Mr Richard Carter, School of Botany & Zoology, Australian National University, Canberra, A.C.T.
- Ms Katherine Downs, National Herbarium of N.S.W., Sydney.
- Mr Nigel Fechner, Queensland Herbarium, Brisbane, Qld.
- Mr Cedric May, Cook, A.C.T.
- Dr Tanya Scharaschkin, School of Natural Resource Sciences, Queensland University of Technology, Brisbane, Qld.
- Ms Kathy Stephens, Queensland Herbarium, Brisbane, Qld.

Hansjoerg Eichler Scientific Research Fund applications

Applications are called for the second round of funding for 2007. The Eichler fund provides small grants for research in the field of plant systematics. The grants are targeted primarily at students and recent graduates. For those applicants applying for funding for work which is part of a larger project, such as a Ph.D., preference will be given to those applications which specify a particular, well circumscribed part of the project which will be wholly funded by the Eichler Award. Further details including selection criteria and the application form can be found on the Australian Systematic Botany Society website (Web ref. 1):

Since 2005 there have been two funding rounds each year (March and September) to facilitate applications from Honours students. The

maximum grant is AU\$2000. I would be very grateful if you could circulate this invitation within your institutions and to any other students and colleagues that may be interested. The closing date is Friday September 14, 2007 - applications posted after this date will not be accepted. Please submit applications (original plus seven copies) to the ASBS Secretary, Ms Kirsten Cowley at the address below.

Ms Kirsten Cowley
Secretary, Australian Systematic Botany Society
Australian National Herbarium
Centre for Plant Biodiversity Research
GPO Box 1600
CANBERRA ACT 2601

Please note that grantees must be financial members of ASBS. The membership application form is available on the website. Please do not hesitate to contact me (darren.crayn@environment.nsw.gov.au) if you have any questions or enquiries regarding the Eichler grants, including your eligibility or suitability of research proposal.

Web ref. 1. www.anbg.gov.au/asbs/eichler/index.html

Darren Crayn
Chair, Eichler Research Committee

Combined Newsletter issue 131–132

Owing to our first experience as Editors of paucity of content for the June issue, exacerbated by delay in some articles as well as our own work loads, Council agreed to our proposal for a combined issue.

Articles

Advice to emigrating gardeners – an 1840 letter from Australia

Introduced by Robyn Barker
State Herbarium of South Australia

The following article offering advice to those botanical collectors and gardeners considering emigration from Britain in the 1840s is reproduced from *Gardeners Magazine* 16: 115–116 (1840). I first saw it mentioned in Rica Erickson's *Drummonds of Hawthornden*, where it was included for its reference to “poor Drummond”. Since it is not easily accessible in Australia it has been reproduced here.

The identity of Peritus and K.B.D. are not known and we don't have these early editions of the *Gardener's Chronicle* available for researching this. There is no obvious candidate in Desmond's *Dictionary of British and Irish Botanists and Horticulturalists* but William Cavendish, 6th Earl of Devonshire, was at this time the President of the Horticultural Society and a correspondent of Hooker and could possibly have been K.B.D.

Numbered footnotes giving a background to the people mentioned are mine. Other footnotes were included in the original article; these appear as end-notes.

On Emigration, with reference to Gardeners: and on the Prospects of Botanical Collectors. By Peritus. Communicated by K.B.D.

I don't think I would have troubled you so soon again, had it not been for your asking my opinion as to your emigrating?

I should decidedly say no. There may certainly be some difference between your plans and those of others who have gone out in search of plants, and thereby make a livelihood; but still, the uniform want of success, hitherto, ought to make any one very cautious, and calls for much careful consideration ere such a step is taken.

Take poor Drummond's case; he went out under most auspicious circumstances, and was well patronised; and his plants, both living and dried, were eagerly bought up; and yet he was unable to realise even a very moderate desire, to purchase and stock a few acres, and to settle with his family. Look also at Douglas: he barely got a living at the best, and was often in most distressing circumstances; and that, too, after sacrificing his health in search of plants. Others I might mention, but they all tell one melancholy tale.

And as to patronage, what is it? Parties die, fashions (for there is a fashion even in flower-growing) alter, and tastes vary; and then, when, perhaps, you have

embarked all your energies in the work, thrown up all your prospects for its sake, you discover your mistake. Nay, tell me, if you can, of one instance which has been successful.

Perhaps you may cite Australia as a place where a gardener might do well. He is, perhaps, in receipt of large wages, or may *apparently* be doing well; and yet look at the heavy prices he has to pay for the necessaries of life.

Besides, the states of Central America are the most unsettled of all the portions into which Spanish America was split; and, unless by your influence over a number of individuals, you can hardly consider your life safe, and must join either one side or the other in the horrible intestine war which continually rages there.

Not only these things compel me to dissuade you from emigrating but I think, with your talents, you may look forward to doing much better in England. There are curatorships of botanic gardens now and then vacant*; nursery establishments either to be disposed of, or opened, with every prospect of success: and I would advise you to look to these rather than emigration.

However, I can only judge from report, and there are many who can form an opinion much better than myself, and who, no doubt, will gladly give you their advice.

Tweedie¹ was an old man when he went to Buenos Ayres; he depends upon the profits of a store which his family attend to for his support, and not his plants. Matthews and Bridges² both, I believe,

¹ John (or James) Tweedie (1775–1862). The generic name *Tweedia* honours this 19th century gardener and landscaper at a number of Scottish gardens until his departure for Brazil in 1825.

² Andrew Matthews (?–1841) and Thomas Charles Bridges (1807–65). Bridges at least undertook other employment whilst based in South America – an account of his activities and collections can be found in I.M. Johnston's account of his life in *Contributions of the Gray Herbarium* 4: 98–106 (1928). He was responsible for introducing *Victoria amazonica* to Kew Gardens but apparently was not given credit for this. Matthews is less well known; there is a reference to him in the Darwin correspondence as:

An English travelling naturalist ... whose objects are chiefly, I believe, entomology, and botany, [he] is about to undertake an adventurous journey, directly across this continent, from Lima to Rio de Janeiro.

(Letter 252: Fox, H. S. to Darwin, C. R., 25 July 1834 reproduced at www.darwinproject.ac.uk/darwinletters/calendar/entry-252.html)

Australian Systematic Botany Society Inc.

**2008 National Conference
Adelaide
Preliminary announcement and registration of interest**

Venue: University of Adelaide

Date: 29th October – 3rd October, 2008

The organising committee comprising members from the State Herbarium of South Australia, University of Adelaide, Flinders University and the Australian Centre for Evolutionary Biology and Biodiversity are planning a conference over several days with themes covering the impact of systematics on evolutionary and biogeographic, weed and conservation issues, climate change, and knowledge of poorly known groups, as well as a series of workshops.

Registration of interest:

A form for registration of interest will be found on the Australian Systematic Botany Society website www.anbg.gov.au/asbs

Please send the form and any other queries to: pbcsaugov.sa.gov.au

had other sources of income than the plants and animals, &c., they sent over. Cuming³ is the only one of the collectors that has made anything, and that was by his shells and corallines†. How his trip to the Philippines may turn out, I don't yet hear.

—⁴ makes little but what barely keeps him; indeed, a gentleman wrote me, only a short time ago, that it would require every exertion to enable him to continue his researches since the death of the Duke of Bedford, who subscribed largely to his mission. You ask what he is doing? Little, I fear, in the way of plants; there was a collection of seeds and some

plants received from him a few weeks ago, and something is expected shortly.

Apropos to emigration, I have sent to a relative for a copy of a letter on the subject of emigration to Australia, written by a friend who had been many years in India, and who was desirous of investing his large capital in that "land of promise", which contains some good remarks on the fine stories we read of the settlers there; and if I receive it, I shall enclose it to you; at any rate I must write to you again in a day or two, when you shall have it.

Feb. 5. 1840.

His collections are in K and BM (H.S. Miller (1970) *Taxon* 19: 532) and the genus *Mathewsia* was named in his honour.

³ Hugh Cuming (1791–1865). For a comprehensive background to this collector of the Philippines see the Flora Malesiana collectors treatment - now available on line www.nationaalherbarium.nl/FMCollectors/ or the note on his arrival home in Hooker's *Journal of Botany* 2: 373 (1840).

⁴ Perhaps George Gardner (1810–49), at that time travelling and collecting in Brazil under the patronage of the 6th Duke of Bedford (1766–1839). Gardner collected there from 1836–41, returning home, and then subsequently taking up an appointment as the botanist and superintendent of the Ceylon Botanic Gardens. His letters on his travels in Brazil were reproduced in Hooker's *Journal of Botany* of 1840 and 1841 in a similar fashion to the Drummond letters. Further information on this collector can also be found at www.electricscotland.com/history/other/gardner_george.htm

Footnotes from original publication

* A propagator who could furnish the councils or committees of such gardens, the London and Caledonian Horticultural Gardens included, with the lowest estimate at which common plants could be propagated and brought to the market, would have a better chance of a curatorship than a skilful or scientific gardener. – K.B.D.

† Mr Cuming had his first ideas of gathering plants from Mr Anderson, during Captain King's voyage. Anderson went out one day looking after plants, and met Cuming among the rocks at Conception, looking for shells, &c. They were strangers to each other, but felt the greatest delight, when they found they were from the same country, and almost on the same pursuit, on this savage and inhospitable coast. Ever since this circumstance, they look to each other as two brothers; and Cuming learned from Anderson how to dry plants, and the duties of a collector. K.B.D.

James Drummond's date and place of birth

Alex S. George

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The date and place of birth of the early Western Australian plant collector James Drummond have usually been given as c. 1784 at Hawthornden, Scotland (e.g. Erickson, 1969). An early mention of this year (with a query) was by Britten and Boulger (1893). I am unsure of the first mention of his place of birth as Hawthornden. In a recent paper, Erickson (2005) gave Forfarshire as the county and 1792 as the year of baptism.

Charles Nelson has just drawn my attention to a paper that he published in 1990 in which he showed that Drummond was born late in 1786, probably on the Fotheringham estate at Inverarity near Forfar in the county of Angus, Scotland. Local parochial records give the date of James's baptism as 8 January 1787, and apparently it was customary to baptise children when they were little more than a few weeks old. His brother Thomas was baptised on 8 April 1793. The data for James have been updated in the online *Australian Dictionary of Biography* (Web ref. 1).

Hawthornden was the Drummond family seat, located just south of Edinburgh in the county of Midlothian.

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- Nelson, E.C. (1990), James and Thomas Drummond: their Scottish origins and curatorships in Irish botanic gardens (ca 1808–ca 1831), *Archives of Natural History* 17: 49–65.
- Web ref. 1. www.adb.online.anu.edu.au/adbonline.htm

A different slant on native species: invasive native plants causing problems in New South Wales

Jenny Barker

CRC for Australian Weed Management,
PMB 1, Waite Campus, Glen Osmond SA 5064

The issue of Invasive Native Scrub (INS) has been hotly debated in NSW for decades with farmer groups accusing the state government of doing more harm than good when it comes to managing these 'woody weeds'.

In the last 12 months, high profile media personalities Alan Jones and Don Burke have weighed into the debate in support of farmers. Channel 9's Sunday current affairs program also ran a story last August 'The Great Land Clearing Myth' (Web ref. 1).

So what's all the fuss?

Commonly called 'woody weeds', INS refers to native species that are spreading within their natural range, invading plant communities in which they do not naturally occur and presenting an enormous threat to native grasslands (Web ref. 2).

INS infests over 20 million hectares of NSW and it is an enormous problem in the state's west. Spread is usually a result of artificial (grazing, clearance, changed fire regimes) or natural

disturbance and the increase in 'woody weeds' has been recognised since the 1890s when many farmers were driven from their land after drought and recession.

Environmental impacts include increasing topsoil erosion while reducing groundcover, soil health and floral biodiversity. Native animals are impacted too as native grasslands are lost to woody weed infestations. For farmers, there are significant economic impacts in terms of INS management and reduced pastoral productivity.

The *NSW Native Vegetation Act* 2003 recognises that native species have significant environmental and economic impacts but it also protects against broad-scale clearing. To clear these woody weeds, farmers must apply for a Property Vegetation Plan (PVP), an agreement negotiated with the local Catchment Management Authority (CMA).

However, farmer groups believe native vegetation and land clearance laws have been too restrictive when it comes to woody weed control and, in fact, contribute to environmental damage. Despite a recent 'relaxation' of the laws, they have renewed

calls for greater flexibility in rehabilitating land degraded by INS (NSW Farmers Association 2006).

There has also been a lot of bad feeling between the farming groups and greens groups in NSW, particularly the Wilderness Society. The NSW Farmers Association has accused environmental groups of:

Choosing to ignore the environmental damage caused by INS and... portray[ing] efforts to manage these problems as land clearing and environmental vandalism.

The Wilderness Society, meanwhile, endorsed the original native vegetation legislation but condemned the government for 'relaxing' the land clearing requirements late last year. They support the need to allow management of thick native scrub in NSW but claim farmers are practising broad-scale clearing of woody weeds in order to plant crops (The Wilderness Society 2007).

In a pre-election promise, the NSW Opposition promised to scrap the need for Property Vegetation Plans and introduce more 'farm friendly' policies if it won the state election held earlier this year. And the Federal Minister for Agriculture, The Hon. Peter McGauran, announced \$1.1m funding

in July to help tackle woody weeds in central and western NSW.

There are over 40 native plant species recognised as invasive (INS) by NSW native vegetation laws, amongst them *Eremophila*, *Acacia*, *Eucalyptus*, *Callitris*, *Dodonaea* and *Senna* species. For a full list see the native vegetation management in NSW fact sheet (2006).

References

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NSW Farmers Association (2006). Response to the Review of the Invasive Native Scrub Assessment Methodology and Decision Support Tool of the Property Vegetation Plan Developer under the Native Vegetation Act 2003. Available at nrc.nsw.gov.au/documents/Submission%20-%20INS%20Review%20-%20NSW%20Farmers%20Association.pdf

media releases. Available at www.wilderness.org.au/quickfinder/media?topic_id=76

Web ref. 1: www.sunday.ninemsn.com.au/sunday/cover_stories/article_2039.asp

Web ref. 2: www.nativevegetation.nsw.gov.au/fs/fs_09.shtml

Thesis abstract

Phylogeny of Juncaceae Juss., and species limits and natural hybridisation in Australasian *Juncus* L. section *Juncotypus* Dumort.

John Hodgson BSc (Hons.), PhD (UNE)

The thesis was submitted in fulfillment of the requirements for Doctor of Philosophy at the University of New England, Armidale, New South Wales in June 2006; Graduated March 2007.

PhD supervisors

Associate Professor Jeremy Bruhl, Botany, Centre for Ecology, Evolution and Systematics, University of New England, Armidale, NSW 2351.

Adjunct Associate Professor Karen Wilson, Royal Botanic Gardens Sydney, Mrs Macquaries Road, Sydney, NSW 2000.

Dr Adam Marchant, Royal Botanic Gardens Sydney, Mrs Macquaries Road, Sydney, NSW 2000.

Abstract

Juncaceae are a cosmopolitan family containing seven genera and about 440 species. The aims of this study were to define species limits and investigate suspected natural hybridisation in Australasian species of *Juncus* sect *Juncotypus*, and to reconstruct phylogeny and test monophyly within Juncaceae.

Phenetic analyses utilised 38 morphological and anatomical characters from 192 specimens, representing all 35 Australasian species of *Juncus* sect *Juncotypus* and two putative new species. From the analyses 37 species were recognised including two subspecies that will be raised to species rank, and two other new species.

Natural hybridisation and introgression between two Australian species of *Juncus* sect *Juncotypus*, *J. aridicola* and *J. subglaucus*, at a site in New South Wales was tested and confirmed using phenetic analyses of 10 morphological characters and presence/absence data for 85 polymorphic bands produced by six ISSR primers.

The phylogeny of *Juncus* was reconstructed using cladistic analyses of 54 morphological, anatomical and life history characters for 75 species representing all ten sections of *Juncus*. Three approaches were taken to inclusion and scoring of quantitative characters. Monophyletic groups recovered were *Marsippospermum*, *Luzula* and *Juncus* sections *Juncus*, *Caespitosi*, *Stygiopsis*, *Iridifolii* and *Juncotypus*.

Separate and combined maximum parsimony and Bayesian analyses of cpDNA trnL intron and trnL-F intergenic spacer sequences for 112 species, and ITS1, 5.8S and ITS2 sequences for 115 species were also used to the reconstruct phylogeny of Juncaceae. The genera *Juncus*, *Oxychloe*

and *Marsippospermum*, and *Juncus* subgenus *Agathryon* and *Juncus* sections *Juncotypus* and *Graminifolii* were recovered as monophyletic. The analyses also indicated that the species limits of *Rostkovia magellanica* require further testing.

Obituary

Edward W. Cross, botanist (1977–2007)

Jim Croft

Australian National Herbarium

Ed Cross lost his battle with cancer on Good Friday 6th April 2007. He was widely recognized as one of the rising young stars in Australian plant systematics and his passing is a great loss to Australian botany.

Ed began his formal studies in botany at the University of New South Wales, completed his PhD at the Australian National University and was based at the Centre for Plant Biodiversity Research, Australian National Herbarium in Canberra.

Ed was an exceptional student. In 1994 he won the Dux Medal and the Medal for Academic Merit at Galston High School, in 1998 he received a research scholarship from the University of NSW, in 1999 he received First Class Honours in Botany and Zoology from the University of New South Wales, in 1999 the Hansjörg Eichler Research Grant, in 2000 a CSIRO PhD scholarship and also an ABRIS postgraduate research scholarship. In 2005 he won the ACT Division of the Commonwealth Bureau of Rural Sciences Science and Innovation Award for Young People in Agriculture, Fisheries and Forestry. His PhD topic and thesis was an exemplary meld of molecular and morphological systematics.

Ed's all too brief professional career was dedicated to Australian botany and in enthusing others to share his passion for Australian plants. He was a natural and extraordinarily gifted scientific communicator. While at university he worked as

technical officer and laboratory assistant in the J.T. Waterhouse herbarium and Molecular Systematics Laboratory of the University of New South Wales where he was also a demonstrator in botany and ecology. He lectured at the Australian National University and was an inspirational education officer at the CSIRO Discovery Centre, sharing his knowledge and botanical enthusiasm with students of all ages. Ed was employed as a research assistant at the Australian National Herbarium to develop a comprehensive taxonomic treatment of the Heliantheae (Asteraceae) and Eupatorieae for the *Flora of Australia* and ultimately as a research scientist on a pilot investigation using molecular techniques to identify the progenitors of *Lantana camara* in Australia for improved biological control.

Ed's primary research interests covered the ecology, evolution and systematics of Australian and New Zealand daisies. At the University of New South Wales he completed a research

project on the molecular systematics of Australasian woody daisies in the genus *Olearia* where the data showed no support for the monophyly of the genus, challenging the *status quo*. His PhD thesis, entitled "The Systematics of *Rhodanthe* and allies (Gnaphalieae: Asteraceae), an integrated approach using molecular and morphological data" was submitted in November 2004 at the Australian National University. In his thesis Ed used a combination of molecular data



Fig. 1. Ed Cross. Ph. Australian National Botanic Gardens collection

and morphological data to reconstruct the phylogenetic relationships of over 125 taxa of Australian and New Zealand daisies and explore the evolution of morphological characters used in their classification, again challenging a number of existing taxonomic concepts. From 2004–05, Ed developed a comprehensive treatment of the Heliantheae and Eupatorieae for the *Flora of Australia*, covering over 100 species in these tribes

After his PhD, Ed was engaged in developing a new project in weed management, using molecular markers to characterize the breeding system, genetic variation and higher level relationships of Australian weeds (in particular, *Lantana*), the predictive use of genetic data to identify new sources of biocontrol agents, and effective deployment of biocontrol measures by identifying genetic races using morphological characteristics.

A fit, active outdoors person and keen observer of nature, Ed listed among his hobbies the cultivation of cacti and succulents, conservation and propagation of Australian native plants, breeding of crayfish and tropical fish, camping, fishing and bushwalking with his wife and friends. A devout Christian, Ed was active in his community and led several Scripture Union Family Missions throughout the Riverina.

Ed leaves behind his wife Jess, his parents, and many friends and colleagues who will miss his charm, his generosity of time and knowledge, his wit and his enthusiasm and love for Australian plants and their environment.

Personal perspectives¹

Although I did not work closely with Ed in his research, I remember all our social and professional interactions at the Centre very fondly

¹We encouraged Jim to include this abridgement of the Eulogy which he presented at Ed's funeral service on behalf of Judy West, Director of the Centre of Plant Biodiversity Research and Australian National Herbarium. *Editors.*

and very positively. I always came away from these conversations better informed, and more importantly with a more positive attitude than when I entered them.

Ed was one of the best natural scientific communicators I think I have ever met. His seminars were relaxed and masterful presentations of complex concepts and subject matter in words that scientists could believe and appreciate and the non-technical general public could understand.



Fig. 2. Ed Cross.

Ed was generous with this innate skill and he had another life instructing students at the CSIRO Discovery Centre.

Ed was friendly and generous with his time; he was committed and dedicated without being obsessive, focussed without being self absorbed, confident without being arrogant, lucid without being simplistic, considerate without being condescending, and assertive without being argumentative. How many of us can honestly lay claim to that rare combination?

Ed and a number of us in the Centre shared a fascination, some might say obsession, with cacti and succulent plants. Egged on by Ed, my house slowly filled up with little fleshy and spiny plants. What Ed neglected to tell me is that little plants don't stay little plants, and that they expand to become big plants and make more little plants, overflow and attempt to take over all available space.

These plants will always remind us of Ed – either because he gave them to us, he told us what they were, or he shared with us his knowledge on how not to kill them.

Professionally in the field of botany, the thing that impressed me most about Ed was the balance he was able to achieve between the emerging disciplines of molecular biology and the tradition practices of morphology, anatomy and taxonomy. Rather than aligning himself with either of the often feuding factions, Ed was able to straddle both, to I believe, the benefit of both. I do not think I have seen anyone do this quite so successfully.

And I'd like to quote Bronwyn Matheson, a technical officer who worked with Ed in the laboratories at the Centre for Plant Biodiversity Research. Bronwyn described Ed as a "true science tragic":

... [he] was the finest sequencer in the land – he could get a perfect, clean, sequence out of a rock, let alone anything that actually had DNA in it.

He always got superb results and was completely enthralled by huge sequence alignments and BLAST searches.

I think he found it very soothing too.

He was so much a child of these times, finding utter fascination in molecular data.

He would have been a wonderful, groundbreaking champion of the fusion between classic botany, with its dependence on a morphology based taxonomic structure, and molecular systematics.

In that sense alone, his is a terrible loss. Quite apart from his winning character and gentle strength."

Ed's supervisor, Randy Bayer², sent the following email. Randy is in Memphis at the moment, but his thoughts are with us and of Ed:

I was deeply saddened to learn about Ed's passing.

I have had many graduate students over the years, but Eddie was one of the special ones with whom I developed a true friendship.

We shared a common interest in botany, gardening, horticulture, succulents, and daisy taxonomy.

Our, not so secret, extensive succulent collections in the CSIRO research greenhouses will always be remembered.

Many of us now have some of those plants as an enduring memory of him.

Ed will be always be remembered for his passion for plants, good and generous nature, and his incredible gift as a teacher.

He will be dearly missed by us all.

Ed will be missed – and remembered for his consideration, generosity and decency. And

Randy, I and others will remember him every spring and every autumn when his plants bloom.

Refereed publications

Bayer, R.J. & Cross, E.W. (2003). A reassessment of tribal affinities of *Cratystylis* and *Haegiela* (Asteraceae) based on three chloroplast DNA sequences. *Plant Syst. Evol.* 236: 207-220

Cross, E.W., Quinn, C.J. & Wagstaff, S.J. (2002). Molecular evidence for the polyphyly of *Olearia* (Astereae: Asteraceae). *Plant. Syst. Evol.* 235: 99-120.

Bayer, R.J. & Cross, E.W. (2002). A reassessment of tribal affinities of the enigmatic genera *Printzia* and *Isoetopsis* (Asteraceae), based on three chloroplast DNA sequences. *Austral. J. Bot.* 50: 677-686

Conference proceedings

Cross, E.W. & Bayer, R.J. (2003). The systematics of *Rhodanthe* Lindl., an integrated approach using both molecular and morphological data. *Australian Systematic Botany Society 2003 – Abstracts*: 15. (presented paper)

Bayer, R.J. & Cross, E.W., (2002). The tribal placement of several enigmatic genera of Australian Asteraceae based on molecular and morphological data. *Botany 2002 – Abstracts*: 37. (presented paper)

Bayer, R.J. & Cross, E.W., Bagnall, N.H. (2001). A reassessment of tribal affinities of several enigmatic genera of Australian Asteraceae, based on three chloroplast DNA sequences. *Botany 2001 – Abstracts*: 398. (presented paper)

Invited articles

Cross, E.W. (2003). Molecular data and phylogenetic relationships in *Rhodanthe*. *Biologie* 28: 6-7.

Cross, E.W. (2000). PhD research to study the DNA of everlasting daisies. *Biologie* 23: 14-15.

Cross, E.W. (2000). The systematics of *Olearia* and *Rhodanthe*. *The Australian Daisy Study Group Newsletter* 58: 44-45.

Manuscripts

Cross, E.W. & Bayer, R.J. (2005). Four manuscripts completed on the taxonomy of the Asteraceae genera *Mikania*, *Chromolaena*, *Blainvillea*, *Pentalepis* and *Eclipta* in Australia.

Deaths

George Seddon (1927–2007)

We were saddened to hear of the death of George Seddon in May this year. As might be expected with someone of such vast interests there are innumerable tributes to him and his achievements. Amongst them is one on the *Australian Institute of Landscape Architects* website (Web ref. 1) which has links to a myriad of other tributes to the life of this remarkable man. An account of his life with a list of his publications can also be found on wikipedia (Web ref. 2)

²Dr. Randall J. Bayer, is now Professor and Chair, Department of Biology, University of Memphis'

Web ref. 1: www.aila.org.au/profiles/seddon/default.htm

Web ref. 2: http://en.wikipedia.org/wiki/George_Seddon

Verne Grant (1917–2007)

Author of the classic *Plant Speciation* and *The Origin of Adaptations*, Verne Grant died in May in Austin, Texas.

There is a tribute by Karen A. Grant and Billie L. Turner in the *American Society of Plant Taxonomists Newsletter* (reproduced at Web ref. 1).

Web ref. 1: www.inhs.uiuc.edu/~kenr/ASPT/in_memoriam.html

Food for thought

Tackling work issues

Anecdote (Web ref. 1) is a consulting firm that specialises in helping organisations tackle complex problems like organisational change, collaboration, project evaluation and the sharing of learning.

Two items of interest can be found in their archives.

Knowledge-sharing barriers in the workplace

The first (Web ref. 2) is a list of knowledge sharing barriers, mostly taken from Riege (2005) and Szulanski (1996). The barriers to the sharing of knowledge have been divided into three categories, individual, organisational and technological and most of us can probably relate to some of these.

Amongst the individual barriers were listed:

- A general lack of time to share knowledge, and time to identify colleagues in need of specific knowledge
- fear that sharing may reduce or jeopardise people's job security
- lack of awareness of the value and benefit of possessed knowledge to others
- lack of contact time and interaction between knowledge sources and recipients
- poor verbal/written communication and interpersonal skills
- fear of not receiving just recognition and accreditation from managers and colleagues
- lack of trust in people because they misuse knowledge or take unjust credit for it
- lack of trust in the accuracy and credibility of knowledge due to the source

Organisational barriers included:

- lack of leadership and managerial direction in terms of clearly communicating the benefits and values of knowledge sharing practices
- shortage of formal and informal spaces to share, reflect and generate (new) knowledge
- lack of transparent rewards and recognition systems that would motivate people to share more of their knowledge
- resources inadequate to provide sharing opportunities or the existing corporate culture does not support sharing practices
- competitiveness within business units or functional areas and between subsidiaries can be high
- communication and knowledge flows are restricted to certain directions (e.g. top-down)
- physical work environment and layout of work areas restrict effect sharing practices
- hierarchical organisation structure inhibits or slows down most sharing practices
- size of business units often is not small enough

and unmanageable to enhance contact and facilitate ease of sharing.

And amongst the technological were:

- lack of integration of IT systems and processes impedes the way people do things
- lack of technical support and immediate maintenance of integrated IT systems obstructs work routines and communication flows
- unrealistic expectations by employees concerning what technology can and cannot do
- lack of compatibility between diverse IT systems and processes
- mismatch between individuals' need requirements and integrated IT systems and processes restrict sharing practices
- reluctance to use IT systems due to lack of familiarity and experience with them
- lack of training regarding employee familiarisation of new IT systems and processes
- lack of communication and demonstration of all advantages of any new system over existing ones.

Taskonomy – arranging things for work

The second item (Web ref. 3) relates to taskonomy as opposed to taxonomy. Taskonomy is how we arrange things around us to get our work done. Rather than organise our materials thematically as taxonomists do, we assemble things we might use together. Examples given include a blacksmith not putting all his hammers in one pile and tongs in another, but rather putting the hammer and tongs next to each other on the anvil ready for work the next day. Or a typesetter arranging cases so that the popular letters are all together and easily accessible. The bit that caught my eye:

Taxonomists cannot remain in the back storeroom keeping the shelves tidy. They also need to venture into the storefront and see how customers need their information organised for use.

Could we be presenting our data in better ways for our end users? Do we need to consult more about what our clients want?

References

- Riege, A. (2005). "Three-dozen knowledge-sharing barriers managers must consider." *Journal of Knowledge Management* 9(3): 18-35.
- Szulanski, G. (1996). "Exploring internal stickiness: Impediments to the transfer of best practice within the firm." *Strategic Management Journal* 17: 27-43.
- Web ref. 1: www.anecdote.com.au/company_profile.php
- Web ref. 2: www.anecdote.com.au/archives/2006/09/threedozen_know.html
- Web ref. 3: www.anecdote.com.au/archives/2006/08/stories_are_a_f.html

Robyn Barker

News

Plant systematics in Adelaide

2008 ASBS Conference in Adelaide in September

We're hoping to provide a rich forum for all who'd like a taste of Adelaide's attractions. Refer to the preliminary notice on page 2 of this issue. We'll keep you posted in Newsletters and on the Society's website (see inside front cover).

A new *Flora of South Australia*

The State Herbarium has been asked by Department for Environment and Heritage to produce a fifth edition of the *Flora of South Australia*. The commitment to provide support for the project has already realised a new position for three years in the first instance. Juergen Kellermann arrived in Adelaide in late August to take up the position of Flora Coordinator. He's been based in Melbourne where he has been completing a three-year project to deliver a treatment of Rhamnaceae for the Flora of Australia, funded by the Australian Biological Resources Study.

Managerial appointment in Adelaide

The restructuring of the scientific programmes of the Department for Environment and Heritage will impact on the business of the State Herbarium. Mr Piers Brissenden has transferred from supporting business in Mt Lofty region of the Department to take up the position of Manager, State Herbarium and Biological Survey. He will play a key role in support and coordination of the management of business in the State Herbarium and Biological Survey & Monitoring, both of which come under Head of Science Andy Lowe. Piers has had organisational management roles in the University of Adelaide Zoology Department, University of South Australia and Institute of Medical and Veterinary Science and is well-suited to supporting the cementing of partnerships in systematics, ecology and conservation science between the Department and other South Australian institutions.

Invigoration of systematics research and advisory services in phycology

In early July Dr Fred Gurgel, a Brazilian based in the University of Louisiana, Lafayette and the Smithsonian Marine Station, took up residence in the Phycological Unit of the State Herbarium. The appointment is funded by the Department for Environment and Heritage, University of Adelaide and Aquatic Science, South Australian Research and Development Institute. Gerry Kraft, recently retired phycologist from the University

of Melbourne, has also taken up residence in the Unit as a result of his wife taking up employment in Adelaide.

These developments have been facilitated by the loyal services of Honorary Curator of Phycology Bryan Womersley and environmental consultant, and marine biologist Bob Baldock in maintaining a service over a number of years on a voluntary holding basis.

New honorary appointments

Retired Chief Botanist John Jessop, Bob Baldock and Gerry Kraft have been accorded Honorary Research Associate of the State Herbarium status by the Board of the Botanic Gardens and State Herbarium. Molly Whalen of Flinders University and John Conran of the University of Adelaide have been made Affiliates of the State Herbarium, a new volunteer category for researchers contributing significantly to Herbarium business while being based in another institution.

Post-doctoral appointment

Ed Biffin has recently arrived at the University of Adelaide to undertake a project on biogeography of Podocarpaceae with Andy Lowe, Bob Hill and John Conran.

Bill Barker

New journal *Charophytes*

Welcome to a new journal devoted to the promotion of research and communication about charophytes, the first issue of a new journal has now been posted on the web. Editor in Chief, Dr Michelle T. Casanova, who works out of the National Herbarium of Victoria, will be responsible for ecology and taxonomy papers, Dr Mary Beilby of the School of Physics, University of New South Wales, for electrophysiology papers and Dr Richard McCourt of the Department of Botany, Academy of National Sciences, Philadelphia, for phylogeny papers. This first issue can be downloaded free of charge after entering your name and contact details. It contains:

- An editorial on why there should be a dedicated journal for Charophytes
- A multiple-authored revision of the *Nitella hookeri* complex of Australia, New Zealand and Kerguelen Island – now composed of 5 species, 4 of them from New Zealand and one from Australia, separable on branching patterns and oospore morphology
- *Lamprothamnium macropogon* (Characeae, Charophyceae) and *Ruppia tuberosa* (Potamogetonaceae) of arid-zone saline

wetlands in Australia have contrasting germination strategies

- Charophytes have often been used for studying electrophysiology at a single cell level because of their large cell size. Salt tolerance mechanisms can be compared because there are salt-tolerant (*Lamprothamnium*) and salt-sensitive (*Chara*) genera. This particular study looked at the electrical characteristics of a plant cell membrane subjected to hypertonic stress to identify the responses of the different ion transporters to salinity increase and turgor decrease.

Hard copy is available by subscription. The developing web site for *Charophytes* is at charophytes.com

Steve Hopper promotes systematics in *Science*

Hope you all caught Steve Hopper's Editorial, "New Life for Systematics" in the *Science Magazine* vol. 316 of 25th May 2007.

It is available on the web but you will need to have a subscription since this volume is less than 12 months old. But note that there is free registration if you want to access items from 1997 to 2006.

Web reference: www.sciencemag.org/

Closure of the ABC Natural History Unit

The ABC's Natural History Unit in Melbourne, formed in 1973, is no more. Dione Gilmour, former head of the unit, will continue to work as a consultant to the ABC while her staff have been deployed elsewhere. *Australia: Land of Parrots* still to be completed by David Parer and Elizabeth Parer-Cook will be the ABC's last natural history documentary (Web ref. 1).

A list of the films produced by the unit since its inception in 1973 can be found at Web ref. 2.

Web ref. 1: www.theaustralian.news.com.au/story/0,25197,22251260-22822,00.html

Web ref. 2: www.abc.net.au/nature/nathist/programs.htm

Moves from Canberra

We feel we should record:

- the retirement of David Jones from the Australian National Herbarium in early July 2007.
- Randy Bayer's move to the United States to head the Department of Biology, University of Memphis.
- Curt Brubaker's move to Bayer Crop Science, Belgium.

CHAH Inc. report

Resources of Australian Herbaria – update

The information on the website (Web ref. 1) originally taken from the book of the same title compiled by K. J. Cowley and J. G. West in 1999 has now been updated for most of the herbaria previously included. The information updated includes contact details as well as collection numbers and associated pie charts. The appendices showing comparisons between

Herbaria in terms of total holdings have also been updated.

Some herbaria have not been updated recently either because the Herbarium and collections are in a state of flux, or the information has not been made available to us. Once the information comes to hand it will be incorporated onto the website.

Kirsten Cowley and Judy West
Australian National Herbarium (CANB)

Web ref. 1. www.chah.gov.au/chah/resources/index.html,

Miscellanea

Changes to some Canberra email addresses

The email address for any institutions formerly with the address ...@deh.gov.au, including the Australian Biological Resources Study (ABRS) and the Australian National Botanic Gardens has changed. Thus, Helen Thompson, who informed us of this, has the new address:

helen.thompson@environment.gov.au

Banksias in medieval England

Spotted in an episode of Robin Hood aired recently on ABC TV — dried Banksias (*sensu stricto*) in the dispensary of the Sheriff of Nottingham's apothecary.

Alex George

Employment and funding opportunities

¹Job opportunity, Cairns

Director, Australian Tropical Herbarium, Cairns. Closing Date: 21-Sep-2007

The Australian Tropical Herbarium (ATH) is an exciting new national Australian herbarium, established as a joint venture between James Cook University (JCU), CSIRO, Director of National Parks, the Queensland Department of State Development, Trade and Innovation, and Queensland EPA. ATH will be located in the Australian Tropical Forest Institute (ATFI) complex at the Cairns campus of JCU, and will initially bring together more than 160,000 plant specimens drawn from the Australian National Herbarium (ANH) collection previously held at Atherton, the Queensland Herbarium collection previously held at Mareeba, and the JCU collection. ATH will also serve as both the north Queensland node of the Queensland Herbarium, and the northern Australian node of the ANH, and will incorporate a state of the art molecular bioscience laboratory.

Further information about the position is available at Web site 1.

Other details include:

- An information kit on the involvement of CSIRO with this project (Web site 2), and
- James Cook University information on the facility (Web site 3).

Web site 1. www.jcu.edu.au/app/jobs/positiondetails.cfm?reference=7169

Web site 2. www.csiro.au/resources/AusTropicalHerbarium.html

Web site 3. www.jcu.edu.au/atfi/JCUDEV_003572.html

Funding opportunity: Network for Vegetation Function

ARC-NZ Research Network for Vegetation Function.

Open call for proposals for working groups

The Network for Vegetation Function operates through working groups. These gather 10 or so researchers together for sessions of a few days, to tackle research questions that need data synthesis or new concepts or theory.

This is an open call for proposals towards fresh working groups. The potential range of topics is wide, spanning for example molecular genetics and proteomics, evolutionary radiation, ecophysiology, development and architecture, root symbioses, ecosystem processes, functional and comparative ecology, global change,

natural resource management, herbivory, pollination, vegetation dynamics, soil processes, nutrient cycles, plant diseases, global change, palaeoecology.

Proposals should be brief (1–2 pages). They should be sent to vegadmin@bio.mq.edu.au by Monday 1 October 2007. They need to articulate an idea and to indicate people who would be involved, but do not need to specify budgets or dates. More detailed advice is available (Web site 1).

Lead applicants need not previously have participated in the Network, nor need they be Australia-based. However, proposals are expected to stimulate research in Australia as well as elsewhere.

Proposals will be assessed by the Network's Science Advisory Board, within 4 weeks of the 1 October deadline. The Network's convenor will then negotiate with the highest-ranked applicants, suggesting any recommended adjustments and making more detailed arrangements.

The Science Advisory Board will apply the following main criteria:

- Is the research question interesting? Does it bring together people in unfamiliar combinations? Can good progress be made through the working group mechanism?
- Is there a credible plan to generate high-impact research outputs? (Typically publications in strong journals or multi-institution research proposals, but the Board is open to suggestions about other outcomes.)
- Do the people involved have the talent, energy and time to ensure that outputs emerge from the working group?

Further details is available on how to apply, and information about working groups already in progress (Web site 2). You are also welcome to discuss possibilities in advance with the Network's conveners, Mark.Westoby@mq.edu.au and iwright@bio.mq.edu.au.

The Network is headquartered at Macquarie University in Sydney, Australia.

Web site 1. www.vegfunction.net/research/how_to_apply.htm#WG

Web site 2. www.vegfunction.net/research/how_to_apply.htm#WG

Volunteer opportunity at University of the Third Age

The University of the Third Age (U3A) Online courses are delivered to people who have an interest in various subjects but are generally unable to attend in person due to remoteness or incapacity.

¹ See also under Taxacom section (pp. 34–35) for details of the de Candolle and Barnaby awards

U3A Online is run entirely by volunteers who carry out all the course writing, course development and administration. Its web site (Web ref. 1) is hosted and maintained by Griffith University as part of its community service program, the courses are delivered through the University's Blackboard platform.

One of our popular courses is called "Botany for Knowledge and Enjoyment." Unfortunately, the course leader (who also wrote the course) is no longer in a position to deliver it for U3A Online.

I would be very grateful if you would canvass your members to ask if anyone might be interested

in delivering the course to participants on behalf of U3A Online. I can arrange for a temporary enrolment level access to our site to enable you to peruse the course details; this will give you an idea of what is involved.

Kathy Rossini

Course Coordinator, Administration Team

Web ref. 1. www.u3aonline.org.au

This course was previously run by George Chippendale, now in his 86th year, well and busy and in his own words "involved in other things, such as writing my own life story, some painting, and just general living. We go away to the coast frequently, too". George is of course one of our long term members and contributors and it is good to hear that he is still active. Eds.

ABRS report

National Taxonomy Forum - Sydney October 2007

ABRS in conjunction with the Australian Museum and the Federation of Australian Science and Technology Societies (FASTS) is holding a National Taxonomy Forum on the 4–5th October 2007 at the Australian Museum in Sydney. Representatives from universities, herbaria, museums, State, Territory and Commonwealth Governments, industry representatives and stakeholders have been invited to attend.

The Forum seeks to identify:

- a national picture of institutional needs for taxonomy;
- a national picture of taxonomic research;
- strategies for combating taxonomic decline.

The forum will include a series of professionally facilitated workshops targeting the above questions. ABRS and FASTS intend to publish the results of the National Taxonomy Forum. ABRS will use the results of the Forum to develop a national policy on taxonomy and to develop a response strategy for recovering taxonomic capacity.

Web reference: www.environment.gov.au/biodiversity/abrs/ntf.html

Staffing

Dr Anna Monro has left ABRS for the greener pastures of the National Herbarium, where she now has a permanent position as a technical officer. Anna has worked on the Grasses volumes of the *Flora of Australia* off and on since 1998, and she will be very much missed both as a wonderful colleague, and for her specialist knowledge.

Erin Croot, part of the Graduate program for DEW, is working with us until August, with special responsibility for producing ABRS' next strategic plan.

Rob Beardow finished his current contract with ABRS at the end of June. We hope he will be

back later this year to continue his work on the Australian Faunal Directory.

Recent Publications

Algae of Australia: Batrachospermales, Thoreaales, Oedogoniales and Zygnemaceae (T.Entwisle et al.). Available from CSIRO Publishing for \$90 + postage.

Freshwater Cyanoprokaryota of North-Eastern Australia 1: Oscillatoriales, Flora of Australia Supplementary Series number 24 (G.B.McGregor). Available from ABRS for \$36 including postage.

Pictorial Atlas of Australasian Culicoides Wings (Diptera: Cerapogonidae). Available from ABRS for \$25 including postage.

Australian Ladybird Beetles (Coleoptera: Coccinellidae) (A.Słipiński). Available from ABRS for \$90 including postage.

What Wasp is that? : An interactive identification guide to the Australian families of Hymenoptera (N.B.Stevens et al.). A LucID key which is part of the ABRS Identification Series. Price \$64.90 + postage. Available from the Centre for Biological Information Technology (CBIT), Level 6, Hartley Teakle Building, University of Queensland, St Lucia, QLD, 4072.

We have also published a free poster to celebrate the Tercentenary of the birth of Carl Linnaeus. Produced in association with the Swedish Embassy and the Australian National Botanic Gardens. Distribution details are not available yet, but if you are visiting Canberra, come in and pick one up.

Forthcoming Publication

Algae of Australia: Marine Benthic Algae of Lord Howe Island and the Southern Great Barrier Reef. 1. Green Algae (GT.Kraft). This will be available from CSIRO Publishing for \$125 + postage.

Annette Wilson, Helen Thompson
and Cameron Slatyer

ABLO report

It was requested that I combine the news from Spring and Summer for the final report as ABLO. Consequently, it is lengthy. Put the kettle, sit back and prepare for the news ...

Spring was a veritable cacophony of floral brashness, rolling on exhaustingly through more carpets of bulbs, unrelenting woodland floral displays and the usual blousiness of those ubiquitous genera so typical of English gardens: *Magnolia*, *Malus*, *Prunus* and *Rhododendron*. Of special note was the bluebell display, *Hyacinthoides non-scripta*, which this year produced spectacular and quite beautiful mats of cerulean blue in the nature conservancy near Charlotte's Picnic cottage ... For me though, the wonder of walking at Kew during Spring was being drenched in chloroplast, for as the deciduous trees came into leaf they cast an almost luminescent green beneath their boughs — just lovely.

The 2007 Spring display was somewhat earlier than generally experienced in south-east England, prompted as it was by unseasonable dry, warm and sultry conditions in April. Yet another record was broken, as April was the driest and warmest on record for over three centuries. At the time there were grave fears for the lawns of London (!), as by the end of the month, they were showing the typical browning of Summer. Silly really, when of course conditions reverted in May to Winter, the rains came and came, and for something entirely different, came. And as the flooding attests, took a while to leave ...

The last two months of Summer whistled by at dizzying speed. There was a nanosecond of Summer and unlike last year, much rain. Towards the end of August, the temperatures approached those of Autumn, and the days shadowed by grey and overcast skies. Those of you who have been regular readers of the missives from Kew will appreciate that yet another climate record has been broken in England, it being the wettest Summer for some time. Ho hum, the records just kept tumbling. Still, it beats drought and the trees continue to breathe collective sighs of relief at the prospect of moist feet ...

Yet again, I digress. The year has rolled by and the following are just a few tit-bits from Kew.

Changes at Kew and the BM

Staff

The most important herbarium event to take place in the six months has been the news that Simon

Owens would be leaving the post as Keeper of the Herbarium, moving to a new post as Head of Strategic Projects, effective as at the 1st of July. This new position was developed to assist Steve Hopper to support, facilitate and progress Kew's One Planet Programme, and will have a special focus on delivering resources and implementing strategic projects involving Kew's European partnerships. As I write, there has been no further news regarding the Keeper's position at Kew.

It is hoped that a new Keeper will be appointed by the end of the year, but until that time, the Keeper's position will be shared mostly between Alan Paton and Dave Simpson, as well as a cast of 'thousands' too numerous to mention.

Rogier de Kok has taken over from Daniela Zappi as the new Assistant Keeper for the Regional Teams and Associated Units. The Indian Botanical Officer at K, Sunil Srivastava, completed his term in May and has yet to be replaced. I also have the sad news to report that Alan Radcliffe-Smith (former Head of Euphorbiaceae Section, Herbarium) died suddenly on Wednesday 8th August at Frinton-on-Sea.

Many of you will know Roy Vickery, Curator of the Herbarium at the BM. He has now retired and been replaced by Jonathon Gregson (ex K).

Temporary closure of loans/image request facilities at the BM

The Department of Botany at the Natural History Museum is currently preparing to switch to a new collections management computer system. The migration of existing data into the new system will take place throughout September and this means that they will not be able to process any loan or imaging requests. There will also be delays in receiving and sending gifts and exchange material, processing of out-going and incoming loans to the BM.

It is anticipated that the process will require several months to train staff in the new system, and iron out any problems. The BM therefore has advised me that from 1st September 2007 until the end of 2007 they will be unable to honour loan or imaging requests. No doubt Jeremy Bruhl will let you know when they resume trading in materials and permit access to imaging of collections. So for now, stockpile your BM requests concerning herbarium materials, as they will not be serviced until the New Year.

Construction at Kew

The horizon at Kew rarely stays the same. The Shirley Sherwood Gallery is now well on the way to completion and work has commenced to remove the paintings of the Marion North Gallery for conservation as well as making the gallery available for restoration and repair. The Herbarium and Library extension is rapidly rising from the ground, the second floor is laid and the pillars for the third floor are being constructed.

Further changes in the gardens during August, has seen what was once the tallest wooden flagpole in the world dismantled. The pole was entered into the Guinness Book of Records in 1959 as the tallest in the world, at 225 feet (68.58 metres) in height, but since then time and weather have taken their toll, requiring it to be shortened several times so that at the time of its demise, it was only 200 ft (61 metres). It was the fourth flag pole to stand on the site, the average lifetime of a wooden pole at Kew being 50 years. It was crafted from the trunk of a single Douglas fir (*Pseudotsuga menziesii*), estimated at 370 years old, and weighed 37 tonnes when first cut but was reduced to 15 tonnes after shaping at Kew. The tree was presented by British Columbia to commemorate the centenary of the province in 1958, and the bicentenary of the Royal Botanic Gardens, Kew in 1959, and came from Copper Canyon, on Vancouver Island. The final statistic about the flag-pole is that it was erected at Kew by 23rd Field Squadron of the Royal Engineers!

Sources close to planning a replacement have indicated that there will not be a fifth old-growth fir cut, despite an offer from the Canadian Government. Ideas are currently being sought to provide a novel and ethical design solution for its replacement.

An honourable mention

Bernard Verdcourt has been made a Corresponding Fellow of the American Plant Taxonomists Association. Bene merente! Mirabile dictu!

Genera scanned for the Australian Global Biodiversity Information Facility project

The Centre for Plant Biodiversity Research and the Australian National Herbarium have been collaborating with the Royal Botanic Gardens Kew (K) on a project to digitize significant Australian collections held at K. Through 'seed' funding provided by GBIF, K has been scanning herbarium sheets of historical and type Australian materials for the last 3 years, sending these on to CANB, where they have been databased. The net gain for us all has been the availability of these images along with their data, through the APNI database.

The pilot project has been completed and discussions are underway to determine the best way for this project to continue. As the ABLO selects material from targeted genera of families, I thought that it might be useful to know from which genera images have been supplied to CANB (Table 1)

Table 1. Coverage to date of historical herbarium specimens in Kew whose images have been supplied for capturing specimen data

Goodeniaceae: various genera

Papilionaceae

Bossiaea, Cajanus, Crotalaria, Cullen, Dendrolobium, Desmodium, Erythrina, Galactia, Goodia, Hovea, Indigofera, Isotropis, Kennedia, Mucuna, Plagiocarpus, Muelleraanthus, Psoralea, Ptychosema, Rhyngosia, Sesbania, Swainsona, Templetonia, Tephrosia, Vigna and Zornia.

Myrtaceae: *Angophora* and *Eucalyptus*

Geraniaceae: *Erodium, Geranium* and *Pelargonium*

Monimiaceae: *Antherosperma, Austromatthaea, Daphandra, Doryphora, Dryadodaphne, Hedycarya, Palmeria, Steganthera, Tetrasynandra* and *Wilkiea*

Epacridaceae: *Acrotriche, Andersonia, Archeria, Astroloma, Brachyloma, Choristemon, Conostepheum, Cosmelia, Cyathodes, Drachophyllum, Epacris, Leucopogon, Lissanthe, Lysinema, Melichrus, Monotoca, Needhamiella, Oligarrhæa, Pentachrondra, Prionotes, Richea, Rupicola, Sprengelia, Styphelia* and *Trochocarpa.*

Pandanaceae: *Freycinetia* and *Pandanus.*

Stylidiaceae: *Stylidium, Levenhookia* and *Forstera.*

Lamiaceae: *Hemiandra, Hemigenia* and *Microcorys.*

Cunoniaceae: *Ackmana, Acsmithia, Anodopetalum, Aphanopetalum, Bauera, Calycomis [Acrophylum]* and *Pullea.*

Visits, visitors, exhibits and publications

Edinburgh

Towards the end of March, I visited the herbarium at the Royal Botanic Gardens Edinburgh (E), with a view to working with the *Russula* and *Lactarius* collections and paintings of Edred John Henry Corner (typically known as John Corner, 1906–96). The materials I was targeting were among 103 boxes of collections Corner donated to E shortly before his death. They included polypores, aphyllporaceous specimens and agarics, as well as gasteroid fungi, 'jellies', 'pyrenomycetes', operculate and inoperculate 'discomycetes', rusts, smuts and myxos – and they are only the fungal collections! There were also algal and lichens collections among the 8,000–10,000 specimens. Associated with these are an estimated 400,000 pages of hand-written and typed unpublished documents accompanied by descriptions and

sketches, and tracings of microscopic characters. Roy Watling and Evelyn Turnbull are gradually databasing and incorporating these into the main herbarium in E, but as you can appreciate, this will be a very long-term venture.

Corner was meticulous in his documentation, and it appears that he had prepared all his supporting documentation so that he could publish these as generic accounts. It was evident that John Corner was a strong believer in documenting what he saw, not only in the copious and very astute notes he took, but also in the paintings he made of the new taxa. I suspect he used his paintings as surrogates for good colour photographs which would no doubt have been very expensive in the earlier half of the 20th century.

Cambridge

The university herbarium at Cambridge University (CGE) was next on my list. I had wanted to visit CGE to resolve some queries I had accumulated, but was completely unprepared for the magic of the collection. It is relatively small compared to K and the BM, being only 1.2 million sheets in the main herbarium with a further 300,000 carpological collections in storage, but of course is the eldest of the 3 having commenced in 1761. What was startling was the staffing at CGE for aside from the Director, there is only one curator for the entire collection which is ostensibly larger than either NSW or MEL ... and still there was no Valium taken with the morning cuppa.

News from CGE is that it will be closing temporarily during the next few years to accommodate a move into the new and purpose built herbarium as part of a new Plant Sciences faculty building donated by the Sainsbury Trust. This facility will be relocated to the Cambridge Botanic Gardens site. So for those of you who may wish to obtain data or other information, try and do so in the near future before access will be denied. Also currently on the CGE agenda is their move to digitise their significant British and European collections. Having elected to go down the digitisation route, they are using a 12 mega pixel camera rather than a scanner with an inverted 'head'. The results appear as good as those obtained by the overhead scanners, but provide greater efficiencies in the time taken to create an image, less wear on the materials and equipment.

The herbarium is of course well-known as the repository of Lindley's herbarium. What I failed to grasp before my visit, was the breadth of the 19th century Australian collections. Most of the important historical collectors were well represented in the collections, especially James

Drummond. It was quite a privilege to see such a wonderful array of historical materials.

Paris

Ah, Paris. Notable for kamikaze pigeons, seriously disturbed taxi drivers and its glorious opalescent light ... And of course the herbarium or Laboratoire de Phanérogamie. Along with Zoology and Geology, the herbarium is situated in the Jardin des plantes as a part of the Muséum d'histoire naturelle complex on rue de Buffon. The visit was quite the most amazing experience yet of my ABLO term. Cited as having 8 million specimens on its website, staff inform me that it has in fact 11 million specimens – and having seen a little of the building and collections, I would certainly be happy to believe the latter. Created in 1626, it houses one of the most surprising and extraordinary collections of 18th and 19th century Australian materials I have yet seen and one which I suspect complements or even surpasses that held by Kew. So beware, always check P for those historical types – they are probably lurking there, unidentified ...

I applied with some trepidation to visit and was overwhelmed by the warmth of the response. M. Morat coordinated my all too brief sojourn, and I was delighted to be allowed to scuttle about in the wings unsupervised. The visit proved to be enormously beneficial to me and also I have no doubt, for those who had requests dependent on P materials. The silence within the herbarium however, was quite unnerving, and I was occasionally startled from my perch by the all-encompassing audio system blasting out various messages to staff in far-flung corners of the herbarium.

Like CGE, P is mooted for closure in the near future. Although this has been scheduled for a number of years, it looks as though it will eventuate towards the end of this year. The building is to be gutted and the storage replaced by compactuses. During the closure, the collection will be rearranged according to APG II. It is anticipated that the building works will take between 18 and 24 months, but according to some staff, P is likely to be closed for a number of years to accommodate the reconstruction and rearrangement of the collections.

Prague

During July I visited the Prague Herbarium (PR). By the time of this report, the collections will have been completely shifted from the University and installed in the repository located on the outskirts of Prague. It was a curious experience for me as it was the only herbarium I have ever visited, which had a sentry at the gate kept company by a very large and particularly anti-social Alsatian.

I was kindly assisted in my requests for information by Ota Sida and the curator, Jana Raabova. The jewel in the crown was being given a copy of Domin's personal herbarium database – PR has ensured that his herbarium is mounted and completely databased. I have sent a copy of this to ABRS, as well as ensuring that a copy is accessible on the ABLO computer. So for those of you for whom this database may prove useful, you will be able to have the records interrogated.

An aside

Speaking of APG II, like E, it looks as though the collections at the BM and K will be following a similar fate. Herbarium staff (well not quite all, there appears to be mounting opposition at K) at both of the institutions regard their current herbarium renovations as the opportunity to rearrange the collections according to the new classification.

Visitors

Only three scientific visitors made themselves known to the ABLO during the Autumn quarter. My first visitor for this quarter was a young scientist currently completing her degree in Environmental Sciences at Monash, Rachel Rachael De Graauw-Storme. Joan Webb called into K regarding her continued work on George Caley, and Helen Cohn visited to re-establish links with the relatively new Library Manager, Christopher Mills. Also on Helen's list, was to meet two of the up-and-coming botanic artists at K, Lucy Smith and Rachel Pedder-Smith.

Spring-Summer saw Christina Flann spending two weeks during June working with Nicholas Hind on the Global Compositae Checklist. Christina, for those of you unaware, has recently been awarded a three-year grant by the Netherlands Government authority, the Netherlands Organisation for Scientific Research, NOW. Well done Sea-gull!

Bill McDonald visited during July for a week to work on Sterculiaceae and whilst here, presented a talk on the Border Ranges region between Queensland and New South Wales.

Phillipa O'Brien also visited the herbarium with the aim of teasing out further details of the remarkable Georgiana Molloy.

Exhibits

With fewer days of frost, and progressively warmer summers, the horticultural face of London appears to be on the change. Average temperatures for the winter months have risen by more than two degrees in parts of Britain over

the past 20 years and growing exotic species like olives and bananas has become very popular, especially in the south-east of England. As if to give credence to this, Kew's Summer festival highlighted the Mediterranean climate as well as plants from the region. It explored issues such as the science of climate change and conservation, right through to dryland gardening. The festival has seen curious installations such as a beach in the gardens – quite an unusual experience to say the least. You can visit the website at: www.kew.org/medsummer

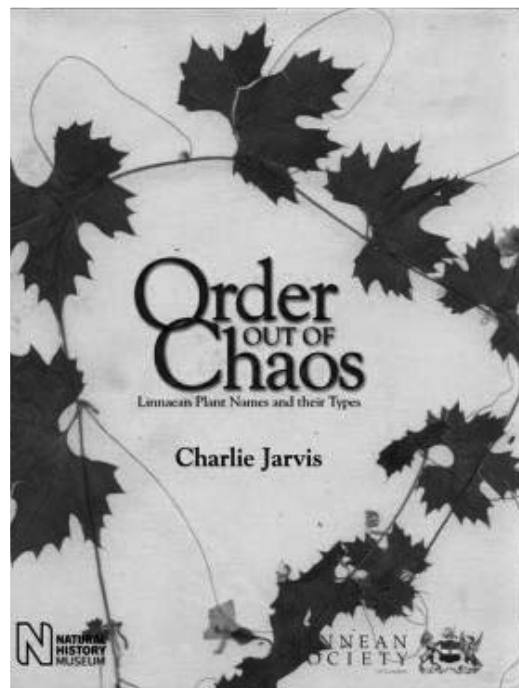
Another of this years festivals celebrates 'Henry Moore at Kew' and will run from 15th September to 30th March 08. All I can say is, lucky Jeremy Bruhl.

The last year has seen a plethora of activities, symposia, and exhibitions celebrating the life and works of Linnaeus. One of the more delightful exhibitions was that of the Natural History Museum's Library exhibit: *Linnaeus 300 - a celebrations of the tercentenary of Carl Linnaeus*. The exhibit displayed original texts of Linnaeus' personal library as well as those of his contemporaries and students, such as Ehret and Daniel Solander.

Publications

Of the many publications that have emerged in the last three months, two are of note. Firstly,

Fig. 1. Cover of *Order out of Chaos*



Charlie Jarvis's mammoth work *Order out of Chaos* (Fig. 1) was launched at the Linnean Society in May as part of the 'Tercentenary' celebrations hosted by the Linnean Society. It is a co-publication between the Linnean Society of London and London's Natural History Museum, and brings together for the first time information on the typification of all of Linnaeus' plant names. It provides a comprehensive catalogue, listing each Linnaean name along with the place and date of publication, type specimen, typifier and place of typification. It also includes the current name, explanatory notes, and references to relevant literature. The book is a real 'tour de force' and the catalogue is complemented with detailed accounts both of Linnaeus' publications and those of other botanists who contributed to his understanding of plants. Significant plant collectors are enumerated, with examples listed of important specimens known in Linnaeus' and other herbaria. It is available through the Linnean Society (Web ref. 1).

Lulu Rico's 'American species of *Acacia*' is the second of the two volumes I mentioned. It was launched at K in mid-June and summarises the current information available for the genus in the American continent. The work recognises *Acacia* as a single genus, with the exception of *Acaciella*. (Lourdes Rico-Arce 2007)¹.

The project to digitise the 253 published fascicles of the Flora of East Tropical Africa (FTEA) has now been completed. There are a further 15 families to be completed and digitised in order to complete the FTEA. Already digitised are the Floras of Zambesiaca and West Tropical Africa, and Useful plants of West Tropical Africa. Together they will be made available through ALUKA (Web ref. 2) and the eFloras at Kew (Web ref. 3)). There are also plans to digitise the Flora of Tropical Africa and Flora Capensis.

Chelsea

Helen Cohn and I attended this year's Chelsea Flower Show, albeit in a somewhat semi-professional capacity I must admit. Principally there to view artwork proposed for the collection at MEL, we made use of the day to have a little look about. Chelsea was undeniably a phenomenal, even if somewhat a curious and pressured experience.

Even the Linnean Tercentenary was celebrated at Chelsea this year with a 'show garden' honouring

Linnaeus. It was commissioned by the Swedish Government and co-ordinated by the National Tercentenary Committee in Stockholm. Designer Ulf Nordfjell used the simplicity of Swedish design to reflect Swedish 18th century heritage to honour 'the Father of Taxonomy' – and honour him it did. Doubtless the Gold Medal award was obviously well-deserved, even still, Helen and I gave it the thumbs up. What I thought noteworthy was the use in the garden design of plants reputedly grown in Linnaeus' garden at Hamarby: *Lilium martagon*, *Asarum europaeum*, *Fritillaria meleagris* as well as his signature flower, *Linnaea borealis* – rather a nice touch.

Of special note to me were the stands sponsored by two of the more notable British fungal societies: the British Mycological Society and the Association of British Fungus Groups. Both displays were brilliant, informative and professional. The Association's stand was however, more mainstream in its appeal to the general public with the theme: Fungus is not the bogeyman! The emphasis was on mycorrhiza, which is something of a buzzword in horticulture over here and the exhibit focused on the positive and beneficial links between certain fungi and green plants. The 'stars' of the exhibit included a new range of life-like models of 25 mycorrhizal fungi species that establish symbiotic links with native trees including beech, English oak, weeping birch, Scot's pine, European larch and spruce. And of course, in pride of place were the genera *Russula* and *Lactarius*.

A few final comments

Some of you will know of my recent botanical excursion along the Wey Navigation. Accompanied by certain Cohns and their related species, the Griffiths; I simply wish to report a good time was had by all, and some advances were made in my understanding of the weed flora of south-east England.

Thank you to those of you who have made requests of the ABLO position 2006–07. They have taken me to new and wondrous texts, made me examine materials I would be unlikely to ever access, meet delightful people and visit botanical jewels such as Cambridge and Edinburgh and the European herbaria: Berlin, Paris and Prague. I have taken morning coffee with Deborah Holtum and John Corner – all of us sitting at the one table - and seen the installation of a new era at K under Steve Hopper's quiet, inclusive and positively focussed leadership. It has been a remarkable year.

Some difficulties persist however. The issue of loans difficulties between K and Australian herbaria in particular, continue to simmer and will

¹ For those interested in purchasing this, please contact documentation centre in CONABIO (cendoc@xolo.conabio.gob.mx) or Dr Sousa from the Institute of Biology, Mexico (Sousa@servidor.unam.mx and Chiang@servidor.unam.mx).

likely intrude again to disturb trade in herbarium specimens between the UK and Australia. I thank Lindy Cayzer (AQIS, Plant Programs) and Jim Ross for their guidance and assistance with these difficulties. It is going to require conscientious and direct action from CHAH to finally resolve these difficulties.

There was almost a 20% increase in requests this ABLO term compared to last year and more than 25% of all queries have originated in the UK. Of these c. 60% are from K staff. The type of queries have not changed, they ranged from issues surrounding the taxonomy and nomenclature of Australian taxa, locating Australian types, determination of herbarium specimens from Australia, provision of information on the Australian flora, to contact details for researchers and funding bodies.

In total, the number of images provided for requests received this last 12 months is 857, this excludes the images secured from type and historic materials sourced for the GBIF/AVH project between K and CANB. A small proportion of these were images of ancient library texts and Linnean Society herbarium holdings, 329 are scanned images of K herbarium sheets and

component parts, and the remainder consisted of sheets scanned from the Natural History Museum (BM) and digital photographs from the collections of Berlin (B), Cambridge (CGE), Edinburgh (E), Paris (P), and Prague (PR).

Special thanks should go to ABRS, and in particular Annette Wilson, for support of the position. I am and will remain grateful to have been the ABLO for 2006–07.

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Lourdes Rico-Arce, Maria de (2007) A checklist and synopsis of American species of *Acacia* (Leguminosae : Mimosoideae). Tlalpan, Mexico : Comision Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), 2007.

Web ref. 1. www.linnean.org/index.php?id=267

Web ref. 2. www.aluka.org

Web ref. 3. www.kew.org/efloras

Jenny Tonkin

Many thanks to Jenny for her very informative reports on what has been happening in Kew during her tenure as ABLO. We hope that she will continue to bear the newsletter in mind on her return to Melbourne. Jeremy Bruhl has now replaced Jenny in this position. Eds.

Tentative herbarium destinations for the 2007–2008 ABLO, Jeremy Bruhl

I will take up the position of Australian Botanical Liaison Officer (ABLO) based at the Royal Botanic Gardens Kew at the start of September 2007 till the end of August 2008.

The position entails servicing botanical enquiries from, and providing support to members of the Australian botanical community, in particular in relation to the *Flora of Australia*, *Fungi of Australia*, *Algae of Australia*, and related projects by:

- Locating, inspecting and reporting on type and other specimens in Royal Botanic Gardens Kew and, as possible, other European herbaria, pertinent to increasing the understanding of the Australian flora.
- Facilitating the provision of reasonable numbers of appropriate digital and other images of Australian type and other specimens for Australian botanists.
- Contributing to a register of images of type specimens of Australian and related species available to Australian botanists.
- Seeking out, inspecting and reporting on obscure botanical literature in RBGK and, as possible, other European herbaria, and arrange for reasonable numbers of appropriate articles to be copied for Australian botanists.
- Visiting selected European herbaria to locate, inspect, photograph or copy obscure botanical materials.

- Assisting Australian botanists visiting Kew and other European herbaria, in particular by providing orientation and introductions.

www.environment.gov.au/biodiversity/abrs/admin/ablo/pubs/profile.pdf

Besides the London herbaria (K, BM, LINN) and some other British herbaria (E, RU and possibly CGE, OXF), I plan to visit C (in August 2008 in conjunction with Monocots IV) and hope to visit FL, GENT, L, P, PR, PRA, Z, possibly B, BC, G and others...

I will keep ABRS and the ASBS Newsletter informed as my itinerary firms up. If you have possible or probable requests for ABLO at these herbaria, it would be good to know early, to help firm up my plans. If you have requests from ABLO from herbaria I have not listed, please do let me know and I will see if I can work visits to those herbaria into my itinerary.

Prior to making formal requests, please be guided by the information from ABRS at '<http://www.environment.gov.au/biodiversity/abrs/admin/ablo/requests.html>'.

Jeremy Bruhl

Book reviews

Flora of Australia volume 2

Reviewed by Andrew Ford
CSIRO Sustainable Ecosystems, Atherton

Flora of Australia. Volume 2. Winteraceae to Platanaceae. 2007. Melbourne: ABR/CSIRO Publishing.

The long anticipated and awaited arrival of volume 2 marks the publication of the 30th volume of the *Flora of Australia*. This volume treats 456 taxa (includes various infra-specific ranks) in 24 families spread over 486 pages. Volume 2 contains many families of highly significant phylogenetic position, which are often referred to as ‘primitive’. An extremely large proportion of these ‘primitive’ families contain locally to nationally endemic species, particularly pertaining to the World Heritage rainforests of north-eastern Queensland. Over half of the species treated are rainforest inhabitants. Lauraceae (especially *Endiandra* with 38 and *Cryptocarya* with 47 species respectively) is the most species diverse family treated with some 136 species, and *Ranunculus* (Ranunculaceae) is the most species diverse genus with 51 species (including many naturalised taxa). The Australian monotypic and endemic family Austrobaileyaceae is included in this volume, as are the wholly naturalised families Berberidaceae, Fumariaceae, Papaveraceae and Platanaceae. A total of 36 new taxa and 3 new genera are described.

As pointed out by Conran (2000) the *Flora of Australia* needs to be based upon a “stable framework” for classificatory and “pragmatic” reasons. Whilst this is true, it is unfortunate that there is no introductory discussion about the ‘primitive’ families and their relative positions as judged by the many recent advances in phylogenetic and molecular analyses. At the very least the authors could have directed readers to the relevant website (see Web ref. 1; Stevens 2006). The only mention of this website comes at the very end of the volume under Platanaceae (page

413), which is ironically not considered a true ‘primitive’ family as it now sits in the Proteales.

Sadly, four contributing authors to volume 2 died before they could view their final work in print, HJ Eichler (Ranunculaceae), J. Weber (Lauraceae–*Cassytha*), L. Forman (Menispermaceae) and D. Foreman (Atherospermataceae and Monimiaceae) passed away in 1992, 1996, 1998 and 2004 respectively.

The formatted and concise, detailed descriptions provide the reader with adequate information for each species. For many species (excluding new species) this is the first time they have been sufficiently circumscribed.

There are many excellent line illustrations which show the reader some of the diagnostic characters that delineate them from their congeners. The high quality photographs (plates) bring the mentioned species to life, especially with the highly coloured and decorative flowers and fruits. Given this quality and number, a misidentification (plate 6, should be *Melodorum uhrii*) and a typographical error (plate 17, *Dry[ad]odaphne trachyphloia*) can easily be excused.

The traditional dichotomous keys mostly use unambiguous characters that the reader can follow without having to refer to

wordy glossaries. However the use of the word “flamuliform”, which is adequately defined, to describe the leaf division within *Clematis* (Ranunculaceae) shouldn’t go unmentioned! (See page 298). For the larger genera treated (especially *Cryptocarya*, *Endiandra* and *Ranunculus*) it would have been much more user friendly to divide them into groups than to have more than 50 couplets to wade through. This is more so for *Cryptocarya* - with 47 species the flowering key has 98 couplets. Within this key alone *Cryptocarya triplinervis* can be exited at 11 of the couplets.



The use of both flowering and fruiting keys for Lauraceae is to be applauded for this notoriously difficult rainforest family, although once again there are far too many couplets and dividing the species into group keys would have been much more practical. Also the use of flower odour as a couplet requires attention as perceptions of odour varies widely amongst individuals. For example *Hollandaea sayeriana* (Proteaceae) flowers have been described as being “sweet like honey” to “strongly unpleasant”. Flower odour is therefore best left in a species account under the description rather than as an important couplet lead.

By and large the distribution maps and text match very well. Some exceptions are the morphologically close *Wilkiea macrophylla* and *Wilkiea rigidifolia*. The maps (88 and 89) suggests that they are geographically distinct and separated by some 800km, but the text (page 80) suggests otherwise and sadly there are several fertile specimens of *W. macrophylla* from north-east Queensland from where it is apparently absent. Also the maps for *Pycnarrhena ozantha* (map 404) and *Cissampelos pareira* (map 422) suggest they occur in north-east Queensland, but the written text has both taxa being apparently confined to the Cape York Peninsula area. I believe the written text to be true and the maps to be in error. The text for *Peperomia enervis* (page 243) states that it occurs in the “Eungella region”, with a cited specimen, but the map (No. 278) doesn’t have this location. An alternate situation exists with both *Cryptocarya bidwillii* and *Stephania tuberosa*. There are specimens, collected some time ago, of each held at QRS (CSIRO Plant Industry Atherton) and BRI (Queensland Herbarium) which would have dramatically increased the known distribution of both taxa. *C. bidwillii* and *S. tuberosa* are both known to occur in north-east Queensland, which for the former is a jump north of some 700 km and the latter a jump south of about 1000 km.

Unfortunately, and as with previous volumes of the Flora, some well known new species known by phrase names were overlooked completely or inappropriately dealt with. *Cryptocarya* sp. (Boonjie L.W.Jessup+ 319) (sensu Henderson 1997) and *Tasmannia* sp. (Mt Bellenden Ker J.R.Clarkson 6571), both narrow endemics to north-east Queensland, received no mention whatsoever, even though specimens (both flowering and fruiting) have been in herbaria for some 25 years or more. See Hyland et al (2003) and Cooper (2004) for more information and illustrations. The newly described *Stegathera cooperorum* has been known for many years under various names (page 83). A less well known and seemingly distinct informally named *Wilkiea* sp. (Mt Lewis) (sensu Henderson 1997 and Cooper 2004) is not treated or mentioned. However,

herbarium specimens under this name have since been amalgamated under *S. cooperorum* without the necessary specimen citation or “other names” synonymy on page 83. The two “species” have overlapping distributions at the broad scale but occupy different rainforest communities. In addition the previously well known *Wilkiea* sp. (Barong) (sensu Henderson 1997 and Cooper 2004) was lumped into *Wilkiea angustifolia*. In contrast *Wilkiea* sp. (Boonjee) (sensu Hyland et al 2003) was placed into the new species *Wilkiea cordata*. Unfortunately, *W.* sp. (Barong) and *W.* sp. (Boonjee) share the same species concept and nearly all specimens previously known as *W.* sp. (Boonjee) or *W.* sp. (Barong) now reside under the variable *W. angustifolia*. Thus the “other name” of ‘*Wilkiea* sp. (Boonjee BG5413) on page 78 should have appeared on page 77 under *W. angustifolia*.

Following on with this train of thought I was somewhat aghast at the meritorious erection of the monotypic genus *Hemmantia* (Monimiaceae) which appears valid, but follows the apparent inaction with ‘*Wilkiea* sp. A’ and *Wilkiea* sp. B’. *Hemmantia* was erected with the scarcest of material viz. 3 specimens which have between them male flowers and leaves only. Female flowers and fruit are unknown. Whereas both ‘A’ and ‘B’ are known from many more specimens and with equivalent (or more) material. In addition ‘B’ has drupes reported as black. This would appear in error as the cited specimen *Jensen 974* (BRI) actually has red drupes. This is significant as the only other “*Wilkiea*” with red drupes (*Wilkiea wardellii*) was transferred to another monotypic genus *Endressia*. Of even greater significance is that *Endressia* was noted as being unusual in that it exhibits hypogeal/cryptocotylar germination, a trait apparently only shared with *Austromatthea elegans* (“Hyland et al 2003”) in north Queensland Monimiaceae. Sadly this is not the case. Hyland et al (2003) records ‘*Wilkiea* sp. A’ (as Monimiaceae Gen. Nov. sp. (McDowall Range)) as having hypogeal germination. It is therefore my opinion that *Wilkiea* sp. A is more closely related to *Endressia* than to other members of the genus *Wilkiea*. A detailed and thorough review of the genus *Wilkiea* is required to ascertain the relatedness and taxonomic position of the species currently residing there.

One of the most unfortunate aspects of the volume is the lack of acknowledged published illustrations. In the Introduction on page ix it clearly states that, “Descriptions and discussion in the *Flora* are concise and supplemented by important ... and published illustrations”. All of the rainforest taxa in volume 2 have published leaf x-ray images and often a quality photograph in Hyland et al (1998 and 2003). None of the

species in this volume refers to such illustrations. In addition there exists a real monument to rainforest fruit illustrations in Cooper (1994 and 2004) for which they are only acknowledged in the Aristolochiaceae. In contrast the genus *Piper* (Piperaceae) is accounted with the photographic efforts in Nicholson and Nicholson (1994). The unknowing reader could be forgiven for assuming that there are virtually no illustrations for many of the species, when this is clearly not the case.

Despite the blemishes mentioned above I have no hesitation in recommending this book as an excellent reference for students, biogeographers (in particular), systematists and anyone who is intrigued with the explosion of 'primitive' flowering plant families and alpine *Ranunculus* in Australia. Although the asking price of \$120 for the paperback and \$140 for the hardback might seem a little steep it is well within the price range of recent meaty publications which carry far less detailed information.

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North-east Australian 'Blue-greens' (Cyanoprokaryota)

Reviewed by R.N. Baldock

State Herbarium of South Australia, Hackney Road, Adelaide SA 5000

***Freshwater Cyanoprokaryota of North-Eastern Australia. I: Oscillatoriales. Flora of Australia Supplementary Series Number 24.* By McGregor, Glenn B. 2007. Australian Biological Resources Study (ABRS), Canberra**

I approach the review of this publication with trepidation.

I was warned by an algal researcher of considerable reputation who, early in their professional life, toyed with the idea of working with them but decided avoidance was the better option, that, unless I was an expert, I would have difficulties appreciating (comprehending?) their morphology and systematics. (My practical experience is limited to marine species, mainly dot-shaped ones, on settlement sheets.) All I can offer, therefore, is a generalist viewpoint, but that may be of help to many in the same situation with respect to this confused and confusing lot.

They are called algae (Cyanophyta), bacteria (Cyanobacteria) or by McGregor's connotation, and new to me, the Cyanoprokaryota. It is interesting that recent ABRS publication of the Introduction to the Algae of Australia plumps for Cyanophyta, although they have updated the Division name including Brown algae to Heterokontophyta, and use Haptophyta for coccolithophorids and cryptophytes. I suspect the cultural divisions between algal workers and bacteriologists will persist for some time and

this group will continue as "the blue-greens" in common parlance.

Individual Blue-greens are microscopic — bacterial size, although many form threads or filaments in masses, or glue themselves into gelatinous blobs that can be seen with the unaided eye. Despite their name their photosynthetic blue-green pigments may be masked by red or brown ones. Some are almost black in colour. Their highly toxic members are notorious. *Anabaena*, *Microcystis* and *Nodularia*, occasionally bloom in nutrient-rich dams and rivers (including the Torrens Lake in Adelaide) possessing distinct thermoclines, and cause mass deaths of stock and concern for human health. Although the genera above belong to Orders not covered by the present publication, *Lyngbya* and *Schizothrix* are, and these are implicated in human skin irritations. A strain of *Phormidium aerugineo-coeruleum* which I knew as a *Lyngbya* species has a potent neurotoxin capable of poisoning both fish and mammals, and potentially toxic *Planktothrix* has also been reported in the Torrens Lake. Besides powerful nerve and liver poisons, blue-greens like all algal blooms blanket water bodies, deplete oxygen and prevent gas exchange at the surface resulting in the death of aquatic animals.

But, like most of their bacterial relatives, blue-greens are not all harmful. It is now fairly well established that ephemeral blooms, subsequent death by desiccation and accumulation of nutrient

rich compost is the basis of the productivity of aquatic life occurring after intermittent rains in the otherwise low-nutrient arid lands such as the The algae/bacteria/karyotes in this current publication come from a vast 2.1 million square kilometres of NE Australia. A prodigious number of sites have been sampled (listed in an appendix) and species crisply described including line diagrams, and impressive photomicrographs of practically all species, although these lack scales.

The sampled habitats are succinctly characterised, and a distinction made between the north where seasonal rains affect the species and south where seasonal temperatures (principally daily minima?) are more the determinants. Which raises a problem: I could not find the dates of sampling which I presume may have affected the diversity of species collected.

I also stumbled over a few terms at the habitat description stage. I understand that technical terms help prevent redundancy and ambiguity, and certainly the author provides an extensive glossary where they are fully explained. But I have a bias for plain language where possible. Why use “diel” when “daily” would suffice, and “metaphytic” rather than “floating”, for example. This stringency continued into the morphological sections where, for example, “aerotopes” were used for “gas bubbles”. Perhaps this trend is an editorial constraint.

This work provides a good catalogue of 122 taxa in the NE of Australia. It is largely a systematic approach, using “stable morphological features readily discernible by light microscopy” making it potentially a good source for field workers and ecologists. It would, therefore, have helped novices such as me if description of the various systematic levels of the group as conceived by Komarek & Anagnostidis and followed by the author had been present early in the systematic account. Brief descriptions of the Orders (a simple key perhaps?), placing the Oscillatoriales, the thesis of this work, into perspective could have been made. Further, are the other blue-green Orders to be published in the future (Chroococales – dot-shaped, single and colonial, Pleurocapsales – single-celled, gelatinous colonies, or short filaments, Stigonematales – filamentous with true

branching, and Nostocales – filamentous with N-fixing heterocysts)? Only the title hints that this might be so. And, on a similar issue, will there be a paper with a statistical ordination of species using the large amount of data that must have been accumulated?

I tried using the key to families, and stumbled over the first step (cells growing to original size/not growing to original size after division). I understand that this is not a teaching publication, but a few labelled examples of species falling into each category would have saved me as I could not find the definitive features in any of the diagrams or photos provided. The author had the advantage of culturing the beasts to determine which features were phenotypically plastic, and which cells were actively dividing, but this would not be available to field workers.

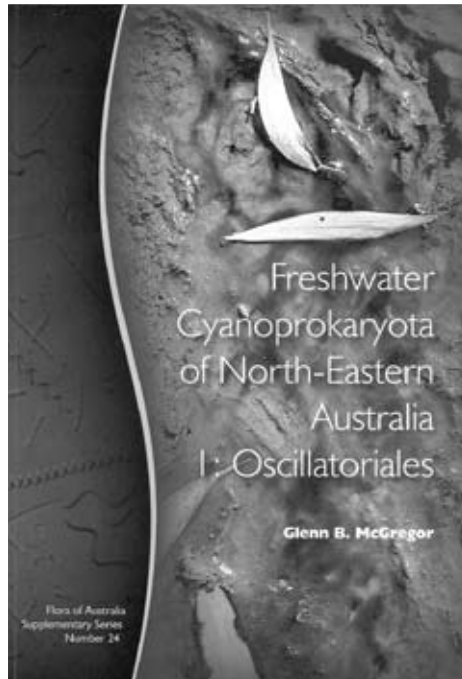
The second step in the Family key (trichomes fragmenting with necridia/usually without necridia) is also difficult. Families constructed from consideration of molecular differences don't necessarily separate easily on morphological features. So, an additional artificial key to all species would

have been of great help, although again, this may not have been possible because of editorial exigencies and policies. (I hankered after a composite key similar to that for marine Blue-green algal genera of Littler & Littler with its *in situ* photos and line diagrams.) Once over the hurdle of finding the Family, the keys seem to work very well.

Descriptions provided useful notes on synonymy backed by references to genetic evidence, potential toxicity and ecology. I am envious about the wonderful photomicrographs (and the equipment used), having struggled to image some of these minute organisms myself. They will provide a useful resource for surveys. As a compendium of current knowledge of this difficult and sparsely known group, this publication will be invaluable. Should I look forward to similar works on the remaining Blue-green Orders?

Reference

- Littler, D. S. & Littler, M. M. (2000). Caribbean Reef Plants: an identification guide to the reef plants of the Caribbean, Bahamas, Florida and the Gulf of Mexico. Offshore Graphics, Washington DC



Name that slime

Review by Michelle T. Casanova
273 Casanova Rd, Westmere, Vic. 3351.

Algae of Australia. Batrachospermales, Thoreales, Oedogoniales and Zygnemaceae.
By Timothy J. Entwisle, Stephen Skinner,
Simon H. Lewis & Helen Foard. 2007.

ABRS, Canberra; CSIRO Publishing,
Melbourne, b&w illustrations and plates,
hard cover, 191 pp. Price AS90 Plus \$9
postage within Australia.
Website: www.publish.csiro.au

At last the *Algae of Australia* series appears! It might seem strange to some, but there are a couple of freshwater algal ecologists out here who would like to be able to put names on what they find. After an extended drought, a trickle of taxonomic advice is finally coming through. I have not had the opportunity to identify freshwater algae to species before (apart from charophytes, of course). It just wasn't possible for someone without an ancient and extensive library of overseas references and their translations. This treatment will now enable me and others to assign names to a large number of freshwater filamentous algae. I must admit, I haven't had a chance to use the new treatment yet, since the local wetlands have been dry for the past seven years, and are only now filling. I'll be on the look-out in Spring for some slime to work on. I can hardly wait!

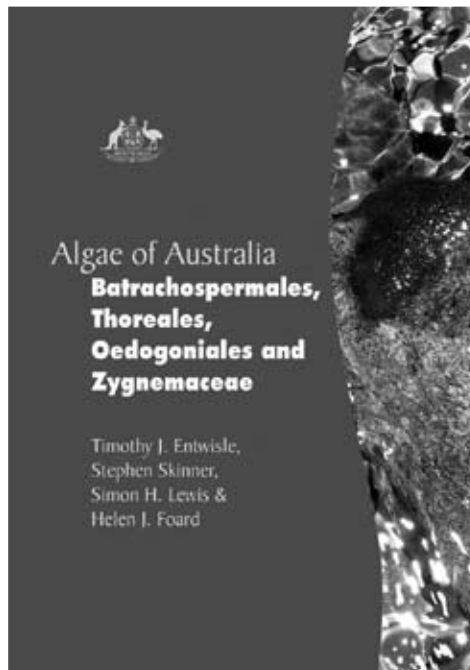
Not too long ago we relied on Prescott (1964) from North America for identification of freshwater algae. It was basically an illustrated key to genera, and like most keys, became more useful with time and experience. In 1997 we were spoilt with the beautifully illustrated *Freshwater Algae in Australia* (Entwisle et al. 1997), which concentrated on the algae you could collect without a plankton net. The common species were listed and the illustrations identified to species (where possible at the time), but really, we could find only generic names for most freshwater algae. That's a bit like terrestrial ecologists knowing only the genus of trees. Imagine getting no further

than *Eucalyptus* sp. or *Acacia* sp. in terrestrial systems. That's how it has been for freshwater ecologists. Now it looks like that is changing for the better. The authors are to be congratulated on their efforts in bringing this project to fruition.

The format follows that of the *Flora of Australia* series, it is terse and informative. The treatment contains keys to families, genera and species, and in Oedogoniaceae, keys to subgenera, supersections and groups of species (in line with overseas treatments). Each species is numbered, described

and illustrated, and a distribution map is provided. A glossary contains definitions of all the difficult words, and the reference list is comprehensive. Some ecological information is given, but it is usually scant. The line drawings are exquisitely detailed, and the photos are usually focused and informative, but it was hard to see cell details in some. Informal groups are provided for vegetative material, so, in the absence of fertile material, ecologists can distinguish among specimen groups. It would really help to have an illustrated glossary, although this is not the norm for such treatments. It is one thing to read a description of a sufficient cell, but it would be better to have one pointed out. I expect I'll have to wrestle with the terminology in the first few attempts at keying out some of the reds and *Oedogonium* species.

The book contains an interesting grouping of families. Firstly the freshwater reds in Batrachospermales (families Psilosiphonaceae and Batrachospermaceae) and Thoreales (Thoreaceae), then two families of unrelated green algae, the Oedogoniaceae and Zygnemaceae. This disparate grouping is clearly a consequence of the taxonomic expertise available and effort made so far. The series is unnumbered, so perhaps this means that further odd volumes will appear. We had to wait so long for the introductory volume of *Algae of Australia* that many chapters were out of date by the time it came out. This is especially true for groups where there have been



rapid advances in genetic studies and nucleotide sequencing. It seems to me that it is better to allow publication of the treatments as they are produced (as has been done here) than to wait until an entire phylogenetic group is completed. At least treatments will be relatively up-to-date when they appear.

As with virtually all groups: angiosperms, charophytes and algae, you need complete fertile material to determine species in these families. The species differ mostly in things like cell diameter and reproductive characteristics, so vegetative specimens will always be hard to place. I'd really like to have seen a bit more of an introduction (e.g. the reason for this particular group of taxa; how to approach the process of determining species, what characters are vital). Some information about how to get these guys to become fertile so you can identify them would also have been useful (I expect it is as simple as leaving them in a jar on a windowsill for a couple of weeks). For an ecologist, a taxonomic treatment like this is always unsatisfactory; I always want to know more than just the species name. However, being able to determine the species name is more than we've been able to do in the past.

If you amalgamated all the distribution diagrams I suspect it would reveal a map of the major highways, with the occasional outpost at a scenic spot. This would be a consequence of the small number of collectors of freshwater algae, and the

lack of vouchers for ecological studies. We should all regret not collecting every slime we saw and sending it on to Tim and colleagues, if only to get a few more spots on the map (there's still time to collect other groups 'though!). Too many of these species are represented by a single collection. The maps could be subtitled 'the collecting sites of Tim Entwisle, Stephen Skinner and Simon Lewis', as these three collectors are responsible for about 90% of the material cited. It's a great credit to them.

This book should be in the library of every catchment management authority, freshwater research facility and university, and used extensively in first year labs. What botany student doesn't get to see *Spirogyra*? Now they can figure out which species are which as they marvel over ribbon chloroplasts, pyrenoids and cytoplasmic streaming. Our river, wetland and biodiversity managers need to know what's what as well. Biogeographic and ecological hypotheses can be formulated and tested now, because this treatment exists. I look forward to seeing ecologists and managers of inland waters using this information.

References

- Prescott, G.W. 1964. How to know the freshwater algae.
Entwisle, T.J., Sonneman, J.A. and Lewis, S.H. 1997. Freshwater Algae in Australia: a guide to conspicuous genera. Sainty and Associates, Potts Point, Sydney.

The discovery, science and culture of Sturt pea

Review by Valmai Hankel
Sedan

***Sturt pea. A most splendid plant.* By David Symon and Manfred Jusaitis. 2007. Board of the Botanic Gardens and State Herbarium, Adelaide and South Australian Department for Environment and Heritage. Soft cover \$35, hard cover \$55, limited edition (quarter leather bound) of 207 copies \$155. Purchased from Botanic Gardens and State Herbarium, North Terrace, Adelaide 5000 with additional postage and handling charge.**

We asked Valmai¹ for use of her speech for the launch of this book about an Australian plant

¹ Valmai Hankel is well known to South Australians as the former Rare Books Librarian at the State Library of South Australia during which time she won the State Government's Public Service Medal. She has been heavily involved in the production of facsimile editions by the Friends of the Library, many of which deal with early exploration of our continent, reflecting her keen interest in the subject. In fact listeners to the ABC's *Australia All Over* will have recently heard her ringing in from Innamincka publicising William Howitt's book

icon in the Schomburgk Pavilion in the centre of the Adelaide Botanic Gardens on 16th May, 2007 as a substitute for a review. Ed.

Distinguished guests, for you are all that.

I'm very honoured (and surprised) to be launching this wonderful book – perhaps it's a pseudo launch as the book is already available.

It's surprising that it has taken so long for a comprehensive book to be published on Sturt pea. David Symon and Manfred Jusaitis tell us that the book 'has its origins in 1998 when two German tourists visiting Adelaide' asked at the State Herbarium of South Australia for information on Sturt pea. Now, nine years and I suspect much anguishing later, *Sturt pea. A most splendid plant,*

on his search for Burke and Wills and discovery of King; she was at the time combining her love of history, literature and bush travel and had just visited the "Dig Tree" so central to the fate of these explorers. She is also a raconteur on wine and keeps horses on her property on the Murray side of the Adelaide Hills. Eds.

is out. And what a splendid, handsome book it is, in keeping with its subject.

David and Manfred tell us absolutely everything imaginable about Sturt pea. We read about William Dampier, its first describer and collector, and see a photograph of the specimen he collected near Shark Bay in Western Australia in 1699, and the drawing based on that specimen, published in 1703. (You can see them today on display in the Museum of Economic Botany².) This illustration was very familiar to me in my work at the State Library of South Australia. I would often show it in talks I gave, and ask my audience to identify it. Some could, many could not. Many were surprised to learn that the first description of South Australia's floral emblem was not written by Charles Sturt. And something I learned about Sturt from this book is that he was apparently colour-blind – Sturt peas 'looked so beautiful and all one colour to him'.

After discussing its discovery and history the authors examine in some detail the plant's naming – common and scientific – fascinating even to a non-botanist like me. Next they look at its biology, then its cultivation and care, reminding the persevering home gardener that Sturt pea is very difficult to grow and needs watering and fertilizing even though it is a 'desert plant'. This leads to a section on production and marketing, which includes photographs of twelve colour variants, ranging from the familiar dark red flower with black bosses to a white flower with white bosses. Then come two sections which I found especially engrossing – on Sturt pea in art and design, and in legend and literature. I was surprised to learn that it was as recently as 1961, at the urging of Noel Lothian, long-time Director of the Botanic Gardens of Adelaide, that the South Australian Government adopted Sturt pea as the State's floral emblem. Nor had I realized (I probably hadn't looked carefully enough) that the decorations on the front and back of South

Australia's Seniors Card are of stylized clusters of Sturt pea.

And I especially like the response of one Christine Hitchin, in *The Advertiser*, to the criticism that the Premier's Christmas card for 1999, depicting a Sturt pea, was boring. She wrote:

Funnily enough, [Sturt pea's] characteristics epitomise those of many South Australians. Tough, striking, distinctive, colourful [sic], difficult in cultivation – however, able to thrive in splendid beauty and isolation where nothing else can. I can't think of a more appropriate subject to illuminate SA seasonal greetings.

It should not be surprising that Sturt pea has featured so often in art, on objects and artefacts ranging from teapots to teatowels to T shirts, as decoration in body art, on wine labels and,

most strikingly, on one of the costume designs by Thelma Afford for the Centenary of South Australia pageant in 1936. (Some of these designs are preserved in the State Library of South Australia.)

Sturt peas have proliferated on greeting cards, either in splendid isolation, or as

part of the desert landscape. One card, which the authors describe as 'mildly vulgar', even depicts 'Captain Sturt's first desert pea' where, standing between what looks like two mulga trees, he irrigates a cluster of Sturt pea.

It is perhaps surprising that the authors were able to locate only two Aboriginal legends about Sturt pea. One, 'The blood flower', collected by Katherine Langloh Parker and published in 1898, is reprinted in the book. And Sturt pea seems to feature hardly at all in Aboriginal art.

Most of us, when we look at a book like this, search for some personal links. Apart from my experiences with Sturt pea, in the desert and in books, and mentioned in the Preface, I found several, among them this. In 1875 C.F. Newman established a nursery at Water Gully, Anstey Hill, South Australia, which developed into a very large model nursery. The nursery catalogues of 1893 and 1894-5 listed Sturt pea variants, which the authors note is 'an early record of colour forms being sold in South Australia'. C.F. Newman is my sister-in-law Sue Hall's (née Newman) grandfather.



²The exhibition, organised by Tony Kanellos, Archivist for the Botanic Gardens of Adelaide, brought together many of the objects and publications included in the book. Running from 1st April to the end of July, it proved very popular to 16,000 South Australians. We commend it to other institutions. Contact Tony in the first instance (kanellos.tony@saugov.sa.gov.au). Eds.

Many of us remember the shock of first seeing the dramatic red and black flower, probably on red soil, whether a single plant by the side of a road or, if we're especially fortunate, as I have been, in a carpet.

Magnificent, flamboyant, charismatic, spectacular, mysterious, passionate, resilient, beguiling, flawless, arresting, glorious, sensational, even erotic, are just some of the adjectives applied to *Sturt pea* in the text. Most of them could also be applied to the book itself, and perhaps even to its authors!

It is impossible to do justice to this wonderful book by merely talking about it. It needs to be thoroughly, lovingly examined, and owned, to be fully appreciated. So buy it. While it is plentifully

and superbly illustrated in colour, it is far more than a coffee table book. The two authors' very readable style, the meticulousness of the text, the most handsome design by Designhaus, the eye-catching dust jacket, the comprehensive list of references, the thorough index, all combine to make a book of major and lasting importance. Everyone involved in its production should be extremely proud. I congratulate you all, and especially David Symon and Manfred Jusaitis, and also Geoffrey Bishop for his invaluable assistance.

It gives me great pleasure to declare *Sturt pea*. *A most splendid plant* by David Symon and Manfred Jusaitis, published by the Board of the Botanic Gardens and State Herbarium, well and truly launched.

The introductory volume of Australia's algal Flora

Review by Murray J. Parsons

242A Main Rd, Redcliffs, Christchurch, Aotearoa – New Zealand

***Algae of Australia: Introduction*. By P.M. McCarthy & A.E. Orchard (eds).
Published in March 2007 by ABRIS,
Canberra & CSIRO Publishing, Melbourne.
Hardback, 744 pages; AU\$180.00,
ISBN: 9780643093775**

When I was a student (early 1960s) we relied on the two volumes by F.E. Fritsch, *The structure and reproduction of the Algae* (Cambridge University Press. Vols 1 & 2, 1935-1945) for our introductory information on algae. Australian students will now have an exciting new textbook, this Introduction to the Algae of Australia, to guide their studies. According to this volume, at least 12,000 marine, freshwater and terrestrial species are believed to occur in Australia, but many are yet to be described or fully documented. Hard covered with 727 pages, this substantial, multi-authored introductory volume is the second volume to be published in the planned series "Algae of Australia". It includes essays on the history of research on Australian algae, their classification, fossil record, systematic relationships, ecology, biogeography and economic significance.

The volume begins with a list of contents, followed by a list of the 35 contributors with their addresses consisting of 23 Australian researchers, and 5 from USA, 4 from Belgium, 2 from New Zealand, and 1 from Canada, indicating the international nature of the collaboration.

Then there are, on pages ix to xvi, 28 exquisite coloured photographs of marine algae taken, for the most part *in situ*, by John Huisman. Several of these capture the elusive fluorescence that is so characteristic of some of the living plants. There

are 27 more beautiful photographs of John's hidden away in the middle of the glossary (on pages 641 to 647), along with 6 plates of freshwater algae by either Jason Sonneman (3), Jane McCrae (2) or Tim Entwisle (1). Although these plates are not listed in the contents, they can be accessed via the index. It might have been helpful to have a list of all these plates at the beginning of the volume, perhaps after the contents page, to draw attention to their position in the book.

Each of the 48 chapters is written as a complete scientific paper with the appropriate references immediately following the text. The first chapter is a comprehensive account of the 'History of systematic phycology in Australia' giving the early expeditions, then continuing with the resident collectors and researchers right up to the present, supported with interesting statistics. Paragraphs on the Oceanic Islands, marine microalgae (diatoms, Dinophyta, aquaculture and blooms), non-marine algae, fossil algae, symbiotic algae, introduced algae, and conservation follow. There is a short account of the Australasian Society for Phycology and Aquatic Botany, a comment on popular publications of Australian algae, and finishing with a table of major events to 2003 in the development of Australian phycology.

Chapter 2 on 'Phylogeny and Classification of the Algae'

...defines what is meant by algae, describes how they are viewed phylogenetically, and attempts to place them in an overall scheme of living organisms. It also describes the ways in which algae have been classified, both historically and currently, and how they will be dealt with in the present series" of Floras. A series of clear

diagrams and trees showing postulated relationships between algal groups is included.

The third chapter entitled 'Fossil Record of Algae' gives an account of the current knowledge of all groups known in Australia. The fourth chapter, 'A Guide to the Identification of Algae', has a synoptic table to the main characters of algae followed by dichotomous keys, one to the Divisions and Classes and others to the Orders in those Divisions and Classes. Five tables are included to give alternative classifications and other ways of comparing characters of algae for identification. Then in the fifth chapter there is a bibliography of mainly recent literature on taxonomy and morphology of Australian algae, with some international references, usefully divided into sections on general accounts, floras and checklists and then sections on each division, class or order.

This is followed by accounts of the major groups of algae arranged in 31 synoptic chapters which provide an overview of the biology of each of the algal classes. A summary of the characteristics of each class is placed conveniently and prominently in a box within the text describing that class. Some classes are illustrated while sadly others are not, even though at times blank space on the pages might have allowed this. I did notice that under *Acaryochloris marina* on page 202, the references of Kühl *et al.*, 2005 and Kühl *et al.*, in press, are not listed in the references included with that chapter.

The ecology of this diverse group of organisms called algae, has been written up in six chapters covering marine macroalgae, marine microalgae, non-marine algae in streams, non-marine algae in lakes and large rivers, and algae in wetlands, and finally terrestrial algae. The ecological information is drawn from both Australian and international sources giving a very useful wide perspective.

The section on biogeography begins with a fascinating account of 'Global Biogeography and Relationships of the Australian Marine Macroalgae' by Max Hommersand, University of North Carolina, Chapel Hill, USA. Here the marine algal flora of Australia, which is remarkable for its large number of endemic families, genera and species, is placed in a world context weaving the algal distributions observed

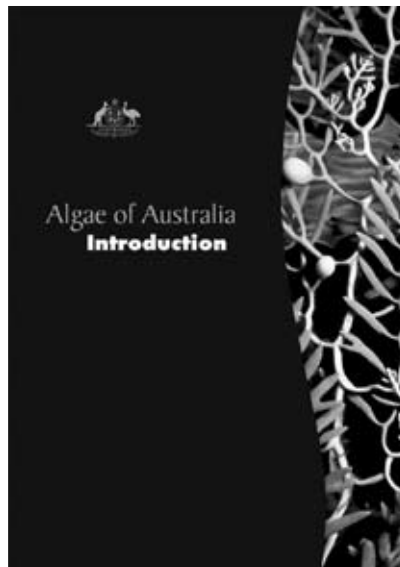
today into a geological history of Australia and indeed the whole earth. This is an important paper for international phycology. Most of the phylogenetic hypotheses used in this discussion are based on recent molecular and morphological studies, although it is emphasised several times that there is still a lot of research to be done. There follow three short papers describing the four marine macroalgal biogeographical provinces currently recognised: the Dampierian Province, the Solanderian Province, the Flindersian and Peronian Provinces. A similar short account is given for marine microalgae and longer accounts are given for the biogeography of freshwater macroalgae and the freshwater microalgae.

The last chapter is on the 'Economic Importance of Algae' giving Australian examples of toxic algae, introduced seaweeds and their effects, wastewater treatment, carbon dioxide and global warming, soil algae and agriculture and an extensive account of the chemicals: agar, carrageenans, alginates, carotenoids, and others, that are sourced from algae. Comments about algae as food and biofuels indicate possible future developments.

This volume finishes with an extensive glossary of more than 1500 technical terms in some 60 pages, followed by the abbreviations, contractions and symbols used. At the back there is the important publication date of the previous volume and an extensive index. It is clearly printed on high gloss paper. Most black and white illustrations are clear, although the figure 42 (page 317) has a greyish cast in my copy and the photographs Figs 61 and 62 (pages 436 and 437) could have had a little more contrast.

An American spelling of 'Feces' is used in Figure 69 on page 447, while the text uses the English spelling 'faeces'. I also noticed that chapter 29 on the Dasycladophyceae is authored by S. Skinner & T.J. Entwisle in the contents on page vi, but by T.J. Entwisle & S. Skinner at the chapter head on p. 349. There is a typo in the last line of the caption to Figure 52 on page 389: the for they.

In summary, this introductory volume is a wonderful compilation of information, recognising the extensive body of knowledge that already exists and laying a strong foundation to underpin the hope that the series *Algae of Australia* will stimulate further phycological research in the future.



Book notices

New State censuses

Tasmania

The *Tasmanian census* has just been updated and is able to be downloaded as a pdf file.

Web site. www.tmag.tas.gov.au/Herbarium/TasVascPlants.pdf

Northern Territory

The *Northern Territory Census* was upgraded in March 2007 and can also be downloaded from the web.

Web site. www.nt.gov.au/nreta/wildlife/plants/checklist.html

Victoria

Walsh, N.G. & Stajsic, V. (2007) *A census of the vascular plants of Victoria*. 8th Edn. (Royal Botanic Gardens Melbourne).

Available as a spiral-bound hard copy or as a CD.

Hardcopy: \$40 by mail; \$30 over the counter, at the Identifications and Information Service at the National Herbarium of Victoria (open weekdays 10:00 am–1.00 pm).

CD: \$13 by mail; \$10 over the counter.

Cash (not in the mail) or cheques.

Ph: (03) 9252 2315

This work lists the scientific names of the native and naturalised vascular plants known to occur or to have occurred in Victoria as at the end of May 2007. Each scientific name is accompanied by its author(s) and reference to its place of original publication. Names of synonyms or misapplied names are also listed. The conservation status of those taxa considered to be rare or threatened is provided, and those plants of exogenous or uncertain origin are indicated. All records are based on herbarium specimens.

Neville Walsh & Val Stajsic

Queensland

Bostock, P.D. and Holland, A.E. (eds) (2007). *Census of the Queensland Flora 2007*.

(Queensland Herbarium, Environmental Protection Agency, Brisbane).

Combined book and CDRom for \$45 (including GST): postage and handling \$8.20
CDRom alone for \$8 (including GST): postage and handling \$2.00.

Order form: www.epa.qld.gov.au/media/nature_conservation/herbarium/CensusFlyer.pdf

This is a list of the 14,032 species of plants, algae and lichens known to occur in Queensland and is available as both a book and a CDRom. As well

as containing a copy of the book as an Adobe Acrobat document, in landscape format for easy viewing on computer screens, the CDRom includes the essential Census data in a number of formats: an Access database, an Excel spreadsheet and also a comma separated text file suitable for importing to other databases.

The species listings include conservation and weed status as applicable, and summarise the known distribution of species in Queensland's pastoral districts.

The 2007 Census includes

- 12,486 species of flowering plants, algae and lichens considered native to Queensland
- 1,191 non-native species recognised as being naturalised in Queensland
- A further 355 doubtfully naturalised species included in the census for the first time
- 1,134 species currently listed as rare or threatened under *Queensland's Nature Conservation (Wildlife) Regulation 2006*
- Changes to plant families resulting from recent phylogenetic research; these are also summarised in an appendix
- Indication of non-native species not sighted for at least 50 years, and thus now thought to have died out.

This document is based on the specimen collections and associated database housed at the Queensland Herbarium. It follows on from the previous census documents, the most recent of which was titled *Names and distribution of Queensland Plants, Algae, and Lichens*, and was published in 2002.

The Burke & Wills expedition

Finding Burke and Wills: personal reminiscences of Central Australia and the Burke and Wills Expedition, with a glance at Benjamin Herschel Babbage's 1858 Expedition by Alfred Howitt; with selected sketches of the Babbage Expedition by Benjamin Herschel Babbage and David Hergott; also illustrations to the diaries of the Burke & Wills Expedition to Carpentaria attributed to Cuthbert Charles Clarke; introduction by Valmai Hankel¹. Friends of the State Library of South Australia, Adelaide. 2007.
ISBN: 9781876154486 (Deluxe ed.) \$140
ISBN: 9781876154493 (Standard ed.) \$95
Email: friends@slsa.sa.gov.au
Web site: www.slsa.sa.gov.au/friends

¹ For a background on Valmai see her review on p. 25..

A republication of the inaugural address given by A.W. Howitt to the Australasian Association for the Advancement of Science, Adelaide, 1907. Howitt looks back 40 years and recalls his discovery of the two dead explorers and the sole survivor, King. He also discusses the 1858 Babbage expedition to the far north of South Australia which was recalled under controversial circumstances. A number of little known illustrations of the expeditions concerned are made available in this publication.

Purchase of two original paintings from the expedition by the national library

While on Burke & Wills, The National Library of Australia this month purchased an album containing two original pictures from the expedition of 1860–61.

The album containing the pictures sold for \$240,000. The pictures were by William Hodgkinson, a literary editor with *The Age*, who joined the Burke and Wills expedition at Swan Hill in 1860. Hodgkinson was a member of the expedition supply party. While Burke and a smaller party headed to Cooper's Creek, the supply party progressed from Menindee to Koorliattoo Waterhole on the Bulloo River where Beckler and Becker were left. Hodgkinson travelled on with the stronger members of the supply party to the Depot at Bullah Bullah Waterhole on Coopers Creek. One of the pictures depicts conflict with the Aborigines and the other the landscape in the Koorliattoo region.

The pictures were presented by Hodgkinson to Miss Eliza Youngusband, daughter of a prominent South Australian pastoralist, and kept by her in an album of mementos.

Web site: www.nla.gov.au/pressrel/burkeandwills.html

Aboriginal people and their plants

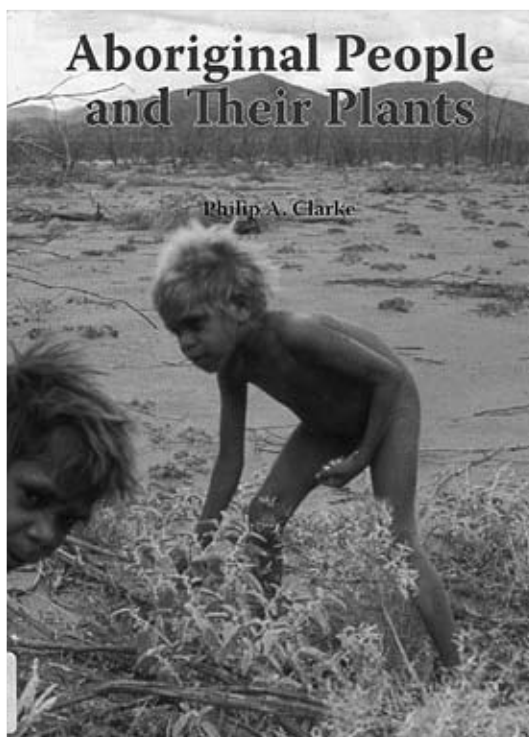
Aboriginal people and their plants. By Philip A. Clarke. 2007, Rosenberg Publishing. 192 pages, 68 colour plates, 30 b&w photos. Hardcover, 285 x 210 mm.

ISBN 9781877058516. Cited as \$39.95 from www.rosenbergpub.com.au/

This is an overview of the relationships Aboriginal Australian people have, or have had, with plants. The claim is that the “The book is unique, spanning the gap between botany and indigenous studies. It differs from other published Australian ‘bushtucker’ overviews by treating the study of plants as a window upon which to delve into Aboriginal culture”. And the claim that it is unique is probably deserved as there would not seem to have been a book devoted to this topic. Yet much of it will probably seem familiar to systematists since it brings into one volume many of the scattered references we have probably all noted as we go about our business in the herbarium, in the library or in the field. Produced to accompany the South Australian Museum’s permanent display in the Australian Aboriginal Cultures Gallery it is an attractive book with copious references, with a common name and a botanical index (even though the latter are rarely used in the text) in addition to a general index, but surprisingly no index to Aboriginal words. Images include a good mix of contemporary colour photographs and more historical black and white photographs, largely from the South Australian Museum Archives.

Chapters include:

- Plants and the cultural landscape
 - Socialising plants, a look at the way different Aboriginal groups name plants
 - Plants of the dreaming
- Cultural impact on plants
 - Leaving a mark – signs of foraging activities
 - A seasonal life – the need to be mobile
 - Fire-stick ecology – making fires, their use and effects in differing climates
- Aboriginal plant uses
 - Planning ahead – the seasonal nature of plant products
 - Plant food technology – gathering and preparing food
 - The power of plants – medicinal and drug plants



- Plants as tools – use of wood, bark, fibre, gums and resins as well as plant poisons
- People, Plants and Change
- The old and the new – incorporating introduced plants into Aboriginal culture
- Appreciating Aboriginal uses of plants – promoting an understanding of uses of Australia's native plants for tourism, food, health and land management

Plant conservation in Japan

Conservation of Plant Diversity in Japanese Botanical Garden. Editors: Genjiro ishida, Tsukasa Iwashina, Tatsuo Konishi, Yugi Kurashige, Junko Oikawa & Tomohisa Yukawa. Text in Japanese and English. March 2007. Publisher: Japan Association Botanical Gardens (JABG)

US\$55 including postage or US\$45 (including postage) for copies ordered before December 31st 2007.

Contact for orders:

JABG, 15-11, Tabata 1, Kitaku, Tokyo, Japan 114-0014

Tel. +81-3-5685-1431 FAX: +81-3-5685-1453

Email: web@syokubutsuen-kyokai.jp

This book has been produced by the Japanese Botanic Gardens (JABG) community as a step towards attaining the 2010 targets of Botanic Gardens Conservation International (BGCI). It is divided into 4 chapters

- *Botanical gardens and biodiversity conservation – from the international viewpoint.* Suzanne Sharrock, Director of Global Programmes, BGCI talks about the role of botanic gardens in the national plant conservation, Kazuo Somiya of the Japanese Nature Conservation Bureau discusses the role of botanic gardens in the New Biodiversity Strategy of Japan, Mark Richardson on the value of networking and Junko Oikawa, project coordinator for Japan at the BGCI, on living plant collections in botanic gardens.
- *Present status and subjects of biodiversity conservation in Japanese botanical gardens* – further divided into 3 sections on *in situ* conservation, *ex situ* conservation and research and education on threatened plant species. Two tables have been compiled by survey, one listing all of Japan's threatened species held in JABG member gardens and the second listing those which are not represented in gardens.
- *Biodiversity conservation practices in Japanese botanical gardens* – the practices in 22 gardens throughout Japan are documented.
- *For sustainable society – missions and perspectives of Japanese botanical gardens.*

One particularly long paper is a review by Tsukasa Iwashina of the chemical components, mostly flavonoids, in Japan's endangered plants – it was somewhat bemusing to me to see *Tribulus terrestris* treated as an endangered plant here. The book is completed by 4 appendices and compilation pages of colour images of 79 of Japan's rare plants.

New and updated issue of Heywood's *Flowering Plants of the World*

Flowering Plant Families of the World. By V.H. Heywood, R.K. Brummitt, A. Culham and O. Seberg. Edition 2, 2007.

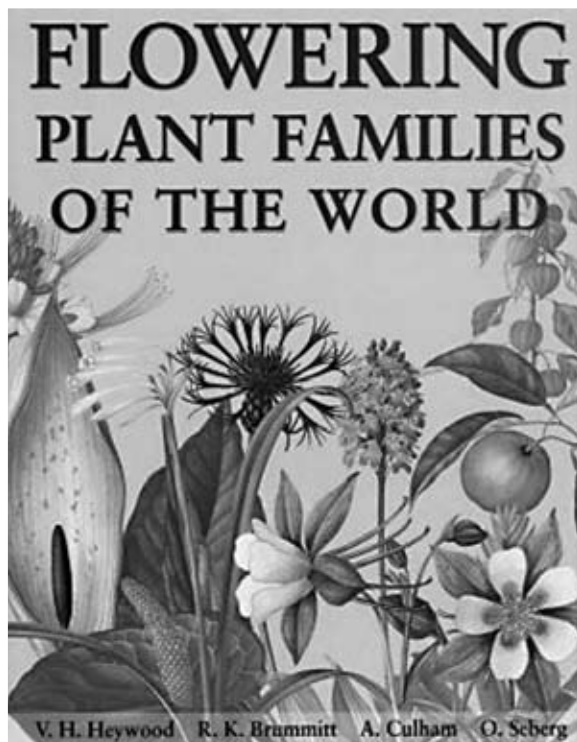
Royal Botanic Gardens, Kew.

Hardcover, 424 pages, over 1000 illus.

ISBN-13: 9781842461655

Listed at \$70 on some Australian book sites.

Most of you will already have, or be aware of, the updated and revised successor to Heywood's *Flowering Plants of the World* by now – but just in case you have missed it, here are the details. The families were arranged in the Cronquist system in the original edition but here they are loosely based on APG II (2003).



New edition of *Western Weeds*

Western weeds: a guide to the weeds of Western Australia. – 2nd Edition. By B.M.J. Hussey, G.J. Keighery, R.D. Cousens, J. Dodd and S.G. Lloyd.
Published 2007, by the Weed Society of WA. ISBN 9780958111126, , colour, soft cover, 312 pages. Price \$A35.00 plus \$11 postage within Australia, for overseas postage please ask for a quote.
More information at www.weedinfo.com.au

This revised edition, published by the Weeds Society of Western Australia, updates the earlier *Western Weeds, a guide to the weeds of Western Australia*, first released in 1997. The earlier edition was very well presented and remarkably comprehensive. Since there are an additional 200 weeds covered, bringing the total to c. 1050 species, this edition is even more so – these figures also imply an average of 20 new species of weed per year for Western Australia. If the 625 colour images are as good as in the first edition then this is a remarkably economically priced book. A list of plants that have been recorded in Western Australia, but are not yet thought to be naturalized is again a feature of this book. Even if you are not from Western Australia this book is good value since there are many species common to other states.

Two books available as downloads from the web:

The coastal discovery of Australia

Great Southern Land: The maritime exploration of Terra Australis. By Michael Pearson. 2005. Australian Department of the Environment and Heritage.

Available as a downloadable pdf at www.environment.gov.au/heritage/publications/great-southern-land.html

Great Southern Land: The maritime exploration of Terra Australis was originally written to provide a context for the Australian Heritage Council's assessment of coastal heritage sites. It was published as part of the Australian Government's celebration of the 400th anniversary of Willem Jansz's historic journey in the *Duyfken*.

Chapters include

- The history of cartography and navigation
- The Portuguese debate: the Dieppe maps

- 'Terra australis incognita' becomes 'New Holland': 1606-1767
- Where is the east coast?
- The British and the French
- New Holland becomes Australia
- Filling in the gaps and improving the details

Just Table 1 alone, the timeline of exploration and survey of the Australian coastline, is probably worth the downloading. Here is a comprehensive list of the ships which visited Australian shores from 1606. And there are a lot more than most of us will ever have heard of - at least 42 before 1770. Possible sources of those difficult to explain plants in Australia!

Valuing Australia's northern savanna

The nature of Northern Australia: it's natural values, ecological processes and future prospects. By John Woinarski, Brendan Mackey, Henry Nix & Barry Trill

Published by ANU E Press The Australian National University Canberra ACT 0200.
Available at: http://epress.anu.edu.au/nature_na_citation.html

ISBN 9781921313301 (print on demand paperback.) \$34.95 (GST inclusive).
ISBN 9781921313318 (online)

The full study is downloadable at the address given above either as a pdf or as a print on demand volume for \$34.95. Conditions apply.

Northern Australia has the largest and least damaged tropical savanna in the world, and new approaches to development and conservation are needed to ensure it remains one of the last great natural places. So say authors of the 3 year study, *The Nature of Northern Australia*, Dr John Woinarski, Professor Brendan Mackey, Professor Henry Nix and Dr Barry Trill.

Chapter headings are

- A general description of features of Northern Australia, the country and its people.
- An account of the ecological processes and connections that maintain the area's natural values.
- A summary of specific natural values of the North, where possible within a national and international context
- An assessment of factors that may threaten the natural values and ecological processes of the North.
- A framework that provides for the ongoing maintenance of the values of Northern Australia.

Websites of interest

1788–90 images of Australian plants

The Ducie collection in the National Library of Australia consists of watercolours attributed to George Raper (1769–97), midshipman on the *Sirius*. They illustrate the birds and plants of the Port Jackson area between 1788 and 1790. It is thought from the spring and summer-flowering species depicted that the paintings in the collection date from June to November 1789, when the *Sirius* was at Careening Cove (Mosman Bay) for repairs.

While it is the birds which appear to be most dominant, there are also plenty of plant paintings and plants also feature in many of the bird paintings (e.g. Fig. 1). Plant species include *Telopea*, *Boronia*, *Crowea*, *Dendrobium*, *Euphrasia*, *Myoporum* and *Solanum*.

A number of Raper's paintings are thought to have been copied by Hunter for his sketchbook of birds and flowers of New South Wales. All sketches from both collections (100 by Hunter and 56 by Raper) are projected on the web.

References

Hunter, John (1788-1790). Birds & flowers of New South Wales drawn on the spot in 1788, '89 & '90. Sketchbook in the Rex Nan Kivell Collection NK2039, National Library of Australia, Canberra. Electronic version at: <http://nla.gov.au/nla.pic-an3148509>;

Raper, George (?1789). The Ducie collection of First Fleet art. National Library of Australia, Canberra. Electronic version at: <http://nla.gov.au/nla.pic-vn3563487>

Accessing Transactions of the Royal Society of South Australia

It is now possible to search and access the content of *The Transactions of the Royal Society of South Australia* through the South Australian Museum site (Web ref. 1). Simply go to Science and then Publications. There is a search engine for general browsing or you can specify which particular paper you wish to see.

Photosynthesis – creating multidimensional images

Using photos of much photographed sites from around the web, Photosynth creates multidimensional images. You can see the TED video presentation by architect Blaise Aguera y Arcas on the subject on the web (Web ref. 1) and then if you have Administrator privileges on your machine, there is a working example (Web ref. 2). Wonder how it will adapt for projecting plant images?

Web ref. 1. at www.samuseum.sa.gov.au

Web ref. 1. www.ted.com/index.php/talks/view/id/129

Web ref. 2. <http://labs.live.com/photosynth/view.html?collection=sanmarco/index1.sxs>



Fig. 1. George Raper's Nankeen Night Heron.

Reproduced with permission of the National Library of Australia.

Barcoding

The Consortium for the Barcode of Life (CBOL) is an international initiative devoted to developing DNA barcoding as a global standard for the identification of biological species. Through their site you can learn more about their major projects, browse some of the case studies submitted, propose a project, post a case study and then see if you can find partners, submit or examine barcode data. Major projects presently revolve around birds, fish, fruit flies, mosquitoes and pest and invasive species.

Web site: <http://barcoding.si.edu/>

Encyclopaedia of Life

Launched in May this year the *Encyclopedia of Life* (Web ref. 1) is envisaged to be an online reference source and database for every one of the 1.8 million species that are named and known on this planet. The goal is to create a constantly evolving encyclopedia that lives on the Internet, with contributions from scientists and amateurs alike. Sample pages can be seen on the site along with a link to E.O. Wilson's April 2007 TED presentation on the project. Australia's representation is an institutional one through the *Atlas of Living Australia*.

Web ref. 1: <http://eol.org/home.html>

Biodiversity Heritage Library

As an adjunct to the *Encyclopaedia of Life* project the libraries of the American Museum of Natural History (New York), the Field Museum (Chicago), Harvard University, the Marine Biological Laboratory and Woods Hole Oceanographic Institution, the Missouri Botanical Garden, the Natural History Museum, London, the New York Botanical Garden, the Royal Botanic Garden, Kew and the Smithsonian Institution have united to form the Biodiversity Heritage Library (Web ref. 1). BHL partners will digitize the published literature of biodiversity held in their respective collections, providing basic, important content for immediate research and for multiple bioinformatics initiatives. A number of these institutions had already begun major projects digitising their older works but now they are all accessible through the same portal, presently listing 329 titles on their prototype page.

Web. ref. 1: www.biodiversitylibrary.org/

TED: spreading ideas

TED stands for Technology, Entertainment, Design. Begun in 1984 as a conference bringing together people from these three worlds the annual conference now brings together the world's most fascinating thinkers and doers, who are challenged to give the talk of their lives in 18 minutes. On this site you can see the best talks from the conferences; more than 100

talks are now available. The videos are released under a Creative Commons license, so they can be freely shared and reposted. Amongst those with presentations on the site, beside the two already mentioned above, are Janine Benyus on Biomimicry, David Bolinsky, medical animator, on life inside a cell, Jane Goodall on differences between apes and man and Al Gore on averting a climate crisis.

Web site. www.ted.com/index.php/pages/view/id/5

Being green

Not sure about this one. The energy saving alternative to Google, *Blackle* is meant to save energy as it searches by using a black screen and white print. You can read more about their claims on the site.

Web site. <http://blackle.com>

Getting a feel for the Lucid 3 tool

This site has been mentioned before since it has access to a number of interactive keys using the Lucid platform. At least some, if not all, have been upgraded to Lucid 3 which has a different look from earlier versions of Lucid. You need to be Java-enabled and accept pop-ups for the keys to work effectively. Try the *Trillium* key for example on the web (Web ref. 1).

Web ref. 1. <http://utc.usu.edu/keys/trillium/Trillium.html>

From TAXACOM

From the Taxacom Archives

<http://mailman.nhm.ku.edu/pipermail/taxacom>

New online journal using video technology to improve often-used techniques

The (relatively) new *Journal of Visualized Experiments* (JoVE) is an online research journal employing the use of video technology to increase reproducibility and transparency in biological sciences.

There are five subject areas: Neuroscience, Developmental Biology, Cellular Biology, Microbiology and Plant Biology. So far there have been 5 issues with issue 5 devoted entirely to techniques involving the use of mosquitoes as the study organism. The plant biology section is limited to this point, the closest probably being a demonstration of ascospore production by *Gibberella zeae* and their collection for microarray experiments. Other techniques already demonstrated include propagation of human stem

cells, dissection of *Drosophila* ovaries, bacterial gene expression analysis using microarrays and extracting DNA from the gut microbes of the termite.

So far the only Australian offering is a video showing the coaxing of an Australian lizard species to take cues from moving dots: Testing Visual Sensitivity to the Speed and Direction of Motion in Lizards

See Web reference 1 to access the site or Web reference 2 for a demonstration of some of the material available.

Web ref. 1: www.jove.com/index.stt

Web ref. 2: www.wired.com/science/discoveries/magazine/15-07/st_youtube

2008 Rupert Barneby Award

The New York Botanical Garden now invites applications for the Rupert Barneby Award for the year 2008. The award of US\$ 1,000.00 is to assist researchers to visit The New York Botanical Garden to study the rich collection of

Leguminosae. Anyone interested in applying for the award should submit their curriculum vitae, a detailed letter describing the project for which the award is sought, how a visit to the NYBG would help accomplish the goals of the project, and the names of 3 referees. Travel to the NYBG should be planned for sometime in the year 2008.

The application should be addressed to Dr. Fabián A. Michelangeli (fabian@nybg.org), Institute of Systematic Botany, The New York Botanical Garden, 200th Street and Kazimiroff Blvd., Bronx, NY 10458-5126 USA, and received no later than 1 December 2007. Electronic applications are preferred. Announcement of the recipient will be made by 15 December. Anyone interested in making a contribution to the Rupert Barneby Fund in Legume Systematics, which supports this award, may send a cheque, payable to The New York Botanical Garden, to Dr. Michelangeli.

Augustin-Pyramus De Candolle Prize

The Geneva “Société de Physique et d’Histoire naturelle” (SPHN) is pleased to announce that in 2008 it will award the Botany Prize, named the *Augustin-Pyramus De Candolle Prize* which will recognize the author or co-authors of the best monograph of a genus or family of plants. Monographs to be considered should be unpublished or published after 31st December 2005).

The monograph should be a complete coverage of the group considered and include its arrangement in a system of hierarchical classification. It should also contain descriptions of external morphological characters and internal characters – anatomical, caryological, physiological and molecular – as far as they can be used to distinguish the sub-groups. A complete bibliography, critical synonymy, and identification keys are requested, and the work should comply with the International Code of Botanical Nomenclature.

Partial treatments, i.e. a monograph of a sub-family, tribe, sub-genus or section, would be acceptable provided that the group is defined clearly with respect to its neighbours.

The Prize is open to authors of any nationality or domicile. The text may be written in Latin, French, German, English, Italian, Spanish or Portuguese. A summary, restricted to a maximum of 4000 words, must be provided in French or English.

Two copies of the manuscript, along with author’s curriculum vitae, must be submitted to the following address before 31st March, 2008:

Augustin-Pyramus de Candolle Prize
Conservatoire et Jardin botaniques de la

Ville de Genève
Case postale 60, 1292 Chambésy-GE,
Switzerland

The award is CHF 5000. The reward may be reduced, or not awarded, if insufficient works are received or those received do not fulfil the criteria of this notice. The Prize will be awarded in October, 2008. The selected monograph remains the property of the author; a copy will be kept at the SPHN.

For any further information, please contact:
prix-candolle.cjb@ville-ge.ch

EDIT’s School of European Taxonomy looking for trainers

The European Distributed Institute of Taxonomy, EDIT, is the response of 27 European, North American and Russian institutions to the 2004 call by the European Commission for a network in taxonomy for biodiversity and ecosystem research. The project started on the on the 1st of March 2006 and will last 5 years.

The project objectives are to help to reduce the fragmentation in European taxonomic research and expertise and to coordinate the European contribution to the global taxonomic effort, in particular the Global Taxonomy Initiative, through an integrated initiative aimed at improving society’s capacity for biodiversity conservation.

The school is currently looking for training providers to build up a team of highly skilled staff coming from a wide range of institutions with a taxonomical and educational background.

Further information is available through their website with applications closing on 30th of September, 2007.

Web site. www.e-taxonomy.eu/

A new role for Scratchpads

‘Scratchpads’ are web sites that the European Distributed Institute of Taxonomy Project (EDIT – see posting above) are making available to foster collaboration between taxonomists. More than twenty communities are already using their Scratchpad to share, manage and integrate taxonomic data on the web.

You can take advantage of these sites, either by collaborating with an existing site or by starting a new one. A little technical skill is required to manage a site, but EDIT provides an extensive collection of videos to help users get started.

The system to support these sites is based at the Natural History Museum in London, but site content is owned and managed by the communities that created them. The NHML will support the

server for the foreseeable future, certainly beyond the life of the EDIT project itself.

Web site: www.editwebrevisions.info/

Dr D.McL. Roberts,
Email: dmr at nomencurator.org

Examples of new technology in species web pages

The *Carex* species pages listed contain video, interactive maps (both Google Earth and Google maps) and imaging. Timothy Jones of Utah State University is asking for feedback on the project, but it will surely all be positive.

http://utc.usu.edu/factsheets/CarexFSF/new/carex_squarrosa_species.htm

http://utc.usu.edu/factsheets/CarexFSF/new/carex_folliculata_species.htm

http://utc.usu.edu/factsheets/CarexFSF/new/carex_aurea_species.htm

http://utc.usu.edu/factsheets/CarexFSF/new/carex_eburnea_species.htm

Which printer ink for labels?

A request by Diana Horton, University of Iowa, wanted to know what type of printers people are using to produce collection labels and annotations and what the thinking is regarding the ‘permanence’ of laser ink? Previously it was thought that inkjet print was more likely to be longer-lasting than laser print. It was also suggested that Lexmark Black and White inkjet cartridges had ‘permanent’ ink. Her request for further information seems to have fallen on deaf ears.

ScienceAlert a new website promoting Australian science

ScienceAlert is Australasia’s fastest-growing science website, with reports from all the main scientific institutions. It is also the leading site for science jobs and opinions and has a unique, searchable scientific conference calendar.

ScienceAlert is the only site dedicated exclusively to science carried out in Australia and New Zealand and, as a result, its news, features and opinion articles are picked up by media round the world.

Anyone carrying out scientific research in a reputable institution in Australia may submit a plain language report or media release on the findings, an authoritative opinion on a current issue, or a feature article. There is no charge.

Any scientific institution may advertise a scientific conference, seminar or other event on *ScienceAlert* for free. Positions vacant may be advertised on *ScienceAlert* for free and editors and publishers of journals, newsletters and other media are welcome to reproduce any article, news report or opinion appearing on *ScienceAlert*, at no charge.

Any researcher wanting to keep in touch with developments in their research field in Australasia can receive the latest news by subscribing to an RSS feed or an email alert. These can be filtered to your broad area of scientific interest.

Any scientific body, learned society or research group can run the latest Australasian science news, continually updated, on their website. This can also be categorised according to field of interest. Contact us for details.

Web site: www.sciencealert.com.au/

Julian Cribb, FTSE
Adj. Professor, University of Technology Sydney.
Julian Cribb & Associates
Editor: R&D Review, *ScienceAlert*

From EnviroWeeds

The EnviroWeeds discussion group's list address for registration is:
<http://list.adelaide.edu.au/mailman/listinfo/enviroweeds.crcawm-v>

Gamba grass fuelling fiery debate

The debate re Gamba grass in Queensland and Northern Territory reached inflammatory stages in the Enviroweeds discussion group at the beginning of August. Head of the Weeds CRC, Rachel McFadyen, had cited this species, *Andropogon gayanus* Kunth, as a threat to biodiversity (see below) and there have been numerous calls for its banning in Queensland. Tempers became inflamed when a distributor of the seed in Queensland weighed into the debate and some passionate words were posted on the web page leading to the suspension of one subscriber from the discussion group. For an account and some graphic pictures of the effects of this grass see Steve Csurhes' 2005 report for the Queensland Department of Natural Resources and Mines (Web ref. 1).

The Northern Territory's Gamba Action Group (GAG) is a community initiative to save native bushland from the threat of Gamba grass. GAG was formed in 2005 by a group of individuals who had seen Gamba grass spread throughout the Coomalie region of the Northern Territory, and recognised the serious threat that Gamba grass posed to the environment. They maintain their own web site (Web ref. 2)

The Environment Centre of Northern Territory nominated Gamba Grass in October 2005 as a key threatening process under the EPBC Act (Web ref. 2) while an account of the increased fire danger posed by this grass can be found in Rossiter et al. (2003).

Rossiter, N. A., Setterfield, S.A., Douglas, M.M. & Hutley, L.B. (2003). Testing the grass-fire cycle: alien grass invasion in the tropical savannas of northern Australia. *Diversity & Distributions* 9 (3): 169-176.

Web ref. 1: www.cook.qld.gov.au/news/2006/Gamba%20Grass.pdf

Web ref. 2: www.gamba.org.au/

Web ref. 3: http://www.ecnt.org/pdf/other_weeds_gamba_epbc.pdf

Weed threat to biodiversity being ignored

In a media release on 11 July 2007, Dr Rachel McFadyen, CEO of the Cooperative Research Centre for Australian Weed Management, said that one of the best laws in the Western world on

ecological protection, Australia's Environment Protection and Biodiversity Conservation Act (1999), was not being used when it comes to the widespread threat posed to the environment by foreign plants.

Speaking at the Biodiversity Extinction Crisis Conference in Sydney, Dr McFadyen said that the EPBC Act (Web ref. 1) allowed action once a 'key threatening process' (Web ref. 2) had been identified and declared. Examples of official recognition so far included the rabbit, fox, goat, feral cats, the root rot-fungus phytophthora, long-line fishing, climate change and cane toads.

But not a single invasive plant had been listed as posing a significant threat¹. The full release can be seen at Web ref. 3.

Web ref. 1: www.environment.gov.au/epbc/index.html

Web ref. 2: www.environment.gov.au/cgi-bin/sprat/public/publicgetkeythreats.pl

Web ref. 3: www.weeds.crc.org.au/documents/mr_weed_threat_to_biodiversity_110707.pdf

How sterile is sterile?

Another interesting question – just how sterile are the 'sterile' forms of honey locust (*Gledisia triacanthos*)? Or for that matter other plants claimed to be sterile, such as lantana cultivars and black agapanthus. There is a strong push by the horticulture and landscape industries in the United States for sterile forms of garden and landscape plants as they recognise the invasiveness of many plants. Andreas Glanznig (2006) in his presentation on Weed proofing Australia suggested the establishment of a *National sterile cultivar accreditation scheme* to cover just such questions.

Glanznig, A. (2006). Weed proofing Australia: a way forward on invasive garden plants. In *Weeds in the media*. pp. 31-40. Available at www.weeds.crc.org.au/documents/weeds_in_the_media_proceedings.pdf

Australia's glyphosate-resistant weeds

Up until the recent discovery of glyphosate resistance in awnless barnyard grass (*Echinochloa colona*) in northern NSW, only annual ryegrass (*Lolium rigidum*) had been identified as resistant to glyphosate in Australia. Now a risk assessment conducted as part of the Northern Glyphosate Resistance Project, by members of Weeds CRC, NSW Department of Primary Industries and Queensland Department of Primary Industries

¹ The Environment Centre of Northern Territory has attempted to place Gamba grass (see above) on this list and yet there is no reference to this in Web ref. 2.

and Fisheries has identified a further four weeds at risk of developing resistance to the most used herbicide in Australian agriculture systems. These are wild oats (*Avena* spp.), sowthistle (*Sonchus oleraceus*), flaxleaf fleabane (*Conyza bonariensis*) and liverseed grass (*Urochloa panicoides*).

Three common factors determined the high risk category for these weeds. Each of the weeds:

- produces large quantities of seed, resulting in large populations
- has a history of herbicide resistance somewhere in the world
- occurs in minimum tillage or no-till farming systems where they are exposed to multiple applications of glyphosate.

Information about testing for resistance is available from the Glyphosate Sustainability Working Group (GSWG) website. There is also an on-line register of glyphosate resistant populations in Australia as well as guides on how to reduce the incidence of glyphosate resistance.

From press release: Glyphosate Sustainability Working Group, 18 June 2007 at www.weeds.crc.org.au/glyphosate/index.html

New photogallery of weed infestations

Weeds cost Australia at least \$4b per year.

To try and illustrate this impact the Weeds CRC has compiled images of some of the worst weed infestations in Australia.

Web site: www.weeds.crc.org.au/main/image_gallery_index.html

Mistletoes and biodiversity

A discussion in response to that difficult one to answer –

The problem for my family's farm is that many of the remnant trees are becoming infested with Mistletoe which is really hastening their deaths. Even much younger trees planted in recent times are being infested

led a contributor to point to the following long-term (20-year) study being conducted in the upper Billabong Creek catchment near Holbrook, NSW.

Watson & Herring of Charles Sturt University are trying to gain a better understanding of the role of mistletoe in remnant woodlands and determine mistletoe densities that best achieve biodiversity benefits without compromising the long-term viability of tree populations. Preliminary results can be seen in a paper presented in 2006 entitled *Of mistletoe and mechanisms—drivers of declining biodiversity in remnant woodlands* (Web ref. 1).

Web ref. 1. <http://live.greeningaustralia.org.au/veg/futures/pages/page133.asp>

Weedy species being pushed as Biofuels

Initial investigations by the Invasive Species Council indicate that many biofuel species are potential major weeds. Amongst the species being promoted are *Jatropha* (an Indian plant banned in Western Australia and the Northern Territory because of its weediness), Chinese tallow tree (*Triadica sebifera* or *Sapium sebifera*, one of America's worst weeds and recently declared a noxious weed in northern New South Wales), castor oil plant (*Ricinus communis*, declared New South Wales and Northern Territory), reed canary grass (*Phalaris arundinacea*), giant reed (*Arundo donax* – declared in New South Wales) and Chinese apple or Indian jujube (*Ziziphus mauritiana*, a declared weed in Queensland).

The Invasive Species Council is preparing a comprehensive report on the weed risk posed by some biofuel plants. Spokesperson for the group is Tim Low, contactable by phone on (07) 3878 2099 or email at Tim.Low@uq.net.au

Weeds and climate change

According to a Briefing Note on 'Invasive plants and climate change' produced by the Weeds CRC all invasive plants can be expected to demonstrate a southward range shift (Web ref. 1).

Web ref. 1. www.weeds.crc.org.au/documents/bn_climate_change_2007.pdf

A warning to gardeners on weeds and their sale on the internet

The latest media release by the Weeds CRC (Web ref. 1) addresses the problem of plants which are weeds being sold through the internet.

In Australia the two main on-line trading sites are Oztion and eBay. Oztion does not list plants or seeds in its list of 'prohibited and restricted items', but it does state that no seller can offer an item 'in contravention of any law or regulations'. eBay offers an on-line option by which users can notify eBay of 'listing violations'. Both companies reserve the right to prevent items from being offered, and to refuse access to users who violate their rules.

In a recent case in Victoria a woman was fined for selling water hyacinth (*Eichhornia crassipes*) on eBay.

Web ref. 1. www.weeds.crc.org.au/documents/mr_ebay_300807.pdf

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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.

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

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

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

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