ASBS

Australasian Systematic Botany Society

Newsletter

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AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

Council

President
Peter Weston
National Herbarium of New South Wales
Royal Botanic Gardens Sydney
Mrs Macquaries Road
Sydney, NSW 2000
Australia
Tel: +61 2 9231 8142
Fax: +61 2 9251 7231
Email: Peter.Weston@rbgsyd.nsw.gov.au

Vice President
Dale Dixon
National Herbarium of New South Wales
Royal Botanic Gardens Sydney
Mrs Macquaries Road
Sydney, NSW 2000
Australia
Tel: +61 2 9231 8171
Fax: +61 2 9241 3892
Email: Dale.Dixon@rbgsyd.nsw.gov.au

Secretary
John Clarkson
Department of Environment and Natural Resources
PO Box 156
Mareeba, QLD 4880
Australia
Tel: +61 7 4048 4745
Fax: +61 7 4092 2366
Email: john.clarkson@qld.gov.au

Treasurer
Frank Zich
Australian Tropical Herbarium
E2 Building, J.C.U. Cairns Campus
PO Box 6811
Cairns, Qld 4870
Australia
Tel: +61 7 4059 5014
Fax: +61 7 4091 8888
Email: frank.zich@csiro.au

C ouncillor (Assistant Secretary - Communications)
Ilse Breitwieser
Allan Herbarium
Landcare Research New Zealand Ltd
PO Box 40
Lincoln 7640
New Zealand
Tel: +64 3 321 9621
Fax: +64 3 321 9998
Email: breitwieseri@landcareresearch.co.nz

Councillor (Assistant Treasurer)
Pina Milne
National Herbarium of Victoria
Royal Botanic Gardens
Birdwood Ave
South Yarra, VIC 3141
Australia
Tel: +61 3 9252 2309
Fax: +61 3 9252 2423
Email: pina.milne@rbg.vic.gov.au

Other Constitutional Bodies

Public Officer
Annette Wilson
Australian Biological Resources Study
GPO Box 787
Canberra, ACT 2601
Australia
Email: Annette.Wilson@environment.gov.au

Affiliate Society
Papua New Guinea Botanical Society

ASBS Website
www.anbg.gov.au/asbs
Murray Fagg
Centre for Australian National Biodiversity Research
Australian National Herbarium
Email: murray.fagg@environment.gov.au

Hansjörg Eichler Research Committee
Bill Barker
Philip Garnock-Jones
Betsy Jackes
Greg Leach
Nathalie Nagalingum
Christopher Quinn
Chair: Dale Dixon, Vice President

Grant application closing dates:
Hansjörg Eichler Research Fund:
on March 14th and September 14th each year.
Australian Conservation Taxonomy Award:
on March 14th 2012 and March 14th 2013

Cover image: *Alloxylon flammeum* (Proteaceae), reproduced with the permission of David Mackay (the artist) and RBG Sydney.

Publication dates of previous issue
Austral.Syst.Bot.Soc.Newslett. 147-8 (June–September 2011 issue)

To be advised

From the President

As we approach Christmas and the silly season, it is time to take stock of what our Society has achieved in 2011. My President's report for 2010-2011, which is one of the annual reports in the ASBS Inc. Business section of this issue of the Newsletter, covers developments up to our Annual General Meeting, held on 25 November 2011 at the Royal Botanic Gardens, Melbourne. At the AGM, Frank Zich presented his first Financial Report as Treasurer (see the ASBS Inc. Business section of this issue of the Newsletter), in which he showed that the Society is in good financial health.

The other main item on the agenda at the AGM was the election of ASBS Council for 2011-2012. As members will already know, Secretary Gillian Brown and Councillor Tanya Scharaschkin stepped down from their positions at the AGM and were thanked with acclamation for their contributions to ASBS. They were replaced by John Clarkson and Ilse Breitwieser, who were elected unopposed to the positions of Secretary and Councillor (Assistant Secretary), respectively. Most members will know John as one of our Society's three Life Members and from his previous two terms on ASBS Council from 1993 to 2000 (as Councillor and Treasurer) and from 2002 to 2008 (as Vice President and President). John has been a tireless worker on our behalf, the position of Secretary being the only Council position that he had not already occupied. Most of John's research work would be best described as weed ecology but he has managed to keep up some projects in plant systematics too. He recently published molecular evidence showing hybridisation between native and introduced species of the grass genus *Hymenachne* and is close to completing a revision of the Australian members of the genus *Erythroxylum*. John has also been writing a series of field guides to major plant groups of the Cape York Peninsula Bioregion, with Eucalypts published last year and paperbarks and tea trees (*Melaleuca s.lat.* and *Asteromyrtus*) to be published in 2012. Ilse Breitwieser is our Society's first non-Australian member of Council. She will be known to many members as the Leader of the Plant Biosystematics Team at Landcare Research in Lincoln, New Zealand and organizer of the excellent ASBS conference held there in 2010. Her research interests are in the phylogenetic systematics and taxonomy of New Zealand Asteraceae and the development of a new electronic *Flora for New Zealand Higher Plants*. As Councillor (Assistant Secretary), Ilse will be taking on the special responsibility of keeping an eye on ASBS communications, and in particular, being the contact person for our "Opportunities in Plant Systematics" web page. Please email information on vacant jobs, fellowships, scholarships and other relevant opportunities to Ilse at *BreitwieserI@landcareresearch.co.nz*. Dale Dixon, Frank Zich and Pina Milne remain in their Council positions of Vice President, Treasurer and Councillor (Assistant Treasurer) respectively. Dale and I both have one more year in our positions on Council and we encourage all full members to consider standing for these leadership jobs when nominations are called next year for Council elections. Please contact either of us if you want to discuss these opportunities.

ASBS is now offering early career plant systematists more opportunities to fund their research projects than ever before. This issue of the Newsletter includes notices for two awards, applications for both of which close on 14 March 2012; both provide 12 months funding for a well-defined part of a research project. Members will be familiar with the Eichler Research Fund, which has been providing awards (now up to $2000) to support the research of successful applicants since 1997. As the two rounds of applications in 2011 resulted in only two Eichler Awards being made, the fund is in a position to offer more than two awards in the March 2012 round, so all early career members, particularly research students, should read the information on the ASBS website and consider applying for one of these. Note that applications for Eichler Awards are now welcome from non-Australian members, thanks to Council's decision to fund successful non-Australian applications from our general fund. The other award being offered for the first time next March is the more generous Australian Conservation Taxonomy Award, which will provide $9000 to fund an Australian

postgraduate student's research for 12 months and attendance at the ASBS conferences in 2012 and 2013. This scholarship is being funded by The Nature Conservancy's Australian office (TNC) and the Thomas Foundation. The funded project will contribute to Australian systematic botany and have conservation relevance. Preference will be given to applications that include taxa from TNC's priority regions: the Great Western Woodlands of Western Australia and/or Australia's northern grasslands but applications from students working elsewhere in Australia are also welcome and will be seriously considered. More information and application forms can be found on the ASBS web site.

Finally, on behalf of ASBS Council, I wish all members and their families a happy Christmas and New Year break. We look forward to seeing many of you next year, especially at our September conference in Perth.

Peter Weston

ASBS Inc. business

2011 Annual General Meeting of the Australasian Systematic Botany Society, Inc. – Minutes

13.00, Friday, 25th November 2011, Mueller Hall, National Herbarium of Victoria, Royal Botanic Gardens Melbourne, Australia

Meeting opened at 1.02pm

Present: Peter Weston (President), Dale Dixon (Vice-President), Frank Zich (Treasurer), Gillian Brown (Secretary), Pina Milne (Assistant Treasurer) and 11 members were in attendance.

1. Apologies
Bill Barker, Robyn Barker, John Clarkson, Trevor Clifford, Marco Duretto, Pauline Ladiges, David Mabberley, Andre Messina, Peter Niesh, Tanya Scharaschkin (Councillor), Frank Udovicic, Annette Wilson (Public Officer), and Karen Wilson.

2. Minutes of the 2010 Annual General Meeting
Proposed that the minutes of the 32nd Annual General Meeting (as published in The *Australian Systematic Botany Society Newsletter* Number 144-5) be accepted.
Moved Peter Weston and seconded Dale Dixon. Motion carried.

3. Business arising from minutes
Nil

4. President's Report
Presented by Peter Weston. **See Attachment 1.**

5. Treasurer's Report
Prepared and presented by Frank Zich. This was his first report as treasurer and the societies first under the new name. Full report to be printed in the ASBS newsletter (**see Attachment 2)**
Proposed Frank Zich, seconded by Peter Weston. Carried with all in favour.

6. Newsletter Report
The newsletter was 3-6 months behind schedule from September 2010 due to unfortunate series of events, size of the job and lack of active support from members. The editors are trying very hard to get back to a routine of printing and publishing on schedule.

As Russell Barrett is currently on leave, Robyn and Bill Barker have kindly volunteered to be guest editors for the December 2011 and March 2012 issues.

It has been noted that there are numerous outstanding Eichler reports from past recipients. Please provide any outstanding reports direct to the newsletter editor and a copy to the secretary (along with an acquittal of funds).

7. Web Page Report
Murray Fagg provided a web report on 13 July 2011 (below). This was read at the July informal

general meeting held during the IBC:

The Society's webpage continues to be hosted by the Australian National Botanic Gardens server, and is maintained by Murray Fagg.

This year we added a new page 'Opportunities in Plant Systematics', where members can advertise scholarships, training, post-docs and positions. Please ensure you include a closing date if you send notices to the web manager, so we can keep this page current.

To maintain comparable statistics we look at the month of June each year. Traffic to the website is lower this year, with an average of about 250 hits per day for June, (574 hits per day last year).

In June 2011 the ASBS home page received 1487 hits (i.e. 50/day) (cf. 41/day last year). Individual editions of the newsletter are the next highest accessed, in June this year, in order, the March 2008 newsletter got 710 hits, the Sept 2010 newsletter got 630 hits, the June 2009 newsletter got 591 hits. With the newsletter index page only getting 297 hits for the month, it is obvious that most people are accessing these files directly, probably from search-engines such as Google.

In June this year the 'About ASBS', the 'Students', and the 'Eichler Awards' pages all got around 180 hits, compared with 280 last year.

Traffic to the website is considerably lower this year than last, almost half, and appears to have been like this for at least the last few months, not just a June anomaly. Google Analytics reports reduced web visitation per site world-wide, but certainly not to this extent.

8. Eichler Research Fund

Dale Dixon reported that in 2011 there were two successful recipients of the award: Rose Barrett (March 2011 round) and David Meagher (September 2011 round). Dale encouraged all eligible students to apply for the Eichler awards, and all supervisors to encourage their students to apply.

The composition of the research committee changed in 2011 with Kristina Lemson stepping down after 3 years of service and two new members joining: Nathalie Nagalingum and Phil Garnock-Jones.

9. Any other business

Peter Weston announced that The Nature Conservancy (TNC) will fund two Australian Conservation Taxonomy Awards over 2012 and 2013 (one per year) and strongly encouraged all postgraduate students to apply. These awards will be competitively awarded by the research committee and a representative of TNC. Up to $9,000 will be awarded to one recipient in each round. Applications will close 14th March 2012 and 14th March 2013.

Further details, criteria and application forms will be published on the ASBS website (*www.anbg.gov.au/asbs*).

The 2012 ASBS conference will be held in Perth from the 24-26th of September, with a pre-conference mixer (23rd Sept) and a two day post conference fieldtrip. It will be hosted by the Western Australian Herbarium (venue TBC). A conference committee has been organised, chaired by Kelly Shepherd.

10. Election of Officers

Gillian Brown reported on the council nominations. All positions received one application each by the due date and were elected unopposed.

Peter Weston thanked retiring council members Tanya Scharaschkin and Gillian Brown.

Council for 2011-2012

President: Peter Weston

Vice president: Dale Dixon

Secretary: John Clarkson

Treasurer: Frank Zich

Councillor (communications officer): Ilse Breitwieser

Councillor (assistant treasurer): Pina Milne

Meeting closed at 1.25pm

Attachment 1

ASBS President's Report 2010-2011

This is the first President's report to be delivered under the society's new name, the Australasian Systematic Botany Society, following the success of the special resolution to institute this change in March 2011. The financial health of ASBS has continued to improve over the past year and the society has achieved some significant successes in its conferences, in developing new sources of financial support for postgraduate students and in improving its own rules. However, some other measures continue to indicate gradual decline and are a cause for concern.

Conferences

In recent years, ASBS has got into the healthy routine of holding annual conferences. Our 2010 conference in Lincoln, New Zealand was superbly well organised by Ilse Breitwieser and her conference committee despite the recent trauma of the Canterbury earthquake of 4 September that scored 7.1 on the Richter Scale.

Since the International Botanical Congress was to be held in Australia in 2011, and would be attended by many ASBS members, Council decided to designate it as the ASBS conference this year. This involved the provision of generous financial support for student members to attend the conference, sponsorship of two symposia (symposia 104, "Patterns and processes in the evolution and biogeography of the Australasian flora" and 083 "A Perspective on Species Radiation – The New Zealand Story"), presentation of a Nancy Burbidge Lecture by Professor Mike Crisp, an informal general meeting of ASBS members and an ASBS conference dinner. The IBC turned out to be a stimulating and enjoyable event for the great majority of participants and ASBS managed to have quite a visible presence at it, although our sponsorship of the symposia was not acknowledged as explicitly as we had hoped.

The Society's next conference will be held in Perth from Melbourne from 23 to 26 September 2012, hosted by Dr Kevin Thiele and the Western Australian Herbarium, for which a conference committee has been assembled under the leadership of Dr Kelly Shepherd. Preliminary preparations have been made to organise the following ASBS conference jointly with the Society of Australian Systematic Biologists in Sydney, to take place in the second half of 2013.

Newsletter

The ASBS Newsletter is still the most important medium that we have for communication between members and its regular publication is crucial for the health of our Society. That the publication schedule of the Newsletter ran seriously awry in 2011 became the Society's greatest difficulty and Council's biggest headache. Issues 144 and 145 (September and December 2010) ended up being published as a combined issue, available online from March 2011, Issue 146 (March 2011) did not appear online until June 2011, and publication of both of these in hard copy did not happen until September 2011. Issues 147 and 148 were published as a combined issue, which appeared online in October 2011 but has not been published in hard copy yet. Electronic publication of the Newsletter has thus been running, on average, about 3.5 months behind schedule and publication of the printed version has been about 9 months late. I apologise profusely for these frustratingly long delays, which have resulted in articles and notices pertaining to ASBS business being out of date by the time that members got a chance to read them in the Newsletter.

These delays have been caused primarily by the fact that Editor Russell Barrett had to give first priority to completing his Ph.D. thesis through most of the year. The other main obstacle has been the long time it took for us to make new arrangements for printing and distribution of the Newsletter. Russell has now submitted his Ph.D. thesis and co-editor Peter Jobson has engaged a company in Perth, Fineline Print & Copy Service, to print and distribute the Newsletter, and we should now be able to get back to our regular Newsletter publication schedule.

Russell Barrett left Australia on his honeymoon in October 2011 and will not be back until January 2012 and ASBS stalwarts Bill Barker and Robyn Barker, who edited the Newsletter from 2001 to 2008, have kindly offered to be "guest editors" for Newsletters 149 and 150. John Clarkson volunteered to take on the role of book review editor this year and has negotiated agreements with several scientific publishers to provide free copies of their botanical books for review in the Newsletter.

Website

A new page was added to ASBS website entitled "Opportunities in Systematics", the purpose of which is to act as an electronic bulletin board for jobs, scholarships, fellowships and other passing opportunities in our field. We have planned for the position of Councillor (Assistant Secretary) in the new Council to become the contact person to whom items for the Opportunities page should be submitted. Webmaster Murray Fagg notes in his report elsewhere in this Newsletter that the number of hits on our website has declined substantially this year. He is at a loss to explain that decline, as is Council. Our best guess is that late publication of issues of the Newsletter reduced the number of hits from members who would otherwise have been downloading their copies. Some parts of the website still need to be completed.

Research Committee and Eichler Awards

After the Global Financial Crisis, the Research Fund performed poorly and consequently, fewer Awards were granted in 2009-10 than either the Research Committee or ASBS Council would have liked. Having got back on to an even keel financially by 2010-11, we encountered a new problem: an insufficient number of high quality, eligible applications. Only one Award has been granted in each of the two most recent rounds despite our aim of awarding two in each. The cause of this drop-off in applications is unclear but could be at least partly due to the late appearance of the ASBS Newsletters containing notices calling for applications. Hopefully it does not indicate a decline in the number of postgraduate students in plant systematics. Council has agreed to expand the scope of Eichler Awards to Australasia as a whole, in line with our recent name change and to fund successful non-Australian applicants from the General Fund.

Our policy of having a slow but steady turnover of members of the Research Committee has continued. Dr Kristina Lemson of Edith Cowan University stepped down from the committee in 2011, having served on it since 2008, and was replaced by Dr Nathalie Nagalingum of the National Herbarium of New South Wales and Emeritus Professor Phil Garnock-Jones, of the Victoria University of Wellington.

Other student support: the Australian Conservation Taxonomy Award

Early in 2011, Council was approached by The Nature Conservancy with a proposal to create a postgraduate scholarship in taxonomy to be administered by ASBS, based on the Nature Conservancy Applied Conservation Award that has been offered by the Ecological Society of Australia for a couple of years now. Negotiations were completed and a contract between TNC and ASBS signed in July, for the Australian Conservation Taxonomy Award, to be jointly funded by TNC and the Thomas Foundation. Each Award will support a postgraduate research project for one year, providing $9000, up to $3000 of which can be allocated to funding the student's attendance at two ASBS conferences and the balance of which will fund the research that the student conducts between the conferences. Successful applicants will be required to present their research plans at the first ASBS conference and their results at the following conference. This Award will be offered for the first time in March 2012, concurrently with the March round of Hansjoerg Eichler Awards. Funding has been committed for two awards, to be offered in 2012 and 2013.

ASBS Finances

The General Fund has continued to grow, largely as a result of our failure to print or distribute issues 144-146 of the Newsletter during 2010-11. The costs of printing and distributing the Newsletter have increased but are offset by the rising proportion of members who choose to download the Newsletter from the ASBS website rather than receiving a paper copy in the mail. Newsletter costs closely approximate income from membership fees. ASBS is in a sound financial position but there are no

grounds for financial complacency.

The Research Fund has also continued to grow, partly due to generous donations by benefactors, but also to investment income substantially outstripping the amount that was awarded this year. Mrs Marie-Luise Eichler, a life member and extremely generous benefactor to ASBS, died on 31 December 2010, leaving 2/3 of her non-house assets to the Hansjörg Eichler Research Fund in her will. We are still waiting on the office of the NSW Trustee and Guardian to complete administration of her estate. This inheritance might boost the Fund's investment income substantially, potentially enabling the initiation of a new, more ambitious program of support for early career plant systematists.

Membership

The number of ASBS members has been declining since 2007/2008. The reasons for this decline are not obvious but a contributing factor might be the fact that non-members have been able to download the ASBS Newsletter free of charge from our website since 2003. If membership continues to decline, Council will investigate ways to restrict access to recent Newsletters to members. The Society has not exactly been swamped by new members from New Zealand since our name change but we still hope to attract new members from elsewhere in Australasia.

Council

ASBS Secretary Gillian Brown and Councillor (Assistant Secretary) Tanya Scharaschkin retire from ASBS Council at this Annual General Meeting, having served in these positions since September 2008 (Tanya) and December 2009 (Gill). We (again) thank Gill and Tanya for the time, effort and thought they have contributed to ASBS over the past two to three years. The coming year will be my last as President and Dale Dixon's last as Vice-President and these positions will need to be filled at next year's AGM in Perth. I would be very interested in talking with any member who aspires to do either of these jobs.

Special resolutions

Two special resolutions to change the Society's rules were passed by members at a special General Meeting held in Sydney on 15 March 2011:

1. That the name of the association be changed to "The Australasian Systematic Botany Society Incorporated"
2. That Rule 30(5)(b) be changed from "it is approved by the vote of at least 75% of those members of the Society who are entitled to vote" to: "it is approved by the vote of at least 75% of those members of the Society who, being entitled to vote, vote in person or by proxy at the meeting".

These were important reforms, the first expanding the scope of our Society's interests and potential membership pool and the second to bring our constitution into line with the law under which ASBS is incorporated and to enable our society to respond readily to its changing environment by changing its own rules when appropriate. I and the rest of Council were delighted by the Membership's overwhelming approval of these changes.

Two additional changes to the Society's rules need to be made in the near future. The Australian Taxation Office requires us to state explicitly in our Rules that we are a non-profit organization, in order to maintain our status as a Deductible Gift Recipient for donations to the Research Fund. We also need to change the rules to allow virtual participation at General Meetings by audio and video conferencing, at least for Council members. Technological advances in electronic communication have rendered the wording of our rules regarding attendance ("present in person") out of date and an unnecessary drain on our general fund, which has had to pay travel expenses for three or four Council members to attend each of the last three General Meetings. Proposals to change the rules accordingly will be put to all members early in 2012.

Nancy Burbidge Medals for Professors Pauline Ladiges and Michael Crisp

At the Council meeting held before the start of the International Botanical Congress, Professors Pauline Ladiges (University of Melbourne) and Michael Crisp (Australian National University) were both nominated for the Nancy Burbidge

Medal and both nominations were unanimously endorsed by Council. Pauline was presented with her medal at the informal general meeting held during the IBC and Mike was presented with his before he delivered the Nancy Burbidge Lecture. Both awards were thoroughly well deserved.

Science policy

Taxonomy Australia (TaxA), a potentially useful umbrella group of professional societies and institutions, whose aims included promotion of systematics, has folded, unfortunately. This body might have been a good vehicle for complaining about the journal ranking system that ARC attempted to implement as part of its Excellence for Research in Australia (ERA) scheme, and which blatantly discriminated against journals specializing in plant systematics. A number of ASBS members made individual submissions critical of rankings proposed for particular journals in the round of public consultation that opened early in 2011 but in the end, the whole system was scrapped, thankfully.

Acknowledgements

I thank everyone who has helped to run our Society in 2010-2011, most notably ASBS Council, Dale Dixon, Gill Brown, Frank Zich, Pina Milne and Tanya Scharaschkin, the Newsletter Editors, Russell Barrett, Peter Jobson, and John Clarkson, our Webmaster, Murray Fagg, our Research Committee, Bill Barker, Phil Garnock-Jones, Betsy Jackes, Greg Leach, Kristina Lemson, Nathalie Nagalingum, and Chris Quinn, our Public Officer, Annette Wilson, our conference organisers and other members who have kindly volunteered for various jobs from time to time. ASBS relies completely on the efforts of these volunteers to achieve what it does.

Peter Weston

Attachment 2

ASBS Treasurer's Report 2010-11

1. Introduction

I am pleased to present the financial statements of the Australasian Systematic Botany Society (ASBS) for the year ended 30 June 2011. The finances of the Society are run on a financial year basis.

These are the first financial statements of the Society under its new name, following the ballot and General Meeting on 15 March 2011 at which the name was changed to the *Australasian Systematic Botany Society*.

2. Membership

At 30 June 2011 the financial members of ASBS numbered about 216, which is a decrease of about 30 members compared with the same time last year (and down about 100 financial members from 2008). The proportions of Full (59%) and Concessional members (36%) remain roughly the same as last year, and the number of Gratis memberships (17) has stayed the same. Twenty two new individual members joined ASBS between July 2010 and 30 June 2011 (see list below).

Approximately 37% of paying members were unfinancial at the end of September, which is higher than usual. There was a large drive for payment of membership fees in February 2011 during the voting period for the Special Resolution. I have been tardy in sending out another reminder (usually June). Ordinarily, members who have not paid their subscription fees by 30 June are removed from the mailing list for newsletters, in accordance with Council policy, but by accident this year all members (including those who had indicated they only wanted to receive the newsletter electronically) received the printed newsletter.

The following new members for 2010 and 2011 are welcomed to the Society:

- Mr Michael McCuaig, Wurtulla, Qld
- Ms Yumiko Baba, Smithfield Qld
- Ms Alicia Brown, Upper Ferntree Gully, Vic.
- Mr Somtanuek Chotchoungchotchai, Thailand
- Ms Pippa French, Brunswick, Vic.
- Ms Bee Gunn, Cook, A.C.T.
- Ms Megan Hirst, South Melbourne, Vic.
- Dr Richard Jobson, Bexley, N.S.W.
- Mr Bob Makinson, Sydney, N.S.W.
- Ms Emma McIntosh, Berowra, N.S.W.

Table 1. Membership of ASBS as of 30th September 2011 (unfinancial members in brackets)

	Full	Concessional	Gratis	Total
Ordinary	126 (64)	n/a	0	126 (64)
Student	n/a	39 (25)	0	39 (25)
Retiree	n/a	26 (28)	0	26 (28)
Unemployed	n/a	3 (3)	0	3 (3)
Institutional	5(6)	n/a	14	19(6)
Life	n/a	n/a	3	3
Total	**131 (70)**	**68 (56)**	**17**	**216 (126)**

- Dr Nathalie Nagalingum, Sydney, N.S.W.
- Ms Sock-Ngoh Phoon, Cairns, Qld
- Mr George Plunkett, Armidale, N.S.W.
- Dr Matt Renner, Sydney, N.S.W.
- Mr Arif Riaz, Cobbitty, N.S.W.
- Ms Claer Riegert, Toorak, Vic.
- Dr Paul Rymer, Woolloomooloo, N.S.W.
- Ms Lalita Simpson, Cairns, N.S.W.
- Dr Anna Syme, South Yarra, Vic.
- Mr Michael Whitehead, Canberra, A.C.T.
- Mrs Hongyan Xie, Barton, A.C.T.
- Dr Alexander Bome, Ecuador

3. General Fund

Brian Woods of DFK Kidsons audited the accounts in November 2011. It is the first time this company has audited the accounts.

3.1 Income

Gross income to the General Fund was again in the 'normal' range this year ($15,347.18).

Subscription fees from members remain the steady source of income to the General Fund. The total income from membership ($8,826) was $1618 lower than the previous year.

Book sales continued at their previous low rate, with a net return of $83.75. For several years Council has been considering writing off remaining stock.

3.2 Expenditure

Expenditure from the General Fund ($7718) was substantially lower than the 2009-10 amount ($12,485). There are a number of standard transactions that account for this: the late transfer of donations to the Eichler Fund (July 2011); reduced newsletter expenses due to the late printing of Volumes 144/145 and 146; and the absence of expenses on the website.

Newsletter printing were, as usual, a major component of the routine expenses of the General Fund, however they were lower than normal. This is because the current statement only reports expenses for 2 issues (rather than four) because of delays with newsletter production and printing this year. There will be further savings as an increasing proportion of members (90 members) who have paid their fees elect to receive their newsletter electronically (41% versus 33% last year).

Other major expenses this year included $2303 associated with the Lincoln conference ($1020 of this paid as support to 6 students attending the conference and presenting a talk or poster); $1870 auditing for the last financial statements. Also, travel expenses for several Council members to attend the Special General Meeting and the Lincoln Conference, and the Treasurer handover amounted to $1400. In previous years Council Member's host institutions have generally covered all or most travel costs associated with attendance at General Meetings but in this financial year the additional Special General Meeting added an extra burden that it was decided the General Fund could assist with.

As with the last few year's Treasurer's reports it is worth highlighting that, ignoring investment income, the regular income and expenses of the Society are tightly coupled. This remains the case, but with lower newsletter expenditure this year the margin between the two was wider. Revenue from memberships this year, even though again lower than previous years, was sufficient to cover all routine expenses, plus conference expenses. Given the very healthy state of the General Fund (assets of $114,724), Council doesn't feel it is necessary to increase subscription rates at this point, but subscription rates should continue to be assessed annually to ensure the Society is covering its regular expenses.

3.3 Current Assets in the General Fund

At the end of June 2011 the Society held assets of $117,467. This represents an increase of $8966 over the 2009/10 level.

The books that the Society fully or partially owns, held by Helen Thompson (ASBS sales) and by state chapter conveners, as at 30 June 2011 are as follows:

5 copies of *History of Systematic Botany in Australasia* (partial share)
12 copies of *Systematic Status of Large Flowering Plant Genera*
61 copies of *Evolution of the Flora and Fauna of Arid Australia* (partial share).

On 12 May 2011 the Society was notified by letter from Commonwealth Financial Services that all Commonwealth Cash Management Trusts (CMT) were to be terminated on 12 August 2011. Following some investigation of the investment options by Council, the General Fund CMT was closed and funds transferred to the existing RaboDirect online account (earning approximately 5.1%) in July 2011.

4. The Hansjörg Eichler Research Fund

Research Fund investments have now had two solid years of growth, following on two years of poor performance associated with the global financial situation. This year has seen a reasonable return of $17,967 (compared with $23,855 last year). On top of this investment performance, the capital of the Fund was again bolstered this year by sizeable donations.

Nearly 50 individual donations were received, and these contributions help the Society to support systematic research into the Australian flora. Donations ranged from $5 upward (donations over $2 being tax-deductible), and included: a large donation of $20,000 from a regular donor, a further $526.80 from the estate of Helen Hewson (on top of $25,000 over the previous two years), and $1,755 donated by members in conjunction with membership payments. Through these donations, assets of the Research Fund increased during the period from $419,319 to $451,818.

The Council awarded three Hansjörg Eichler Research Grants this year. Two grants of $2000 were awarded to James Ingham and Caroline Puente-Leviévre in the September 2010 round. One further grant of $2000 was awarded to Rose Barrett in the March 2011 round. Two expenses of $2000 appear in this year's accounts from the March 2010 round.

On 12 May2011 the Society was notified by letter from Commonwealth Financial Services that all Commonwealth Cash Management Trusts (CMT) were to be terminated on 12 August 2011. Following some investigation of the investment options by Council, the Research Fund CMT was closed and funds were transferred to a 6-month term deposit (earning approximately 6%) in July 2011. Investment options will be reviewed on maturity with the likely option of rolling-over the 6-month term deposit.

5. Taxation

The ASBS continues with its tax-exempt status. Organisers of conferences are reminded that ASBS is not registered as a GST gathering organisation. Planners of large conferences need to obtain an ABN and the relevant status or work through a registered institution (such as a herbarium). Smaller conferences and workshops can be run through the Society as long as no GST is charged or recovered.

6. Summary

The Society remains in a strong financial position. In 2010/11 the General Fund had an operating surplus of $7,836 and accumulated assets of $117,467. After two years of poor performace, investments of the Hansjörg Eichler Research Fund have now returned two consecutive years of positive returns that, coupled with generous donations of members, saw the fund grow in value by $28,498 to $451,818.

I have served as Treasurer for nearly one year and would like to acknowledge the work of Michael Bayly as outgoing Treasurer and thank him for his work and generosity of time in handing over the work to myself and Pina and continuing to answering our questions.

Frank Zich
November 2011

AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED
(An incorporated association)

FINANCIAL REPORT
FOR THE YEAR ENDED
30 JUNE 2011

COUNCIL MEMBERS' REPORT

Your Council members submit the financial statement of the Australasian Systematic Botany Society Incorporated for the year ended 30 June 2011.

Council Members
The names of the Council members who held office throughout the reporting period and at the date of this report are:

President	Peter Weston	Appointed December 2009
Vice President	Dale Dixon	Appointed December 2009
Secretary	Gillian Brown	Appointed December 2009
Treasurer	Michael Bayly	Term ended December 2010
Treasurer	Frank Zich	Appointed December 2010
Councillor	Frank Zich	Term ended December 2010
Councillor	Tanya Scharaschkin	Appointed September 2008
Councillor	Pina Milne	Appointed December 2010

Principal Activities
The principal activities of the association during the reporting period were to promote systematic botany in Australia.

Significant Changes
No significant change in the nature of these activities occurred during the reporting period.
The name of the association was changed following a special resolution that was voted on and passed at a General Meeting on 15 March 2011. The name changed from 'Australian Systematic Botany Society' to 'Australasian Systematic Botany Society'.

Operating Results
The operating results are as set out hereunder:

	Year ended June 2011	**Year ended June 2010**
	$	$
Research Fund	28,498	54,855
General Fund	7,836	2,994
Total	**36,334**	**57,849**

Signed in accordance with a resolution of the members of the Council.

Peter Weston (President) Frank Zich (Treasurer)

November 2011

AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

INCOME STATEMENT
FOR THE YEAR ENDED 30 JUNE 2011

	Note	2011	2010
		$	$
RESEARCH FUND			
Income			
Donations to Research Fund		20,561	30,000
Investment Income	2	17,967	23,855
General Fund Transfer (includes member donations and profits from fundraising book sale)			3,000
Total Income		38,528	56,855
Expenditure			
Audit Certificate		30	
Research Grants		10,000	2,000
Total Expenditure		10,030	2,000
Surplus	3	**28,498**	**54,855**
GENERAL FUND			
Income			
Sales – Books		84	87
Less Cost of Goods Sold			
Opening stock – Books		220	262
Closing stock – Books		(207)	(220)
Cost of Goods Sold/written off		13	42
Gross Revenue from Trading		70	45
Advertising			
Conferences			
Investment Income	2	4,902	3,599
Subscriptions to ASBS Inc.		8,827	9,155
Donations to Eichler Fund		1,755	1,465
Bequest			
Funds from Palynological and Palaeobotanic Association of Australia			
Fundraising sale of second hand books			1,100
Sundry Income			
Total Income		**15,554**	**15,364**
Expenditure			
Transfer to Eichler: member donations (+ extra)			1,900
Transfer to Eichler: bequest & conference profits			
Transfer to Eichler: profits of book sale fundraiser			1,100
Auditors' remuneration (and associated costs)		1,870	1,460
Credit card charge facility		427	362
Conference expenses		2,303	2,326
Newsletter expenses		1,329	3,893
Registrar general returns		12	129
Website design			1,200
Miscellaneous expenses (e.g. postage)		1,777	
Total Expenditure		**7,718**	**12,370**
Surplus	3	**7,836**	**2,994**

The accompanying notes form part of these financial statements.

AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

BALANCE SHEET
AS AT 30 JUNE 2011

	Note	2011	2010
		$	$
ASSETS			
Current Assets			
RESEARCH FUND			
Cash at Bank		19501	4,962
Investments			
Colonial Managed Investment		71,958	67,702
Cash Management Fund		197,223	192,308
Australian Bond Fund		90,427	85,971
Growth Fund		72,709	68,376
Total Current Assets Research Fund		451,818	419,319
GENERAL FUND			
Cheque Account		11,486	7,907
Savings Account		53,922	50,833
Cash Management Account		51,852	49,541
Inventories – Books		207	220
Total Current Assets General Fund		117,467	108,501
Total Current Assets		569,285	527,820
NET ASSETS		569,285	527,820
MEMBERS' FUNDS			
Accumulated surplus – opening	3	527,820	469,971
Surplus for the period	3	41,465	57,849
Total Members' Funds		569,285	527,820

The accompanying notes form part of these financial statements.

AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 30 JUNE 2011

Note 1: Statement of Significant Accounting Policies

The financial report is a special purpose financial report prepared in order to satisfy the financial reporting requirements of the members. The Council has determined that the Society is not a reporting entity.

The financial report has been prepared in accordance with the requirements of Australian Accounting Standard AASB 1031: Materiality. No other applicable Accounting Standards, Australian Accounting Interpretations or other authoritative pronouncements of the Australian Accounting Standards Board have been applied.

The financial report has been prepared on a cash basis.

The following specific accounting policies, which are consistent with the previous period unless otherwise stated, have been adopted in the preparation of this financial report.

(a) Membership
Membership is recorded on a cash basis.

(b) Income Tax
Under present legislation the Society is exempt from income tax and accordingly no provision has been made in the accounts.

(c) Comparative Figures
Where required by Accounting Standards comparative figures have been adjusted to conform with the changes in presentation for the current year.

Members Funds
In accordance with the rules of the Society accumulated funds are not available for distribution to its members.

	2011	2010
	$	$
Note 2: Investment Income		
RESEARCH FUND		
Interest Received		
Cheque Account	8	
Distributions[1]		
Colonial First State (Diversified Fund)	4,256	6,477
Cash Management Trust	4,915	6,122
Australian Bond and Growth Fund	8,788	6,298
Increase/decrease in market value of investments:		
Bond and Growth Fund		4,958
Total Investment Income	**17,967**	**23,855**
GENERAL FUND		
Interest Received		
Cheque Account	2	40
Savings Account	2,589	1,471
Distributions		
Cash Management Trust	2,311	2,418
Total Investment Income	**4,902**	**3,929**
Note 3: Accumulated Funds		
RESEARCH FUND		
Accumulated Surplus – Opening	418,725	363,870
Surplus for the period	33,093	54,855
Accumulated Surplus – Closing	**451,818**	**418,725**
GENERAL FUND		
Accumulated Surplus – Opening	109,095	106,101
Surplus for the period	8,372	2,994
Accumulated Surplus – Closing	**117,467**	**109,095**
Total Surplus for the period	**41,465**	**57,849**
Total Accumulated Surplus	**569,285**	**527,820**

[1] Note: includes some distributions credited to accounts in early July 2010, but related to the 2009/10 financial year.

Note 4: Research Committee

The Australasian Systematic Botany Society is an approved research institute.
The approved membership of the Research Committee comprises:

Dale Dixon (Chair)	
Bill Barker	
Betsy Jackes	Appointed July 2003
Greg Leach	
Kristina Lemson	Appointed Feb 2008
Chris Quinn	Appointed July 2003

AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

STATEMENT BY THE MEMBERS OF THE COUNCIL

The Council has determined that the Society is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the financial statements.

In the opinion of the Council:

1. The financi al report as set out on pages 1 to 7 presents a true and fair view of the Society's financial position as at 30 June 2011 and its performance for the year ended on that date.

2. At the date of this statement, there are reasonable grounds to believe that the Society will be able to pay its debts as and when they fall due.

This statement is made in accordance with the resolution of the Council and is signed for and on behalf of the Council by:

President ……..
Peter Weston – President

Treasurer ……..
Frank Zich – Treasurer

Dated this day of NOVEMBER 2011

Australian Conservation Taxonomy Award for 2012

The Australian Conservation Taxonomy Award is designed to foster research by young scientists into important taxonomic problems that have significant implications for conservation in Australia. The Nature Conservancy, thanks to generous support from The Thomas Foundation, have created this $9,000 Award, which includes funding for a research project and costs associated with attending Australasian Systematic Botany Society Conferences in 2012 and 2013. The award will help to celebrate and promote the role that taxonomists and curators play in many ways, including measuring the response and adaptation of biodiversity to climate change. From the perspective of both The Nature Conservancy and The Thomas Foundation, the award provides young researchers with the opportunity to build stronger links with those organisations and their partners in order to make a lasting contribution to conservation.

Applications for the Australian Conservation Taxonomy Award for 2012 are welcomed from all current financial members of the Australasian Systematic Botany Society who are either enrolled as postgraduate research students or planning to enroll in a postgraduate research degree within twelve months of the closing date for applications. The project must contribute to Australian systematic botany (including cryptogams), must be carried out within Australia, and must have relevance to a conservation issue. Preference will be given to applications that include taxa that occur in the Great Western Woodlands region of Western Australia (see e.g. *www.greatwesternwoodlands.org.au/gww-map*) or the Australia's tropical savannas (see e.g. *www.savanna.org.au*). The value of the grant awarded will be $6000 plus up to $3000 allocated to attendance at 2 ASBS conferences.

The application form and instructions for applicants for the Australian Conservation Taxonomy Award can be found at *www.anbg.gov.au/asbs/student.html*. The Award will be competitive. Therefore applicants should prepare their proposals carefully and completely. Applications will be assessed on the quality of the applicant and the proposed project. Evidence of an applicant's quality will include:

- evidence of an ability to carry out the project, such as relevant experience with the techniques;
- previous experience in carrying out research;
- the applicant's academic record;
- any relevant publications (published or accepted only).
- a letter of support from the student's supervisor.

Evidence of the quality of a proposed project will include:

- the scientific and/or theoretical merit of the proposal;
- the likelihood that it will make a worthwhile contribution to Australian systematic botany and a nature conservation issue;
- identification and proper budgeting of the particular aspect of the project that funding will make possible, rather than a request for partial support of a large project will be essential;
- extension of a project into some new and worthwhile area;
- the feasibility of the project being carried out within the proposed timetable and with the available resources;
- the soundness of the proposed methodology and planning of the work schedule;
- letters of support from two referees.

The successful applicant will be required:

- to give a presentation (either spoken or poster) outlining the proposed research at the ASBS conference in Perth in late September 2012, where the award will be formally presented;
- to give a spoken presentation describing the results of the funded research at the 2013 ASBS conference, which is planned for Sydney in late 2013;
- to submit a report summarising the tasks and objectives accomplished by the use of the award funds and a financial accounting of budget to actual expenditures to the ASBS Secretary by 30 November 2013;
- to submit a short report on the progress and outcomes of the research project annually to ASBS and The Nature Conservancy in

November each year until the completion of the postgraduate degree, including copies of any published papers or conference presentations;
- to submit a brief summary of the project for publication in the *Australasian Systematic Botany Society Newsletter* number 155 (June 2014);
- to acknowledge The Nature Conservancy and The Thomas Foundation in any published papers and presentations.

Applications will be assessed by a selection committee comprising the members of the ASBS Research Committee and one nominee of TNC Limited. Competition for this award will be held concurrently with the March 2012 competition for Awards from the Hansjörg Eichler Research Fund. Applications must be submitted by email as pdf documents to ASBS Secretary John Clarkson (*asbs_secretary@anbg.gov.au*) by 14 March 2012.

Hansjörg Eichler Research Fund September 2011 Round

One successful applicant was awarded $2,000 this round for the following proposal:

- David Meagher (The University of Melbourne, Victoria) *Diversity, endemism and biogeography of the bryophyte flora of Lord Howe Island*

The next round of the Eichler Research Fund will close on March 14th 2012.

Reminders to members

Annual fees are now due

The appropriate forms used to appear as an insertion in the Newsletter's first issue of each year, but that now would not get to all members. Because the demand for printed copies has reduced considerably, members need to download a copy of the form from the Society's website at *www.anbg.gov.au/asbs/membership.html*. Please help the Treasurer by paying up before he has to resort to reminders.

Applications to two ASBS research grant schemes due by March 14th

Hansjörg Eichler Research Fund

Many, mainly young, researchers have benefited greatly from the modest grants from the Hansjörg Eichler Research Fund. Normally funds are available for a few awards each year, but inexplicably there has been a substantial reduction in applications. So that's an extra reason to apply for a grant! The application will still need to be good, but the competition may not be so great.

Australian Conservation Taxonomy Award

This award is open for application at this time in each of the next two years.

We endorse the President's and other reports (pp. 1, 5, 15) encouraging participation in both schemes. The Society's website has guidelines.

Call for Newsletter reports from Eichler research grant recipients

Recipients are encouraged to submit their reports to the Editors for inclusion in the Newsletter as soon as possible after completion of their work. It is not only a requirement of the grant and of benefit to the grantees in providing an albeit small publication, but it is of genuine interest to the membership. This may assist in finding future employment at an early stage of a career.

Grantees are also required to submit an acquittal of expenditure of their grant with a copy of the report to the Secretary.

Annual ASBS Conference in Perth 23rd–26th September

It is good timing to have the ASBS conferenc back in the September semester break, for southern Western Australia should be in full bloom. And it gives the opporunity to experience systematics blossoming in the West, further evidenced by the new WA Herbarium.

Check coming issues of the Newsletter and the ASBS Web site for details as they come to hand.

Articles

Why is taxonomy still presented to the world as books?

David Morrison
Swedish University of Agricultural Sciences
Uppsala, Sweden

As the Book Review Editor for *Systematic Biology*, I was sent two copies of the recent edition of *New Flora of the British Isles* (Stace 2010), one of which I still have. There are now a number of reviews of this book (Fay 2011; Pankhurst 2011; Rich 2011), including the one that I commissioned (Fröberg 2011). These reviews all agree that the book is now the 'standard reference work' for Britain and Ireland (why is Ireland part of the 'British Isles'?), although they all express disappointment with some aspect or other of the book. We may therefore take the worth of the book to systematists as 'given', although I noted a few comments in reader reviews on the web that it is a bit daunting for non-experts.

Nevertheless, there is one thing about these reviews that intrigues me: no-one has commented on the fact that it is a book. I, on the other hand, immediately wondered why this book exists. That is, why does it exist as a book, as opposed to existing in some other form? A book might have been acceptable in 1991 (when the first edition was published), although even that is debatable (Morrison 1993), but not in 2010 (the third edition). As far as I am concerned, the obvious form for systematic information these days is computerized.

I know from my own experience that this sort of thing has long been feasible. Norman Hall once created a punch-card multi-entry key to the acacias of New South Wales. (Norman had a long-standing interest in multi-access keys; Hall 1954.) Peter Weston re-worked and expanded this into a list of possible characters (and states) for a computerized interactive key. Stuart Davies then coded the data for the NSW acacias (after some early work by Michael Bedward and Norman Hall); and I used this to write the *Acacia* entry for the Flora of New South Wales. All of this happened during 1987–1990. Bruce Maslin, having seen this proof of concept, then went on to complete the WATTLE interactive key (Maslin 2001), which is the current state of the art. (Note that WATTLE was produced completely independently of the NSW work, based on a character list prepared by Bruce Maslin and Greg Leach, with data coming from Bruce and his collaborators.) My role is not the most important one in this historical process, but I have always been enormously pleased that my name occurs in that list. It was exciting to be one of the first (at least in Australia, along with the true pioneers Les Watson and Mike Dallwitz) to demonstrate that this approach is, or should be, the future of taxonomic information and its presentation.

So, why is Stace's work presented as a book? Why not a computerized key? Or a printed book plus a computer version? I have no answer to these questions, but I can contemplate what is required to implement them.

Clearly, a bookshelf and a computer are considered to be basic tools for any systematist these days, although in many parts of the world they are harder to come by than in others. However, given these tools the choice between printed versus computerized information is perhaps a personal one. There is no practical impediment other than the availability of a suitable book or computerized key. My own opinion is that a multi-access key (such as many computerized keys) beats a single-access one (such as most printed dichotomous keys) any day of the week, both in terms of practical usability and successful operability. (Stace actually provides several multi-access keys, for example to problem groups such as *Cotoneaster*, *Epilobium* and *Sorbus*, which is an interesting approach.) Furthermore, illustrations and descriptions can be more extensive in computerized systems due to greater storage capacity (one review comment on Stace's book

has been the necessary brevity of the species descriptions), and videos can be incorporated if available, as well as sounds. Even better, the computerized information can be updated at will, whereas books are usually modified only with each new printing (Stace's book had a number of minor taxonomic changes with its first re-printing; Anonymous 2011b). Finally, an electronic version is often much cheaper than a printed version — for example, the e-book version of Stace's work is cheaper than the printed version (US$72 versus US$90), and I can get an interactive version of the second edition of the book for as little as US$17 (see below).

In the field, however, practicality potentially becomes an issue, and is worth discussing in some detail. Fay (2011) notes that Stace's book is "no more portable than its predecessors, but … the current generation of botanists … will use [it] at home and in the field", and Rich (2011) claims that "at 1.8 kg [it] is light enough to carry in the field"; but not everyone has agreed with this assessment. Indeed, the second edition of this book (1997) was abridged into a *Field Flora of the British Isles* (1999) (basically with just the keys) precisely because some people thought that the original was rather too large and heavy to be used in the field. There is also the matter of construction. The book has a soft cover with a plastic covering, about which reservations have often been expressed for field use (a hardback edition might be prohibitively expensive).

Anyone who has seen a modern mobile computer can compare its weight and volume to that of this book. Many computers weigh less (the book is 1.78 kg) and occupy no more volume (albeit with somewhat different dimensions). More information can be provided in the computer's memory than on the printed pages, including full-colour pictures, and it can be accessed in any order desired rather than in a single pre-defined order. Even better, sounds are an incredible adjunct when dealing with vertebrate identification. More to the point, a computer is an all-purpose tool whereas a book is very much a one-trick pony (although they can also come in handy for propping open doors, steadying wobbly table legs, and, at a pinch, helping light fires).

Computerized taxonomy can be provided on any size of mobile "computer". Interactive keys (such as WATTLE, mentioned above) can be fully presented on any laptop or netbook computer (as well as a desktop computer). Netbooks weigh ca 1 kg (much less than the book!), for which you should get at least 1 GB of memory and 8 GB of solid-state (flash) storage, as well as a 1024x600 screen (ca. 9") and a reasonable size of keyboard. A standard 3-cell battery should give you 2–2.5 hours of use in practice, which is fine for intermittent use throughout a day. Palmtops, subnotebooks and ultra-mobile PC computers are often even smaller than netbooks. All of these devices are feasible for daily field use away from a vehicle, although I don't actually recommend lugging a laptop with you while you're walking in the bush.

Just as importantly, these days we can go even smaller than these computational devices, with the increasing availability of smartphones, which now create a continuum of computational devices from phones through to multi-processor desktops. The screen of a typical smartphone is a bit small, and the keyboard is less than ideal (ie. laughable), but much of the functionality of an interactive key can be provided on any such device. Such a thing is painful to use as a computer, but it is also much, much lighter (ca. 150 g) and more compact. There are also the multimedia keyboard-less tablets (such as the Apple iPad, Sony Tablet or Samsung Galaxy), which offer bigger screens (up to 1,280x800 pixels; 9–10") and 16 GB of memory but weigh in at 600–700 g. You will get 5–8 hours of battery life from such a machine (up to 12 for the iPad), but somewhat less for a smartphone (4–6 hours).

So, not unexpectedly, for the Google Android, RIM BlackBerry and Apple iOS operating systems (used in smartphones and tablets) there are now innumerable "apps" available for identification purposes, particularly for Europe

and North America. These so-called e-guides are often cut down compared to a fully fledged interactive key — the machines have less powerful processors and a different operating system, so that CD and DVD products from the DELTA and Lucid systems cannot be used directly (they must be ported to the new operating system). The screen is much smaller, so that information needs to be re-arranged; and there may also be problems if a product utilizes multimedia technology such as Adobe Flash (which does not work well on most mobile systems, and is currently not available for iOS).

Nevertheless, there are now apps for animal tracks and scats, birds, fish, snakes, sharks, plants, mushrooms, and butterflies, to name just a few. Sometimes they cover restricted regions (eg. states) or species (eg. common, recreational), and often they have only brief descriptions plus pictures and maps. But they can play bird songs, if needed! There are now at least five well-reviewed guides for North American birds (*Audubon Birds*, *iBird Explorer*, *National Geographic's Handheld Birds*, *Peterson Birds of North America*, *The Sibley eGuide to the Birds of North America)*. Moreover, some apps have annotation facilities, as well as GPS facilities, so that the user can not only store comments but can create maps of which organisms they have seen where. You can do the former with a book but not the latter!

Note that the above comments also apply to the Apple iPod Touch, which is basically an iPhone 3 with WiFi but no phone capability. For heaven's sake, if you can find a WiFi hotspot you can still keep downloading identification apps as you proceed on your field trips, even without the phone. You could even try an on-line version of an interactive key, if a suitable one exists for you.

The obvious smartphone relative of Stace's book is the app *Flora of the British Isles* (711 MB, released December 2010), currently available only for iOS (*http://itunes.apple.com/us/app/flora-of-the-british-isles/id405903541*). This is a direct adaptation of the *Interactive*

Flora of the British Isles (Stace et al. 2004), which in turn is a DVD-ROM (available for PCs and Apple Macs) compiling text from the second edition of the New Flora of the British Isles (1997; much of it updated), distribution maps from the *New Atlas of the British & Irish Flora* (2002; reduced in scale), plus oodles of colour slides and line drawings (a total of 3.3 GB of information, compressed to <1 GB). Both the DVD-ROM and the app (which costs only one-third the price of its older sibling) are precisely what they claim to be: a digital encyclopaedia. That is, there is no general interactive multi-access key, which is the basis of what I mean by computerized taxonomy — instead, this is simply a compilation of printed text and pictures. The "interactive" nature of the work comes from the ability to jump around to different pages, if there are cross-links, and to work freely both backward and forward through the single-access keys, which are presented with one pair of leads per page. Interestingly, the comments in reader reviews on the web suggest that the few multi-access keys (mentioned above) are the most awkward part of the program to use. It is quite impressive for what it is (see the reviews of Marshall & McKean 2004; Gasson 2006), but "two thick heavy books combined into one thin light disk" is not really digital systematics. (That delicious quote is from the University of Leicester press release at the DVD-ROM's launch.)

This app is one of several e-guides for Europe released by ETI BioInformatics (*www.eti.uva.nl/products/apps.php*), the makers of the Linnaeus II systematic information management software. These apps are part of a series of mobile systems for identifying species, developed as part of the European Commission *KeyToNature* project, which aims to provide easy public access to flora and fauna information. Sadly, the attitude still seems to be to provide single-access identification tools rather than multi-access keys. Incidentally, lest you think all of this is easy, eight people are credited with producing the *Interactive Flora* DVD-ROM (importing and editing text, importing maps, processing illustrations), and seven people helped port it to the mobile version. All of this used the Linnaeus II software, which is specifically designed to package e-products in various forms (eg. DVD, web, app).

As an aside, I am particularly impressed by the idea of having apps for the identification of the plants in each botanic garden, available for free download by all visitors with a suitable phone. This idea apparently originated as an educational tool for guided tours (as an alternative to reading printed signs), but why is it not a service provided to the general public by all garden education centres?

This leads to the inevitable consideration of how much progress has been made with interactive identification. Hominick & Schalk (2010) provide an assessment of the marketing success of some of the ETI BioInformatics DVD products from 2001–2008, showing that few recovered their development costs (the technical costs, not the cost of the scientific work!). Their biggest seller (by far) was Birds of Europe (10,000 copies across the various editions since its release way back in 1992), followed by the *Interactive Flora of the British Isles*. Carefully targetted mass marketing was shown to work for certain products with popular appeal (mainly birds and plants). However, none of the e-products came even close to matching the sales of competing printed versions. For example, the data for the Flora (Table 1) seem to indicate that nearly everyone who bought the first edition of Stace's book updated to the second edition, but the books still sold three times as well as the DVD. Perhaps not everyone has a suitable device? So, there is apparently still some way to go to persuade users about the practical value of e-products.

Table 1. Sales of various identification guides for the British Isles (from Hominick & Schalk 2010)

Product	Period	Sales
New Flora of the British Isles First edition	1991-1997	7,400
New Flora of the British Isles Second edition	1997-2004	7,350
Interactive Flora of the British Isles	2004-2008	1,500

Riccamboni et al. (2010) have assessed the mobile app market. They found that there is clearly a market for mobile identification products, especially for specialist markets such as restricted geographical regions (eg. nature reserves, botanical gardens), although the precise wording of the titles can be important in their relative success. Unfortunately, pricing seems to be a problem. For example, for two of the products there were only 1-3 downloads per day when money was involved but 60 per day when they were free. In my mind, the issue here is one of being able to evaluate the products — I can browse a book in a shop before purchase (to see whether it is really what I want) but I cannot evaluate an app without downloading it, and I cannot do that without paying first (there are no trial versions). A Localytics report (Anonymous 2011a) indicated that one-quarter of all mobile apps downloaded are used only once, so that the retention rate is quite low. Indeed, repeat use of apps appears to show an exponential decrease, with only a few apps being used regularly.

There is also the public perception that mobile apps are solely either games or "productivity" tools — the image of education and science on hand-held devices clearly needs to be improved. A Nielsen report (Anonymous 2010a) showed that the most popular smartphone app categories are, in order: games (the current popular ones are reportedly Angry Birds, Bejeweled, Flight Control, Tetris), news (Weather Channel), maps (Google Maps), social networking (Facebook), and music. How do we fit into this? Nielsen also reported that smartphone users have an average of 22 apps on their phone, with iPhone users having the most at 37; so there is plenty of room for us. Apps haven't yet overtaken CDs in sales/downloads, but they are predicted to do so soon, and these numbers tell you why. (Have you ever pondered the laissez-faire attitude people seem to have to security when downloading programs to a phone compared to a desktop computer?)

Indeed, mobile access to the internet (smartphones plus laptops/netbooks) is predicted to soon overtake access from desktop computers (Anonymous 2010b), and in both Japan and South Africa this has apparently already happened. This means that online identification products may become a serious alternative proposition for fieldwork. This then introduces the issue of how to design web pages so that both desktop PCs and smartphones (with their much smaller screens) can readily display the same information. Visiting a web site via a mobile device with a web browser isn't necessarily a pleasant or fulfilling experience, as it can require a lot of panning and zooming; and Adobe Flash animations and video are a pain. Most big service organizations, such as Facebook, Google, Yahoo, eBay, Tripadvisor, Booking.com, etc, have addressed this by having special mobile portals to their services. On the other hand, the smartphone may have GPS, cameras, accelerometers and gyroscopes all built-in, which offer opportunities not available to the deskbound computer, although mobile devices differ much more in capabilities than do desktops (ca. 6,500 distinct web-capable mobile device models; *http://deviceatlas.com*). There is even the issue of whether a mobile user wants exactly the same information in the same order as a desktop user, since they may be working under different circumstances and with different priorities. For the future, it is worth noting that even entry-level fixed (wired) broadband connections are prohibitively expensive throughout much of the world, and that mobile internet access is then, relatively speaking, much more affordable in those locations (Anonymous 2010b).

Perhaps the biggest technical limitation for mobile taxonomy is that battery technology simply isn't keeping up with everything else that's crammed inside a smartphone or tablet. For all mobile computers, you need to keep the WiFi off as much as possible (along with Bluetooth and GPS), to conserve the battery charge, and you should dim the screen immediately you don't need it, as well as switching background apps off. If your device has a removable battery, then a reserve battery will be a boon, or for smartphones you could try a "battery extender case" that packs a spare battery within its skin.

Recharging of batteries can be performed in all sorts of ways, including compact solar chargers, which can also charge devices while they are being used. (A solar charger weighing 500 g can charge a smartphone with a 5 Watt-hour battery

in 4–5 hours in the sun.) Tablets are more of a problem (they usually have 25 Watt-hour batteries), but solutions exist if you're prepared to carry another kg or so, for which every hour of direct sunlight can provide an hour of tablet use. A netbook, on the other hand, is probably better off with a car charger or an AC charger, although there are battery extenders (or "battery slabs") that will greatly extend their running time in exchange for an extra 1–1.5 kg.

I love books and always have done. My house is full of them, including many that I have owned for more than 40 years. In particular, I have not yet succumbed to the idea of actually using a hand-held e-book reader (such as Kindle, Kobo, Nook or Sony Reader), even though Stace's book is available in that format. (Since the e-book version, at ca. 200-350 g, is much lighter than the printed version it might be more useful in the field!) Nevertheless, I feel that presenting taxonomic information solely as a book represents the 20th century not the 21st, irrespective of whether that book is electronically delivered or not. Indeed, any such book is simply a refined version of something that represents the 19th century.

This leads me to wonder why people are still producing such books, exclusively as books. Taxonomy has been having a bit of a resurgence, as officialdom confronts the problems of taxonomic ignorance when dealing with biodiversity inventories. Barcoding seems like a palpable threat to that resurgence, if misused; and I feel that providing information solely in a 200-year-old format is doing us no good either. These days we can publish valid species descriptions in English, and unlike zoologists we can effect publication electronically (from January 2012). The first of these innovations finally got us into the 20th century, and the second got us into the 21st. We don't have to become cyber-taxonomists if we don't want to, but we should at least be seen to be enthusiastic users of modern biodiversity informatic services.

References

Anonymous (2010a) The state of mobile apps. NielsenWire, the Nielsen Company blog: http://blog.nielsen.com/nielsenwire/online_mobile/the-state-of-mobile-apps.

Anonymous (2010b) ITU estimates two billion people online by end 2010. International Telecommunication Union press release: http://www.itu.int/net/pressoffice/press_releases/2010/39.aspx.

Anonymous (2011a) First impressions matter! 26% of apps downloaded in 2010 were used just once. The Localytics blog: http://www.localytics.com/blog/2011/first-impressions-matter-26-percent-of-apps-downloaded-used-just-once/.

Anonymous (2011b) Corrigenda for botanical publications. Botanical Society of the British Isles: http://www.bsbi.org.uk/Corrigenda.pdf.

Fay, M.F. (2011) [Review of] 'New Flora of the British Isles, third edition'. Botanical Journal of the Linnean Society 166: 444-446.

Fröberg, L. (2011) [Review of] 'New Flora of the British Isles, third edition'. Systematic Biology 60: 112-113.

Gasson, P. (2006) [Review of] 'Interactive Flora of the British Isles'. Annals of Botany 97: 305-306.

Hall, N. (1954) Punched card systems and their application to forestry in Australia. Australian Forestry 18: 141-152.

Hominick, B., Schalk, P. (2010) Markets for biodiversity information products: real or imaginary? In: Nimis P. L., Vignes Lebbe R. (eds) Tools for Identifying Biodiversity: Progress and Problems. Edizioni Università di Trieste, Trieste, pp. 429-435.

Marshall, B., McKean, D. (2004) [Review of] 'Interactive Flora of the British Isles'. Botanical Journal of Scotland 56: 183-187.

Maslin, B. (coordinator) (2001) WATTLE – Acacias of Australia. Australian Biological Resources Study and Department of Conservation and Land Management.

Morrison, D.A. (1993) [Review of] 'Australian Tropical Rain Forest Trees'. Australian Systematic Botany Society Newsletter 77: 20-24.

Pankhurst, R.J. (2011) [Review of] 'New Flora of the British Isles, third edition'. Quarterly Review of Biology 86: 147.

Riccamboni, R., Mereu, A., Boscarol, C. (2010) Keys to nature: a test of the iPhone market. In: Nimis, P. L., Vignes Lebbe, R. (eds) Tools for Identifying Biodiversity: Progress and Problems. Edizioni Università di Trieste, Trieste, pp. 445-450.

Rich, T.C.G. (2011) [Review of] 'New Flora of the British Isles, third edition'. Systematic Botany 36: 253.

Stace, C.A. (2010) New Flora of the British Isles, third edition. Cambridge University Press, Cambridge.

Stace, C.A., Van der Meijden, R. (ed.), De Kort, I. (ed.) (2004) Interactive Flora of the British Isles: A Digital Encyclopedia. DVD-ROM. ETI Bioinformatics, Amsterdam.

Athroisma laciniatum DC. (Asteraceae), a new record for Australia

Philip Short[1], John Westaway[1,2] and Ian Cowie[1]
[1]Northern Territory Herbarium, P.O. Box 496, Palmerston, N.T. 0831
[2]Northern Australian Quarantine Strategy (NAQS), 1 Pederson Rd, Marrara NT, 0812

In 2010, during preparation of a specimen loan of *Pterocaulon* from the Northern Territory Herbarium, Ben Stuckey noted what he thought was an anomalous specimen and brought it to the attention of the senior author. It was collected in October 1988 by Jeremy Russell-Smith from near Moon Billabong on Litchfield Station in the Daly River floodplain of the Top End. After consulting the *Flora of Java* (Backer & Bakhuizen van den Brink 1963) it was established that *Russell-Smith 6055* was probably *Athroisma laciniatum* DC., a name confirmed following subsequent consultation of a revision of the genus (Eriksson 1995).

As defined by Eriksson *Athroisma* DC. is a genus of 12 species, all native to tropical regions of the Old World. Eleven of these are in east Africa and Madagascar, with only one species (the type), *A. laciniatum* recorded for south-east Asia.

For most people this species and its congeners look unlike many species associated with the daisy family, having only disciform florets in each capitulum, and the capitula themselves amalgamated into compound heads (Fig. 1). The genus is one of five which comprise the tribe Athroismeae (Panero 2007, Anderberg 2009).

Having established that it was a new species for Australia the question arose as to whether the population was still extant. Thus, in mid-October (2010) we (PS & JW) visited Moon Billabong to see if we could locate the population. Which we did, and we found it to be locally common, with some thousands of plants of this annual herb confined to about two hectares of cracking-clay habitat.

We collected quite a few plants, with the as yet undistributed duplicates of our collection, *P.S. Short 5561 & J. Westaway* ear-marked for distribution to AD, BRI, CANB, MEL, MO, NSW and PERTH.

In a subsequent visit to the population about a month later one of us (JW) estimated that the population extended over 10–15 hectares (*J. Westaway 3396 & G.J. Leach*: DNA, BRI, PHARM).

Vegetation at the site was comprised of a moderately-dense low herbfield dominated by *Glinus lotoides* and *Heliotropium ovalifolium* with the climbing herb *Cardiospermum halicacabum* also common in parts. Other associated herbs included *Basilicum polystachyon, Glinus oppositifolius*, *Heliotropium indicum* and *Persicaria orientalis*. Occasional small trees of *Barringtonia acutangula* were also present. All of these species are widespread in the Top End, commonly occur in close association, and are unremarkable in their distribution.

Thorough checking of these additional specimens with the description in Eriksson (1995) again indicated that it is of this species although our plants have fewer florets per capitulum and generally smaller compound heads than described for non-Australian collections.

The recognition of the species posed an obvious questions: is it native or naturalised?

Backer & Bakhuizen van den Brink (1963) only recorded the occurrence and distribution of this species in Java and gave no indication as to whether they considered it to be native or naturalised. Kostermans *et al.* (1987), in describing the weeds of rice fields, also recorded its distribution in Indonesia, *i.e.* the northern plains of Java and the islands of Madura and Kangean, and recorded its place of origin as being "unknown", seemingly leaving open the possibility that it may either be an alien or alternatively a native species with weedy attributes. Eriksson (1995, p. 141) recorded it as having "a scattered distribution, describing an arc from Assam in India to the

Fig. 1. *Athroisma laciniatum* (*P.S. Short 5561 & J. Westaway*) Ph. Philip Short

island of Sumbawa east of Java in Indonesia" and gave no indication that this was anything but its natural range. His cited specimens also give no indication of a recent incursion of the plant to any country. Thus, Labillardière's undated specimen stated to be from Java but, given the expeditions' route, was presumably Ambon, would have been collected in 1792; the lectotype specimen was collected in Burma in 1827; and there is at least one specimens from Assam gathered as early as 1829. The spread of early dates of collection of the species across its known range suggest that this is also its natural range, its presence in rice fields being a natural extension from its native habitat.

Thus, distributional evidence suggests that the species has a sporadic but perhaps natural distribution in an arc from north-east India to Indonesia; in such places it grows in heavily inundated soils and can be a weed in rice paddies. A considerable portion of the flora of the N.T. floodplains also grows in southeast Asia and as such the extension to Australia is not unusual. None-the-less, the fact that *A. laciniatum* wasn't collected here until 1988 may also mean that it is an accidental introduction, although how it arrived (and why, if deliberately introduced), is a mystery. Conversely, it could simply be that it has a restricted range or is more widely dispersed but has escaped the eyes of botanists.

One fact in the favour of the species being native to Australia is that, unlike much of the adjoining area along the billabong which has a number of weeds, the population we examined was growing in an small area which seems to be avoided by grazing cattle and is generally devoid of weeds.

There are several aspects of the species which suggest that if *A. laciniatum* did not arrive through times of lower sea levels and land links between northern Australia and parts of Malesia it may have arrived following dispersal by birds.

The sticky clay in which it grows suggests dispersal of cypselas in mud attached to the feet of birds, with the cypselas being light and small (about 1–1.5 mm long, 0.75–0.9 mm wide). The presence of anchor-shaped hairs – albeit only 0.1–0.25 mm long – along their margins and on the corona-like pappus may assist in adherence of fruit to feathers. It is also well-known that self-compatibility is an advantage for the establishment of a population after the long-distance dispersal of propagules. Estimates of pollen:ovule ratios determined from five capitula of *P.S. Short 5561* ranged from 712 to 868 and such values are normally indicative of self-pollination and self-fertilisation.

However, self-incompatibility is an attribute of numerous weeds and the possibility that seed can be dispersed by birds is nothing but conjecture. Indeed, what bird(s) would aid in dispersal and, if they are readily dispersed, then why hasn't the species been found elsewhere on the extensive floodplains of the Top End?

Bean (2007) presented guidelines for assessing whether a species is native or alien and by virtue of ecological criteria and conjectured dispersability there is a case for suggesting it is indigenous. However, as thought-provoking as the guidelines are, none of the available evidence unequivocally indicates that *A. laciniatum* arrived naturally or, conversely, as a result of anthropogenic action. *Athroisma laciniatum* is one of many species whose native or naturalised status is really a matter of conjecture. That said, given its afore-mentioned ecological attributes and the mostly native status accorded to those other widespread, floodplain species (Asia and often elsewhere in the Old World) with which it was growing, it too was given native status in the latest checklist of vascular plants of the Northern Territory (Short *et al.* 2011).

Irrespective of its actual status, if *A. laciniatum* is introduced, it appears to represent a relatively low weed risk. It is a low annual herb to 30 cm tall, occurs as a co-dominant with a range of native species of similar life form rather than forming monocultures, and is not closely associated with plant communities dominated by weedy introduced species. It appears to have spread relatively little if at all over the 23 years since it was first collected, in contrast to introduced wetland species such as *Hymenachne amplexicaulis* which have spread widely in the western Top End in a similar time span. Ecologically, it appears to exploit the period of storms before the floodplains fill with water to grow and reproduce, perhaps germinating on the drying mud as flood waters recede, as do the associated 'mud flat' species.

As well as some of the floodplain taxa mentioned above other Wallacean–northwest Australian disjunctions with restricted range in Australia and which appear to have arisen naturally include aquatic species such as *Lemna tenera* and *Websteria confervoides*, wetland species such as *Cladium mariscus*, *Ischaemum barbatum* and *Pentapetes phoenicea*, and rainforest species including *Artocarpus glaucus*, *Cadaba capparoides*, *Melochia umbellata*, *Schoutenia ovata* and *Syzygium nervosum*. Intriguingly, some of these disjunct taxa are restricted in Australia to the Daly and other nearby river systems (*e.g. Cyperus malaccensis*, *Hibiscus lobatus*), with the occurrence of *Saccharum spontaneum* on the Daly River floodplain presenting a similar puzzle in regards to its native or naturalised status as *A. laciniatum*.

Athroisma laciniatum DC.
Prostrate to erect annual *herb* with a prominent tap root, stem and branches to *c.* 40 cm long, subterete and somewhat inflated, glabrous or hairy and glabrescent, the twisting hairs whitish, uniseriate, septate. *Petiole* barely formed in uppermost leaves to *c.* 25 mm long. *Lamina c.* 3–7 cm long, 2–4.5 cm wide, deeply divided, pinnatifid and with 4–9 major lobes (including the terminal lobe) and these in turn somewhat shallowly lobed to dentate; almost glabrous to pubescent and the eglandular hairs whitish, uniseriate, septate; sessile, globular glandular hairs present, few and scattered on the upper surface, common on the lower surface. *Compound heads* solitary on peduncles *c.* 1–3 cm long, very broadly or broadly depressed ovoid (subspherical), 10–20 mm diam., their subtending bracts inconspicuous. *Capitula* 20–40, heterogamous, disciform, female florets 2 (?3), bisexual florets 12–29; *involucral bracts* and *paleas* similar in morphology, hyaline, very pale brownish, the narrow midrib little more than a central vascular trace; *involucral bracts c.* 3 mm long, 1.5 mm wide, somewhat apically

acute, surfaces glabous, margins shortly lacerate; *paleas* obovate, *c.* 3–3.5 mm long, *c.* 2 mm wide, scarious, apically obtuse, obscurely 3-lobed, inner and outer surfaces glabrous, margins shortly lacerate and appearing ciliate for much of their length. *Female florets* with the corolla narrow-tubular, slightly widening at the apex, tube 1.4–1.7 mm long. *Bisexual florets* with corolla tube 1.5–1.8 mm long, 4-lobed; outer surface with a few, scattered, almost sessile, globular hairs *c.* 0.6 mm diam., with 5–8 such hairs seen on some lobes. *Stamens* 4; anthers 0.8–1.0 mm long, microsporagia 0.55–0.67 mm long, apical appendage obtuse and 0.15–0.25 mm long, tails 0.12–0.21 mm long; filament collar straight, 0.11–0.2 mm long. *Style* 1.1–1.3 mm long including the arms, arms 0.15–0.2 mm long. *Cypselas* elliptical in outline but somewhat triquetrous with the ventral side flat and the dorsal side convex, 1–1.5 mm long, 0.75–0.9 mm wide, blackish, with white eglandular twin hairs with recurved apices (anchor-like) absent or few and scattered on the surfaces, but continual along the margins, individual hairs 0.1–0.25 mm long, apices of fruit terminating in a pappus-like corona with anchor-shaped hairs as on margins, the corona and hairs together *c.* 0.4 mm high. *Flowering & fruiting*: Oct.–Nov.

References

Anderberg, A.A. (2009). Athroismeae. *In* Funk, V.A., Susannna, A., Stuessy, T.F. & Bayer, R.J. (eds), *Systematics, Evolution and Biogeography of Compositae.* (International Association for Plant Taxonomy: Vienna). pp. 681–688.

Backer C.A. & Bakhuizen van den Brink R.C., Jr. (1963). *Flora of Java*. (Gronigen: Noordhoff). Asteraceae, vol. 2, pp. 363–437.

Bean, A.R. (2007). A new system for determining which plant species are indigenous in Australia. *Australian Systematic Botany* 20: 1–43.

Eriksson, T. (1995). The genus *Athroisma* (Asteraceae, Heliantheae). *Botanical Journal of the Linnean Society* 119: 101–184.

Kostermans, A.J.G.H., Wirjahardja, S. & Dekker, R.J. (1987). The weeds: description, ecology and control. In Soerjani, M., Kostermans, A.J.G.H. & Tjitrosoepomo, G. (eds.). *Weeds of Rice in Indonesia.* (Balai Pustaka: Jakarta).

Panero, J.L. (2007). Compositae, Tribe Athroismeae. *In* Kadereit, J.W. & Jeffrey, C. (eds), *The Families and Genera of Vascular Plants*. (Springer-Verlag: Berlin). Vol. 8, pp. 395–400.

Short, P.S., Albrecht, D.E., Cowie, I.D., Lewis, D.L. & Stuckey, B.M. (eds). Checklist of the Vascular Plants of the Northern Territory. http://www.nt.gov.au/nreta/wildlife/plants_herbarium/pdf/200701nt_checklist.pdf

Safeguarding Australia's flora

Dr Lucy A. Sutherland

National Coordinator - Australian Seed Bank Partnership
Australian National Botanic Gardens, GPO Box 1777, Canberra, ACT 2601

The Australian Seed Bank Partnership (ASBP), formerly known as Australian Seed Conservation and Research Network (AuSCaR), builds on the successes of seed conservation and research activities undertaken by Australian agencies as part of the Millennium Seed Bank Project; an international initiative of the Royal Botanic Gardens Kew. The Partnership is comprised of 14 organisations and is governed by the Council of Heads of Australian Bot-anic Gardens Inc. (CHABG). The Partner-ship draws its expertise from Australia's leading research botanic gardens, herbaria, state environment agencies and academic institutions, as well as non-government organisations.

From 2001-2009, Partners contributed to the Millennium Seed Bank's (MSB) international seed conservation initiatives through:

- securing a representative third of Australia's flora in conservation seed banks in Australia and at the MSB
- banking 25% of our threatened plant species
- participating and providing expert advice in the recovery and restoration of threatened species and ecosystems; and
- training a new generation of seed scientists in Australia.

The work of the Partners contributes to botanical and taxonomic knowledge in Australia. Over

Fig. 1.a. *Mentha atrolilacina.* **b.** *Cassytha pedicellaris* (Ph.James Wood).

recent years, increased time in the field to collect seed has led to the discovery of new species and the rediscovery of species thought to be extinct in the wild. For example in South Australia, staff from the South Australian Seed Conservation Centre made a new discovery when finding *Mentha atrolilacina* (Fig. 1a.) during their field work. They also rediscovered Mountain Scurf Pea (*Cullen microcephalum*) and Showy Violet (*Viola betonicifolia* ssp *betonicifolia*). In Tasmania, staff from the Royal Tasmanian Botanical Garden rediscovered Cassytha pedicellosa (Fig. 1b) during one of their seed collecting trips.

The Partnership is currently focussing efforts to build a knowledge hub for Australian seed related data. Australia's conservation native seed banks contain a wealth of information to support their role including phenology, ecology, seed morphology, germination/ dorm-ancy requirements and seed storage characteristics. This information is an important resource for restoration and conservation practitioners and community groups, landholders, researchers, students, as well the nursery and horticultural industry. Nevertheless, in contrast to Australia's herbaria, there has been little sharing of seed data among the conservation seed banks to date. The Australian Seed Bank Partnership is collaborating with the Atlas of Living Australia to develop a national data schema for native seed collection data, with the view of building an accessible online seed resource to support research, plant conservation and restoration activities.

The partners continue to collect and store seed in secure seed banks as long term insurance against loss of plant diversity. The Partners have recently initiated the 1000 Species Project to collect and store seed from significant plants which are valued for their endemic, endangered or economic significance. These targeted 1000 species are not currently secured in Australia's conservation seed banks. The first phase of this project places emphasis on collecting and developing appropriate seed banking methods, based on germination, dormancy and longevity studies, for the conservation of these Australia's significant plants. The knowledge created from this work will also benefit those involved in restoration activities. The second phase of the 1000 species project will improve the genetic representation of species banked during Phase 1 and will include on-ground trials with practitioners to progress approaches to restoration ecology.

The coordinated approach to conservation seed banking and seed research in Australia, through the Australian Seed Bank Partnership, is building a safety net for Australian plant species. The Partners are playing an increasing role in integrated conservation management and their seed science research plays a critical role in Australia's ability to restore diversity and build resilience in degraded landscapes and ecosystems.

The view from Kew

Tim Entwisle, London

The bluebell flowers in April were early, apparently. The trees in bloom while they shed autumn leaves were unusual, I'm told. It's been a particularly mild winter, I gather. England is predictably unpredictable, that much is true.

Or is it unpredictably predictable? In my first eight months in London I've experienced four seasons at last – to the relief of ASBS colleagues tired of my banging on about early springs and extra seasons for Sydney. Although funnily enough, I've discovered a Brit who thinks there should be five rather than four seasons over here. We'll leave that for now.

I'm learning from the locals. Recently I stopped someone midway through a passionate recounting of a recent match featuring local tennis star Andy Murray to say 'you are going to end this story by saying he lost aren't you?' A sheepish yes was the answer. I've been here long enough to realise that losses are celebrated, and we are pleasantly resigned to coming second most of the time.

Back in May, Kew had its first garden display in the Chelsea Flower Show for 'many years' (for some reason we are a bit coy about our last one), and we got a…Silver Medal. Designed by Marcus Barnett and sponsored by The Times the garden contained plants chosen for their beauty and utility to humans, all encircling a plant-cell inspired shelter. The garden migrated to Kew afterwards and is still residing just near Victoria Gate.

Another temporary garden, this time Australian themed, sat by Brentford gate through spring and summer, as a link to a temporary Kew designed and built garden outside the British Museum. My first official event on arriving at Kew was to attend the opening of the garden, where I caught up with the Chairman of the UK Joint Nature Conservation Committee, Peter Bridgewater, met the Australian High Commissioner to the UK, John Dauth, and said hi to the future Executive Director of the Royal Botanic Gardens and Domain Trust in Sydney.

David Mabberley knew he was on his way back to Sydney, but while Steve Hopper may have had an inkling he would return to Western Australia it wasn't until September he announced his term as Director would end in twelve months. Two senior positions at Kew to be filled in 2012 then: the Director (CEO and Chief Scientist) and the Director, Herbarium, Library, Art and Archives.

In October there were other, more enduring, departures in the UK. Well known Kew botanist and malacologist Bernard Verdcourt died at age 86, and Frank Bisby from the University of Reading and Executive Director of *Species 2000*, died suddenly at the age of 56. Only a few weeks earlier Frank was reminding me at a biodiversity meeting in London of how important it was to gather together and use our scientific information.

We estimate at Kew that a third of the 800 staff are scientists, or at least contribute to our scientific output, supported by nearly 100 post-graduate students. Every five years the science is peer reviewed and this year a panel led by Professor Georgina Mace (and including, from Australia, Mark Burgman) visited for three days late in November. The report from that visit is due at the end of January, so that's something for my next report.

In case you were wondering, I do have science in my bailiwick, a 50-strong seed research team in the Millennium Seed Bank. I have all the horticulture – at Kew Gardens and Wakehurst Place – and the maintenance of buildings, paths and other old bits and pieces on both estates. The policy and conventions section, along with UK

overseas territories, round out a rather eclectic slice of Royal Botanic Gardens Kew. My realm includes about half the staff and half the budget: almost daily since May I've discovered new faces and functions in my Conservation, Living Collections and Estates Directorate, all set against the backdrop of spring, summer and then a gorgeously colourful autumn.

For now, as Christmas fades into 2012, I can hear the carousel reworking carols and Abba hits into fare-ground organ tunes. The deciduous leaves are blown away and just a few brave plants (viburnum, snowdrops and a cherry or two) are flowering. I saw my first English snow on my weekly visit to Wakehurst Place and the Millennium Seed Bank just before Christmas, but only a dusting. I'm sure there is more snow and frost to come (the other English trait I'm picking up quickly is the happy knack to see in a sunny day the surety of gloomy weather ahead).

Still, already I've happily sweated in Madrid and Rhodos, rugged up in Edinburgh and Paris, and oscillated uncertainly in Cornwall. I'm sure I'll find my way through my first long, dark, cold London winter. We English are also very stoic.

28 December 2011

Scientific illustration and Bryophytes at the International Botanical Congress, Melbourne 2011

Alison Downing,
Department of Biological Sciences
Macquarie University NSW 2109
8 September 2011

For those of you who missed this exhibition the works of the various artists can still be viewed on the web at http://eternalorderinnature.squarespace.com/ or within the booklet produced to accompany the exhibition. Neither of these do justice to the original art work but will give members some feel for the works exhibited. Ed.

The International Botanical Congress held in Melbourne in July 2011 was a wonderful opportunity for Australian bryologists to catch up with, not only colleagues from overseas, but also many Australian bryologists with whom they might have regular email contact but rarely see in person.

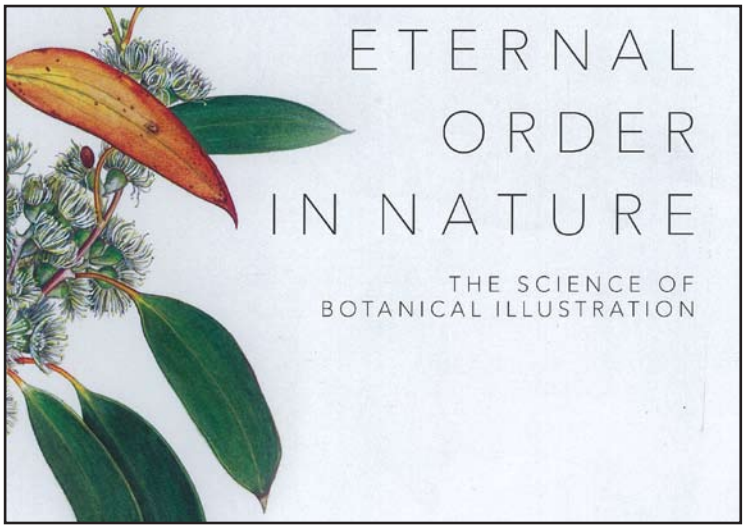
The scientific component of the symposia and meetings has been well documented, however I think it is also important to record the magnificent exhibition of scientific illustrations, *The Eternal Order in Nature: The Science of Botanical Illustration* which was held in conjunction with the IBC**.** This display, presented by the Friends of the Royal Botanic Gardens in Melbourne, was planned to showcase leading Australian botanical artists, both past and present. At a time when many universities and government organisations are relinquishing positions for scientific illustrators, it seems that in Australia there has been a refreshing revival of interest in this field from both professional and amateur artists. In Sydney, for example, the National Herbarium of New South Wales plays host each year to the *Margaret Flockton Award* and the Friends of the Royal Botanic Gardens host *Botanica.* Similarly, Melbourne has the biennial exhibition *The Art of Botanical Illustration* and has also hosted *Hidden in Plain View – The Forgotten Flora* and now *The Eternal Order of Nature.*

In this exhibition, I viewed with awe the 'higher plants': Celia Rosser's *Banksia robur,* Jenny Philips' *Plectorrhiza tridentata,* David Mackay's *Acacia ingramii,* Gillian Scott's *Amyema quandong* and a plethora of orchid genera. Lauren Black exhibited two lovely works showcasing conifers *Dacrycarpus imbricatus* and *Phyllocladus aspleniifolius,* both fossils and extant plants. Ferns, too, such as Laurie Andrews' *Blechnum wattsii* and *Pteris umbrosa,* slowed my progress through the gallery. However it was with greatest delight that I encountered illustrations of 'lower plants' – algae, lichens, mosses, liverworts, and

hornworts. In Australia, bryologists have long learnt their trade from George Scott and Ilma Stone's *The Mosses of Southern Australia* and George Scott's *Southern Australian Liverworts*. We have long been accustomed to beautiful work, as the former has exquisite illustrations by Celia Rosser, of *The Banksias* fame, and the latter featuring drawings of many liverworts of extraordinary complexity by Rod Seppelt and photographs by Bruce Fuhrer.

The contributions to the cryptogamic display in Melbourne did not disappoint. There were lichens (*Ramalina celastri, Ramalina glaucescens* and *Usnea*), by Merle McIntyre and marine algae (*Codium fragile* and *Jania adherans*) by Christine Rockley. Fungi were beautifully depicted by Katrina Syme (*Dermocybe erythrocephala*) and a marvellous *Phallus multicolour* by Kate Vlcek – so vibrant you could almost smell it. Bryophytes were also well represented. I was intrigued with the variety of botanical artist Diane Emery's three contributions: two orchids, *Chiloglottis x pescottiana* and *Caladenia tentaculata* and a hornwort, *Phaeoceros carolinianus*. In contrast, Niels Klazenga's drawings of *Campylopus appressifolius* displayed the diagnostic characteristics of leaves, including leaf shape, leaf cross sections and patterns of cells within the leaves. Karen Beckman's work differs too, in that she combines her artistic talents and her botanical training, so that her *Frullania clavata* includes both a coloured image of the whole plant in its natural habitat and microscopic technical detail in pencil. Rod Seppelt's four contributions, *Syntrichia anderssonii, Tayloria tasmanica, Stonea oleaginosa* and *Calyptopogon mnioides* are exquisite. I have no idea how Rod manages to combine drawings of the whole plant together with detail of leaves, capsules, leaf cells and cross sections of stems, onto a single sheet in such a way that it is scientifically accurate, to scale and also unbelievably beautiful. One wonders how is it possible to draw *Stonea oleaginosa* when the plants are minute, –barely 1 millimetre high? However, I believe his "greatest" challenge has been a minute Pottiaceous moss (*Weisiopsis* sp.) only 0.3 millimeters tall, drawn for the Flora of Australia.

I have long thought that botanical illustration competitions, such as the Margaret Flockton Award, are weighted very much in favour of those illustrating vascular plants and against those illustrating non-vascular plants, lichens and fungi. Bryological work can only be done under a microscope, a much more difficult and time consuming process than that for vascular plants. Perhaps it is time to consider funding an international illustration competition for these special categories? And perhaps it is time to look for appropriate galleries, perhaps within herbaria or museums, to serve as repositories for the exquisite work of both past and present illustrators. My thanks go to all the *Eternal Order in Nature* artists whose illustrations have given me so much pleasure.



When a city falls – how is the Allan Herbarium at Lincoln near Christchurch (New Zealand) coping after 14 months of earthquakes?

Ilse Breitwieser, Allan Herbarium, Landcare Research, Lincoln, New Zealand

A year ago when the Allan Herbarium hosted the ASBS meeting at Lincoln, we thought the earthquakes were all over. Some of our guests were even eager to experience a small earthquake – and we joked about it. How little did we know … The 6.3 earthquake on February 22, 2011 devastated Christchurch. Another big aftershock (6.4) on June 13 caused additional considerable damage. Since September 2010 we had thousands of aftershocks, but currently they are small and infrequent, so we are hoping that the earth underneath us is quieting down.

Lincoln is located on the Canterbury Plains to the west of Banks Peninsula, 22 kilometres south of Christchurch. The Canterbury Plains are a lowland area of east-central South island, New Zealand. The plains cover an area of 240 by 70 km, bordering on the Pacific Ocean. The Rangitata, Rakaia, and Waimakariri are the principal rivers, flowing east from the Southern Alps to cross the plains, which have relatively hot summers and generally low humidity and a mean annual rainfall of less than 750 mm. The 7.1 earthquake on September 4, 2010 revealed a previously unknown geological fault beneath the Canterbury Plains and created a surface rift that offset features by as much as four meters in places. The February and June earthquakes were located on a different fault system, also previously unknown. The February earthquake was so damaging because the Peak Ground Acceleration was one of the greatest ever ground accelerations recorded in the world, and was unusually high for a 6.3 quake. Also, the earthquake was shallow and the epicentre was close to the Christchurch city centre.
I have given this article the title of the documentary When a City Falls by Frank Film. This feature documentary on Christchurch's devastating February earthquake was recently released. When A City Falls follows the lives of city residents in the aftermath of the February 22 tremor, which killed 182 people and destroyed many homes and businesses.

So, how did the Allan Herbarium fare? The herbarium fared well. At the September 4, 2010, earthquake we had only a couple of herbarium cabinets fall over and some of the ceiling panels come down. Our offices were quite a mess, but not damaged. The February and June earthquakes were no problem for the herbarium because Lincoln was far enough away from the epicentre. Most of our staff were really lucky. Most of our houses had some kind of damage, but we could continue living in them. Only one of us lost his house and one of us had to move because the flat he rented was severely damaged. The main problem we face now is earthquake recovery (and this includes insurance hassle!). Also, most of us are really tired – we have had too many nights during the last year in which our sleep was interrupted by yet another aftershock.

What did we learn from the earthquakes for herbarium management? Our herbarium did so well because it is not housed in a multi storey building and because we have herbarium cabinets and not compactus systems. Therefore none of the herbarium sheets was damaged by the earthquakes and there was no damage to the herbarium sheets from falling down ceiling panels. We learned that although it is good to have disaster policies and procedures, it doesn't help if one doesn't have regular disaster drills! Our communication lines and some actions certainly did not follow the procedures. We learned that we need to be prepared for the possibility that civil defence might not allow us back into the herbarium for days, weeks or months. Fortunately this didn't happen to the Allan Herbarium, but it did happen to the University of Canterbury Herbarium. CANU is housed in a multi storey building that had a water tank on top the building. The water tank broke and flooded the whole building. Since herbarium staff didn't get access to the building for weeks, many specimens were damaged or even destroyed by water. Some of our behaviour changed because of the earthquakes, such as we don't sit under overloaded bookshelves, we lock our filing cabinets whenever they are not

in use, we have a card with all phone numbers of our colleagues on us.

However, in spite of the earthquakes we had a productive year; for example, all our herbarium services are up and running; after positive feedback from iwi (the focal Maori groups across the country we consult) we have been able to lift our moratorium on sending specimens for DNA sampling overseas; our Plant Information and Identification service is very busy; our research is continuing (see New Zealand Plant Radiation Network wiki *http://nzprn.otago.ac.nz/wiki/bin/view/NZPRN/WebHome)*; our second pilot project for our new eFlora is now online (*www.nzflora.info*); we completed an interactive key to New Zealand's weeds */www.landcareresearch.co.nz/research/biosystematics/plants/weedskey/New_Zealand_Weeds.html.*

8 December 2011

Obituaries

Gillian Perry (née Jenkins)
19th October 1943 – 22nd August 2011

Fig. 1. Gillian Perry in 1976 in the shade house at the WA Herbarium.

Ph. Supplied by WA Herbarium.

Gillian Perry, one of Australia's foremost botanical nomenclaturists, passed away suddenly and unexpectedly on the return journey to Perth from the XVIII International Botanical Congress in Melbourne. This is a sad loss to Australia and to the international botanical community.

An intensely private person, Gillian's role in global nomenclature was perhaps not well known to many Australians. Her role, however, was considerable. She attended, and was active in, the Nomenclature Sections of every International Botanical Congress from 1981 to 2011, a span of 30 years fittingly book-ended by the two Australian Congresses.

Gillian became fascinated by nomenclature following her first Congress, in Sydney in 1981. She made her first proposal to amend the Code at Berlin in 1987, followed by 19 proposals at Tokyo in 1993 (see Table 1). Increasing recognition of her standing as a nomenclaturist resulted in her appointment to the Permanent Nomenclature Committee for Spermatophyta (later renamed the Permanent Nomenclature Committee for Vascular Plants) in 1999 following the St Louis Congress; she served on this until her death. She also served on the main subcommittee of the Special Committee on Lectotypification set up at the Berlin Congress (1987) to report to the Tokyo Congress (1993) and on the Special Committee on Orthography set up at the Tokyo Congress to report to the St Louis Congress (1999).

Gillian's role regarding lectotypification was particularly significant. The Subcommittee on Lectotypification presented 16 proposals to amend the Code at the Tokyo Congress (Taxon 41: 762–769, 1992). Of these 9 were accepted and 7 were rejected (including 2 referred to another Special Committee); the accepted proposals were very important in clarifying the rules on lectotypification. Gillian's many contributions were specifically recognised in the Acknowledgements of the report.

During her time as a nomenclaturist Gillian authored or co-authored no fewer than 69 proposals to amend and clarify the Code (Table 1), as well as advising on countless others.

The "success rate" for these proposals (number accepted or referred to the Editorial Committee) might not at first seem particularly high, but it must be remembered that most proposals to amend the Code are rejected. The overall success rates in recent Nomenclature Sections have varied from 16% to 31% (24% in Melbourne). In this context, Gillian's success at improving the Code, most notably in Melbourne, is remarkable.

The XVIII Congress and the Melbourne Code will be remembered as historic, with three major decisions: electronic publication of names, the cessation of mandatory Latin for diagnoses, and changes to the handling of fungal names including mandatory registration and the discontinuation of separate anamorph and teleomorph names. Gillian was involved in all of these but she was particularly instrumental in finding a solution and consensus to another even thornier issue – that of the typification of sanctioned names of fungi – both in the lead-up to the Congress and during the many intense working meetings during the Nomenclature Session.

During her life she collaborate closely with many of the major figures in plant nomenclature, including Dick Brummitt, Vincent Demoulin, Werner Greuter, John McNeill and Dan Nicholson, all of whom benefited greatly from Gillian's exhaustive knowledge of the Code and attention to detail. From the outset, her particular interest was in removing ambiguity from the Code, and enhancing the stability of nomenclature. Dick Brummitt, Secretary of the Permanent Nomenclature Committee for Vascular Plants, summed up her contributions well in noting that she "repeatedly came up with solutions or ideas which everyone else had overlooked but which turned out to be correct".

Table 1. The outcomes of Gillean Perry's 69 proposals to modify the *International Code of Botanical Nomenclature*.

Congress	Proposal sets	Proposals	Proposals accepted (or referred to Editorial Committee)	Proposals rejected or withdrawn	Success rate
Berlin 1987	1	1	1	0	100%
Tokyo 1993	5	19	5	14	26%
St Louis 1999	2	12	2	10	17%
Vienna 2005	1	11	4	7	36%
Melbourne 2011	6	26	20	6	77%
Totals	**15**	**69**	**32**	**37**	**46.40%**

Fig. 2. Gillian Perry in full flight at work on the Fungal nomenclatural proposals for the recent Congress with Lorelei Norvell and Vincent Demoulin. Ph. Scott Redhead

Gillian is survived by her husband, Michael Perry. The following is the eulogy delivered by Michael at her funeral in Perth on September 8th 2011, including a selection of the many messages of shock and sympathy that came to Perth following news of her death.

Acknowledgments

I thank John McNeill and Michael Perry for comments on this article and for providing important details on Gillian's life and career, and Michael for permission to reproduce his eulogy.

Kevin Thiele

Michael Perry's eulogy

Thank you for joining us today to remember Gillian's life and work

This was not an easy life, in fact, it was a very difficult life, a life filled with conflict – with parents, with employers, with individuals, and with spouse.

The roots of that conflict are impossible to know because Gillian drew a curtain across her early life, a curtain that even I, a companion of 42 years, was not allowed to look behind. But whatever the devils of childhood, it forged a person of scrupulous honesty, an iron will, and a determination, never to be in the wrong, never to lose an argument, and never, ever, to be beholden to another person for anything.

I remember one Christmas at the Department of Agriculture. The Director, Mike Carrol, came over to extend best wishes to two of his staff – Gillian and myself – he had chosen the wrong moment because the decision had just been announced that the Herbarium was to leave the Department of Agriculture and join CALM (Conservation and Land Management). Gill, engaged by that time with weed identification, thought it the wrong decision and pursued her argument vigorously, I left to socialise with others and when I returned a half hour later, a haggard Mike Carrol was still being assailed. As a loyal employee of course, I assisted his escape.

Gillian had joined the Western Australian Herbarium, located at the time within the WA Department of Agriculture, in 1971 and worked initially on the genus *Logania*. It was pursued with her normal intensity and over many holidays we traversed most of southern WA and South Australia looking for the elusive plant. I can still identify a *Logania* (opposite leaves, white flowers) travelling at 80 km/hr on any country road.

Gill's interest, however, soon turned to the weed flora of the state and she quickly became the reference point and oracle for the officers of the Agricultural Protection Board charged with property inspections and the application of the various Acts governing plants. Never before had they had access to a botanist who

was really interested in what they were doing in the agricultural sphere and they adored her.

The decision to transfer the Herbarium to CALM in 1987, however, was not a move that worked in Gill's favour. Although the interaction with the APB on weeds went on, it was peripheral to CALM's interests and gradually pressure built to drop the weed work and focus on the native flora.

Typically, Gillian would not be moved, and when push came to shove, she decided that what she wanted to do was more important than what CALM wanted done, and in April 1994, after 21 years service as a botanist, there was a parting of the ways with relief on both sides.

To go back a little, the work on weeds with its legislative implications had highlighted the importance of having the correct name for a taxon and, fortuitously, Gill had attended the 13th International Botanical Congress in Sydney in 1981. There she had met John McNeill, Werner Greuter and Dick Brummitt, three of the experts in 'nomenclature' – the new field that was to fill the rest of her life. All three also became lifelong friends.

How do I know it was the 13th IBC, held from 21st to 28th August 1981 and that Rutherford Robertson was the President? Well, 30 years later we still have the conference booklet and papers, and even the enrollment form filed away – typical Gill!

In addition to the big names from overseas, from Canberra Hansjoerg Eichler lent his encouragement and support to Gill's nomenclature interests, and in Perth another mentor and friend was Dick Cowan yet another of the towering figures of taxonomy.

After Sydney there was another Congress in Berlin in 1987 and at that point Gill became a member of the *'Committee for Vascular Plants'*, the body that ruled on taxonomists proposals to change the name of a plant taxon. We attended another Congress in Tokyo (1993), another in St Louis (1999), the wonderful 2005 Congress held in the beautiful city of Vienna – and, of course, the 2011 International Botanical Congress in Melbourne in July this year. And it was in travelling home from the latter that she died.

In between Congresses there were visits to Kew – I remember driving up to those great iron gates, opening them and driving through, much to the obvious envy of all those ordinary mortals queueing to pay their money at the Kew Garden's turnstile. Inside we climbed, each day, the cast-iron spiral staircase that Joseph Hooker and other botanical luminaries of the past must have used.

There were visits to Berlin for dinner with Werner Greuter at Engler Allee and to stay in the old house in the Botanical Gardens under his watchful eye. Visits to Canada, and later Scotland, to catch up with John McNeill – and to plot further changes to the International Code of Botanical Nomenclature.

Through that time, Gill's influence on the International Code – the rule book for changing plant names - grew and grew. With others she made proposals at each Congress to modify and improve the Code and I remember her saying not so long ago, that '*Some of my words appear in nearly every article of the code'*.

Her final contribution was to the mycologists – a non-mycological perspective on the 'sanctio-typification' of the names of fungi. Typically, she tore their first proposal to shreds, they, in turn, dismissed her arguments because no 'ordinary botanist' could possibly understand the complexity of mycological names. They were wrong of course, as they quickly found. But over the week of the recent Melbourne Congress the two points of view were reconciled with both Gill and the mycologists recognising the common ground and common good.

Gill's death was untimely, and I would like to read to you some of the tributes I have received from around the world:

> *A passing too early. The respect for Gillian's contributions from amongst the nomenclatural gurus was clearly evident at the Congress.*
>
> **Bill Barker, Adelaide**

> *In some of our discussions following the Congress I thought about Gill and how so much of her hard work in the nomenclature area had come to fruition and that she has made a very strong contribution over a long period of time*
>
> *Besides losing a friend and colleague, Australia will miss her substantial contribution and the extent of her knowledge around nomenclatural matters.*
>
> **Judy West, Canberra**

I will always be so grateful to Gill for her help with the complex problems involved in the Commersonia and Rulingia revisions. I was really struggling and even though she was so busy for the Congress she always gave up lots of time to look at my queries and go in to bat for me with reviewers

Carol Wilkins, Perth

It's hard to take it in having seen Gill in action in the Nomenclature sessions in Melbourne, discussing all manner of issues in her usual way.

We've lost one of the stalwarts of the botanical scene, not just in Australia but the whole world, given her active role in botanical nomenclature.

Karen Wilson, Sydney

It was very sad to learn of the loss of Gil, with whom we had worked so well a few weeks ago. Scott's excellent pictures fix the memory of those sessions. Already for the Tokyo congress, twenty years ago, we had made common proposals on Art.14. They were not accepted, but made the way to the present compromise on typification of conserved names. The Western Australian Herbarium is a great place and she contributed to make it known to nomenclaturists all over the world.

Vincent Demoulin, Liège

By the end of the nomenclatural week I had developed a fondness for Gill and admired her skills and intense focus. Following the evening working sessions I photographed the moment we reach consensus for posterity, with Gill overseeing Lorelei's and Vincent's recording of the wording.

Scott Redhead, Ottawa

Gill was such an active, informed, intelligent member of the nomenclature committee, who has done work for it that nobody else could have done. Shel was an example to others during her life and left a legacy of work that will be of value long into the future.

Wendy Applequist, St. Louis, Missouri

Gill helped me on many occasions with botanical nomenclatural matters, and her sharp mind regularly picked out the important details that would otherwise have been overlooked. We will all miss her.

Nick Turland, St Louis, Missouri

I will long remember my brief acquaintance with Gill at Melbourne, and her quiet steadfastness as she argued and debated the convoluted progress of the "sanctiotypification" proposals during the course of the Section week, being instrumental in the development of the much simpler and mutually acceptable version that was passed on the final day --- and not forgetting the numerous other amendments to the Code that she single-handedly proposed and championed

Shaun Pennycook, Auckland

This is very sad news indeed. I had had correspondence and discussion with Gillian for 25 years or more, and had learned to greatly respect her views. She was an active and influential member of the Nomenclature Committee for Vascular Plants, and repeatedly came up with solutions or ideas which everyone else had overlooked but which turned out to be correct. She was never content to simply accept what others had said without checking the facts thoroughly. She will be sadly missed by many.

Dick Brummitt, Kew

I thoroughly enjoyed getting to know Gill and was looking forward to continuing to work with her in the years to come. She had a grasp of the intricacies of nomenclature that far surpassed mine, and I think she was a little amused to watch us flounder toward the light she could see so clearly. She had a delightfully wry sense of humour that I greatly appreciated.

Lorelei Norvell, Portland, Oregon

It is a terrible loss not just for you but for so many who appreciated her mental agility and extraordinary thoroughness.

John McNeill, Edinburgh

It is wonderful that Gill was at the IBC meeting, as you were, contributing importantly to the Nomenclature Sessions as she always has done. In the whole time that she has been on those committees she has been among the most effective members, making a huge contribution.

As you know also, she has been a wonderful mentor and guide for me in nomenclature. When I found a difficult problem, many times I turned to her for help and always admired the expertise and thoroughness that she brought, giving so very generously of her time.

Barbara Briggs, Sydney

I am quite distressed to learn that Gill, still so lively at the Melbourne Meeting, is no longer among us. She was a faithful friend to me ever since we knew each other, one of the too few on which one could reliably depend.

Werner Greuter, Berlin

Gill was a utterly wonderful to me over many years, especially with respect to the support she gave me regarding Acacia. Whenever I asked, Gill generously provided me with immediate and sound professional advise. This advise undoubtedly helped us achieve the good outcome that we achieved in

both Vienna (2006) and again in Melbourne last month. She had an incredible knowledge of botanical nomenclature.

Bruce Maslin, Perth

Gillian was enormously valued at the Herbarium, and I personally relied on her advice a great deal in the lead up to the IBC over a number of important matters. Her advice was always detailed and rigorous, and showed her immense knowledge of the Code.

Kevin Thiele, Perth

It was a great shock after being with her in Melbourne where Gill was very much on-the-ball and her pertinent and thoughtful comments contributed so much to our discussions - and the finally accepted texts.

I remember Gill well from her visits to Kew, and especially the nomenclatural stability meeting you both came to in 1991.

Such sharp intellects are never forgotten, and their words live on both in print and in the memories of those who were privileged to come into contact with them.

David Hawksworth, London & Madrid

Finally, a quote from the report of the mycological section of the recent Congress:

We arrived at Section prepared to compromise with Nomenclature Committee on Vascular Plants member Gillian Perry (Perth), whom we now recognize as an 'honorary' mycologist.

On Monday evening, proposers Redhead, Norvell, Pennycook, and Perry, NCF Chair Vincent Demoulin, David Hawksworth, and General Committee member (and former Rapporteur-général) Werner Greuter began rewording the proposals, which continued through the week in a number of 'frank and open' meetings … On Thursday night, we worked until 2 am revising the joint floor proposal, which was agreed to by all parties.

At the final session, as NCF Secretary, I announced the withdrawal of the Perry (220-221) and Redhead & al. proposals and read the floor proposal. It passed easily …[and made] clear that sanctioned names should be lectotypified (not neotypified) from elements associated with the name…"

Lorelei Norvell, Secretary

So, Gillian, life may have been difficult, but you made your contribution and you made it well. The tributes of your colleagues say it all, and you can rest in peace knowing that it was a job well done.

And your epitaph? Well, Lorelei has the call - 'honorary mycologist'. You would have been proud of that!

I finish with these words, which are of some comfort to me and may also be to others. They link the life and work of the individual, each one of us, with that greater mystery that we as individuals can never know - the future of the human race.

They are the words of Herman Melville:

The generations pouring
From times of endless date,
In their going, is their flowing,
Ever form the steadfast state,
And humanity is growing,
Toward the fullness of her fate.

Farewell.

Peter Taylor of Kew (1926-2011)

b. 16 Jan. 1926, Luton, Bedfordshire. d. 20 Oct. 2011, Kirdford, Sussex.

One of Kew's most talented botanists of the last century, Peter Taylor (1926-2011) died peacefully in his sleep yesterday at his home in Kirdford, Sussex. Peter was born in Luton, Bedfordshire. On leaving school, he undertook a five-year apprenticeship as a mechanist and turner in the toolroom of Commer Cars, Luton, taking evening classes to gain a National Certificate in Mechanical Engineering. His early interest in botany, particularly ferns, was encouraged by John Dony, who was writing up the *Flora of Bedfordshire*.

His spare time was spent plant hunting on the Bedfordshire downs and elsewhere as an active member of the Botanical Society of the British Isles (BSBI). His knowledge of the British flora was encyclopaedic, a rarity nowadays amongst Kew botanists. He made a considerable and beautifully prepared herbarium of British Plants, now at Kew, as well as a fine collection

of butterflies.

Through John Dony he met Edgar Milne-Redhead near the end of World War II and was encouraged to join Kew, starting as a Temporary Assistant in the Herbarium in 1948, with a considerable drop in salary. His eye for a plant, craftsmanship and attention to detail made him a stalwart of the Tropical African Section. At that time entrants with a University degree were assigned to Scientific Officer grades with much better career prospects.

As an Experimental Officer Peter Taylor was delegated to largely curatorial and technical duties and soon gained a remarkable knowledge, particularly of the herbaceous plants of the region. His meticulous determinations and notations are prevalent throughout the rapidly growing collections of the period near the end of the colonial era. He carefully wrote up several small families for FTEA and developed a special interest in the carnivorous plant family Lentibulariaceae (bladderworts).

In late 1955 he married Shirley Patten, a scientific assistant in the Kew Herbarium. Shortly afterwards, he undertook an eleven-month expedition to East Africa with Edgar Milne-Redhead, spending six months during the rainy season in the Songea District of Tanganyika (now Tanzania) They worked very long hours, carefully arranging plants in presses late into the night and up again at dawn mostly seven days a week. Altogether they made 5,000 gatherings in numerous sets and used their combined knowledge of the Flora to make a thorough and selective representation, particularly of the relatively neglected herbaceous component. The herbarium collections were of the highest standard, combining his considerable artistic and scientific talents. He undertook most of the non-botanical duties, liaising with the African helpers, fixing vehicles, shopping and crating specimens. Ali Omari was their skilled driver and picked up collecting techniques that he later used in the service of Mary Richards. Samuel Kibuwa [Paulo] joined the expedition from Morogoro and Semsei was also seconded from the Forest Department for a period to help with trees. On returning to Kew he took the main responsibility for naming and distributing the collections, with duplicates distributed to a notable number of in Africa and abroad (EA, BR, LISC, SRGH, PRE and P). He also took on the field notes, naming and distributing of other major Kew collectors, notably more than 20,000 numbers collected by Mary Richards.

It was not until Sir George Taylor left Kew that he was given long-overdue promotion to Principal Scientific Officer in 1972. George's nose had been put out, so it was said, because he kept being congratulated on Peter's work on *Utricularia*. Unfortunately he had been passed over to head the Fern Section and was assigned the Orchids, which he ran from 1972 until 1984. He published a popular book and many articles on orchids for the Orchid Review, Die Orchidee, the American Orchid Society Bulletin and Curtis's Botanical Magazine. He discharged his duties conscientiously but was glad when younger members of the section could take over this specialist group and he could devote more time to *Utricularia*. He made visits to Australia and America and examined vast numbers of specimens with visits and loans. He was awarded the Kew Medal in 1990 for his services to the Royal Botanic Gardens. He continued several years after his retirement in 1986 to hone his outstanding monographic revision of the genus,

each of the 214 species illustrated with his own fine drawings. The appearance of his definitive monograph of *Utricularia* coincided with his retirement from Kew in 1986.

In retirement he settled in West Sussex Weald where he purchased two woods that he restored to good condition through coppicing and cutting rides. In the course of the restoration, he made several new insect and plant records for the Vice-county. He was particularly pleased that the Purple Emperor butterfly (*Apatura iris*) bred in one of his woods thanks to his management of it. He was also a fine entomologist and had an encyclopaedic knowledge of British Lepidoptera and other groups. He was one of the longest serving members of both the BSBI and of the Amateur Entomological Society, both of which he joined in 1946.

Peter was an outstandingly good cabinet maker and specialised in making harpsichords and clavichords to the most exacting standards of craftsmanship. His instruments have graced concert platforms, played by Margaret Hunt, the wife of his former colleague and old friend David Hunt.

Peter had an impish sense of humour which I suffered on several occasions. New to the Kew staff, I commissioned a watercolour of an orchid from an eminent botanical artist for Curtis's Botanical Magazine, I was unhappy with the result and consulted Peter who informed me that the artist 'appreciated constructive criticism'. Minutes later the artist appeared in the Orchid Herbarium and I duly offered her my views. A whirlwind hit me and only then did I hear Peter laughing from his seat behind a strategically placed cupboard. I shall miss that chuckle.

Our sincere condolences go to his wife Shirley and to his children, Gilbert, Sarah and Jonathan.

Phillip Cribb, Kew

I would like to thank Roger and Diana Polhill for their help in preparing this obituary.

TAYLOR, Peter Geoffrey

1939–1941, Luton Junior Technical School. National Certificate in Mechanical Engineering, Luton Technical College. 1990 Kew Medal.

1942–1948 Technical Apprenticeship, Commer Cars, Luton

1948–1986 Experimental Officer, Herbarium, Royal Botanic Gardens, Kew; 1963 Senior Experimental Officer; 1972 Principal Scientific Officer.

Eponymy:

Acacia taylorii Brenan & Exell (1957);
Genlisea taylorii Eb. Fischer, S. Porembski & Barthlott (2000);
Indigofera taylorii J.B. Gillett (1958);
arina tayloriana Boutique (1971);
Spermacoce taylorii Verdc. (1975);
Utricularia tayloriana J. Joseph & J. Mani (1983)

Publications

Taylor, P. (1955). The genus *Anagallis* in Tropical and South Africa. Kew Bull. 10: 321–350.

Taylor, P. (1958–1973). Primulaceae. 20 pp. Resedaceae, with J. Elffers. 6 pp. Lentibulariaceae. 26 pp. Flora of Tropical East Africa. Crown Agents, London.

Taylor, P. (1964). The Genus *Utricularia* in Africa (South of the Sahara). Kew Bull. 18: 1–245.

Taylor, P. (1989). The Genus *Utricularia*: a taxonomic monograph. Kew Bull., Addit. Ser. 14: 1–724.

Editorial footnote

Philip Cribb's offer of this obituary to the Newsletter is most appropriate. Peter will be well known to many older botanists around Australia. He visited all parts of our country just before Sydney's International Botanical Congress while studying and collecting his Utricularias in the field. His cheeky humour was constantly evident and warmly received.

To the above list should be added his as yet unpublished account of the Lentibulariaceae for the *Flora of Australia,* completed before he retired.

Botanical curiosity

The photo on p. 26 of the last issue of the newsletter was of a windblown seed of *Alstonia* (Apocynaceae).

Deaths

Members of the society will be saddened to hear of several other recent deaths.

David Symon

Honorary Research Associate of the State Herbarium of South Australia, David died on 18th December 2011, aged 91. David was the Society's second Life Member and there will be a full account of his botanical life in a coming issue of the Newsletter.

Michael Lazarides

Formerly a botanist at the Australian National Herbarium in Canberra, Mike died on 14th November 2011, aged 83. An obituary is being prepared for the Newsletter.

Bernard Verdcourt

Long-time botanist at Royal Botanic Gardens, Kew; born January 20th 1925, died October 25th 2011. A relatively comprehensive obituary for Bernard Verdcourt, can be found in the 31st October 2011 edition of *The Telegraph* (see:

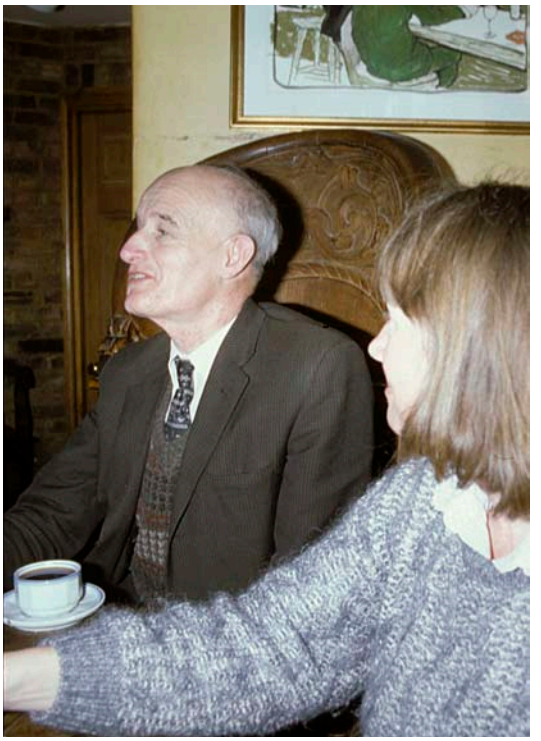


Fig. 1. Top right. Bernard Verdcourt in the chair at Pissarro's Wine Bar on Kew Green, in 1985, with Robyn Barker. Bottom. Two cultures. Bernard Verdcourt collecting *Albizzia* below Mount Wilhelm, Papua New Guinea, in 1976, on Bob Johns's Landrover, during his limited field work for his *Manual of New Guinea Legumes*. Ph. Bill Barker

www.telegraph.co.uk/news/obituaries/science-obituaries/8860991/Bernard-Verdcourt.html.

Denis Gibbons

Denis Gibbons died on 21st November 2011, aged 74. He undertook postgraduate studies in botany at the University of Sydney in the 1980s. Some of you will also have known Denis who was better known in other spheres: see the notice of his death and an account of his photojournalism activities during the Vietnam War in the *Sydney Morning Herald* at *www.smh.com.au/national/photojournalist-captured-nations-experience-of-the-vietnam-war-20111122-1nsxf.html* and a background on the Australian War Memorial site at *www.awm.gov.au/publications/contact/denis-gibbons.asp*). Denis was awarded his M.Sc. for *Ultra-violet and tactile pollination guides of some Fabaceae* in 1987 and followed this up with further studies in *Hakea*, but this work remains unpublished. His photographic skills featured in his field and laboratory work.

Fig. 2. Denis Gibbons geared for the field at the 1986 Australian Pollination Ecology Society meeting held at Wimpy's Little Desert Lodge.
Ph. Bill Barker

News

New faces at HO

Recent retirements, resignations and funding cuts at the Tasmanian Herbarium have seen significant changes to the team. Alex Buchanan, long-time stalwart and font of knowledge on Tasmanian plants, retired back in July 2009 and, sadly, has not been replaced. Timm Newlands, long-suffering data-entry officer, interpretations officer, news-story writer, tea-maker, footy tipping organiser and general roustabout, resigned in November 2011 to pursue full-time tertiary study. Marco Duretto was repatriated back to warmer climes in April 2011, and, in December 2011, Flora writer Alan Gray's position concluded, although we are optimistic Alan himself will stay on in a voluntary capacity, having been appointed Honorary Botanist by the Trustees of the Tasmanian Museum and Art Gallery. Some of the new faces are introduced briefly here.

Maria MacDermott

Brisbane born, Maria relocated to Tasmania in 1996 and pursued post-graduate studies in Fine Art at the University of Tasmania's Hobart School of Art. She completed her PhD in 2005, which focused on repetition and difference in nature. Since 2006, she had been working at the Tasmanian Museum and Art Gallery as a Visitor Services Officer. Maria replaces Timm Newlands in the Herbarium's front office, where she is primarily responsible for data-entry, and keeping pace with the numerous changes to specimen label data that are generated by botanists and data-checkers. Maria continues HO's strong tradition of recruiting from all walks of life, not just botany or natural history. She has found that working with herbarium specimens has strong relationships with the explorations of her art practice. As well as continuing to develop her painting, Maria also writes and performs in a four-piece alternative folk band called Bunny.

Fig. 1. New botanists at HO. Left, Maria MacDermott. Right, Miguel de Salas

Miguel de Salas

Miguel was born in Spain but relocated to Tasmania in 1993, studied at the University of Tasmania and completed his PhD in algal taxonomy and genetics in 2004. Since then he worked at UTAS as research fellow in marine biotechnology, and at the Australian Antarctic Division as a phytoplankton taxonomist, a job that took him to the frozen continent itself! Despite his training in algae, Miguel has a love of the vascular flora, and first joined HO in a temporary position of identifications botanist. With the departure of Marco Duretto, he moved into the role of Senior Curator, responsible for the native vascular flora. Together with Matt Baker, HO's weed taxonomist, Miguel is responsible for maintaining Tasmania's Vascular Plant Census, contributing to the Tasmanian side of the APC project, and keeping the *Flora of Tasmania online* project active. As well as having very broad botanical skills and interests, Miguel has also revealed a penchant for home brewing, which has ensured him a bright future at HO. He also has a keen interest in growing weird and unusual carnivorous plants, an interest that promises to translate into further taxonomic work on Tasmanian *Drosera* and *Utricularia*. An island flora awaits him.

Gintaras Kantvilas

Award for the Rainforest Key

The *Australian Tropical Rainforest Plants* (a.k.a. the *Rainforest Key*), one of the most comprehensive electronic taxonomic identification systems available, has won the 2011 Cassowary Award for Science.

The Cassowary Awards, established in 1999 by the Wet Tropics Management Authority, recognise individuals and groups who have made outstanding contributions towards the protection and management of the Wet Tropics of Queensland World Heritage Area.

The key – an information system for identifying and learning about plants in an entire biome,

Australian tropical rainforests – was developed over 40 years of hard work and perseverance from its original state to the online system it is today. The team behind this award winning science included many people, in particular:

- Bernie Hyland, CSIRO Plant Industry, retired
- Trevor Whiffin, La Trobe University, retired (currently University of Ballarat)
- David Christophel, University of Adelaide
- Bruce Gray, CSIRO Plant Industry, retired
- Rebel Elick, CSIRO Plant Industry, retired
- Andrew Ford, CSIRO Ecoystem Sciences
- Frank Zich, Australian Tropical Herbarium
- Siobhan Duffy, CSIRO Plant Industry
- Judy West, CSIRO Plant Industry, Centre for Australian National Biodiversity Research (CANBR) and the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)

Without Bernie, sometimes referred to as 'Mr Rainforest of north Queensland', this key would not exist. The first north Queensland rainforest tree 'card key' was developed by Bernie in 1971 containing just 584 tree species. With each subsequent edition the key expanded utilising contemporary computer technology to deliver the best identification system possible.fIG.

The new web version in Lucid was launched in 2010, and covers seed plants present in the northern Australian rainforest - 2553 species of trees, shrubs, vines, grasses, palms, forbs, sedges, epiphytes and pandans. The orchids are contained in a separate online key, and a fern module is currently in development at the Australian Tropical Herbarium.

With the use of the Lucid software the scientific community and public have free online access to the key. Since going online the key is averaging about 500 visitors a month, and the taxon profile pages are averaging about 15,000 hits via Google searches per month.

The team have also developed plant identification courses based around the key to help people gain a better understanding and appreciation of the rainforest.

Fig. 2. Trevor Whiffin, Rebel Elick, Siobhan Duffy, Frank Zich at the Cassowary Award ceremony.

Frank Zich, Trevor Whiffin, Rebel Elick and Siobhan Duffy attended the awards ceremony held at the new Visitor Centre of the Cairns Botanic Gardens on Saturday 5 November. Dr. Trevor Whiffin said recognition by esteemed members of the Wet Tropics community was a pleasant surprise. He continued:

> The success of *Australian Tropical Rainforest Plants* is the culmination of the work of many people over several decades. When you finally get to launch a project that you have been involved with for so long, it is such a relief and a real sense of achievement. It is rewarding to see *Australian Tropical Rainforest Plants* being used as a practical and effective tool for people with various levels of botanic experience, thus unlocking the vault of rainforest plant identification for everyone to enjoy. To be given a Cassowary Award in recognition for our efforts is the icing on the cake.

Visit the identification system at *Australian Tropical Rainforest Plants* [external link- *www.anbg.gov.au/cpbr/cd-keys/rfk/index.html*].

Frank Zich

State Herbarium of South Australia publications now online

Since 26 October 2011 the new publications web-page of the State Herbarium of South Australia is online (*www.flora.sa.gov.au/publications*). Users can view information on all books published by the State Herbarium and its staff, the Board of the Botanic Gardens & State Herbarium (Adelaide), and botanical books published by the 'Flora and Fauna of South Australia Handbooks Committee'. If in-print these can be ordered via email. Some out-of-print books are available for download.

The complete back-issues of the *Journal of the Adelaide Botanic Gardens* from Vol. 1 (1976) to Vol. 24 (2010) are also accessible in pdf form (*www.flora.sa.gov.au/jabg*). The journal mainly publishes research papers and articles on botanical taxonomy, systematics and nomenclature of Australasian plants. The next volume of the journal is scheduled for 2012.

Finally, the first chapters of the new, 5th edition of *Flora of South Australia* were launched in October as well (*www.flora.sa.gov.au/ed5*). These include an introduction, glossary and revised treatments for 17 families or larger groups, such as Amaranthaceae, Droseraceae, Ranunculaceae, and part of Fabaceae. For people who want to bind these chapters into a folder, cover pages are also provided for print-out. More than 60 botanists are contributing to the new flora. We anticipate to release more treatments every 4 to 6 months.

Jürgen Kellermann
State Herbarium of South Australia

ABRS report

Staffing

We welcome Beth Tully to work on the Australian Faunal Directory, replacing Erica Alacs, who has been promoted to a job elsewhere in the department.

ABRS National Taxonomy Research Grant Program

The grants round for 2012–13 has closed, and the ABRS Advisory Committee will be meeting in mid-December to assess the applications.

Applications for the 2012 ABRS Churchill Fellowships are open until 29 February 2012. Further information can be found at: *www.environment.gov.au/biodiversity/abrs/funding-and-research/churchill/index.html*

Bush Blitz

The Bush Blitz team are currently at Ned's Corner in NW Victoria. The next Blitz is scheduled for February in Tasmania. More information about Bush Blitz surveys can be found at: *www.bushblitz.org.au*

New On-Line Publications

Census of Australian Marine Diatoms

Diatoms, unicellular green or brown algae, are

either planktonic or live attached to rock, sand, mud, plants or animals. This inventory includes more than 900 diatom species from inshore and offshore waters around Australia, as well as estuarine and other brackish-water habitats (see *www.anbg.gov.au/abrs/Marine_Diatoms/index.html*)

Australian Physciaceae (Lichenised Ascomycota)

This *Flora of Australia*-style treatment, prepared by Jack Elix (ANU), documents the more than 200 Australian members of the lichen family Physciaceae. Identification keys to genera and species are provided, and the website is richly illustrated in colour. The Physciaceae are especially diverse on the bark of native and exotic trees in tropical, subtropical and temperate regions of Australia. See *www.anbg.gov.au/abrs/lichenlist/PHYSCIACEAE.html.*

Annette Wilson
Editor, Flora of Australia
November 2011

ASBS Inc. business (cont.)

The Common Seal of the Society - a phantom no more!

Fig. 1. The common seal of the Australasian Systematic Botany Society (Ph. John Clarkson)

Members of past Councils have wondered whether the Society ever had a Common Seal, which has been required since Incorporation in 1986 (Barker 2003). Enquiries addressed to former Council members over the years never turned one up, though there were at times suggestions that one existed that was meant to be passed from Secretary to Secretary. One possibility is that it was the wood block bearing a brass image of the Society's logo that the senior author had inherited in around 1998 along with a Society letter head block; in 2002 both were passed on to the Secretary. If so it would have been difficult to use. Maybe former members of Council have recollections about the Seal.

While seemingly unimportant, an anachronism dating from the days of quill pens and amanuenses, the Common Seal features in the *Associations Incorporation Act* of the Australian Capital Territory and therefore by default in the rules of the Society (Rule 35(1)-(3)). The recently published *Associations Incorporations Practice Manua*l (*www.ors.act.gov.au/resources/attachments/Associations_Practice_Manual.pdf*) indicates that it has to be a physical object, such as a stamp or sticker.

The senior correspondent, as new Secretary, has produced a seal compliant with the Act and matching specifications in the Manual. The stamp (Fig. 1) incorporates the current name of the Society, and, while not essential, the logo and words "Common Seal" which make it clear that it is the object in question. Apart from affixing it to the annual returns to the Office of Regulatory Services, it remains to be seen whether the seal has any other use in this day and age. Is the Common Seal one of those legacies from centuries ago that Parliamentarians haven't seen fit to erase?

Reference

Barker W.R. (2003). Development of the Rules of the Australian Systematic Botany Society. *Austral. Syst. Bot. Soc. Nsltr* 114: 6-12.

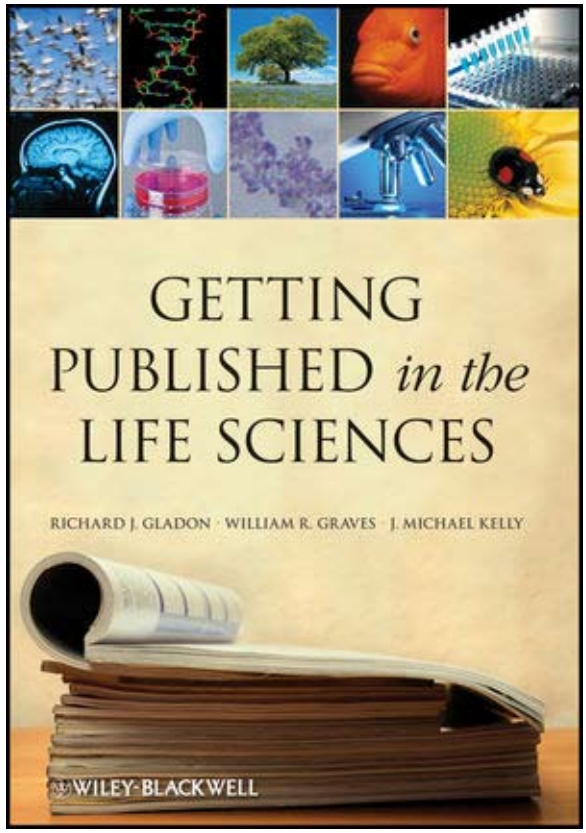
John Clarkson and Bill Barker

Book reviews

Publishing in the Life Sciences

A review by Tim Entwisle
Royal Botanic Gardens, Kew
Richmond, Surrey, UK

Getting Published in the Life Sciences
By Richard J Gladon, William R. Graves and J. Michael Kelly
John Wiley & Sons Inc, Hoboken, New Jersey. 2011
ix + 356 pp. ISBN 978-1-118-01716-6.
AUD $37.95 (paperback)



As an undergraduate I wrote flowery (in the literary rather than botanical sense), rambling prose, trying to instil what I thought was a little culture into science. After having an ecology essay torn apart by an uncompromising but incisive academic, I stripped back my exuberant style and tried to write dull and conventional. My honours supervisor, Gerry Kraft, tried his best but left me largely unmarked and unlearned, from a literary perspective. Finally Bill Woelkerling, as my PhD supervisor, wore me down and taught me to write dry as cold toast, but comprehensible, scientific text. As I know now, it was a stage I had to go through. It then took me another few years to shake off the scientific shackles, back under Gerry's tutelage, and write in a more measured, mature and mischievous way. In a way, I was back to where I started, but this time able to write proper like.

Writing isn't easy and, while scientific writing isn't the most difficult trade to learn, it can be illusive for the enthusiastic and cocky young scientist. So would I have learnt more quickly if this book by three north-eastern American academics was available and would it have persuaded me to put down such formative texts as *Fear and Loathing in Las Vegas*, *Auto-da-Fé* and the *Life of Samuel Johnson*? Perhaps not, but through no fault of this book.

I like the way the authors start with a clear statement about what they can and can't do. 'Use of this book, the principles within it, and the exercises within it, cannot cure bad science', and 'A writer cannot compensate for... bad science with an extremely well written manuscript.' Damn! The first few literary quotes also establish their influences and a healthy disregard for political correctness – Ray Kroc, Founder of McDonalds and Ernest Hemingway, neither of which I've willingly sought out for inspiration.

There is plenty of practical advice, with chapters on ethics, choosing authors and journals, structuring your manuscript, presenting data, revising, submitting, peer-review and proofing, among other things. They outline the IMRAD structure – Introduction, Methods, Results and Discussion – while noting that some journals have moved away from this familiar sequence. Although generally thorough, their attention to

photographs and illustrations, so important to fundamental taxonomic research, is superficial. They make up for this oversight with lots of practical advice about sentence and paragraph structures with guidance even on the ideal number of words in both: 15-20 (13 being too few and 40 too many) and an average of 150, respectively. This sentence is a little short and this paragraph a little long. While this may seem prescriptive, they are simply trying to help the novice writer get words on the page and their first few manuscripts into print. When you start cooking it helps to follow a recipe, at least the first few times.

Monographic taxonomists would do well to heed the power of the LPU, or Least Publishable Unit. This is the 'minimum amount of information (data) sufficient for a manuscript to be accepted for publication in a reputable, refereed journal (Broad, 1981 [*Science* 211: 1137-1139])'. Your conclusion, expands Broad, should be original, important and based on research 'using accepted norms of the discipline'. So far so good. In a list of reasons why you should be a good writer: 'It is not necessary for you to be verbose to get your point(s) across to the reader'. They back up this claim by citing Watson and Crick's 1953 [*Nature* 171: 737-738] paper where the double helix and genetic replication are described in a single page. OK, but let's see Watson and Crick sort out one of my troublesome *Batrachospermum* species in less than a half dozen journal pages. Gladon et al. do admit that you must give what they call a 'competent, informed reader' enough information to repeat the study and to judge if you've done things properly. That might take more than a page me thinks.

The authors' LPU is that you should start the writing of a scientific manuscript with a few strong take-home messages and a working title. This may take time but according to Gladon, Graves and Kelly it is the key to a good scientific paper. The take-home messages must 'hit the reader between the eyes' rather than be lost somewhere in a meandering discussion – the latter always being my preferred approach (yes go and look for them!). The messages should be repeated strongly throughout the manuscript. 'Reading a scientific article isn't the same as reading a detective story. We want to know from the start that the butler did it', Ratnoff (1981 [in K.S.Warren, *Coping with the biomedical literature* 95-101]) is quoted as saying. Perhaps, but some scientific papers could do with a little suspense, or at least a plot of some kind. They counter with this gem from Robert A Day: 'Scientific writing is primarily an exercise in organisation. A scientific paper is not literature'. That said, they do encourage writers to avoid being dry and boring. One way, they say, is to include contradictory data – that always adds a little spice and is, strictly, the right thing to do of course.

There are important things here, like how to write an abstract. One of my pet hates is an abstract that describes the structure of the paper without any of the juicy discoveries or conclusions. It turns out this is the 'indicative' or 'descriptive' type of abstract. What I prefer, and strongly encourage, is the 'informative' kind. Help is at hand for writing titles, including one recommendation that I know gentle readers of this newsletter will snort at: 'unless there is an unequivocal reason to use the binomial of the species used in the research in the title, you should use the common name'. Still, I get mightily annoyed by authorities being included for names in titles unless there is an overwhelming nomenclatural reason for this. The chapter on good word usage is fun and valuable.

I like the generous use of aphorisms. 'Science is facts. Just as houses are made of stones, so is science made of facts. But a pile of stones is not a house, and a collection of facts is not necessarily science' (Jules Poincare) and perhaps more usefully 'The fool collects facts; the wise man (woman) selects them' (John Wesley Powell). Anyone who quotes Dr Samuel Johnson is a friend of mine and the line they include is his classic of literary criticism: 'Your manuscript is both good and original, but the part that is good is not original, and the part that is original is not good.' The authors are pretty good themselves: 'For some people and institutions, the order of authors is critically important for promotion and tenure purposes. Sometimes it is important simply to satisfy egos.' Quite so. And 'If the results section represents the heart of your manuscript, then the discussion section may represent its soul'.

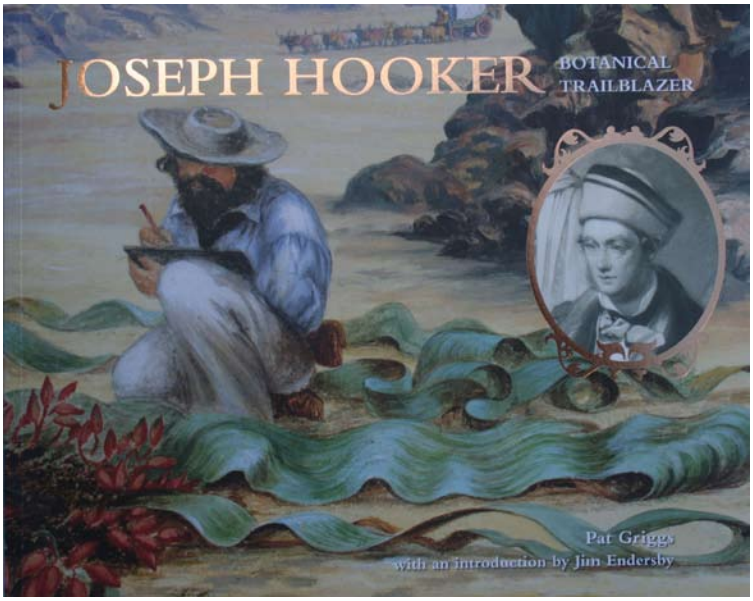
Despite using the word 'ensure' here and there, and allowing the jacket to carry a line containing 'unique guide to...' I like this book and learned a lot from reading it. I must send a copy to a couple of ex students of mine, just to encourage them to publish mind you. At the risk of contravening their section on plagiarism, I'll finish with another pithy quote, attributed to Red Smith: 'Writing is easy. You just stare at the typewriter until drops of blood appear on your forehead'

A biography of J.D. Hooker

A review by Tony Orchard

Joseph Hooker: Botanical Trailblazer
By Pat Griggs and Jim Endersby
Kew Publishing, Kew, UK. 2011
64 pp. ISBN 978 1 84246 469 4. RRP £10 / US$17(paperback)

On hearing of this book my first thought was "Why do we need another biography of Joseph Hooker?" The short answer is: we don't have one. This attractive booklet is in fact a very smart catalogue or aide-memoire for an exhibition "Joseph Hooker – naturalist, traveller and more" being staged in the Shirley Sherwood Gallery of Botanical Art at the Royal Botanic Gardens, Kew, from 12 November 2011 until 9 April 2012. The exhibition is part of a celebration of the life of one of Britain's most influential botanists, to mark the centenary of his death on 10 December 2011.



It is unlikely that anyone reading this review has need to be reminded of the main points of Hooker's life and career. There are numerous biographies available, including the classics by Huxley (1918), Turrill (1963), and Allan (1967). Perhaps more accessible is the comprehensive history of Kew Gardens by Desmond (2007), which is interwoven densely with accounts of the Hookers, father and son. More recent offerings are Desmond (1999) and Endersby (2008). Jim Endersby, co-author of the present book, also hosts a website devoted to J.D.Hooker and the history of botany. So there is a wealth of information available to serious researchers.

The target audience for Griggs and Endersby is somewhat different. While the content is scholarly, well-researched, and accurate, its aim is rather to provide a panoramic, condensed view of the man, his times, his work, and the sheer breadth of his knowledge and experience. It is very heavily illustrated, and this is perhaps its greatest strength. Kew holds an amazing wealth of historical, bibliographic and archival material in their library and archives. Working taxonomists tend to focus on Kew's great worldwide collection of herbarium specimens, and its comprehensive library. Hidden from sight much of the time are the many tens of thousands of manuscripts – letters, reports, diaries, draft scientific papers, government orders, despatch

notes from collectors abroad, accession lists of plants (live and dead), original paintings and drawings, and so on. As well there are the paraphernalia of collectors past – microscopes, collecting books, vasculums, field equipment, dissecting instruments and more. What this book (and exhibition) delivers is a taste of this historic treasure.

The book begins on the inside fold-out front cover, with a timeline of the major events of Hooker's life, 1817–1911, by Jim Endersby, senior lecturer in the History Department at the University of Sussex, a specialist in the history of science, particularly natural history. This is followed by a 12 page mini-biography by the same author, tracing the major events of and influences on Hooker's life, his major expeditions: on Ross's *Erebus & Terror* Expedition (1839–45) to Patagonia, Antarctica, New Zealand and Tasmania, and later to the Himalayas (1847–50), to Syria and Lebanon (1860), to Morocco (1872) and to the USA with Asa Gray (1877). This mini-biography touches on his prodigious written output, including *Genera Plantarum* with George Bentham, *Student's Flora of the British Isles*, and the *Flora of British India*, and botanical travel books such as *Himalayan Journeys*, and *Journal of a Tour to Morocco*, and describes his involvement in major scientific battles, including his strong defence of Darwin (a life-long friend), and his saving of Kew as a scientific institution (as opposed to a pleasure garden).

Then follow four vignette chapters by Pat Griggs: "Naturalist and Traveller", "Joseph Hooker's Legacy: The UK Overseas Territories"; "Family Man, Friend and Colleague" and "Director of Kew and Scientific Figurehead". These provide convenient hooks for displaying the treasures from the archives, mentioned earlier. The text in these chapters is rather minimal, the information content lying in the figure legends. Here there is a wealth of original photographs, reproductions of letters, documents, original paintings and drawings by Hooker and others, pages from original diaries, and objects such as scientific instruments and medals, much of it published for the first time. Inside the foldout back cover is another mini-essay on "Joseph Hooker and Useful Plants" with illustrations of a number of items collected by Hooker and now in Kew's Economic Botany collection. They include a yak saddle and blowpipe arrows.

The production of the book is generally excellent. The text has obviously been carefully edited – I found no typos. The writing style is engaging, but generally light, clearly designed to appeal to an educated, but not specialist scientific audience. The reference section is short, mentioning just the major biographical works about Hooker, and a few of his major publications.

I found the front cover a little strange. It is a painting by Thomas Baines of himself examining *Welwitschia* in Namibia. Hooker went on to formally describe this curious plant, but his contribution to the cover is a small inset of him wearing a turban-like hat. The quality of the illustrations throughout is generally good, although in a few the cropping could have been improved, and several of the original paintings are marred by glue stains which could, with advantage, have been cleaned up with a little digital magic. So far as I could see the technical aspects of the text are mostly good also. The only error I spotted was the misspelling of *Notholirion* as *Northolirion* on p. 47. These are minor quibbles.

I found this book to be a good read – I managed to digest it cover to cover in an hour or so. It provides no new startling insights for those who are familiar with the major biographies cited above, but it is not intended to. Instead it gives a broad overview of the life, work and times of a major botanical figure, whose legacy still underlies much taxonomic effort. Its major contribution is in publishing a wealth of archival material for the first time. For those attending the exhibition I am sure it will be snapped up as a high class exhibition catalogue, particularly at its very reasonable price. For those who will not be in London by 9 April, the book will also be of interest, as a synoptic biography, a taste of the richness of Kew's archives, and perhaps a source of inspiration.

References

Allan, M. (1967). The Hookers of Kew, 1785–1911. Michael Joseph: London.

Desmond, R. (1999). Sir Joseph Dalton Hooker: Traveller and Plant Collector. Antique Collector's

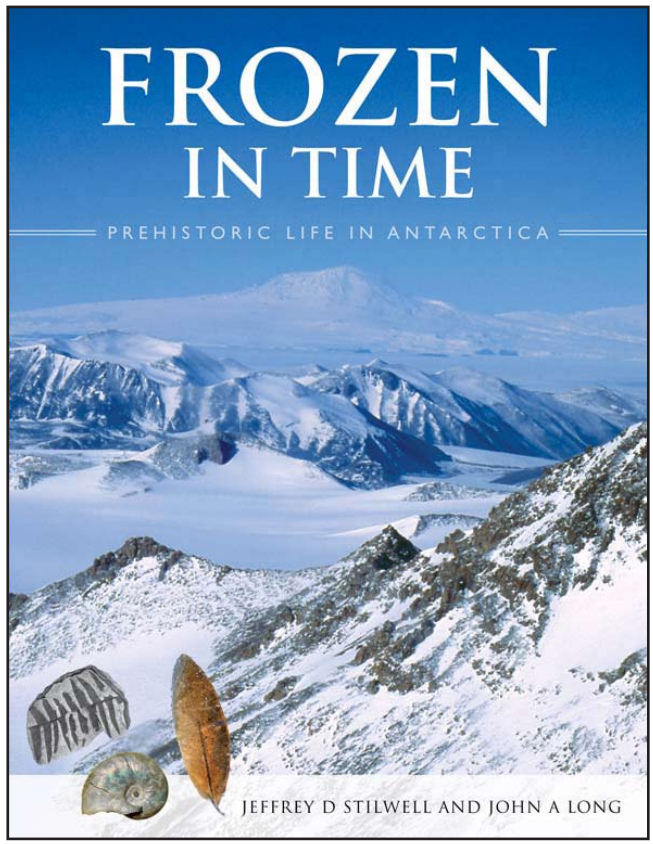
Club: Woodbridge.
Desmond, R. (2007). The History of the Royal Botanic Gardens Kew. 2ndedn. Kew Publishing: Kew.
Endersby, J. (2008). Imperial Nature: Joseph Hooker and the Practices of Victorian Science. University of Chicago Press: Chicago.
Huxley, L. (1918). Life and Letters of Joseph Dalton Hooker. John Murray: London.
Turrill, W.B. (1963). Joseph Dalton Hooker, Botanist, Explorer and Administrator. The Scientific Book Club: London.

Antarctic palaeontology

A review by John Conran
School of Earth & Environmental Sciences
University of Adelaide, Adelaide, Australia

Frozen in Time: Prehistoric Life in Antarctica. **By Jeffrey Stilwell and John Long**
CSIRO publishing, Melbourne 2011
248 pp. ISBN: 9780643096356. RRP AU $ 69.95 (hardback)
Also available as an eBook, ISBN 9780643104020

Although generally thought of as a frozen waste fit largely only for penguins, Antarctica has had a rich and diverse history extending back to at least the Cambrian, with palaeoclimates ranging from tropical to the present frigid conditions. Frozen in Time provides a vivid overview of the (largely zoological) fossil record for the continent, placing it into time and space, as well as showing the importance of Antarctica to the development of our own fauna and flora.



Starting with an historical homage to the intrepid explorers who first braved the inhospitable conditions there in order to collect fossils, the book proceeds to showcase the gradual evolution of life on Earth from the perspective of Antarctica's contribution to the record. Where possible, the authors reconstruct likely palaeoenvironments, outlining the effects of, and causes for, the ongoing climatic deterioration during the Cenozoic that led to the development of the modern Antarctic fauna.

The text is clear, lavishly illustrated and the explanations simple and informative making the book accessible to the professional and novice alike. Information is included for as wide a range of organisms as possible, showing the breadth of the fossil record, but without making it a catalogue. Key references for each section are also included, but unobtrusively so as not to break the flow of the narrative.

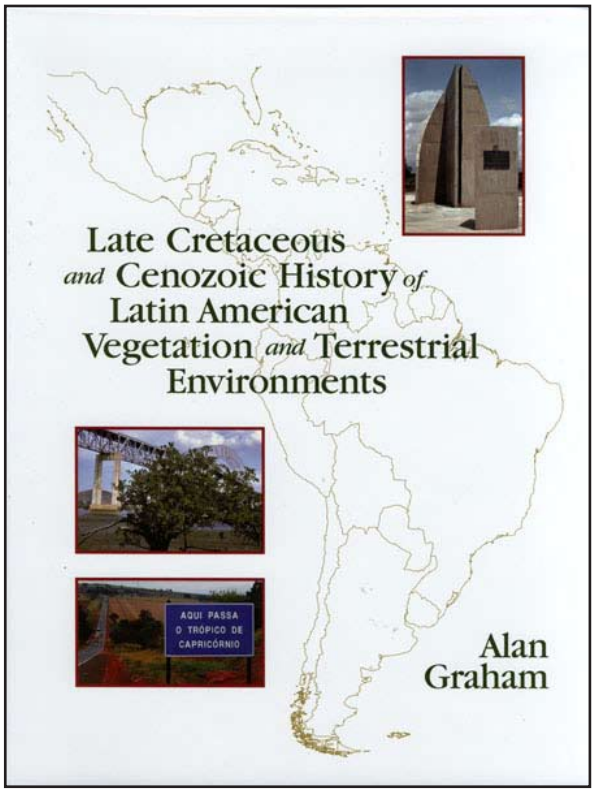
The book makes an excellent read for anyone interested in the palaeobiology of our neighbour to the South, providing an insight into the diversity of the lost worlds and climates now buried under the Antarctic ice.

South American palaeobotany – the comprehensive account

A review by Robert S. Hill
School of Earth & Environmental Science, University of Adelaide, South Australia

Late Cretaceous and Cenozoic History of Latin American Vegetation and Terrestrial Environments. **By Alan Graham**
Missouri Botanical Garden Press, St Louis (MO). 2010
617pp. ISBN 978-1-930723-68-9. US$95 (hardcover)

For an Australian botanist, South America offers a fascinating historical contrast. Some aspects of South America are comfortingly familiar – it is a huge land mass, covering a large latitudinal range, its current climate and vegetation varies from tropical to cool temperate and alpine, much of the landmass is ancient and stable and there is an intriguing relatively recent physical connection to the north that has had significant biological implications. However, there are also some notable differences. Most obviously, South America has a majestic mountain range that impacts massively on the climate and vegetation, and is also tectonically unstable, leading to wide ranging disturbance-based ecology. This mountain range appears to have reached about half its current height between the early and late Miocene (23-11 million years ago), so it has a long history of significant impact. Also, the connection to the north is a physical one, whereas Australia's connection to the north is far more transitory and its impact is less obvious. A less clear difference from a modern perspective, but no doubt a critical one, is that the last major global extinction event, that brought the Cretaceous to an end about 65 million years ago, was the result of the impact of a massive extraterrestrial body on northern South America. This must have had a dramatic impact on the entire land mass, while the direct impact on Australia, on the other side of the world, is less clear-cut. Another fascinating difference between Australia and South America is political – Australia is a single country with a long term stable government, in strong contrast to the many countries that comprise South America, many of which do not have histories of political stability, which makes working in this continent especially challenging.



We can therefore be grateful that Alan Graham had both the ability and perseverance to put together this comprehensive volume on the plant fossil record of South America. South America is defined here as everything south of, and including, Mexico, and encompasses the islands of the Caribbean. This is a vast area – Brazil alone has a significantly larger land area than Australia – and the fossil record is often sparse, or was reported a long time ago, so making sense of it all is not an easy task. However, it is clear from the opening pages of the book that Alan Graham has unprecedented knowledge of all parts of South America and he often uses

interesting asides about political or social history to liven up the text – this is a very easy book to read, despite its size and fairly densely packed text. The depth of understanding of the literature is also impressive, with highly varied sources cited to bring together a cohesive picture of an intricate history that is mostly sparsely understood – there is much intelligent exptrapolation presented here.

There is a huge diversity of living vegetation in South America, and that is presented first. From the Chocó of Columbia, which has an annual rainfall of ~11,000 mm, nearly perpetual cloud cover, astonishing species diversity, and "world records for leaf size" (Gentry 1986, p. 83) through to the almost perpetually dry deserts of northern Chile, which are close to devoid of plant cover of any kind. Graham also highlights many interesting examples of plant distribution that provide challenging biogeographical explanations, like the presence of the fagaceous genus *Trigonobalanus* in Colombia, which was reported in 1979, and until then had only been known from Indonesia, Thailand and Malaysia. The description of the vegetation is excellent and often reflects a strong personal interest, with, for example, the uncontrolled exploitation of parts of the vegetation, especially in Brazil, being reported with clarity and genuine sorrow.

For those interested in biogeography, how can you not be impressed by reports of floating mats of plants, up to several metres in diameter, which may fuse into larger masses and have been seen to float out into the Atlantic Ocean via the Paraguay River, complete with secondary vegetation and fauna, the latter sometimes including jaguars and capybaras. Sceptics of long distance dispersal please take careful note – multiply this by thousands or hundreds of thousands over millions of years and many things are possible.

However, the major purpose of the book is to describe the plant fossil record. This is preceded by a thorough introduction, including "cautionary notes" that should be compulsory reading for anyone not familiar with the fossil record. The somewhat cavalier approach to naming plant fossils, especially pollen, and even more especially when the primary purpose was for stratigraphy, warrants special mention. The succinct example given, that pollen named *Spaganiaceaepollenites* may mean that the author considered the pollen to be related to extant *Sparganium* should be treated with great caution. As Graham notes (p. 245) "This would imply an awareness of the various biogeographical, paleoecological, stratigraphic, and phylogenetic implications of the report [of this fossil pollen taxon] and that comparisons had been made using an extensive and vouchered reference collection. This is not always the case." In my view this is masterly understatement, especially for older published names.

There are interesting parallels with Australia throughout. Much of our fossil record requires strong re-assessment and Graham notes this is true in South America as well, and especially for records published some decades ago. There are other important parallels. In our desert dominated landscape many of the extant taxa must have survived increasingly arid conditions by being preadapted to dry conditions having evolved primarily to low nutrient (scleromorphic) conditions. In South America, Graham quotes Axelrod (1979) as saying "Thus, the area of the present Sonoran Desert has been accumulating taxa which were preadapted both in form and function to progressively increasing drought during the Tertiary" – the same response, but a different starting point.

The Eocene vegetation of South America is quite well known, as it is in Australia, and there is recent renewed interest in this time period, since it included a long period of extremely warm and wet climates and very high atmospheric carbon dioxide levels – an interesting and more than slightly alarming model for the not too distant future depending on how we react globally as a species. Graham notes that the Eocene floras of South America reflect the massive species diversity for this time period worldwide, with, for example, Wilf *et al.* (2003, 2005) reporting that the Río Pichileufú flora (51.9 million years old) "observed species richness exceeds that of any other Eocene leaf flora". I am prepared to accept this statement as a challenge, since there are similarly aged Eocene floras in southern

Australia that contain an astonishing diversity that we have not been so quick to compare on the basis of preliminary estimations.

There are also some familiar plant names among fossils from South America and Australia, and some have living distributions that demonstrate the vagaries of survival. For example, the fern, *Lophosoria quadripinnata* is common through the latitudinal range of South America today where it is a fairly aggressive colonizer of disturbed habitats. It has a good fossil record in South America, as it does in Australia until quite recently, but it survives strongly in the former continent but not in the latter. On the other hand, Graham often refers to pollen fossils of the tropical mangrove palm *Nypa*, which was widespread in the Paleogene in South America, as it was in southern Australia, with the most spectacular fossils, both from a preservational and biogeographical perspective, being from the Early Eocene of western Tasmania (Pole & Macphail 1996). Today *Nypa* is extinct in South America, but thrives in mangrove conditions in monsoonal Asia, including northern Australia. Life is never simple – biogeographers who work on the relationships and distributions of living plants take careful note.

One major difference between South America and Australia has been the impact of human occupation. While there is no doubt that the Australian Aboriginal people have, for a very long time, had a profound impact on the landscape, it has proved elusive to demonstrate, because their physical presence represented such a light touch that reconstructing it is a technically complex process. However, at least some South American cultures had a powerful and enduring physical presence, with massive and technically brilliant architectural remains being relatively common. There are parallels in considering the interactions of the first human colonisers with the vegetation. Early Australians had an intimate and deep association with the vegetation, but it is not easy to interpret from the fossil record. In South America, organized agriculture began early, and Graham documents locally intensive land modification by 12,000 years BP, and some morphological changes in seed and phytolith size suggesting plant domestication by 9,000-8,000 years BP, and cultivation by 7,000 years BP.

Another interesting aspect of the impact of human colonization is the important question in a modern context: How virgin is virgin rainforest? Graham points out that in the Amazon Basin, soils with high fertility enhanced by burning and agriculture date from at least 2,500 years BP. We need a much better understanding of short term vegetation history – beyond the range of short term ecological studies on living vegetation, but shorter than most palaeoecological research. Graham is well aware of this and highlights the significance of this for future conservation planning.

There is so much more that could be said about this book. I have hardly touched on the Quaternary history beyond the impact of humans, but a large part of the book focuses on this, including important reflections on the reality of refugia for vegetation during glacial maxima. I know how difficult it would be to write a book like this for Australia and I don't doubt that it was even more difficult for South America. If you are interested in the history of the vegetation of any part of the Southern Hemisphere this book is an important reference source, but it is much more than that. It is a personal and very intelligent reflection on a massive subject from a man uniquely placed to provide it.

References

Axelrod, D.I. 1979. Age and origin of Sonoran Desert vegetation. Occasional Papers of the Californian Academy of Science 132, 1-74.

Gentry, A.H. 1986. Species richness and floristic composition of Chocó region plant communities. Caldasia 15, 71-91.

Pole, M.S. & Macphail, M.K. 1996. Eocene Nypa from Regatta Point, Tasmania. Review of Palaeobotany and Palynology 92, 55-67.

Wilf, P., Cúneo, N.R., Johnson, K.R., Hicks, J.F., Wing, S.L. & Obradovich, J.D. 2003. High plant diversity in Eocene South America: evidence from Patagonia. Science 300, 122-125.

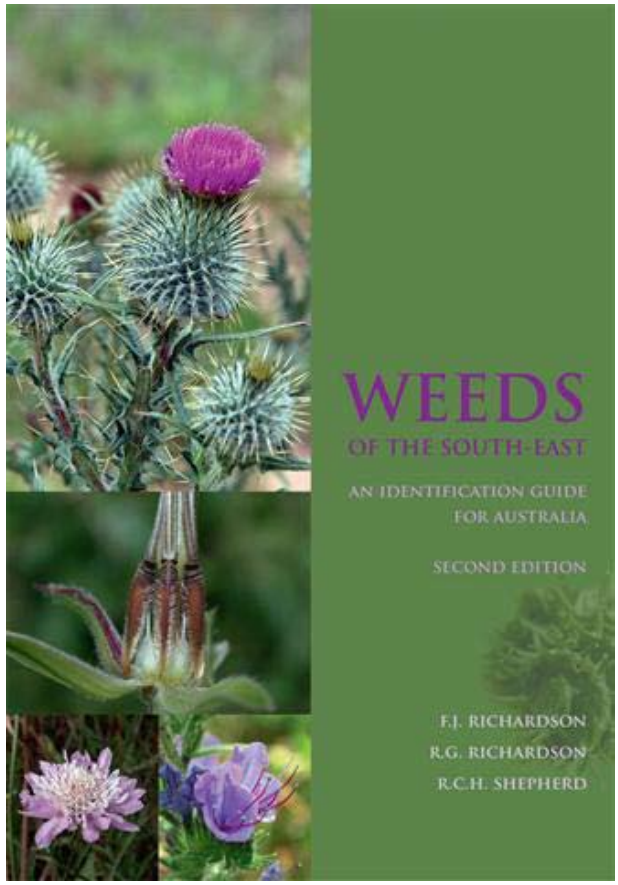
Wilf, P., Johnson, K.R., Cúneo, R.N., Smith, M.E., Singer, B.S. & Gandolfo, M.A. 2005. Eocene plant diversity at Laguna del Hunco and Río Pichileufú, Patagonia, Argentina. The American Naturalist 165, 634-650.

An updated annotated illustrated guide to south-east Australian weeds

A review by Matthew Baker
Tasmanian Herbarium, Hobart, Tasmania

Weeds of the South-East: An Identification Guide for Australia, Second Edition. **By Fiona J. Richardson, Rob G. Richardson and Ros C. H. Shepherd**
R.G. & F.J. Richardson, Meredith, Victoria. 2011.
546 pp. ISBN 9780980388534. AU$79.95 (paperback)

Why another book on weeds? Well there really aren't that many about, and those that are are limited in their scope and/or out of print. Apart from the first edition of this title, the last guide to cover the weeds of the south-east region of Australia was *Weeds* by Auld and Medd (1987). This has a focus on weeds of agriculture and horticulture of New South Wales and its scope is limited. Another player is *Noxious Weeds of Australia* by Parsons and Cuthbertson (2001; first edition, 1992): a technical publication aimed at weed legislation administrators and state and local government weed management officers and technicians as well as primary producers. It is not an identification manual but a guide to the control of noxious weeds and is limited to the species that were included in the various states' weed legislation of the time. Again there is a focus on agricultural weeds. Both of these books appear to be out of print. Filling the environmental weed gap is *Environmental Weeds* by Blood (2001) and *Bush Invaders* by Muyt (2001). Both titles cover only the most common environmental weeds of south-east Australia with *Bush Invaders* being a far superior text in all respects. It should be in the toolbox of every landcarer in Australia. These titles are still available and you can get them from the publishers of *Weeds of the South-East*. They are good texts for what they are, but they are still limited by their scope and, as far as being identification guides, both rely on flicking through pages until the closest match is made.



The first edition of this book was fabulous. I had a few gripes with it, as I will discuss, but essentially it was a quality publication. A more fitting title for it could have been 'An Annotated Illustrated Inventory to Most of the Weeds of South-East Australia' and you will learn why as I review and compare the two editions. I can happily say that the second edition has addressed some of these issues and as a result has been made an exceedingly more useful book.

Weeds of the South-East: An Identification Guide for Australia contains information on over 2500 plant species (500+ more than

the first edition). The majority are exotic but numerous native species are also included (to be discussed later). For each plant it contains a botanical name, common names, brief diagnostic description, habitat information, location by States and, in most cases, an image or two. The book is plastered with over 2000 wonderful images (400+ more than the first edition), and it is here where this books stands proud. The images chosen are exceptionally good representative shots, most are close-ups, but there are also many habit images too. Over 100 sources have been drawn upon with the majority being from the image collections of the authors. The book has sections on weedy ferns and fern allies, gymnosperms, monocotyledons and dicotyledons. The top of each page has the name of the plant group and family that is covered on the page (great for those that don't like using an index). The genera and species are arranged alphabetically.

Like the first edition, this book claims to be aimed at a wide range of people including those that deal with weeds on a daily basis, native-loving naturalists, landholders and gardeners. I was asked to review the first edition when it was released and, as part of the review, I decided to put the claims it made to the test (Baker 2007). My father was the guinea pig. Armed with the first edition, I went and visited him and picked three weeds from his garden. He is not someone with a super keen interest in plants but he is a keen vegetable gardener with a blood-thirsty passion for killing boneseed and a general appreciation of the Tasmanian bush. I gave him the book and asked him to identify the weeds. For a blow by blow account of the test I would point you to the initial review (Baker 2007). In summary, it was basically a laborious one hour haul, with me getting quite frustrated and intervening on all three specimens. To put it into perspective, I had a more enjoyable time with him the day I brought his Kingswood home after I had crashed it off a small bridge whilst I was away camping with my mates. Left to his own devices who knows what names he would have come up with and how long he would have spent on the process. Even if he did get the names right, I don't think it would have sent him off on a pursuit to find out the best management of those species in his vegetable patch.

To non-botanists or those without a good grasp on identifying plant families, I thought that the first edition, with the sheer number of species treated, was somewhat overwhelming. Some of the pages had 12 images to consider and, when there are 1600 to choose from, it is always going to take a while to find a match. The downfall of the first edition was that there was no way to help narrow down the search unless you had a good idea of what family the plant belonged to. Although the second edition has the same layout, it has gone a long way to rectify this difficulty by including a set of tables that divide all the species (excluding the grasses, conifers and ferns) in the book into groups based on flower colour and shape and plant habit. Once you have fitted your plant into the matrix you are offered a list of species or species groups that match and their corresponding page numbers. If you have a broad-leaved herb with five white petals then you still have over 60 plants to choose from but that is significantly better than flicking through 500+ pages and the 2500+ species. In this book, as with the first edition, difficult groups to identify are, as usual, difficult to distinguish, even using the images and descriptions; for example, yellow-flowered brassica weeds, *Ranunculus* species (10 species included but only 7 illustrated) and many of the grasses. I still think it would be difficult for many people to find a match but at least the range of targets would be reduced to a non-overwhelming number.

As with the first edition, I wonder about the inclusion of several of the native species without expressing the rationale for including them. Sure, the introductory pages state that natives are included for the following reasons: some are emerging weeds when they escape from cultivation and spread outside of their native range, others are included because of their poisonous properties, some because they contaminate wool or cause obstructions in waterways and some are included to illustrate their similarity to introduced invasive species. So that begs the question why has, for example, *Lythrum salicaria* been included? It is considered to be native in New South Wales, Victoria, Tasmania, South Australia and Queensland. But is it poisonous? Is it an emerging weed? Does it restrict waterways? Does it do all of these? In

Tasmania, although it does turn up in disturbed riparian habitats, it is regarded as vulnerable in that state's threatened species legislation. If you treat *Lythrum salicaria* as a weed in Tasmania and do to it what you would do to weeds you would be breaking the law! While the status under threatened species legislation is stated for some species, for example, *Persicaria elatior* in New South Wales (however, it is not stated that *P. subsessilis* and *P. decipiens* are listed in Tasmania), this has not been consistently applied. There are other examples. One helpful feature that is new in this edition is that users can tell at a glance which species are native to Australia as the state distributions and names of these plants are in green font.

The second edition is the result of a considerable update; with an additional 500+ species and 400+ images. I have no idea where all the new species came from but I do know that the previous edition failed to include those species that in Australia only occur in Tasmania (28 taxa) and it obviously missed a few others as well, considering the increase in numbers of species covered. The Tasmanian situation has almost been rectified in the new edition with only a couple of sparingly naturalised species not being included. It is hard to know what is missing, without spending a lot of time comparing it to each state census, but one missing family I chanced upon is Celastraceae with its two species of *Euonymus* that are considered to be naturalised in Australia.

The glossary has been improved with the addition of descriptive images that illustrate the terms.

The first edition didn't really live up to its name as a guide to all the user groups it claimed to help. A guide should be helpful and not a hindrance. I guess it comes back to the problem that identifying plants can be difficult. I have been employed as a botanist for nearly ten years now and I still have plants come across my desk that take time to identify. Luckily I have a collection to consult. I believe the second edition deserves the title its authors have given it. It makes identification of weeds easier. I would recommend it to all agronomists, agriculturist, horticulturalists, survey and identification botanists, rangers, weed controllers, local and state government weed managers and all the other users the book says it is for.

References

Auld, B.A. and Medd, R.W. (1987). Weeds: An Illustrated Botanical Guide to the Weeds of Australia. Inkata Press, Melbourne.

Baker, M.L. (2007). Book Review - Weeds of the South-East: An Identification Guide for Australia, The Tasmanian Naturalist 129, 86–89.

Blood, K. (2001). Environmental Weeds: A Field Guide for SE Australia. CH Jerram & Associates - Science Publishers, Mt Waverly.

Muyt, A. (2001). Bush Invaders of South-East Australia: A Guide to the Identification and Control of Environmental Weeds Found in South-Eastern Australia. R.G and F.J Richardson, Meredith.

Parsons, W.T. and Cuthbertson E.G. (2001). Noxious Weeds of Australia, Second Edition. CSIRO Publishing, Collingwood.

A manual for restoring Perth's coastal flora

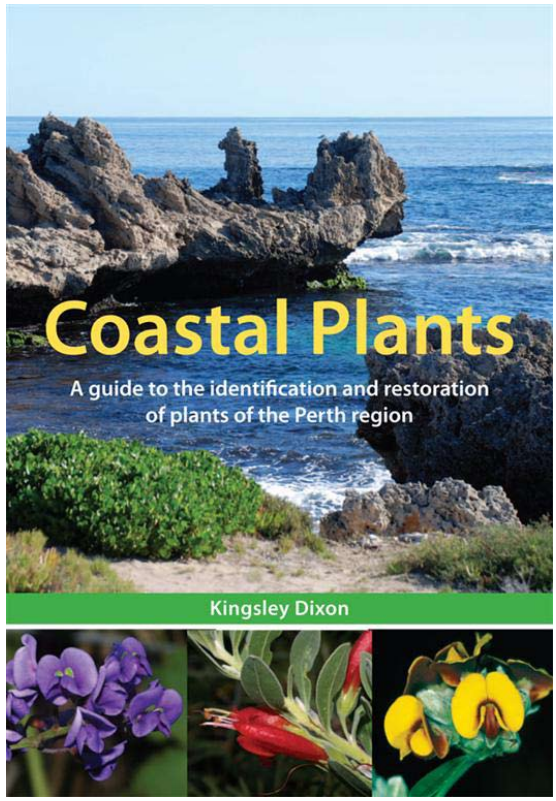
A review by Neville Walsh
National Herbarium of Victoria, Melbourne, Victoria

Coastal Plants: A guide to the identification and restoration of plants in the Perth region. **By Kingsley Dixon CSIRO Publishing, Melbourne. 2011 288 pp. ISBN 9780643100473. RRP $39.95 (paperback)**

Perth, as with many Australian capitals, has loved its coastline rather too much, and coupled with unbridled development in some areas, this has damaged or destroyed much of its natural vegetation cover. 'Coastal plants' offers guidance to the painstaking steps required to recover this lost asset.

This book sets out to describe the 100 most common plants of the Perth coastal region (principally the Quindalup dune system, between Geraldton and Busselton), including the key species used in coastal restoration. Each species is presented with its Latin name, common name and family, together with its distribution and key diagnostic features. Particular aspects of the natural history, pollination, propagation

requirements and uses in restoration etc. are also provided. Each species is illustrated, usually with habit and close-up photographs, enabling, in most cases, confident identification. The species are set out alphabetically by genus, species, with the naturalized species appearing as a block at the back of the book. There is a short chapter outlining species that are of particular importance to butterflies and sun-moths, and illustrations of some of these insects.



There are introductory chapters on the geological processes that have shaped and continue to shape the coast, the biology and ecology of coastal plants, their biogeography, and guiding principles for coastal vegetation restoration. The 'how to' guide is based on ecological theory and research from Kings Park Botanical Garden, knowledge gained from the practical experience of members of Cambridge Coastcare, and of course, the insightful perspectives gained through many years researching the WA flora by the author. Methods of propagation, both vegetative and from seed and tactics for overcoming dormancy in certain problem groups are presented. Not surprisingly, with Kings Park's research being at the forefront of the topic, the importance of exposure to smoke for many species is stressed, and techniques for achieving this described in detail. The need for retaining or building on the genetic diversity inherent in natural populations is emphasized.

This compact book is ambitious in its scope, but it seems to cover all bases, and I can imagine will be successful in fulfilling its aims for revegetation of Perth's coastal region. Of course, many species, and most of the degrading processes extend well beyond the Perth area, so the book will have application for many parts of at least the temperate coastline of Australia, and I have no hesitation in recommending it to coastal revegetators.

If I were allowed a few quibbles, they'd mostly be about style rather than the substantial and informative content. I feel it probably could have benefited from some harder-nosed editing. Some examples, none of which really detract from the usefulness of the book, include some of the graphics, which, in having been made to fit the compact format of the book, become less useful (e.g. figs 12, 14, text in fig. 1). Some oddities in the text niggle – we have an introduction, to me at least, of a new abbreviation 'kilom' for kilometre (e.g. p. 6), but in other places, the more usual and comforting 'km' is also used. We're presented with some terms and concepts that could benefit from some definition (e.g. 'eustatic sea-level changes', p. 9). Do we really need to know that 'soil organic material' has the unsurprising acronym 'SOM' when it is used only once?

A few typos have made it through the mill. 'Erosion scares' (p. 20) might be apt, but probably scars are more the meat of the book. 'Where' has replaced 'were' in at least a couple of places (p. 21, p. 27). Is this starting to sound like 'editing by spellcheck'? A sentence seems to have lost its way on p. 17 (4th para).

Maybe there's some oriental envy here, but I would have been happy to be told that south-western WA was a 'biodiversity hotspot', once, maybe twice, but I lost count in the end.

I certainly got the message though thank you! And I did wonder how a 'biodiverse (plant) family' (box, p. 35) differed from a more prosaic diverse or, even more simply, large family. The species accounts are good to excellent, giving a good balance of what's important about the plant's appearance, ecology and other aspects of interest, and the photos support the descriptions admirably. Again, a few minor points could have been improved, but generally these are unlikely to cause much confusion. For example, it is important to know, whether for restoration (potential to produce seed) or an aesthetic viewpoint (the attractiveness of fruiting plants is emphasized), that *Clematis linearifolia* is dioecious. This isn't mentioned. I was unsure how to interpret, without qualification, that care is needed to be taken because *Conostylis setigera* is 'likely to exhibit local genetic provenance issues'. The internodes of *Desmocladus flexuosus* are described as being 3–4 cm apart. It makes more sense that the nodes are so spaced. *Dianella revoluta* var. *divaricata* is described as often having 'inrolled' rather than recurved leaf margins. Although the relevant infraspecific entities are described for most species, *Eremophila glabra*, with several named candidate subspecies for the region, is described only as having 'a number of horticultural forms'. The 'flower and fruit' photograph of Exocarpus sparteus shows no fruit. It would probably be useful to know to what '*Lepidosperma sp. Coastal Dunes*' was most closely related, or by what name it may have been previously known. *Nitraria billardierei* is misspelt as 'billardieri'. Listen out for the 'tooted' margins of *Schoenus grandiflorus* (sorry).

Occasionally the precision lapses in what is probably intended to make the descriptions user-friendly. The indumentum of *Olearia axillaris*, 'a fine felt-like material', might have been better described without being bogged down in jargon. *Scaevola nitida* grows in 'thicket-like arrangements'. I wondered how these differed from simply 'thickets'. The inflorescences of *Oxalis pes-caprae*, described as 'heads' might be user-friendly, but is botanically inaccurate. The constant format of the descriptions is welcome, allowing for direct comparison between species and building familiarity with the format. The 'pollination' section often communicates some interesting relationships and adaptations, but when little seems to be known about some species' biology in this realm, speculation, or 'open pollinated by a variety of insects' seems underwhelming. Although it would challenge the consistency of presentation, maybe this section could be optional.

These minor criticisms are offered so that future editions may be refined, rather than to denigrate the work. The book is certainly good enough as a practitioner's and naturalist's manual to warrant it and the very reasonable price ($39.95) should make this even more likely.

A review of the "Flora of Hong Kong" volumes

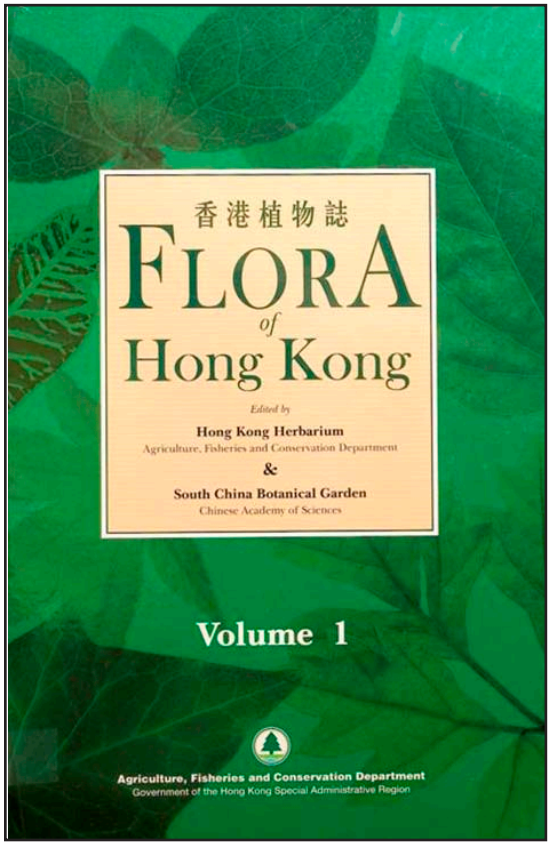
A.R. Bean
Queensland Herbarium

There have been two previous Floras for the Hong Kong area. Bentham's *Flora Hongkongensis* (Bentham 1861) and the *Flora of Kwangtung and Hongkong* (Dunn & Tutcher 1912). These are now out of date and out of print.

A modern Flora of Hong Kong has been completed in four volumes, perhaps one of the last "paper" floras we will see, given the proliferation of internet based flora data in recent times. The Flora is written entirely in English, with only the common names given in Chinese.

The first volume was published in 2007, and the last one was published in 2011. It is a remarkable achievement to complete this large project in just four years. The books are of A4 size, and are well set out and presented, although the font used is rather small, making it difficult for those with less than perfect vision. The volumes were edited by local botanists from the Hong Kong Herbarium and the South China Botanical Garden. The bulk of the treatments of families, genera and species have also been written by local botanists.

The geographical scope is the Hong Kong Special Administrative Area, encompassing Hong Kong Island, Kowloon and the "New Territories", which includes more than 200 other islands. The total land area is around 1000 square kilometres. This area is very mountainous, with the highest peak reaching 957 metres. Because of the mountainous terrain, there are considerable areas of natural or near natural vegetation remaining. The latitude of Hong Kong is between 22° N and 22.5° N, so the climate is tropical on the lowlands, or subtropical on the mountains.



The Gymnosperms (included in Volume 1) are arranged according to Kubitzki (1990), while the Angiosperm families are arranged according to Cronquist (1988). Ferns are not included.

The Flora covers native, naturalised and commonly cultivated species. Nowhere have the editors indicated just how many species are treated in the four volumes, but in the Foreword, it is stated that about 2100 species are native.

The following format is used:

> For each species, the author(s) and place of publication are supplied, and synonyms relevant to the Hong Kong area have been given. The comprehensive descriptions (between 200 and 300 words) use botanical terminology, but there are illustrations of the morphological terms used at the rear of each volume. The keys are particularly pleasing; they are of the indented dichotomous type, and are concise and easy to use.

One to several Hong Kong localities are specified, then there is a brief summary of the distribution, firstly elsewhere in China, then occurrences elsewhere in Asia and the world. This is followed by notes on ecology and phenology, although the ecology section is often very brief e.g. "Woods"; then finally a "Uses" section that briefly and broadly categorizes the use made of the species e.g. medicinal, food, ornamental.

Hidden away in the introduction to the Flora volumes, it is stated that "A taxon exotic to Hong Kong is indicated under 'Locality' after the current records of localities". One must therefore assume that all species without wording to the contrary (i.e. cultivated, naturalized) are considered native to Hong Kong. For some species, there is cause to doubt the native status. For example, *Corchorus aestuans* is recorded from several locations without comment on its nativeness, but under ecology it is recorded from "wastelands, roadsides and near villages", suggesting that it is naturalised. *Anagallis arvensis* is recorded as "Cultivated", but the Ecology section records it from "cultivated areas, wastelands, roadsides", suggesting that it too is naturalised.

Generic circumscription differs in some cases from that used in other countries/floras. For example, *Polygonum* is used in the broad sense, and there is no mention of *Persicaria*, a generic name used, at least in Australia and North America, for several of the Hong Kong species. It is unfortunate that the editors have

not mentioned any alternative classifications for *Polygonum*, nor listed the *Periscaria* combinations in the synonymy.

The vast majority of genera treated have a line drawing for at least one of the included species. There are 233 line drawings in Volume 1, 251 for Volume 2, 295 for Volume 3 and 271 for Volume 4 – a grand total of 1050. The main contributor of illustrations was H.P. Yu, who must have been kept very busy indeed. All drawings (except for family Malvaceae, Volume 1) occupy a quarter-page. The line drawings are well executed, showing the diagnostic parts of the plant, and the high quality is maintained throughout the volumes. Strangely, there is no indication of scale for any of the drawings.

At the end of each volume is a compendium of colour photographs taken from live plants of species that are treated in that volume. The photos show flowers and/or fruits and are nearly all of high quality. The number of colour photos is impressive – 521 in Volume 1; 488 in Volume 2; 540 in Volume 3; and 673 in Volume 4. A total of 2222 photos!

Volumes 1, 2 and 3 all feature a special essay preceding the taxonomic treatments. In Volume 1, it is a Historical Account of the flora of Hong Kong; in Volume 2, it is about the changes in the Vegetation of Hong Kong, and in Volume 3, it is about Flora Conservation in Hong Kong. All are illustrated, well written and informative.

I have no hesitation in recommending this excellent flora for anyone interested in tropical and subtropical plants. A surprising number of species included in this Flora are also present in northern Australia.

References

Bentham, G. (1861). *Flora Hongkongensis*. L.Reeve: London.

Cronquist, A. (1988). *The Evolution and Classification of Flowering Plants (2nd edition)*. New York Botanical Garden, New York.

Dunn, S.T. & Tutcher, W.J. (1912). Flora of Kwangtung and Hong Kong (China). *Kew Bulletin of Miscellaneous Information, Additional Series* 10: 1-370.

Kubitzki, K. (1990). *The Families and Genera of Vascular Plants, Volume 1, Pteridophytes and Gymnosperms*. Springer, New York.

Books of interest

***Medicinal Plants in Australia Volume 2: Gums, Resins, Tannin and Essential Oils* . By Cheryll Williams**
285 x 210 mm, 344 pages, >650 colour plates.
ISBN9781877058943, $69.95, Hardcover
Rosenberg Publishing, 2010.

This is the second book in a proposed 4-volume series, *Medicinal Plants in Australia.* It looks in greater detail at the main products of commercial and medicinal value from the Australian flora. The earlier volume, *Bush Pharmacy*, presented the medicinal history of Australia's flora, its contributions to everyday life, and its future potential. Volume 3 will deal with toxic plants and medicines and the 4th will moves to a unique aspect of the flora - ancient species from the rainforests and tropical regions. So far I have only dipped into this volume, but in my defence, it is that sort of book. Highly, and very well, illustrated and with much of the more interesting information presented in colour panels separate from the narrative. A lot of the historical information owes much to J.H. Maiden and his name certainly appears quite frequently in the copious references. See *www.rosenbergpub.com.au/handleProduct.asp?id=114&catid=7*

***The Biggest Estate on Earth: How Aborigines Made Australia.* By Bill Gammage**
Publisher: Allen & Unwin, 2011
ISBN: 1742377483
Dimensions: 25.0 x 18.0 cm (1.24 kg)
AUD$49.99

This book is probably deserving of a review in the Newsletter but for the moment this is the blurb from the publishers – and of course you can always Google to find reviews on the web since the book has already attracted some attention.

Across Australia, early Europeans commented again and again that the land looked like a park. With extensive grassy patches and pathways, open woodlands and abundant wildlife, it evoked a country estate in England. Bill Gammage has discovered this was because Aboriginal people managed the land in a far more systematic and scientific fashion than we have ever realised.

For over a decade, he has examined written and visual records of the Australian landscape. He has uncovered an extraordinarily complex system of land management using fire, the life cycles of native plants, and the natural flow of water to ensure plentiful wildlife and plant foods throughout the year. We know Aboriginal people spent far less time and effort than Europeans in securing food and shelter, and now we know how they did it.
With details of land-management strategies from around Australia, The *Biggest Estate on Earth* rewrites the history of this continent, with huge implications for us today. Once Aboriginal people were no longer able to tend their country, it became overgrown and vulnerable to the hugely damaging bushfires we now experience. And what we think of as virgin bush in a national park is nothing of the kind. Bill Gammage is a historian and adjunct professor in the Humanities Research Centre at the Australian National University.

***Alexander Collie, Colonial surgeon, Naturalist & Explorer.* By Gwen Chessell**
Paperback, 230 x 153 mm
224 pages
ISBN 9780980296532
UWA Press, AUD$39.95

The University of Western Australia Press website *http://uwap.uwa.edu.au/books-and-authors/book/alexander-collie* summarises this interesting book as follows:

> As a surgeon aboard the HMS Sulphur, Collie accompanied Lieutenant-Governor James Stirling to Western Australia's fledgling Swan River Colony in 1829. With the assistance of his Aboriginal guide, Collie's expeditions across the state's southwest yielded many botanical, geographical and meteorological discoveries essential to the colony's expansion and development over subsequent decades. Containing maps and archival images, Alexander Collie also provides new insights into the mind of an innately inquisitive nineteenth-century world traveller and humanist, who sought to bridge the divide between European and Indigenous communities.

Robyn Barker

Websites of interest

Wallich and Indian Natural History

In early December 2011 there was a conference at the Royal Botanic Gardens, Kew, devoted to the Danish botanist Nathaniel Wallich and his role in the documentation of Indian Natural History. Audio presentations can be accessed through a new Kew website which also provides links to Wallich's specimens, drawings and correspondence. The correspondence indicates that nothing has changed – in order to extend his stay in England to complete his 3 volume *Plantae Asiaticae Rariores or Descriptions and figures of a select number of unpublished East Indian plants* he had to make sure that any credits for his work were given to the directors of the company employing him, the East India Company.

See *www.kew.org/collections/wallich/index.htm.*

Amalie Dietrich's specimens in Hamburg

Although it was some time ago note Hannah McPherson's account of her work in Herbarium

Hamburgense on the documentation of the Amalie Dietrich specimens. Hopefully they may be made available on line eventually.

See *www.rbgsyd.nsw.gov.au/science/Herbarium_and_resources/Amalie_Dietrich*

A new booklet from the Taxonomy Research & Information Network

Issue two, *Accelerating discovery,* is the second and last online booklet highlighting the products, outcomes and protocols from the TRIN research projects, designed to assist with the identification and conservation of Australia's biodiversity.

The CERF-funded Taxonomy Research & Information Network has now come to an end, but its products and outcomes continue to be presented on the TRIN website at *www.taxonomy.org.au* and on the TRIN Wiki at *http://wiki.trin.org.au.*

Robyn Barker

Current and coming exhibitions

Napoleon exhibition at the National Gallery of Victoria

2nd Jun 2012 – 7th Oct 2012

Napoleon: Revolution to Empire is a panoramic exhibition examining French art, culture and life from the 1770s to the 1820s. Its story runs from the first French voyages of discovery to Australia during the reign of Louis XV to the end of Napoleon's transforming leadership as first Emperor of France.

Napoleon and his wife, Joséphine, fascinated by the newly discovered continent, Australia, the southern part of which had been named Terre Napoléon by French navigators, filled Joséphine's hothouses with dozens of exotic new plants and flowers, as well as furnishing their home at Malmaison with a private menagerie of kangaroos, emus and black swans.

As well as telling the remarkable story of France's close involvement with Australia in the early 1800s, *Napoleon: Revolution to Empire* brings to Australia for the first time hundreds of objects of breathtaking opulence and luxury – paintings, drawings, engravings, sculpture, furniture, textiles, porcelain, glass, gold and silver, fashion, jewellery and armour.

See www.ngv.vic.gov.au/whats-on/exhibitions/exhibitions/napoleon

Travelling von Guerard exhibition visits Canberra and Queensland

Eugene von Guerard: Nature Revealed features over 150 artworks, including some never-before-seen landscape paintings and sketchbooks. The exhibition includes von Guerard's depictions of Australia's gold rush, mid-19th century Melbourne and his expeditions through Victoria, South Australia, New South Wales and New Zealand. It also features paintings from his time in Germany and Italy.

The exhibition was at the National Gallery of Victoria in 2011 and around two-thirds of the paintings have now been shifted to the Queensland Art Gallery where they will be on display until 25 March 2012 following which they will move to the National Gallery of Australia (27 April to 15 July 2012).

Chapter Conveners

Adelaide
Robyn Barker
State Herbarium of South Australia
Department for Environment and Heritage
PO Box 2732
Kent Town, SA 5071
Tel: (08) 8222 9348
Email: robyn.barker@sa.gov.au

Armidale
Jeremy Bruhl
Department of Botany
University of New England
Armidale, NSW 2351
Tel: (02) 6773 2429
Email: jbruhl@une.edu.au

Brisbane
Laurie Jessup
Queensland Herbarium
Mt Coot-tha Road
Toowong, Qld 4066
Tel: (07) 3896 9320
Email: laurence.jessup@derm.qld.gov.au

Canberra
Vacant

Cairns
Mark Harrington
Australian Tropical Herbarium
PO Box 6811
Cairns QLD 4870
Tel: (07) 4042 1769
Email: mark.harrington@jcu.edu.au

Darwin
Philip Short
Northern Territory Herbarium
Parks and Wildlife Commission of the NT
PO Box 496
Palmerston, NT 0831
Tel: (08) 8999 4512
Email: philip.short@nt.gov.au

Hobart
Vacant

Melbourne
Frank Udovicic
Royal Botanic Gardens Melbourne
Birdwood Avenue, South Yarra, Vic. 3141
Tel: (03) 9252 2313
Email: frank.udovicic@rbg.vic.gov.au

Perth
Kristina Lemson
Plant Systematics and Conservation
Centre for Ecosystem Management and School of Natural Sciences, Edith Cowan University, Joondalup WA 6027
Tel: (08) 6304 5369
Email. k.lemson@ecu.edu.au

Sydney
Hannah McPherson
National Herbarium of NSW
Mrs Macquaries Road
Sydney, NSW 2000
Tel: (02) 9231 8111
Email: hannah.mcpherson@rbgsyd.nsw.gov.au

Contacting Major Australian Herbaria and Systematics Institutions

From outside Australia: add the country code 61 and omit the leading zero of the area code

AD tel: (08) 8222 9307 fax: (08) 8222 9353 www.flora.sa.gov.au	HO tel: (03) 6226 2635 fax: (03) 6226 7865 www.tmag.tas.gov.au/ Herbarium/Herbarium2.htm	MEL tel: (03) 9252 2300 fax: (03) 9252 2350 www.rbg.vic.gov.au/	NSW tel: (02) 9231 8111 fax: (02) 9251 7231 www.rbgsyd.gov.au/conservation_research/herbarium_&_services
CANB tel: (02) 6246 5108 fax: (02) 6246 5249 www.anbg.gov.au/	BRI tel: (07) 3896 9321 fax: (07) 3896 9624 www.derm.qld.gov.au/herbarium	DNA tel: (08) 8999 4516 fax: (08) 8999 4527 www.nt.gov.au/pwcnt	PERTH tel: (08) 9334 0500 fax: (08) 9334 0515 http://science.dec.wa.gov.au/herbarium/
CNS Tel: (07) 4042 1837 Fax: (07) 4042 1842 www.ath.org.au/	New Zealand Herbaria AK, CHR, WELT to be included	NT tel: (08) 8951 8791 fax: (08) 8951 8790	*Australian University Herbaria* Contact CHAH representative: Murray Henwood, University of Sydney
	ABRS tel: (02) 6250 9417 fax: (02) 6250 9555 email: abrs@environment.gov.au www.environment.gov.au/biodiversity/abrs/	*Council of Heads of Australasian Herbaria* (CHAH) Chair:Dr Kevin Thiele (PERTH) kevin.thiele@dec.wa.gov.au www.chah.gov.au/	

ASBS Publications

History of Systematic Botany in Australia

Edited by P.S. Short. A4, case bound, 326 pp. ASBS, 1990. $10; plus $10 postage & packing.

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

Only a few copies left!—available only from the Treasurer.

Systematic Status of Large Flowering Plant Genera

Austral.Syst.Bot.Soc.Newslett. 53, edited by Helen Hewson. 1987. $5 + $1.75 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 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.

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.

Postage rates: Those quoted apply only within Australia. Please email for prices to other locations. Send **orders and remittances** (payable to "ASBS Inc.") to:

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AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

The Society

The Australasian 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 1 January each year.

The ASBS *annual membership subscription* is AU$45; 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 Website. 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 *Australas. Syst. Bot. Soc. Newslett.*

Contributions

Send copy for December 2011 and March 2012 issues to Robyn Barker at the address given on page 27 under Chapter Convenors/ Adelaide. They *preferably* should be submitted as: (1) an MS-DOS file in the form of a text file (.txt extension), (2) an MS-Word.doc file, (3) a Rich-text-format or .rtf file in an email message or attachment or on an MS-DOS disk or CD-ROM. *Non-preferred media* such as handwritten or typescripts by letter or fax are acceptable, but may cause delay in publication in view of the extra workload involved.

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

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

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

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

Advertising

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

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

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

Editors

Russell Barrett Kings Park & Botanic Garden Fraser Ave West Perth, WA 6005 Tel: (08) 9480 3640 Fax: (08) 9480 3641 Email: russell.barrett@bgpa.wa.gov.au	Peter Jobson (ENV Australia) 8B High View Road Greenmount WA 6056 Email: peter.jobson@env.net.au	**Book Reviews**: John Clarkson Department of Environment and Resource Management, PO Box 156 Mareeba, Qld 4880 Tel: (07) 4048 4745 Email: John.Clarkson@derm.qld.gov.au

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