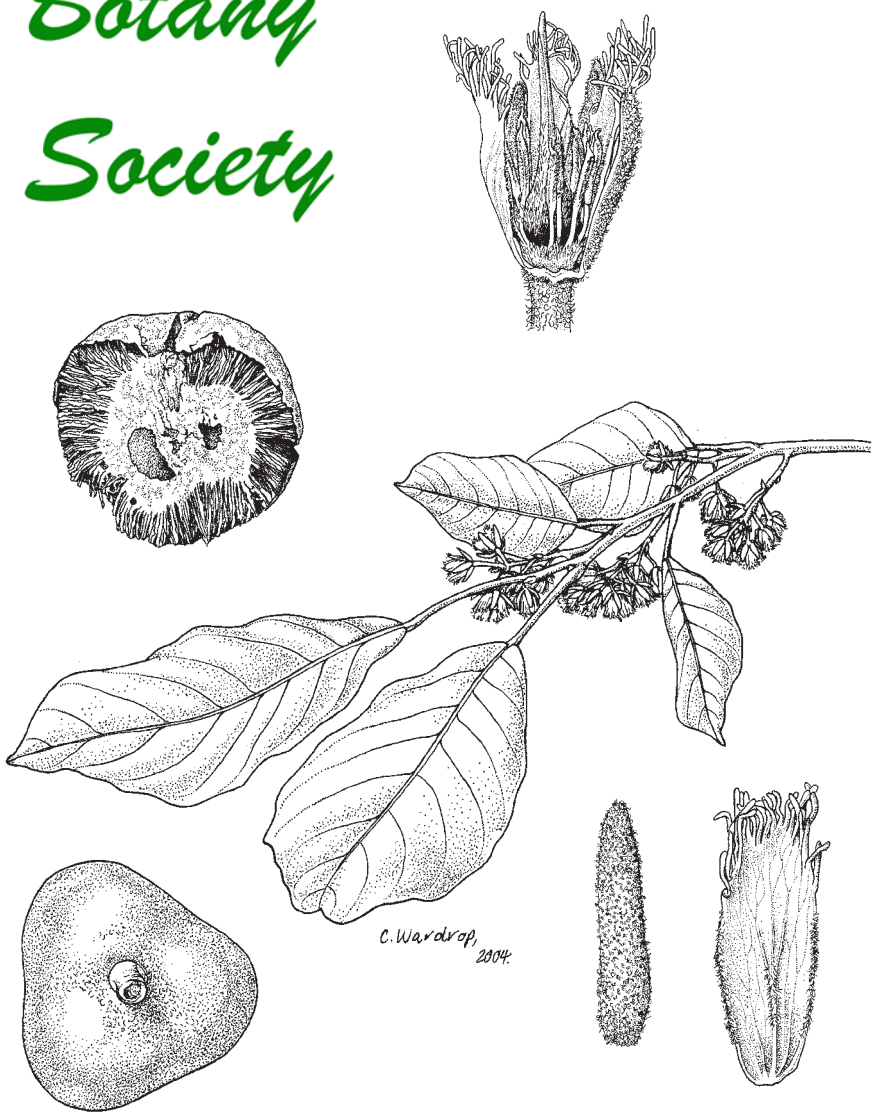
ASBS

Australasian Systematic Botany Society



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AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

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Marlies Eichler Postdoctoral Fellowship:
on July 31st each year.

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Cover image: *Elaeocarpus sedentarius* Maynard & Crayn. Leafy twig with clockwise from top: open flower, petal, sepal, proximal end of fruit, longitudinally sectioned fruit. *Artist*: Catherine Wardrop (NSW). *With permission of* CSIRO Publishing.

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From the President

Welcome to the first report for 2017. I hope everybody had a wonderful, refreshing break over the Christmas-New Year period and has begun 2017 with renewed vigour. The year is off to a flying start ...

Decadal Plan for Systematics and Taxonomy

I'm pleased to report that the funding proposal for the Decadal Plan for Systematics and Taxonomy mooted in my last President's report has been submitted (via the Australian Academy of Science) to the Ian Potter Foundation. We should be in a position to report on the outcome in the next *ASBS Newsletter*. If it is successful, the seriously hard work will begin, and we will need more of the community to engage and deliver than has been the case so far. A number of people have been instrumental in getting the idea this far and they deserve our congratulations. They know who they are, but I'll mention four in particular: Kevin Thiele, Ilse Breitwieser and Bill Barker furnished much of the initial vision and muscle required to get the ball rolling and keep it in motion, and Katharina Schulte has expertly coordinated the development group with both charm and efficacy over the last year or so.

New ASBS postdoctoral grants: Marlies Eichler Postdoctoral Fellowship

I'm exceptionally pleased that the Society is finally able to announce a new grant scheme – the Marlies Eichler Postdoctoral Fellowship. Members will recall that the late Marlies Eichler, wife of the celebrated Australian plant taxonomist Hansjörg Eichler, passed away a few years ago. In addition to the substantial annual donations she made to the Eichler fund in the years since Hansjörg's passing, she honoured the Society in her will. It is that extraordinarily generous gesture that has resulted in the Society being able to offer this new Fellowship. Members of the ASBS Grants Policy Standing Committee and previous Vice President Mike Bayly began this process and current Vice President Dan Murphy has shepherded it to its conclusion. All are warmly thanked and congratulated for their efforts. This is a great outcome for the Society, a fitting way to honour the Eichlers' legacy and generosity, and we hope a valuable additional support mechanism for our early career professionals, our discipline's future. A full account of the Fellowship including eligibility and assessment criteria are provided in the following pages.

Systematics 2017: Joint ASBS-SASB conference Adelaide, 26–29 Nov 2017

Preparations for the joint meeting of your society and the Society of Australian Systematic Biologists (SASB) are in full swing. Themed *Integrating Systematics for Conservation and Ecology*, this opportunity to meet with our non-botanical colleagues is a rare joy. The last joint meeting – Sydney 2013 – was a runaway success not only scientifically, but also financially through the boost it provided to the Society's coffers. I have every confidence the upcoming Adelaide meeting will be just as great and I strongly recommend that all make plans to attend and contribute. The conference conveners have invited proposals for conference symposia. Please send these to one of the conveners. Keep a close eye on, or better, subscribe to the conference website for news and announcements.

Conference web site:
https://systematics.ourplants.org/

Conveners: *michelle.waycott@adelaide.edu.au* and *andy.austin@adelaide.edu.au*

Call for nominations for Burbidge Medal

I'd like to remind members that they are invited to nominate candidates for consideration for the Burbidge Medal. The Burbidge Medal is awarded to an individual who has made a longstanding and significant contribution to Australasian systematic botany and is the highest honour the Society can confer. Previous recipients are listed (as Burbidge lecturers) on the ASBS website on the history of conferences page (Web ref.). Nominations should include a written proposal sent to the Secretary (*j.tate@massey.ac.nz*) or *secretary.asbs@gmail.com*).

Web ref. *www.asbs.org.au/asbs/conferences.html*

Darren Crayn
President, ASBS

Issue of concern

Specimen destruction update for our members

Michelle Waycott
Chair, Council of Heads of Australasian Herbaria

Catastrophically, two incoming loans of herbarium specimens have been destroyed by the Commonwealth Department of Agriculture and Water Resources (DAWR) on arrival in Australia. The two consignments had been shipped to Brisbane and Canberra from the Muséum National d'Histoire Naturelle (Paris, France) and from the Allan Herbarium (Christchurch, New Zealand).

The Managers of Australasian Herbaria (MAHC), a CHAH subcommittee, have been proactively seeking to resolve how future importing of specimens will be handled through engagement with DAWR. A clear and balanced request proposing clarification on the options and procedures for importing specimens to Australian herbaria has been sent to the DAWR's Plant Import Operations Branch, Plant Biosecurity Division following discussion with DAWR staff.

Already, as a result of this, all New Zealand herbaria have ceased shipping loans to Australia. CHAH members have endorsed this approach by New Zealand herbaria and this will stay in place until the matter is resolved.

CHAH recommends that all institutions be prepared to limit the risk associated with specimens coming into Australia. Likewise most Australian herbaria now already consider it too risky to allow the return of their own specimens from international herbaria until this matter is resolved.

This terrible destruction of irreplaceable scientific specimens has enormous negative implications to the reputation of Australian scientific institutions. The risk of international herbaria refusing to loan or exchange specimens with Australian herbaria will lead to hampering of our ability to conduct research in a field where we currently have a strong international reputation.

I applaud the work of the MAHC committee, under the current leadership of Frank Zich (CNS), supported my Pina Milne (MEL), Gill Brown (BRI) and Brendan Lepschi (CANB) who have been actively seeking a solution.

ASBS Inc. business

ASBS postdoctoral grants: Marlies Eichler Postdoctoral Fellowship

The ASBS Council would like to announce our new ASBS postdoctoral funding scheme, the Marlies Eichler Postdoctoral Fellowship. The fellowship is named in honour of Marlies Eichler, a life member of the Society, whose extraordinary generosity over many years made this funding possible

On the page opposite are details of the Fellowship and in the coming weeks the ASBS website will be updated to include further details and an application form for the new grant. Applications for the first round will be due on 31 July 2017.

Thanks and acknowledgement to the ASBS Grants Policy Standing Committee, and in particular Mike Bayly, for all their work in designing the grant scheme, including detailed recommendations and documentation for the scheme's implementation. We look forward to and welcome the initial round of applicants for the scheme!

Dan Murphy
Chair of ASBS Research Committee

Australasian Systematic Botany Society Inc.

Marlies Eichler Postdoctoral Fellowship

Aim

These grants aim to support research in systematic botany and the career development of recent PhD graduates, by providing top-up funds to researchers already successful in attracting other postdoctoral support. Such top-ups are considered useful because many postdoctoral schemes are not fully funded, in terms of either salary or research costs, and this can limit the research and career opportunities of early career systematists. It provides strategic support to already successful early career systematists and aims to facilitate quality research in systematics and also help recent graduates to capitalise on postdoctoral opportunities and improve their competitiveness for more permanent positions.

Eligibility

These grants are for research projects focused on the systematics of plants, algae or fungi. This can include studies of taxonomy, phylogeny and biogeography.

Grants are open to applicants who meet the following criteria.

1. Are members of the Australasian Systematic Botany Society.
2. Hold a PhD relevant to systematics of plants, algae or fungi that was completed within the last 10 years. At a minimum, a PhD must be completed (letter of acceptance by university) by the commencement of grant funding. Exceptions on the 10 year limit will be considered for applicants with career interruptions associated with family commitments or other extenuating circumstances.
3. Hold a short-term postdoctoral position at an Australasian research institution. Generally this includes postdoctoral fellowships obtained on a competitive basis from funding agencies (e.g. Australian Biological Resources Study, Australian Research Council, Marsden Fund), or through internal institutional schemes (e.g. university postdoctoral fellowship grants). Other postdoctoral positions will also be considered, but Applicants with ongoing salaried positions are not eligible for these grants.

Size and duration of grants

The grant scheme will provide two years of funding. Up to $10,000 (AUD) per year is available, and a maximum of $20,000 over the two years. Funds can be spent on salary for the applicant or project costs (including consumables, essential minor equipment <$5,000, travel associated with fieldwork, contracted services such as DNA sequencing, technical assistance).

Assessment criteria

Applications will be judged on: research track record of the applicant, relative to opportunity (40%); merit of the research project (40%); and value for money (20%), which includes the value of the grant in supporting the activities of recipient, and the nature of additional research the grant will facilitate.

Timing

Grant applications will close on July 31. Funding for successful applicants will commence from November 1, after the completion of necessary agreements.

Grant conditions

Recipients and their institutions must be able to agree to our standard grant conditions (available as a separate document).

Eichler Research Fund report

Three novel species of red algal parasites in New Zealand

Maren Preuss
Victoria University of Wellington, New Zealand (*Maren.Preuss@vuw.ac.nz*)

Red algae are a very diverse group of photosynthetic eukaryotes. Many red algae, up to 15% of named genera (Goff, 1982), are also parasites on other red algae. Parasitism in red algae has evolved independently multiple times (Salomaki & Lane, 2014). The characters to define red algal parasites are deep penetration of the parasite beyond the superficial host cells and reduction of colour and size (Setchell, 1918). Their small size is one reason why they are easily overlooked and red algal parasites are still being described (Kim & Cho, 2010; Kraft et al., 2002; Preuss & Zuccarello 2014; Townsend & Huisman 2004; Vérges et al. 2005). Red algal parasites are also unique in that they transfer organelles and nuclei into the host cells and thereby control the host cells for their benefit (Goff & Coleman, 1985). The abundance of red algal parasites and their unique development makes it crucial to understand their biodiversity and evolution.

The majority of red algal parasites are taxonomically closely related to their hosts, but there seems to be a continuum from closely related to distantly related parasites and hosts (Blouin & Lane, 2012). Parasite-host relationships can be complicated by host switching. An understanding of the evolution of parasite origin and host switching may provide insights into how parasites control their hosts. For example: are the parasite sequences similar to host sequences (evolved from their hosts)? Do all markers (mitochondria, nuclear, plastid) show the same relationships between host and parasite (possible signs of host switching)?

Mitochondria and nuclear sequences can be different between host and parasite and this is thought to reflect the origin of the parasite. rRNA and COI genes showed no differences between sequences of the parasite *Janczewskia morimotoi* Tokida and its host *Laurencia nipponica* Yamada, which suggests that the parasite evolved recently from *L. nipponica* (Kurihara et al. 2010). In the parasite *Faucheocolax attenuata* Setchell, rRNA and ITS data revealed that the parasite is more closely related to one host, *Fauchea laciniata* J.Agardh, than to another host, *Fauchea fryeana* Setchell, which suggests that the parasite evolved on *Fauchea laciniata* but now also infects another closely related species (Goff et al., 1996). rRNA data from the parasite *Harveyella mirabilis* (Reinsch) F.Schmitz & Reinke revealed that the parasite has a single origin but switched hosts several times and grows on many distantly related species: *Rhodomela confervoides* (Hudson) P.C.Silva, *Odonthalia washingtoniensis* Kylin and *Gonimophyllum skottsbergii* Setchell (Zuccarello et al. 2004).

The first plastid sequence studies showed that host and parasite plastids were identical, suggesting that the parasite retained the plastid from its host (Goff & Coleman, 1995). Recent chloroplast studies showed that in one parasite (*Congracilaria babae* H.Yamamoto) and host (*Gracilaria salicornia* (C.Agardh) E.Y.Dawson) combination, plastids from *G. salicornia* were retained when the parasite switched host to another species (Ng et al. 2014). Whole plastid genome sequencing also revealed that the red algal parasite *Choreocolax polysiphoniae* Reinsch contained both a host plastid and its own unique plastid (Salomaki et al. 2015).

Traditionally, new red algal parasites were described as new genera distinct from the host. This taxonomic separation is especially problematic in closely related parasite and host combinations in which the parasite is nested within the host genus (Preuss & Zuccarello, 2014; see example in Fig. 1). Modern phylogenies, which highlight monophyly in taxonomic nomenclature, indicate that parasites may need to be congeneric with their morphologically distinct hosts (Ng et al., 2014; Preuss & Zuccarello, 2014).

Proper sampling, in new areas and new populations, is necessary to understand the full diversity of parasites (new species) and variation within parasites and hosts. Comparisons between different locations are

essential to understand the range of genetic variation within parasite and hosts and the relationships between hosts and parasites.

Only a few parasites have been studied with molecular methods and the present phylogenetic patterns (Blouin & Lane, 2012) may not necessarily represent all possible evolutionary scenarios. Many parasites have not been properly described, nor is their relationship to their hosts understood.

There are currently ten, mostly poorly described, red algal parasites in New Zealand but the diversity is suspected to be much higher. Previous field trips on the South Island and North Island in New Zealand and herbarium searches at the Museum of New Zealand Te Papa Tongarewa revealed several undescribed parasites. This shows that the biodiversity of red algal parasites is under-represented and that many parasite and host combinations can be used for phylogenetic comparisons and need describing.

Fig. 1. *Rhodophyllis parasitica* (indicated by white arrows) growing on *Rhodophyllis membranacea*.

My PhD thesis looks at diversity of red algal parasites, development, and host dependency and organelle genome evolution. Knowledge of many red algal parasites, for example their evolution, is quite limited and based on only a few examples. I want to change this and think New Zealand gives us a unique opportunity to do so. Here I will be focusing on the diversity part of my thesis.

The Chatham Islands are a remote archipelago 800 km from the South Island of New Zealand, with only the two biggest islands (Chatham Island, Pitt Island) being inhabited. The islands have a rich cultural background of the indigenous Moriori people and a rarity of bird, plant and algae species of which many are endemic and poorly studied.

With different interests in algal diversity Roberta D'Archino (NIWA), Christian Boedeker (Victoria University of Wellington) and I spent 16–21 March 2016 on Chatham Island. This provided a unique opportunity to explore its diverse range of habitats from sandy beaches to rocky shore (Fig. 2).

I targeted the three red algal species: *Cladhymenia oblongifolia*, *Polysiphonia aterrima* and *Phycodrys novae-zelandiae* and their associated parasites. All three species have undescribed parasites. We were able to collect samples from all host species except *Phycodrys*. Unfortunately, none of those had any parasites growing on them, but we were able to find the red algal parasite *Rhodophyllis parasitica* and an undescribed parasite on *Plocamium*.

Mitochondrial, nuclear and plastid marker showed all three parasites are more closely related to their host than the host is to other species in the same genus. The close relationship suggests that the parasites evolved from their host species. Surprisingly, the parasite growing on *Cladhymenia oblongifolia* showed slight differences in plastid markers. Similarities of the reproductive structure in all three host and parasite combinations confirms the close relationship between host and parasite. Currently I am progressing a manuscript describing these three new parasite species.

Acknowledgement

I would like to thank the Australasian Systematic Botany Society for supporting this work through the Hansjörg Eichler Fund. I also thank Dr. Joe Zuccarello and Dr. Wendy Nelson for their support and advice in my research.

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Fig. 2. Chatham Islands habitat: Waitangi harbour (upper left corner), Waitangi beach (upper right corner), Hapupu Reserve (lower left corner) and Point Munning (lower right corner).

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Articles

Indirect descendants of Robert Brown: introducing a note from a descendant

Robyn Barker
State Herbarium of South Australia

The article below was first published in *The Linnean* in 1988 (volume 4, pages 38-43), the bicentenary year of the formation of the Linnean Society of London and the same year in which Australians also marked the bicentenary of the First Fleet's arrival in Australia. The author of the article, Miss M.E. Brown, is a collateral descendant of Robert Brown, Brown having had no lineal descendants. Miss Brown wrote to me late last year indicating that she was concerned that Robert Brown's name was "almost unknown" despite Mabberley's description of him as "arguably Britain's greatest botanist" and she was seeking to "rescue him from oblivion".

My response to Miss Brown was to indicate that though Brown might not be well known in Britain he certainly was in Australia and I was able to point to all of the activities in each of the states surrounding the bicentenary of Brown's visit as part of the Flinders' voyage and the conferences with their resultant publications (documented in *ASBS Newsletters* 109–111). The involvement of ASBS members and the Society, through their support of David Mabberley's public lectures in each of the states, along with the publication of Brown's diary, meant that there was considerable focus on Brown by both the botanical and the wider community at this time. It was also pointed out that the Brown collections in Britain were amongst the most crucial for consultation by Australian systematists, most of whom would have had to deal with Brown names as part of their studies.

In checking some of what Miss Brown had written (there are no references and so it is not always clear what her information source is) Mabberley's *Jupiter Botanicus* was consulted. From the family tree given there in fig. 2 it seems that Miss Brown is a descendant of the other James Brown listed in the tree (Robert Brown's father was Bishop James Brown) and, from what she has written below, it can be confirmed that there was a James Brown who was the Provost of Dundee from 1844–1847[1]. If James was indeed involved in flax-spinning as mentioned by Miss Brown, then his brother William was the author of a book *Reminiscences of Flax Spinning*, published in 1862, and some further information about their immediate family is given in the background to that publication on the Archives Hub[2]. James's birth and death dates are recorded as 1787 and 1869 respectively and his father was also James Brown[3]. The name James Brown is extremely common in Scotland and this has been exacerbated by the propensity of Scottish families to perpetuate the name of the father in their first born son. Narrowing one's search down to the correct person can be extremely difficult as I have found in my research into John Ednie Brown, second Conservator of Forests in South Australia, whose father was also James Brown. In this case his being the author of a long established publication on forestry, first published in 1847[4], did help somewhat.

Revisiting *Jupiter Botanicus* also revealed another Brown connection which had been forgotten about. In November 1997 we were the recipients of a letter from a Gordon Sutherland of Abriachan[5], a rural community southwest of Inverness in the Highlands above Loch Ness where my cousin lives. Gordon

1 *https://www.dundeecity.gov.uk/dundeecity/uploaded_publications/publication_69.pdf*

2 *https://archiveshub.jisc.ac.uk/data/gb254-ms198*

3 *www.fdca.org.uk/1816_JamesBrown.html*

4 Brown, James (1847) *The Forester, being plain and practical directions for the planting, rearing, and general management of forest trees.* (William Blackwood and Sons': Edinburgh). Revised editions with slight changes to the title were published in 1851, 1861, 1871, 1882, 1894 and 1905, the latter two edited by John Nisbet.

5 Gordon was a botanist and geologist and clearly an interesting character. You can read more about him in this 1980 feature at *https://www.scotsmagazine.com/articles/tom-weir-sutherlands-law/*. My cousin in Abriachan, Jo Hawco, informs me that he died some 10 years ago.

had made the acquaintance of another visiting cousin and through her had addressed a letter to us enquiring as to the whereabouts of a portrait of his ancestor, Robert Brown, which had hung in his mother's house and which had, on her death some three years earlier, been sold at Sotheby's[1]. He thought that it had probably gone to Australia, mentioning that in the past Nancy Burbidge had made enquiries about it, as had the Universities in Canberra and Sydney and there was also a request to borrow it for the Australian bicentenary. I am fairly sure that we would have suggested that Gordon contact David Mabberley to find out about the painting but we never heard an outcome. Searching for such information is much easier now and it would appear that the portrait might be held in the National Library of Australia[2]. No obvious date of acquisition is given but it was exhibited by the library in 1996 and the notes indicate that it is a copy of the original Pickersgill portrait in the Linnean Society which was done for the Paton family around 1864; it bears a striking resemblance to the Sotheby rendition.

The only other Brown descendant encountered was almost certainly a spurious one. Said descendant was made much of at one of *The Encounter 2002* celebrations in South Australia based only on the claim that she had once been told by her mother that she was related to someone on *The Investigator* – she didn't know whom, but when a number of names were listed she thought Brown might have been the name…

[1] Presumably Sotheby's Lot 65, 13/7/94 shown at *www.akg-images.co.uk/archive/Portrait-of-Dr-Robert-Brown-the-Botanist-(1773%E2%80%931858)-2UMDHUNY0D_3.html*

[2] *http://catalogue.nla.gov.au/Record/1977130*

Robert Brown

Miss M.F. Brown
Kingston, United Kingdom

[1]In the early June 1858 in a corner of Soho Square, London, an old man died in the house where he had lived and worked for nearly half a century. There had been some doubt how much longer he could stay there, and then illness intervened. His closest friend and doctor, Francis Boott, could have prolonged his life with drugs, but he chose to do without them. With a calmness and clearmindedness which had characterised his long life, Robert Brown faced the end, sustained by visits from Dr Boott and other close friends, though the physical comforts were, as always, rather low. A week after his death, Darwin received the famous letter from Wallace on the evolution of species.

Robert Brown had always kept silent on his own religious views. This was part of his naturally reticent personality. Son of a clergyman, James Brown, in Angus, he grew up in an atmosphere of continuing religious turmoil, with memories of the "killing times" still fresh. His great great grandfather, John Brown, a farmer in Bolshan (pronounced Bo'shun and deriving from the French 'beau champs') died around 1700. Robert Brown's grandfather, also John, elder of the Established Church, supported Charles Stewart [Stuart] in the Forty-five Rising, and, using Kinnell Kirkyard as a rendezvous, he recruited Jacobites, as Captain in Lord Ogilvie's regiment. He died at Culloden and his son, James, refused allegiance to the House of Hanover. After Prince Charles death, James was the only clergyman publicly to pray for the House of Stewart – a strange position as Charles' successor, Henry Stewart, was a Cardinal. James Brown's cousin, James Brown of Cononsyth, great great great great grandfather of the writer, was a leading figure in the Scottish flax-spinning industry. This work was carried on and expanded by his four sons. The eldest, also James, became Provost of Dundee in 1844, some years after the visit of the eminent botanist. James championed liberal causes like worker's education and parliamentary reform. He visited America and one of his sons eventually settled there.

Originally destined for a medical career, Robert Brown assumed the post of Assistant Surgeon with the Fife Fencibles in 1795 and in this capacity served in Ireland. It seems to have been a not particularly onerous post, leaving him plenty of time for 'botanizing' and it soon became clear that this was his real interest. During a visit to London in 1798 he made the acquaintance of Joseph Banks and this

[1] Permission was given to the author by the Linnean Society of London to reproduce this article, which first appeared in *The Linnaean* 4: 38–43 (1988), in other publications.

probably altered the course of his life. He was particularly interested in Banks' herbarium and, because he had already acquired something of a reputation as a botanist, he was allowed free access. He was also nominated a member of the Linnean society, a link maintained for the rest of his life.

He returned to Ireland the following year. At this time he kept a diary detailing his daily life, down to the amount of drink, quality and type of food – even his bedclothes! Despite a French landing in Killala, Co. Mayo, his was a relaxed and leisurely life. Like Darwin, his pupil in microscopy before setting out on *The Beagle*, Brown seems to have had intermittent, though perhaps minor, illnesses most of his life. Not that this interrupted his frequent botanizing trips during his time in Ireland.

Rivalry between the major European posers in colonizing various parts of the globe was already strong. When the news reached London that a French expedition had set off for the Pacific, the Admiralty was keen to send off a similar venture and, inevitably, Banks was involved. At the end of 1800, Brown received a letter while in Ireland from Banks asking if he would serve as naturalist on the trip to survey New Holland. Not surprisingly he accepted with alacrity. After the humdrum routine of military life, such a voyage must have seemed like the proverbial 'dream come true' to a man of 28, offering not only adventure, but more important the opportunity to collect, observe and classify species new to the world of natural history.

The captain of the aptly named *Investigator* was Matthew Flinders, whose son was to become the Egyptologist, Flinders Petrie. While awaiting the completion of all the preparations necessary for such an expedition, Brown worked at Soho Square. One wonders if he ever thought after this momentous trip to the remotest part of the globe, much of the rest of his life would be spent in this same spot. During the delays in refitting the ship, he studied the specimens brought back by the previous expedition under Cook. In the middle of June 1801 he went down to Portsmouth and a month later, at 11 a.m. on 18 July, *The Investigator* set sail.

The routine of army life must have helped him to adjust to life at sea, though there were of course fewer opportunities for escaping on botanizing trips. There was ample time, on the other hand, for preparation and detailed diary entries. They called in at Madeira and he began his collecting, many specimens of which would be reproduced by Bauer. They went on to the Cape, where he botanized on Table Mountain. In early December they sighted the coast of New Holland.

In the course of many trips on land as they passed along the southern coast of Australia, Brown made an enormous collection of both plant and animal species. He and his companions met parties of aborigines and these encounters were for the most part peaceful thought there was some violence.

This must have been a very strenuous time, physically, both the sea voyage itself and the trips inland, not to speak of the risks involved in exploring land about which little or nothing was known. The mental stimulus and challenge of all the wealth of new material would have left little time for apprehension. And one assumes explorers generally feel that they are superior culturally and technologically to any humans they are likely to meet. A risk of a different kind was posed by the presence of a French vessel, which Flinders boarded with Brown acting as interpreter, despite the fact that England and France were at war. He (Brown) was scathing about their botanical collections, but one imagines that natural history was perhaps lower down in the French list of priorities. They were, however, busy naming geographical features after various Gallic luminaries.

As the voyage continued, there was much illness on board and some deaths occurred, but Brown, despite his apparent infirmities, must have been constitutionally strong. While Flinders was detained by the French on Mauritius, *The Investigator*, with Brown on board, under the new captain, William Kent, made its way home, via Cape Horn. There was much for Brown to do, observing, classifying, preserving, but even so, some specimens were damaged, mainly by damp, to add to the losses sustained when *The Porpoise* was wrecked. The material which was finally unpacked must have been, however, a real triumph for him personally, and greatly pleased Banks and all associated with the endeavour.

The rest of his life was passed in studying all the items, drawing conclusions and generally

enlarging the boundaries of botanical knowledge. Although he travelled frequently to the continent until he was in his seventies, in between these forays his life must have been one of concentration, routine and painstaking application, punctuated by the various controversies which characterise human affairs even in academic circles – perhaps one should say especially in academic circles?

Many friendships with fellow naturalists, both in Britain and abroad were formed and maintained over the years, among the most interesting of which was that of the Scottish family, MacLeay. They were a large family group, associated also with the Linnean Society, and with Australia – in fact, finally settling there. As a bachelor, Brown may well have found with them the family warmth and liveliness which was lacking in his own life. One member, who died young a few years after she arrived in Australia, a talented artist and linguist, seems to have engaged his particular affection. There was an age gap of over 20 years between them, otherwise something more than friendship might have developed. His natural reticence might have made him reluctant to express his feelings. Most important, he was all his life financially insecure, managing with difficulty to support his widowed mother in Scotland. It is difficult to imagine his feelings on receiving a letter from the father of Fanny MacLeay, a few years after her death, recommending the bearer of the letter to Brown. He was no other than Fanny's widower. One can only assume that neither the writer of the letter nor the bearer knew of Brown's attachment, though Fanny's mother seems to have.

Brown's regard for the MacLeays and loyalty to them over the years is shown by his part in arranging a tribute to William MacLeay, first speaker of the Australian Parliament, in the form of a silver candelabrum. The tribute followed his death some 20 years after the family had left for Australia, but there had of course been regular correspondence in the intervening years.

There are a few other hints of a sentimental link, apart from references to 'L', probably his housekeeper, for whom he made provision in his will. Perhaps, as he could not support a wife, he saw no point in pursuing any possible relationships.

His friendships on the other hand, were warm and despite his reserve, he seems to have been held not only in high esteem but also in genuine affection by a wide range of people. One of the most enthusiastic was Martius, whose correspondence is positively lyrical in parts. It is interesting to speculate on what a phlegmatic Scot made of such extravagant language as the following description of a planned expedition in the Alps when Brown was about to visit Switzerland (the more so since the envelope was addressed to "Monsieur Robert Brown anglais"):

> We will make our way through the Alps in high spirits and with coelestial [sic] happiness because you will find the scenery very beautiful and Endlicher and I will enjoy of your conversation like the Arabs in the Desert are enjoying the dew of heaven.

This letter sent from Munich reached Brown in eight days.

The career of Robert Brown demonstrates several features which are fairly typical. Like many Scots, or people from any provincial centre for that matter, London proved to be the gateway to advancement. He did visit his homeland and was interested in trying to trace his family roots, deep in the religious and political conflicts of the 17th and 18th century Scotland. But by far the largest part of his 85 years was spent in London, and he did not accept invitations to occupy two academic posts in Edinburgh and Glasgow. In coming to London he had not only moved into a freer, more liberal, environment, but also met Sir Joseph Banks, and without this connection his life might have taken an altogether different course. Personal recommendation was even more important in those days of less formal methods of promotion. His career came at an important stage in the development of science, when it was becoming more professional and less the past-time of dilettantes, however enthusiastic and knowledgeable. Scientific method, in particular, was advancing, as equipment such as microscopes improved. However the financial arrangements seem to have been rather basic, and as Brown had no private means, his way of life was always modest.

Unassuming, shunning the limelight and

preferring the company of people he knew well, he would have been easy to underestimate. His tendency to delay must have been exasperating to colleagues, but he showed himself helpful to younger men, in the way that Banks and others had been helpful to him. The photograph taken within a year of his death shows a kindly expression, and his closest friend, Francis Boott particularly emphasized this aspect of his personality. One imagines that he was not at all demonstrative, so this would probably have been expressed in oblique ways.

As a young man in Ireland, he chided himself in his diary for being indolent, yet his unremitting devotion to botany, his powers of observation and deduction – surely the fruit of intense and prolonged concentration – made an enormous contribution to the development of natural history. In this work he tended to hoard and amass, particularly specimens but also information – one writer describes him as being like a spider at the centre of a gigantic web. If so he had none of its malevolence, but was rather a kindly gentle spider, going at his own pace, listening to a different 'drummer'. The same writer asserts that nearly every group of flowering plants today bears the mark of his genius, and that Brown's most important discoveries "were almost nonchalantly announced – in parenthesis as it were –" such as the existence of the cell nucleus and the movement, which bears his name, of small particles suspended in liquid.

Jung has said that nature is not so liberal with her gifts as to endow in any one individual both head and heart, but in a few instances, such as Darwin, both qualities do come together. Perhaps also in Robert Brown. Those who gathered in Soho Square on 15th June 1858 to accompany him on his last journey to Kensal Green cemetery would, I think, have agreed.

Kennedia speciosa A.Cunn., uncertain no more

A.E. (Tony) Orchard
c/o Australian Biological Resources Study, Canberra

The Australian Plant Name Index (APNI, 2017) lists an Allan Cunningham name "Kennedia speciosa A.Cunn., nom. inval., nom. nud." with the comment that this is a name of uncertain application. That this is not so was already noted by Symon & Jusaitis (2007). Rediscovery of the specimens on which this name was based puts the matter beyond doubt.

The name was mentioned in passing in Oxley's Journal (Oxley, 1820) for a plant discovered at (Prince) Regent's Lake (now Lake Cargelligo) on 26 July 1817. The description was brief in the extreme:

> The first lake seen yesterday was named the Regent's Lake, in honour of His Royal Highness the Prince Regent. A superb scarlet flower, named kennedia speciosa, was found on the shore of the first named lake.

A specimen of this plant was collected by the botanist on the expedition, Allan Cunningham, and is now in BM. Cunningham's specimen list describes the plant thus:

> 275. Kennedia speciosa (nova sp.). Herbacea prostrata villosa, foliis pinnatis, foliolis ovatis pedunculis elongatis sulcatis 4-6 floris, carina cymbiforma, aliis lanceolatas amplo longiore. A reclining strong growing herbaceous plant, abundant on the sterile bleak open flats skirting the P. Regent's Lake on the Lachlan R., 26 July. Lat. 33.13.30 S, Long. 146.40.20 E."

The corresponding specimen in BM has a label "275. Lachlan River, New South Wales, Allan Cunningham, 1817, and there is another in K in Cunningham's hand (K 216798, ex herb. Hooker):

> Kennedia speciosa S.Lat. 33.13.20, E.Long. 146.40.20, abundant on the bleak open flats skirting the Prince Regent's Lake, L.R.

Both have been determined by Joy Thompson in April 1990 as *Swainsona formosa* (G.Don) J.Thompson, and are unmistakably that species. The Kew specimen is also identified by Thompson as the holotype of *Donia speciosa* G.Don.

There is another sheet in BM (BM 810920) which has been annotated by Thompson "Dupl. of TYPE of *Donia speciosa* G.Don" and identified as *Swainsona formosa* (G.Don) J.Thompson. This bears three pieces of the plant and two labels in what appears to be Fraser's handwriting:

> Kennedia speciosa. Nat. of the Banks of the Regent's Lake. Banner of Bright Scarlet, vexillum and Carina of a Deep Crimson. Habit very reptant, leaves erect.

and

> Kennedia speciosa. Nat. of the Banks of the Regent's Lake. Banner of a Bright Scarlet, vexillum and Carina of a Dark Crimson. Observed in Flower in July.

It seems likely that these specimens are the original ones sent to Banks and to Aiton (the latter removed from Kew to BM by Robert Brown – see Orchard (2014) for discussion). The name *Kennedia speciosa* A.Cunn. thus undoubtedly can be assigned to Sturt's desert pea, although as stated in APNI the description is inadequate, and the name is invalid, with no nomenclatural standing.

The nomenclature of what is now known as *Swainsona formosa* (G.Don) J.Thompson is quite complex. As noted above, the plant was collected at Regent's Lake by Allan Cunningham on 26 July 1817 (although Dampier had found it on the NW coast over 100 years earlier). Cunningham was accompanied by the Government Botanist Charles Fraser, and as it is well documented that the two collaborated closely and shared collections (see, for example, a letter from Cunningham to Banks, dated 29 March 1819 (letter no. 3/a/28 in Orchard & Orchard, 2015a)), it is very likely that Fraser also collected the plant. However, although the handwriting of each was very different, as was the kind of information that they recorded, it cannot be ruled out that, for example, the specimens mentioned above with Fraser labels were not collected by Cunningham and just the labels written by Fraser. Cunningham and Bowie in Brazil frequently wrote labels for each other's collections cooperatively (Orchard & Orchard, 2015b). However, in the following discussion the labels are accepted at face value, with Fraser labels denoting a Fraser collection, Cunningham labels a Cunningham collection.

Cunningham believed at the time of collection that the plant was a *Kennedia* and coined the manuscript name "Kennedia speciosa" for it. This name was adopted by both Fraser and Oxley, and thus appeared in Oxley's journal (Oxley, 1820). As the name is invalid it has no type, but it is useful to note that it appears to be based mainly on the two Fraser specimens in BM cited above, as well as on Cunningham's parallel collections which became types of *Donia speciosa* G.Don.

In 1831 Cunningham returned to London and commenced sorting his collections, freely distributing duplicates to friends and colleagues. One of these friends was Aylmer B. Lambert, in whose herbarium Don saw a specimen from Regent's Lake along with another collected by Capt. Phillip King at Curlew River, W.A. He named them *Donia speciosa* G.Don and *Donia formosa* G.Don respectively (Don, 1832). He did not mention the name *Kennedia speciosa*, so the name *Donia speciosa* G.Don is a new name, not a *comb. nov.*

In 1835 Lindley published notes compiled by Cunningham on the Australian species of what was then known as *Clianthus*. In these notes Cunningham recognised three species: *Clianthus puniceus* Banks & Sol. ex Lindl. from New Zealand, and two from Australia, *C. oxleyi* A.Cunn. and *C. dampieri* A.Cunn.

Clianthus oxleyi was based on Cunningham's Regent's Lake specimen, but since he included *Donia speciosa* G.Don in the synonymy, the name is illegitimate. Its type, both by citation and by its illegitimacy, is K 216798, ex herb. Hooker, although there is a duplicate specimen in Kew (K 216799) with Cunningham's label:

> Clianthus oxleyii A.C. mss 275, July 1817, (Donia speciosa, Don), (Kennedia speciosa A.C., olim), Interior of N.S.Wales. Shores of Regent's Lake. Lat. 35º 13' S. Long. 146º 40'. A.Cunningham in Hort. Soc. Trans. 1834.

This latter specimen was among those donated to Kew by Cunningham's legatee Robert Heward in 1862. It is probably best considered as an isotype of *Donia speciosa*/*Clianthus oxleyi*, although annotated as holotype of *Clianthus oxleyi* by George in 2005, broadly following Thompson (1993).

Clianthus dampieri was based on two specimens: one collected by William Dampier in Dampier's Archipelago in 1699 (specimen in OXF), and another by Cunningham from the same group of islands in 1818 (specimen not located, stated by Brown (1849) as being from Isle Malus). However as Cunningham cited

Donia formosa G.Don as a synonym, this name is also illegitimate. As Cunningham cited two specimens these should be recognised as syntypes of the illegitimate name, rather than choosing the type of *D. formosa*.

Brown (1849) considered that Don's two taxa were synonymous, and united them under Cunningham's name *Clianthus dampieri*. In this he was followed by most botanists for nearly 100 years. Ascherson & Graebner (1909) reverted to Don's earlier epithet by publishing the combination *Clianthus speciosus* (G.Don) Aschers. & Graebn. and this name came into use in several works between 1924 and 1940 (see Ford & Vickery (1950) for a summary). However this name is a later homonym of *Clianthus speciosus* (Endl.) Steud. (based on *Streblorrhiza speciosa* Endl.) and thus illegitimate.

Ford & Vickery (1940) finally sorted out the confusion in specific epithets by establishing the name *Clianthus formosus* (G.Don) Ford & Vickery, and this became the accepted name of Sturt's desert pea for the next 50 years. Thompson (1990) transferred the species to *Swainsona* as *S. formosa* (G.Don) J.Thompson, a name retained in her later revision of *Swainsona* (Thompson, 1993) and by most later authors. George (1999) subsequently maintained that the divergence of this species from Swainsona was sufficient to recognise it as a distinct genus, describing it as *Willdampia formosa* (G.Don) A.S.George. This transfer has not been generally accepted.

The formal synonymy and typification of Sturt's desert pea is thus – see APNI (2017) for full bibliography:

***Clianthus formosus* (G.Don) J.Thompson (1990)**; *Donia formosa* G.Don (1832); *Clianthus formosus* (G.Don) Ford & Vickery (1950); *Willdampia formosa* (G.Don) A.S.George (1999).
Type: P.P. King, Curlew River (BM ex herb. Lambert), n.v.

Kennedia speciosa A.Cunn. in J. Oxley, (1820), *nom. inval., nom. nud.*
Based in part on C.Fraser, Regent's Lake (BM 810920), and in part on the holotype and isotypes of *Donia speciosa* (see below).

Donia speciosa G.Don (1832); *Clianthus oxleyi* A.Cunn. ex Lindl. (1835), *nom. illeg., nom. superfl.*; *Clianthus speciosus* (G.Don) Asch. & Graebn. (1909), *nom. inval., non* Steud. (1840–41).
Type: A. Cunningham 275, 26 July 1817, Regent's Lake. *Holotype*: 275, Lachlan River, New South Wales, Allan Cunningham, 1817 (BM); *isotypes*: Kennedia speciosa S.Lat. 33.13.20, E.Long. 146.40.20, abundant on the bleak open flats skirting the Prince Regent's Lake, L.R. (K 216798, ex herb. Hooker); Clianthus oxleyii A.C. mss 275, July 1817, (Donia speciosa, Don), (Kennedia speciosa A.C., olim), Interior of N.S.Wales. Shores of Regent's Lake. Lat. 35º 13' S. Long. 146º 40'. A.Cunningham in Hort. Soc. Trans. 1834 (K 216799).

Clianthus dampieri A.Cunn. ex Lindl.(1835), *nom. illeg., nom. superfl.*
Syntypes: W. Dampier s.n., 1699, Dampier's Archipelago (OXF, n.v.); A. Cunningham s.n., 1818, Malus Island, Dampier's Archipelago (?BM, n.v.).

Footnote

It is interesting that the common name of this species has become settled as Sturt pea or Sturt's desert pea. Undoubtedly well-known to aboriginal people for thousands of years, its European discovery by Dampier preceded Sturt by 150 years, and its rediscovery by the botanists Cunningham and Fraser and the Surveyor-General Oxley by some 30 years. It was also found by Eyre in 1839 in northern Eyre Peninsula (Symon & Jusaitis, 2007). That it was "awarded" to Sturt must be a tribute to the reverence in which the author of Sturt's Botanical Appendix, Robert Brown, was held by later botanists and the general public. It is interesting that Sturt's collection of this plant seems to have been lost. In letters to Hooker (Orchard & Orchard, 2015a, letters 5/a/14 & 5/a/16) Cunningham noted that Sturt's collections from his expedition, originally of "tolerable" size, were given to Fraser in Sydney, who broke them up into smaller fragments and distributed them widely. Cunningham was officially forbidden to examine them at that time, but was briefly shown them by Fraser. By the time the collection got to London it contained only scraps. Cunningham (by this time in London himself) considered these insufficient upon which to base a botanical appendix for Sturt's

Journal. However the scrappy herbarium was shown by Sturt to Lambert, who persuaded Robert Brown to write the Appendix (Brown 1849). In this Appendix Brown noted that he had seen not only Sturt's collection from "the Barrier Range near the Darling about 500 feet above the river", but also Dampier's specimen, Cunningham's specimens from Prince Regent's Lake and King's specimen from Curlew River, Eyre's specimens, and some more recent Bynoe specimens in Hooker's herbarium from NW Australia (*Beagle* voyage). It is likely that his description of what he called *Clianthus dampieri* was based on these more adequate specimens rather than Sturt's remnant scraps.

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News

The global *March for Science*

Earth Day on Saturday 22nd April saw scientists around the world take to the streets with a collective appeal for understanding, respect and resourcing of science in the face of the modern trend to treat facts as opinions, the development of convenient "truths", and the divorce of the future of human society from the health of our environment.

This is anticipated to be the first of many such appeals to politicians and the broader community. For those of you who are frustrated by today's attitudes to science and scientists here is one way you can express that frustration and join a global fraternity in doing so. Co-organised by the Earth Day Network this was the first ever March for Science (Web ref. 1). The Mission of the March for Science as stated on the global web site reads:

> The March for Science champions robustly funded and publicly communicated science as a pillar of human freedom and prosperity. We unite as a diverse, nonpartisan group to call for science that upholds the common good and for political leaders and policy makers to enact evidence based policies in the public interest..

The over-arching body is in America but there are also Australian and New Zealand groups (Web refs 2, 3). A southern call to arms was provided in *The Conversation* (Web ref. 4).

On the day Australasian scientists joined marches in each capital city (Web refs.5–8). Our Adelaide event was attended by about 80, having suffered from being called off and then, with just a day or two's notice, back on again. It included good speeches, witty and pointed placards and T-shirts promoting science.

As knowledgeable citizens we systematists should collectively grasp such rare oppor-

tunities to properly and loudly appeal for a planned global future based on good science. In our belief in the fundamental importance of biosystematics, we should promote our own examples of good science, for good science-based decision- making needs good up-to-date taxonomies. And we can highlight the price of ignorance in our current age of "biodiscovery" when humanity has benefited so much from the knowledge we do have. Next time, with better warning, let each of us, each Chapter, be prepared to participate.

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Eds

Meeting to plan the future of plant systematics

David Cantrill drew attention on ASBS Facebook to a special colloquium of 40 botanists from 13 countries held in Amsterdam in March 2016 at the Royal Netherlands Academy of Arts and Sciences to discuss the future of plant systematics. The three questions addressed were: (1) What are the big questions for plant systematics?, (2) How should we train the next generation of systematists?, and (3) How can we emphasize the prominent role of systematics to the outside world, to safeguard the future of our field? While Sauquet & Grahams's (2016) summary of the meeting holds little that is surprising – the subject is being addressed in multiple places – the suggestion that "plant biodiversity science" might be a more desirable name for the discipline than "plant systematics" was interesting[1].

[1] This lack of awareness and understanding of the two terms for our field of endeavour have been raised from time to time in deliberating the Decadal Plan for Biosystematics and Taxonomy. Are they in need of replacement or will they become understood in achieving a higher wider profile for what we do? *Ed.*

Reference

Sauquet, H. & Graham, S.W. (2016). Planning the future of plant systematics: report on a special colloquium at the Royal Netherlands Academy of Arts and Sciences. *American Journal of Botany* 103: 2022-2027. *www.amjbot.org/content/103/12/2022.full*

Changes at National Herbarium of NSW, Royal Botanic Gardens and Domain Trust

Over the last couple of years there have been some significant staff movements at NSW. Here is a very brief summary.

The Royal Botanic Gardens and Domain Trust (RBGDT) has been integrated with Centennial Parklands to become The Botanic Gardens and Centennial Parklands (BGCP). During the process there was significant restructure in the combined organisation. We still have two Trusts though which is one of the reasons why you will still see RBGDT being used, such as in the addresses used in scientific publications etc. While the integration was occurring the NSW public sector was also getting an overhaul which I won't go into; needless to say the last two years have been interesting to say the least.

During this time many staff at the BGCP were also reviewing their future, as part of the normal part of life, and so there have been movements due to restructures and life choices. So quite a lot has occurred in the Science & Conservation Branch - the branch that manages the National Herbarium of NSW, the Australian PlantBank, scientific research at the BGCP, the Daniel Solander Library etc. The branch is divided into a number of sections: Collections (herbarium and library: Manager Shelley James), Evolutionary Ecology (includes Restore & Renew: Manager Maurizio Rossetto), Germplasm Conservation & Horticulture (includes the Australian PlantBank: Manager Cathy Offord), Seedbank and Restoration Research (Manager Peter Cuneo), Plant Diversity (the cool crowd; apart from systematics it manages PlantNet and the eFlora, botanical illustration, IDs), Plant Pathology (Manager Ed Liew); in addition we also have a Wildlife Ecology unit (yes there is

a zoologist, John Martin, in the herbarium but we are far from alarmed – just need to be aware before opening freezers).

Much of what we do can be found on-line (Web ref.). In Plant Diversity though there have been some significant changes that are still occurring. In the last two years three research staff, Barry Conn, Peter Weston and Karen Wilson, have retired and one, Nathalie Nagalingum, has taken up another research role in the USA. We were able to fill three Systematic Botanist positions just recently: Matt Renner (one of our Postdocs) started in his new role in late 2016, and later this year Russell Barrett (ABRS) and Hervé Sauquet (Université Paris-Sud, Orsay, France) will be joining us. Quite a diverse group that will add significantly to our team – a very exciting year to say the least. In Plant Diversity we still have research scientists Peter Wilson (Principal Research Scientist), Richard Jobson (Research Scientist), myself, our three ABRS funded postdocs, Trevor Wilson, Yola Metti and Kerry Gibbons, and Margaret Heslewood. In addition there is Carolyn Connelly (Molecular Laboratory Co-ordinator), Louisa Murray (Flora Botanist) who is joined by a second Flora Botanist Phillip Kodela this year, Barbara Wiecek (IDs Botanist) and her team Andrew Orme and Seanna McCune, and the botanical illustrators Lesley Elkan and Catherine Wardrop. Peter Weston and Karen Wilson are still with us at NSW as Honorary Associates (applications in) along with Alan Archer, Barbara Briggs, Carrick Chambers, David Mabberley, Bob Makinson, Helen Ramsay, Stephen Skinner, John Thomson and the three Peters: Peter Michael, Peter Hind and Peter Olde.

Lastly: in April Shelley James (formally iDigBio's Data Management Coordinator, Florida, USA) joins us as our new Collections Manager. The position was vacated by Dale Dixon nearly three years ago and various people have been acting in the role since. Dale is still with us at BGCP as a Curator Manager in Horticulture.

Web ref. *https://www.rbgsyd.nsw.gov.au/Science-Conservation*

Marco Duretto
Manager Plant Diversity
National Herbarium of New South Wales

Patrick Brownsey receives *NZ Journal of Botany* researcher award

Congratulations Pat Brownsey, recipient of the *New Zealand Journal of Botany* annual prize for 2016 (Web refs 1, 2). The prize, only awarded in even-numbered years, is for established researchers who have made:

> a sustained contribution to the journal during the last five years (regularly publishing and reviewing papers), and whose work has been widely cited by researchers in other journals during the same period.

Web ref. 1. *http://blog.tepapa.govt.nz/2017/02/07/te-papa-scientist-wins-research-award/*

Web ref. 2. *http://royalsociety.org.nz/publications/journals/nzjb/*

Bruce Maslin AM retires

Congratulations to Bruce Maslin who in the January 2017 Australia Day Honours List was made a member of the Order of Australia for "significant service to botany, particularly in Western Australia, as a research scientist, and as an author".

This came a month after his retirement was marked at the WA Herbarium in December. After 48 years (1967–2015) the habit is too much and Bruce continues on as an Honorary Research Associate at the herbarium whilst continuing to spend much of his time in south-east Asia working on *Acacia sens. lat.*

State of the Environment Report 2016

Every five years the Australian Government conducts a comprehensive review of the state of the Australian environment. The overview from the latest report, SoE 2016 (Web ref. 1), was tabled in Parliament on 7th Mar 2017. National State of the Environment reports are covered under the themes of Atmosphere, Built Environment, Heritage, Biodiversity (Web ref. 2), Land, Inland Water, Coasts, Marine Environment and Antarctic Environment and each of these themes has an executive summary as well as the overall summary. For instance the final paragraph of the Executive summary of the Biodiversity Report prepared by Ian Cresswell and Helen Murphy is as follows:

> The outlook for Australian biodiversity is generally poor, given the current overall poor status, deteriorating trends and increasing pressures. Our current investments in biodiversity management are not keeping pace with the scale and magnitude of current pressures. Resources for managing biodiversity and for limiting the impact of key pressures mostly appear inadequate to arrest the declining status of many species. Biodiversity and broader conservation management will require major reinvestments across long timeframes to reverse deteriorating trends.

For a perhaps more digestible summary of what is a large and comprehensive document you can also see that by William Jackson, chair of the group of independent experts who prepared the report (Web ref. 3). Or you can just read the executive summaries for all of the themes.

Web ref. 1: *www.environment.gov.au/science/soe*

Web ref. 2: *https://soe.environment.gov.au/sites/g/files/net806/f/soe2016-biodiversity-launch-version2-24feb17.pdf?v=1488792935*

Web ref. 3: *https://theconversation.com/five-yearly-environmental-stocktake-highlights-the-conflict-between-economy-and-nature-73964*

Key to propagules of selected weedy Asteraceae

CSIRO researcher Alexander Schmidt-Lebuhn has published an online key to the propagules of a priority list of 43 biosecurity-relevant species of Asteraceae (Web ref.). Development of the key was funded by the Australian Government, Department of Agriculture and Water Resources (DAWR), and it was developed in close collaboration with DAWR scientist Gertraud Norton. Each species has a close-up image of its fruit plus a species profile relating to its Australian occurrence but is further linked to information available through ALA, GBIF, the Global Invasive Species Database and the Invasive Species Compendium where this is available. The key is publicly accessible on the web.

Web ref. *http://keys.lucidcentral.org/keys/v3/daisy_fruit/*

19th Century algal album

Jim Croft brought attention to this item on a 19th Century algal collection from Port Phillip Bay (Web ref. 1) on the ASBS Facebook page. There are some 200 specimens collected between 1859 and 1882 arranged in an album about A4 size. The album was bought by the National Museum Australia in Canberra in 2013 for $3500 and by comparison with others in MEL has been shown to be the work of collector Charles Morrison. It seems strange that it should have taken quite so long (6 months) to recognise whose work it was since there is a similar work in NSW which was featured in the book *Herbarium* (Stacey & Hay 2004) and it has the same quotation about flowers of the sea as this one. The album is on display in Canberra from 8th–22nd April together with a second album of algae from Port Arthur, Tasmania, collected by Lady Catherine Frere in 1836. You can read more about the interest in such albums in a blog on the "algal world" (Web ref. 2).

References

Stacey, R. & Hay, A. (2004). *Herbarium*. (Cambridge University Press), pp. 143–4.

Web ref. 1: *www.smh.com.au/technology/sci-tech/flowers-of-the-sea-20170327-gv7wum.html*

Web ref. 2: Flannery M, The algal world. *https://herbariumworld.wordpress.com/2017/03/20/the-algal-world/*

Critically endangered *Hibbertia fumana* battling a new transport hub

In 2012 Hellmut Toelken and Robert Miller recognised as new a species that had only ever been collected by Robert Brown, Caley and Sieber from the South Sydney area. In describing the species they adopted the species epithet given to it by Sieber. They also noted that, as it had not been recorded again since Sieber's collection in 1823, it was probably extinct, but hoped that the paper might prompt a search for plants in the wild. It was rediscovered last year, but ironically in an area which has just been approved for development. You can read all about it on-line (Web ref.).

References

Toelken, H.R. & Miller, R.T. (2012). Notes on *Hibbertia* (Dillenieaceae) 8. Seven new species, a new combination and four new subspecies from subgen. *Hemistemma*, mainly from the central coast of New South Wales. *Journal of the Adelaide Botanic Gardens* 25 (1): 71–96.

Web ref.: *https://www.theguardian.com/environment/2017/mar/17/rare-plant-sparks-legal-action-against-sydney-development*

Better news regarding *Trove*

In the last issue of the Newsletter there was an item about cuts to *Trove*, The National Library of Australia's digitisation project, and the losing of staff. In December the mid-year Commonwealth budget had better news, with the NLA given $16.4 million over four years to upgrade infrastructure (Web ref.) – but nothing to make up for the 22 staff who lost their jobs last year.

Web ref. *www.abc.net.au/news/2016-12-20/national-library-of-australia-gets-funding-for-trove-in-myefo/8136738*

Wollemi pine also in the news

Another nice article, this on the Wollemi pine, appeared in the *Sydney Morning Herald* (Web ref.) based on the work of eight botanists, many of them associated with the NSW National Herbarium. Previously found to have little or no genetic variation amongst the wild population, a new study (Greenfield et al., 2016) using the latest DNA sequencing technology has shown that there are genetically identifiable individuals. These findings will be important in informing management of this critically endangered species.

References

Greenfield, A., McPherson, H., Auld, T., Delaney, S., Offord, C.A., van der Merwe, M., Yap, J.S. & Rossetto, M. (2016). Whole-chloroplast analysis as an approach for fine-tuning the preservation of a highly charismatic but critically endangered species, *Wollemia nobilis* (Araucariaceae). *Australian Journal of Botany* 64: 654-658. *https://doi.org/10.1071/BT16105*

Web ref.: *www.smh.com.au/technology/sci-tech/genetic-diversity-found-in-wollemi-pine-gives-hope-of-survival-for-australias-dinosaur-trees-20161215-gtbnne.html*

Removing ticks – freeze, don't squeeze

When we visit other places for botanical work we are not always aware of local dangers. Karen Wilson drew timely attention on Facebook to a commercial video site (Web ref. 1) showing how to safely remove ticks from the body, particularly in the light of an increase in tick allergies and mammalian meat allergy along the east coast of Australia. You can see the same video on the ABC's *Catalyst* site along with an update on the findings on tick allergies (Web Ref. 2). If you live on Australia's east coast or are visiting for botanical field work looks like it would be a good thing to pack a spray containing ether (e.g. *Wart Off* or *Medi Freeze Skin Tag Remover*) from a chemist. If you do find a tick on your body then don't reach for the tweezers but put the nozzle over the tick and spray. Leave for a few minutes and once the tick has died it can be brushed off. *Permethrin* cream is recommended here for the removal of tick larvae and is also suggested as being carried in case it is needed.

Web ref. 1: *http://ticksafe.com.au/get-rid-of-ticks/*

Web ref. 2: *www.abc.net.au/catalyst/stories/4570488.htm*

South Australian artist inspired by 1861 *Wildflowers of South Australia*

Award winning international artist Julie Blyfield makes jewellery inspired by the natural landscape and presently has an exhibition entitled *Panorama* at the Bilk gallery in Canberra until the 29th April (Web ref. 1). A couple of years ago, seeking further inspiration, Julie visited the State Herbarium of South Australia and discovered Fanny de Mole's 1861 book, *Wildflowers of South Australia.* This book became her inspiration for work produced for exhibitions held in Auckland and Christchurch in 2016 (Web ref. 2).

Web ref. 1: *https://klimt02.net/events/exhibitions/panorama-julie-blyfield-bilk-gallery*

Web ref. 2: *www.stuff.co.nz/the-press/christchurch-life/art-and-stage/visual-art/87346866/New-jewellery-exhibition-inspired-by-150-year-old-plant-guide*

Australasian botanic gardens open day

The Second Botanic Garden Australia and New Zealand (BGANZ) Open Day will be held across Australia and New Zealand on Sunday, 28th May 2017 (Web ref.). The Governor-General of Australia, Sir Peter Cosgrove, will be launching the Open Day in Australia at 10am on Thursday, 11th May at the Australian National Botanic Gardens in Canberra. Over 70 gardens from every state and territory in

Australia and from both North and South Island in New Zealand will be taking part. The theme for this year is "People, Plants, Possibilities".

Web ref.: *www.bganz.org.au/index.php*

Web sites of interest

Colonial Plants Database

> The Colonial plants database of Sydney Living Museums includes more than 11,000 listings of plants known to be available in the colony of NSW prior to the 1870s. The database is compiled from several sources including Botanic Gardens records, nursery catalogues and manuscript plant lists created by early colonists such as colonial secretary Alexander Macleay (1767–1848). [Web ref. 1].

This gathering together of obscure resources should be of use to botanists or those interested in weeds, but unfortunately it does not incorporate two much earlier lists of plants present in Sydney. Compiled for Philip Gidley King in March 1803, the first lists alien plants for New South Wales. This is freely available in the State Library of New South Wales (Web ref. 2) although not always easily deciphered. Nor has the information compiled by Robert Brown in "Introduced Plants at Sydney, 1802–4" and published by Britten in 1906 been included, despite Groves discussing this topic at great length in his presentation at the Robert Brown 200 conference in May 2002. As a consequence the earliest record in the database for plants such as *Nicotiana tabacum* (tobacco), *Erodium moschatum* (heron's-bill), *Daucus* (carrot) and *Apium graveolens* (celery) are much later than that recorded by Brown. Both of these oversights should be easily fixed. Whether more records have been overlooked can perhaps be answered by a botanist based in Sydney.

References

Britten, J. (1906) Weeds at Sydney in 1802–4. *Journal of Botany* 44: 234.

Groves, R.H.(2002). Robert Brown and the naturalised flora of Australia. *Cunninghamia* 7(4): 623–629. (Paper presented at Robert Brown 200 conference.)

Web ref. 1: *http://sydneylivingmuseums.com.au/research-collections/catalogues-research-tools/colonial-plants-database*

Web ref. 2: *https://transcripts.sl.nsw.gov.au/page/396929/view*

Plants invading South Africa

In February attention was drawn on the Enviroweeds list to a quarterly newsletter, *SAPIA*[1] *News*, produced by Lesley Henderson at the Plant Protection Research Institute in Pretoria in South Africa. Its focus is on South African weeds and it covers all of the usual aspects such as new detections, distributions, regulations, research, management, etc. Back issues are archived (Web ref.).

Australian plants are commonly invasive in South Africa (*SAPIA News* Issue 43) but we also share many of the same invaders. Issue 41 for example indicates that there are 12 new taxa, mostly ornamentals, detected as escapees each year in South Africa but balances this with an account of some of their successful biological control programmes against Australian wattles and *Azolla*. Issue 40 has an account of the same four *Cestrum* species which are weeds in Australia and some preliminary findings on a flea beetle which has potential as a biocontrol agent.

Web ref. 1: *www.arc.agric.za/arc-ppri/Pages/Newsletters.aspx*

Herbarium World: exploring herbaria and their importance

Maura C. Flannery, a biology professor at St. John's University in New York, loves herbaria and volunteers at the herbarium in the New York Botanical Gardens. Her blogs (Web ref.) bring fresh eyes to items we see every day (e.g. those on specimen labels) while at the same time putting a modern perspective on herbaria and where they sit in the world. For her they are certainly not just scientific institutions. The digitization of herbarium specimens for instance led to a comment about making our "probably invisible" specimen images more easily accessible to others such as historians, artists, sociologists, pharmacists and even economists, for their own potential uses. It also led to a discussion of what she calls the digital

[1] South African Plant Invaders Atlas

humanities based on some of the other historical items traditionally found in herbaria, many of them associated with collectors or researchers. Some of these projects require collaborations between multiple institutions and are beset with many of the same technological difficulties that faced the Australia's Virtual Herbarium when it first started.

And she points to the tensions between the:

> two major functions of plant systematics: to investigate the relationships among plant species, and to provide stable taxonomic information for biologists working in other fields such as ecology. The tension comes from the fact that the latter group wants clear-cut information and is not interested in the nuances and gray areas that are fascinating to systematists who need nuanced data. In other words, it is difficult to provide a database that will fulfill the needs of both.

Web ref. *https://herbariumworld.wordpress.com/about/*

Papers of interest

The following recently published papers are a selection of those mentioned in contributions to ASBS Facebook.

New fern classification

Leon Perrie has drawn attention to the new classification for ferns and lycophytes proposed by the Pteridophyte Phylogeny Group (PPG1 2016). He points to an article written by him and Patrick Brownsey (Web ref. 1) indicating that, even though they were part of the PPG1 group, they will not be adopting all of these recommendations for the already partially written fern and lycophyte chapters of eFloraNZ.

PPG1 (2016). A community-derived classification for extant lycophytes and ferns. JSE 54: 563-603. *http://onlinelibrary.wiley.com/doi/10.1111/jse.12229/full*

Web ref. 1: *https://www.dropbox.com/s/5xl58ntkqwcyr82/eFloraNZ_PPG.pdf?dl=0*

Rethinking the teaching of the Tree of Life

Another Croft contribution. The traditional approach to teaching the Tree of Life only vaguely represents evolutionary relationships, fails to denote major events in the history of life, and relies heavily on memorizing near-meaningless taxonomic ranks. Conversely, a clade-based strategy—focused on common ancestry, monophyletic groups, and derived functional traits provides students with a rational system for organizing the details of biodiversity, and readily lends itself to active learning techniques. [Adapted from the abstract]

Ballen, C.J. & Greene, H.W. (2017). Walking and talking the tree of life: Why and how to teach about biodiversity. *PLoS Biol* 15(3): e2001630. *https://doi.org/10.1371/journal.pbio.2001630*

Pollinators driving changes in plants

Charles Foster shared this one. It shows that *Brassica rapa* plants pollinated by bumblebees evolved to be taller and had more fragrant flowers with increased UV reflection while hoverfly pollinated plants were shorter, had reduced emissions from their flowers and a tendency to develop self-pollination.

Gervasi, D.D.L. & Schiestl, F.P. (2017). Real-time divergent evolution in plants driven by pollinators. *Nature Communications* 8: 14691. *https://www.nature.com/articles/ncomms14691*

Biogeographical disjunctions across the "Top End"

Mike Bayly posted this one. Bort Edwards presented the origins of this paper at an ASBS conference some years ago. Good to see that it has made it to publication.

Edwards, R.D., Crisp, M.D., Cook, D.H. & Cook, L. (2017). Congruent biogeographical disjunctions at a continent-wide scale: Quantifying and clarifying the role of biogeographic barriers in the Australian tropics. *PLoS ONE* 12(4): e0174812. *https://doi.org/10.1371/journal.pone.0174812*

Using the AVH to evaluate IBRA bioregions

Yet another Croft contribution. But this one does not have the full paper freely available. Suffice to say that the AVH was used to assess spatial patterns in the Australian flora across each of the IBRA regions in an attempt to answer three questions: how complete the species inventory

is for the region, how sampling is related to human influence in the region, and how likely more collections will result in new records for the region.

Haque, Md. M., Nipperess, D. A., Gallagher, R. V. and Beaumont, L. J. (2017), How well documented is Australia's flora? Understanding spatial bias in vouchered plant specimens. *Austral Ecology* doi:10.1111/aec.12487. *http://onlinelibrary.wiley.com/doi/10.1111/aec.12487/full*

Celebrating Zealandia, a brand new continent

Brought to your attention by Chrissen Gemmill and Karen Wilson. There was quite a lot about this paper (Mortimer et al., 2017) in the newspapers (e.g. Web ref. 1) and science journals (e.g. Web ref. 2) when it was released. After all it is not every day that we hear of a new continent, even if it is underwater.

Mortimer, N. et al. (March/April 2017). Zealandia: earth's hidden continent. *GSA Today* 27: 27-35. *https://www.geosociety.org/gsatoday/archive/27/3/article/GSATG321A.1.htm*

Web ref. 1: *www.smh.com.au/technology/sci-tech/meet-zealandia-the-underwater-continent-that-new-zealand-sits-on-20170216-guf3ea.html*

Web ref. 2: *www.nature.com/news/geologists-spy-an-eighth-continent-zealandia-1.21503*

Postscript: a 19th Century reference to a sunken continent centred on New Zealand

> Letting alone for the present any attempt to obtain a fair representation of the avifauna of New Zealand and its satellites, *the latter of which have been described as the culminating points of some great sunken continent where bird life reigned supreme*, it would be well if that of our own country and the adjacent island of New Guinea – which Nature at any rate brought into a strict federation with this country ages before the intrusion of man – could be fairly well represented in the Museum, so that the amateur ornithologist might be enabled to prosecute his researches with some meed of success [Editor's italics].

From: A day at the Museum, *South Australian Register,* 26th August 1844, p. 6. *http://trove.nla.gov.au/newspaper/article/43819964*

ABRS report

Staff updates

Russell Barrett commenced a permanent contract with ABRS on December 23. Chris Palmer joined ABRS as a *Flora* editor on February 16, replacing Zoë Knapp while she is on maternity leave. Chris has come from the threatened species area of the Department of the Environment and Energy and has a background in invertebrate systematics. ABRS grants manager Ty Harrip moved to the Department of Education in January 2017. Eleanor Hearder has joined ABRS on secondment while a new grants manager is recruited.

Flora of Australia and an Australasian *eFlora* platform

Excellent progress is being made towards a public launch of the new *eFlora* platform being built by the Atlas of Living Australia (ALA). A number of families that have not previously been published have now been edited and uploaded to the new platform, and all previously published content has been imported to the new system, with nomenclatural updates to be made progressively in the coming months.

Two additional development sprints by the ALA in April and May will increase the current functionality of the site and improve both appearance and performance in preparation for the public launch. Treatments already supplied to ABRS are being worked through as priorities allow. New *Guidelines for Contributors* are nearing completion and will be made available in coming months. Two presentations on the Australasian *eFlora* have been confirmed as part of a five presentation e-Flora symposium to be held at the International Botanical Congress in Shenzhen, China, in July 2017.

We are aiming to provide a revised list of priorities for new contributions to the *eFlora* in the next edition of the *Newsletter*.

Fungi of Australia

The new volume covering Australian Inocybaceae has gone through final editorial and pre-press checks and we are anticipating a June release from CSIRO Publishing.

Grants

Applicants for the 2017–18 National Taxonomy

Research Grant Programme's Research and Capacity- building grant rounds have recently been notified of the outcomes. Successful applications will soon be listed on the ABRS website (Web ref. 1).

Bush Blitz

Upcoming planned expeditions

The Bush Blitz team has just left for their expedition to Quinkan country, Cape York Peninsula (March 2017) and we look forward to the results from this poorly surveyed area of the Cape.

References

Web ref. 1: *www.environment.gov.au/science/abrs*

Russell Barrett, Chris Palmer & Anthony Whalen
ABRS, March 2017

Point of view

Copyright and the use of images and biodiversity data

Jim Croft pointed to this publication recently on the ASBS Facebook page. It is a contentious area but, as he pointed out, one in need of addressing.

I would certainly have trouble agreeing with some of the statements made within the text, but this was usually where it referred to zoological rather than botanical practices. For example:

> ... drawings, photos, and maps that illustrate descriptions and circumscriptions of taxa, diagnostic characters, or any other element of the Blue2 list… do not qualify as copyrightable works as they are executed according to pre-established standards and protocols and are not individual in the sense of copyright.

This may be because the authors involved, Willi Egloff, Donat Agosti, Puneet Kishor, David Patterson and Jeremy A. Miller are predominantly zoological but artists that I have worked with would be extremely upset to hear that their work was not considered to be copyright; in all cases the work has been original since pre-existing images were non-existent.

Not only that, the authors do not admit a basic premise. Taxonomic treatments vary considerably with respect to their content – some are highly original, others are much more prescribed and routine; they do not all fit into the same box and making the basic assumption that they do is to denigrate our science.

But make up your own mind and perhaps let us know what you think in a later issue of the Newsletter.

Web ref. *http://biorxiv.org/content/early/2016/11/11/087015*

Robyn Barker

Editorial matters

Apology

We have just noticed that in the last issue of the newsletter the note that the article on Bob Thorne was supplied by Alex George was omitted in the final publication. Apologies for this oversight.

Access to ASBS Facebook

With a new mobile phone and an upgrade of computer software we have finally been able to access the ASBS Facebook page. Yes, we know it is a public page, but access sometimes relies on more up to date technology! In this issue you will therefore find reference to a number of items that appear on the Facebook site. These references are mostly to a selection of papers that we think that the whole membership will find of interest and we are hoping that we can persuade the authors of such postings, when they submit to Facebook, to also email the Newsletter editors with the same information. This will enable us to compile such information more easily and hopefully lead to a better cross-pollination between the two forms of communication. There are in every issue of the newsletter some items which reach their use by date before publication and have to be discarded; these should be presented on Facebook since this forum has the decided advantage of being more immediate; we as editors need to be more proactive here.

Personalia

Maggie Nightingale retires

Anna Monro
Australian National Botanic Gardens, Canberra

Maggie Nightingale was farewelled on Wednesday 1 March with a morning tea attended by a large number of staff members from the Australian National Botanic Gardens (ANBG) and National Herbarium (ANH), and with a special guest appearance by David Jones who had travelled up from the south coast for the occasion. Brendan Lepschi gave a speech highlighting the diversity of Maggie's career (see below) and how much her contributions as a member of the herbarium staff were valued. He particularly noted her attention to detail and tenacity in tracking down and rectifying data issues in her role as Registrar over the last 11 plus years. Brendan presented Maggie with a card featuring photographs of several phases of her career, everyone having abided by her strict instructions for no gifts. Many people had written long and effusive messages within, thanking Maggie for all her efforts in the herbarium (everything from databasing to tea room clean-up) and wishing her well.

Maggie replied with a story of how she had applied for the Registrar job three times before finally attaining it in 2005. She thanked everyone she had worked with over the years for their support and friendship, with particular mention of her co-ANHSIR-databaser, Carmen Evans (Fig. 1). It was revealed that without Carmen's persuasion Maggie's retirement may have occurred five years earlier! Maggie plans to continue at CANB for a short time as a volunteer to sort out some issues of Poaceae curation and to help her replacement make the transition into a challenging role. In the longer term, like many other ex-Canberrans she will be decamping to the south coast to reunite with her husband, John. They plan to enjoy retirement on a property near Towamba, growing their own vegetables and some ornamentals.

Fig. 1. Carmen Evans and Maggie.

Maggie recently summarised her career with these words:

> Maggie worked at ANH or ANBG from 1991 except for 2 periods amounting to about 3½ years, and was employed twice by CSIRO and twice by the Department of the Environment (the 2 partners in the Centre for Australian National Biodiversity Research) during this time. She performed data entry (Fig. 2), updating and validation on both the precursors of the current specimen data base, as well as the current combined one, and was registrar for over 11 years. Other duties at various times were assisting Mike Lazarides with the Flora of Australia project (on some Chloridoid grass genera) and working as a technician (specimen processing and *in vitro* propagation)

Fig. 2. Maggie entering herbarium specimen data.

for the Orchid Research Group, which included David Jones and Mark Clements at that time, for 7 years. As well as her duties as registrar, she was (at least nominally) the curator of Poaceae from 2005, but here she found she was not able to keep up with the volume of work required in that area.

It would be remiss not to chime in that Maggie is (with characteristic modesty) undercutting her work on grass curation. Maggie has an incredible focus on detail and on getting things right. She would chase down data problems like a bloodhound and fix them in a common-sense and consistent way, usually with copious annotations so it was clear what had gone wrong and what had been done to fix it. In my observation, she applied the same level of care to identification and curation and when her other duties allowed her to focus on them. It can take quite a bit of time to identify just a few grass specimens and I am sure Maggie's feelings that she hadn't kept up with the work in curating Poaceae are genuine, but I can assure you it was not for want of dedicated effort.

It's also worth noting that Maggie had very strong links with the ANBG, particularly with assisting the Living Collections staff to wrangle the data that links herbarium vouchers to living plants and also with the Integrated Botanical Information System staff due to her role in data management.

Maggie was also the lead author for 26 genera of Poaceae in volume 44B of the Flora of Australia (describing as new *Ectrosia ovata* Night. and *Zoysia macrantha* subsp. *walshii* Night.) and did some contract editing with ABRS while I worked there, where again her meticulous attention to detail improved the published treatments immensely.

One other thing that has always impressed me about Maggie is her compassion, kindness and interest in her colleagues even when frenetically stressed with work. I observed it in any number of ways over the years. For example, Maggie helped to organise a memorial walk to scatter Laurie Adams's ashes, wrote an obituary for him for the Newsletter (*ASBS Newsletter* 164: 31–38 (2015)) and did a fantastic job despite having fairly scant documentation to base it on. She also did an in-depth obituary for Mike Lazarides (*ASBS Newsletter* 150: 27–35 (2012)), albeit this time with some input from his family. Whenever she attended funerals of Departmental and CSIRO colleagues she always had a kind word with their families about what the person had meant to her professionally and personally.

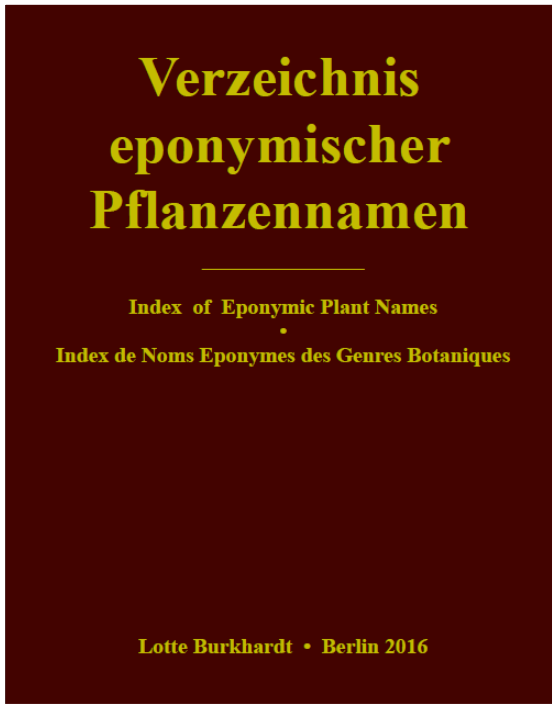
Maggie was also a very conscientious and caring supervisor, particularly during the AVH project, when she had to help manage a large team with tight deadlines and numerous challenges. She always ensured people got recognition for a job well done. With her genuine interest in other people she always seemed to know the names, national origin, family status and interests of the herbarium cleaners (probably because she habitually worked late, which is when they come in). We will all miss her presence in the herbarium and wish her a relaxed and happy retirement.

Book reviews

Eponyms: plants named after people

Review by: Karen Wilson
National Herbarium of NSW, Sydney

Verzeichnis eponymischer Pflanzennamen – Index of Eponymic Plant Names – Index de Noms Eponymes des Genres Botaniques.
By Lotte Burkhardt
Berlin: Botanic Garden and Botanical Museum Berlin, Freie Universität Berlin. 2016.
1119 pp. ISBN 978-3-946292-10-4. doi: http://dx.doi.org/10.3372/epolist2016
Available as free pdf from www.bgbm.fu-berlin.de/de/other-publications/verzeichnis-eponymischer-pflanzennamen



Ever wonder who a plant genus was named in honour of? Wonder no longer: the answer is in this book. Reading it is like browsing Brewer's *Dictionary of Phrase and Fable:* one is led irresistibly by cross-references from one entry to another. Did you know, for example, that genera were named not only after Alexander Selkirk (*Selkirkia* Hemsl.; Boraginaceae) but also after Defoe's fictional characters Robinson Crusoe (*Robinsonia* DC.; Asteraceae) and (Man) Friday (*Vendredia* Baill.; Asteraceae – French 'vendredi' = Friday)?

The book has over 14,000 entries, covering plants, algae and fungi, as well as fossils and generic names that are now synonyms. It is lengthy (1100 pages in smallish print – but one can zoom in on the screen) and could have been reduced quite a bit by not repeating the same biography when several genera are named after the same person. That is my only criticism of the book, which is an extraordinary compendium of potted biographies, covering real people and mythological and fictional characters. It also has some genera named after geographic features that were in turn named after people.

Many botanical and biographical references have been consulted by Lotte Burkhardt, including numerous non-English works that may not be familiar or accessible to English speakers. Others are very familiar, e.g. the *Australian Dictionary of Biography* and *TL-2*.

The text is in German, with a brief English and French introduction. The potted biographies are largely understandable by botanists without knowing German because of the subject matter. However, knowing some key occupational words helps; e.g. Apotheker (pharmacist), Arzt (physician), Bibliothekar (librarian), Chirurg (surgeon), Gärtner (gardener), Geistlicher (clergyman), Gott (god), Illustrieren (illustrator), Kaperschiff (privateer), Kaufmann (merchant), Künstler (artist), Lehrer (teacher), Leibarzt (personal physician), Naturwissenschaftler (natural scientist), Pflanzensammler (plant collector), Politiker (politician), Reisender (traveller), Romanfigur (fictional character), Schriftsteller

(author), Schüler (pupil), Seefahrer (seafarer), Zeichner (draftsman); also 'familial' terms such as Bruder (brother), Frau (wife), Neffen (nephew), Schwester (sister), Sohn (son), Tochter (daughter), Vater (father). Useful verbs to know include fahren and reisen (to travel), geb(oren) (born /né /née), sammeln (to collect) and schreiben (to write). The summary statements at the end of each entry list all eponyms for each person (Eponym(e)), followed by the standard form used for that person as a botanical author (Autorenname), any dedication (Widmung) if present in the protologue, the relevant protologue (Literatur), and occasional references to other information (Hinweis(e)) about that genus or person or comments on orthography.

Lotte Burkhardt is not a professional botanist but has a love of botany. She has retired after a career in banking and insurance, according to a post on the Freie Universität Berlin website (Web ref.). What a great labour of love! And a boon to those who like to know the story behind a botanical name.

Acknowledgments

Thanks to Alastair Wilson for translating some of the German text.

Web ref. *www.fu-berlin.de/campusleben/campus/2017/170102-verzeichnis-eponymischer-pflanzennamen/index.html*

Book notices

A Global Compendium of Weeds. Third Edition.
Edited and published by Rod Randall
Published as a downloadable pdf
ISBN: 9780646967493
www.researchgate.net/publication/313645439_A_Global_Compendium_of_Weeds_Third_Edition

This is Rod Randall's third and final edition of the Global Compendium of Weeds. It can be downloaded for free from the website given above but be aware that this is a large publication and the file is c. 68 MB or 3659 pages. There are also some supplementary sources (taxonomic detail, country and species data) which can be downloaded from the same site. The author is happy for others who host websites to make the text available for download. Permission to do so is included in the introduction.

Biogeography and Evolution in New Zealand.
By Michael Heads. 2016.
CRC Press, Taylor & Francis Group, Abingdon Oxford. 635 pp.
HB ISBN: 9781498751872 Price: £57.99. eBook ISBN: 9781315368177 Price: £40.59
www.crcpress.com/Biogeography-and-Evolution-in-New-Zealand/Heads/p/book/9781498751872

> Provides the first in-depth treatment of the biogeography of New Zealand, a region that has been a place of long-enduring interest to ecologists, evolutionary scientists, geographers, geologists, and scientists in related disciplines. It serves as a key addition to the contemporary discussion on regionalization — how is New Zealand different from the rest of the world? With what other areas does it share its geology, history, and biota? Do new molecular phylogenies show that New Zealand may be seen as a biological 'parallel universe' within global evolution? [Publisher's blurb]

A review of the book by John Grehan can be accessed through Taxacom (Web ref.)

Web ref. *http://mailman.nhm.ku.edu/pipermail/taxacom/2017-February/130901.html*

Flora of North America Volume 12: Magnoliophyta: Vitaceae to Garryaceae
Oxford University Press; 29th Sep. 2016
8½ x 11 inches; 632 Pages
ISBN: 9780190643720
On-line version: http://efloras.org/volume_page.aspx?volume_id=1012&flora_id=1
Web Page: https://global.oup.com/academic/product/fna-volume-12-magnoliophyta-vitaceae-to-garryaceae-9780190643720?cc=us&lang=en&

This is the 20th volume in the planned 30-volume *Flora of North America* series. It covers 29 families. For a complete list of families for Volume 12 and other volumes in the series is

on the web (Web ref.).

Web ref. *http://floranorthamerica.org/families*

Florae Insularum Novae Zelandiae Precursor, or a Specimen of the Botany of the Islands of New Zealand 1837-40 by Allan Cunningham.
Facsimile edition compiled by P.B.Heenan, B.P.J.Molloy & J.R.Rolfe. January 2017. Published by New Zealand Plant Conservation Network Inc., PO Box 16102, Wellington 6242, New Zealand. Hard cover, B5, xiv + 179 pages, ISBN 978-0-473-37834-9, numerous colour & black and white illustrations, index. NZ $50, available from NZ Plant Conservation Network at www.nzpcn.org.nz/shop_products.aspx.

A faithful facsimile of the original which was published in 18 parts over 4 years in two different journals. The original pagination has been retained, along with running page numbers for the whole work, making it far simpler to access than the original. For the first time there is a full index to names. The original illustrations are included and these are supplemented with a portrait of Cunningham, 8 photographs of Cunningham specimens in Kew, an almost contemporary map of Cunningham's collecting localities, and numerous stunning colour photographs of species featured in the work. There is a preface providing the context and history of the original publication, a brief Foreword (Tony Orchard) on Cunningham's importance as an early botanist in Australia and New Zealand, and a facsimile of the obituary of Richard Cunningham. A very useful addition to botanical bookshelves.

History of the Australian Vegetation: Cretaceous to Recent
Edited by Robert S. Hill
University of Adelaide Press (originally published by Cambridge University Press in 1994)
Facsimile republication 2017
ISBN (paperback): 978-1-925261-46-2; $66.00
ISBN (ebook: pdf): 978-1-925261-47-9; free
DOI: http://dx.doi.org/10.20851/australian-vegetation
www.adelaide.edu.au/press/titles/australian-vegetation/

This is a re-issuing as a freely downloadable pdf of a multi-authored book, first published by Cambridge University Press in 1994. It is also available for purchase as a paperback.

When it was first published the book was described as follows by the publisher:

> The Australian vegetation is the end result of a remarkable history of climate change, latitudinal change, continental isolation, soil evolution, interaction with an evolving fauna, fire, and most recently, human i mpact. This book presents a detailed synopsis of the critical events which led to the evolution of the unique Australian flora and the wide variety of vegetation types contained within it. The first part of the book details the past continental relationships of Australia, its palaeoclimate, fauna, and the evolution of its landforms since the rise to dominance of the angiosperms at the beginning of the Cretaceous period. A detailed summary of the palaeobotanical record is then presented. The palynological record gives an overview of the vegetation, and the distribution of important taxa within it, while the macrofossil record is used to trace the evolution of critical taxa.

In his introduction to this edition, Bob Hill has written in part of his desire to create a website that will keep the information up to date:

> During the early 1990s I agreed to edit a book on the Cretaceous and Tertiary fossil plant record of Australia. A huge amount of information was available to be synthesised into a single volume, and I was fortunate to have an excellent group of people to draw on to produce a comprehensive set of chapters. Much of what they wrote has stood the test of time, and hence this reprint of that book should be a very welcome addition for anyone with an interest in the Australian fossil record. However, there have been some great advances in the last 25 years and it is important to recognise the contribution that has been made during that time to our understanding of the overall picture of the evolution of the living Australian vegetation. The best way to do this and to keep it up to date is via a website that provides details of important advances in this area over the last quarter of a century. The details of that website will be made available soon, and I invite everyone to submit relevant publications to that site.

Adelaide's Jubilee International Exhibition 1887-1888: the event, the building, the legacy
Edited by Christine Garnaut, Julie Collins, and Bridget Jolly. 2016.
Crossing Press: Darlinghurst, NSW.
362 pp; illustrations, maps, portraits, facsimiles; 30 cm.
ISBN: 9781876906122; price $49.95 plus postage.
Order via sales@crossingpress.com.au

This multi-authored book on the Adelaide Jubilee International Exhibition is a comprehensive account of the Adelaide Exhibition held to celebrate both 50 years of white settlement in South Australia and of Queen Victoria's reign. The planning, design nd eventual demolition[1] of the magnificent building forms one theme of the book, another is the event itself with its myriad of exhibits and their legacy while the third surrounds the politics and machinations behind the holding of the Exhibition. The State Herbarium of South Australia owes much of its early overseas collections to such exhibitions but that is still a mostly untold story.

Smaller & Taller Eucalypts for Planting in Australia: Their Selection, Cultivation and Management
By Dean Nicolle
Published by the author, 2016.
Two separate titles – ISBN: 9780646957913 (paperback: Taller); 9780646957906 (paperback: Smaller)
222 pages; over 700 colour illustrations (each book)
$35.00 each or $60 for both volumes. .
Web page: www.dn.com.au/Eucalypts_for_Planting.html (available through listed stockists or by mail order).

Written for anyone interested in the identification, selection, growing, management, and appreciation of eucalypts in gardens, streets, parks, and on farms. The two books treat 164 eucalypts suitable for growing in Australia, many of them already commonly grown, while others are rarely planted but have potential for much wider use. Sample pages are shown on the web page and layout is similar to the earlier Native Eucalypts of South Australia by the same author, although the headings are different and with an emphasis on cultivation.

[1] Demolished in 1962/3 to make way for a car park and the Napier Building of the University of Adelaide, these too are now earmarked for demolition and replacement: see the University's masterplan at *www.adelaide.edu.au/masterplan/*

New Zealand publications

The New Zealand Native Orchids Group has two publications of possible interest to members. Both can be viewed and ordered online (Web ref. 1).

A Pocket Guide to the New Zealand Native Orchids
Author and publisher: The New Zealand Native Orchids Group. 2015.
ISBN 9780959793178. Price: $NZ35.00 plus postage and handling.

A must have guide to NZ native orchids showing what they look like and where to find them. Each species in this convenient pocket sized handbook is described and illustrated with colour photographs and distribution maps. The Guide is designed to keep things simple and to help you quickly and easily identify NZ's native orchids. [Adapted from the publisher's blurb].

Colenso's Collections
Compiled by Ian St George. 2009.
Price: $NZ25.00 + postage and handling (book + CD ROM). 400 pp.

The contents of the book and some sample pages can be viewed through the website.

Anyone dealing with New Zealand plant taxonomy will probably encounter some of this man's collections. This compilation of material surrounding Colenso includes itineraries, indexes to collections in WELT, place names, letters written to Allan Cunningham and the Hooker's at Kew (from which the provenances of some collections have been ascertained) along with biographical details. There is an index to genera referred to in Colenso's letters in the publication but since the purchase also includes a PDF version on CD ROM it might be quicker to search by this means.

Pat Brownsey provided a review of the book at the time of publication (Web ref. 2).

Web references

1. *www.nativeorchids.co.nz/Publications.htm*
2. *http://blog.tepapa.govt.nz/2009/03/26/colensos-collections/*

Coming conferences

Systematics 2017: Integrating Systematics for Conservation and Ecology

A joint meeting of the Australasian Systematic Botany Society, the Society of Australian Systematic Biologists, incorporating the Invertebrate Biodiversity and Conservation Biennial Meeting.

Adelaide, 26–29 November 2017

Conference update

Planning for Systematics 2017 is well advanced. The call for symposia has closed (April 14) and a number of exciting symposia that have been put forward. Among the preliminary list are:

- New Zealand-Australian palaeobotany;
- A national eFlora workshop;
- Biogeography: Asian-Australasian biotic exchange;
- Plant systematics and palaeoecology;
- The role of systematics and ecology in conservation monitoring of groundwater ecosystem biodiversity;
- Systematics 2027: the Decadal Plan for Taxonomy and Biosystematics in Australasia;
- New Zealand– Australian connections in systematics.

We are excited to confirm our Plenary speaker will be Dr Jonathan Coddington. He is a world leader in biosystematics and in the application of new technologies to the documentation of global biodiversity. Dr Coddington is the current Director of the Global Genome Initiative (GGI) within the Smithsonian's Institute for Biodiversity Genomics. We look forward to Jonathan's contribution to our conference.

We are planning to have the registration process open before the end of the financial year! Please keep up to date by visiting the conference website. We recommend you register for updates with your email.

Conference website

https://systematics.ourplants.org

Dates

Sunday, 26 November 2017 — pm welcome function

Monday–Wednesday, 27–29 November — scientific program (concurrent sessions)

Venue

University of Adelaide, South Australia.

Michelle Waycott, co-convener
Email: *michelle.waycott@adelaide.edu.au*

International Botanical Congress

The IBC (July 23–29 July) is almost upon us (where has the time gone?) and most of those attending have probably already made their arrangements, but you still have until June 15th to register. The preliminary programme for the general symposia is now online (Web ref. 1) and if you are attending the nomenclature session in the previous week (July 17–21) then the synopsis of *Proposals to amend the Code* was published in the February 2017 issue of Taxon (Web ref. 2). Individual members of IAPT who are eligible to vote in the preliminary guiding vote will receive a voting form and have until 31st May to lodge their opinions on each of the 397 proposals. Those attending the nomenclature session will have a personal vote but may also be asked to carry some of the institutional votes for those Australian herbaria who have no representatives attending. Changes in the institutional votes from the Melbourne Congress were announced in the December issue of Taxon (see below).

Web ref. 1. *www.ibc2017.cn/*

Web ref. 2. *https://doi.org/10.12705/661.36*

Institutional votes for 19th IBC

The Special Committee on Institutional Votes was established at the 18th International Botanical Congress (IBC), in Melbourne in 2011, to consider the procedure by which institutional votes are allocated and to report to the 19th IBC in Shenzhen in 2017. The Committee sent its recommendations for changes to the list of institutional votes for the Melbourne IBC to the Bureau of Nomenclature, which, in collaboration with the

Special Committee, revised the list to produce the new list for the Shenzhen IBC. This new list was sent to the General Committee for final approval, as required by the International Code of Nomenclature for algae, fungi, and plants. The General Committee approved the list, which is presented in the report by Funk & Turland (2016). [Adapted from abstract].

Reference

Funk, V.A. & Turland, N.J. (2016). Institutional Votes at the XIX International Botanical Congress, Shenzhen, 2017: Report of the Special Committee on Institutional Votes. *Taxon* 65: 1449-1454. *https://doi.org/10.12705/656.33*

A Collections Meeting With a Difference
Genomics, Collections, Adaptation and Phylogeny

Canberra, 12–14 September 2017
http://cba.anu.edu.au/news-events/genomics-and-collections-adaptation-macroevolution

An invitation to join us at a meeting at CSIRO Discovery in Canberra this coming September. Its theme will be the interplay between collections (museums, herbaria), and genomics - but with a few twists.

Part of the meeting will address phylogenomics and collections. ... The other part of the meeting will address collections and adaptation. We want collections-based biologists, genomicists and evolutionary biologists to come together and talk about steering a course to future collaborations that will see museum and herbarium collections play more of a role in understanding adaptation.

If your work deals with systematics and phylogeny, consider how disentangling historical markers from functionally significant and adaptive markers in the age of genomics is as important as it's ever been. Think about how working in a collection puts you in the perfect position to work productively with genomicists and evolutionary biologists who will be keen to use the specimens in the collections to achieve a more complete understanding of evolution, both in terms of phylogenetics and adaptation/function.

If you are more a molecular biologist, genomicist or evolutionary biologist who has not worked much with collections, come and tell us how you think the diversity of specimens in collections (from traditional dried specimens to cryofrozen tissue samples and RnaLater samples) could promote your work and what you might want collections workers to do differently when they acquire specimens into the future.

Invited speakers include: *Judith Mank*, Univ. College, London; *Jeffrey Good*, Univ. of Montana; *Corrie Moreau*, Field Museum of Natural History, Illinois; *Emily Moriarty* Lemmon, Florida State Univ.; *Michael Harvey*, Museum of Zoology, Univ. of Michigan; *Rick Sturm*, Inst. of Molecular Biosciences, Univ. of Queensland; *Paul Sunnucks*, School of Biological Sciences, Monash Univ.; *Sarah Mathews*, Australian National Herbarium, CSIRO, Canberra; *Andrew Young*, National Research Collections Australia, CSIRO, Canberra; *Andreas Zwick*, Australian National Insect Collection, CSIRO, Canberra

Financial assistance will be available to encourage Early Career Researchers to attend.

For more information, contact Leo Joseph (*Leo.Joseph@csiro.au)* or Claire Stephens (*Claire.Stephens@anu.edu.au*).

Australasian Systematic Botany Society Inc.
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Please direct enquiries to Treasurer John Clarkson (*treasurer.asbs@gmail.com*).

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Contacting major Australasian herbaria and systematics institutions

International calls. Australia +61, New Zealand +64, then drop leading zero from bracketed area code

AD tel: (08) 8222 9307 fax: (08) 8222 9353 *www.environment.sa.gov.au/Science/Science_research/State_Herbarium*	HO tel: (03) 6226 2635 fax: (03) 6226 7865 *www.tmag.tas.gov.au/collections_and_research/tasmanian_herbarium*	MEL tel: (03) 9252 2300 fax: (03) 9252 2350 *www.rbg.vic.gov.au/science/herbarium-and-resources*	NSW tel: (02) 9231 8111 *feedback@rbgsyd.nsw.gov.au* *www.rbgsyd.nsw.gov.au*
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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. Members are entitled to attend general 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 (www.asbs.org.au), 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 Australasian Systematic Botany Society Inc., and remitted to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

ASBS publications

Australasian Systematic Botany Society Newsletter

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Cost: Free

***Australian Systematic Botany Society Newsletter* No. 53**
Systematic Status of Large Flowering Plant Genera
Edited by Helen Hewson, 1987

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*.

Cost: Number 53: $5, plus $1.75 postage (in Australia)
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Evolution of the Flora and Fauna of Arid Australia (book)

Edited by W.R. Barker & P.J.M. Greenslade.
Peacock Publications, ASBS & ANZAAS, 1982

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.

Cost: $20, plus $10 postage (in Australia).
This book is almost out of print. There are a few remaining copies.

To order a copy of this book email Bill Barker at: *bill.barker@sa.gov.au*

History of Systematic Botany in Australasia (book)

Edited by P.S. Short. A4, case bound, 326 pp. ASBS, 1990

No longer available

Australian Systematic Botany Society Newsletter

The Newsletter keeps ASBS 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.

Every effort is taken to distribute the Newsletter quarterly; delays or rare combined issues are attributable usually to the availability of the Editors who act in a voluntary capacity rather than to lack of copy. As soon as possible after compilation of each issue a searchable pdf version (in full colour) is placed on the Society web site and announced to members by email, and printed copy (in grey scale) is produced and distributed to members who have requested it.

Citation: abbreviate as *Australas. Syst. Bot. Soc. Newslett.*

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Providing hyperlinks and DOIs. The on-line version of the Newsletter is now enhanced with active hyperlinks to references on the Web. To ensure this in their contributions, authors should include the URLs of these links (*but do not hide them behind text*). The Editors will not undertake to do this work for you, but will check links provided are active (and therefore accurate) for the on-line pdf.

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The Editors

Please contact us for clarification or additional information.

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