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Loose-leaf inclusions with this issue

- Form for nominations for Council for 2003-04
- 2nd circular for 150 Years (National Herbarium of Victoria) conference in Melbourne

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From the President

It is both an unexpected pleasure and an honour to have joined the Council of ASBS as President. As a biologist committed to conservation and celebration of biodiversity, I am acutely aware of the foundation provided by systematics to all such endeavour.

Moreover, what an exciting time to be involved in plant systematics, especially in Australasia. Who cannot thrill at the power and scientific rigour recently brought to our discipline by molecular phylogenetics? We are also in the throes of an age of discovery and description of the Australian flora at specific, generic and familial levels, to me every bit as exciting and productive as that of Robert Brown two centuries ago.

Building on a tremendous legacy of Australasian systematic research, we now have the tools to investigate questions of evolution, phylogeny and phylogeography that were intractable in the 1980s. We have opportunities for botanical exploration and mobility across the landscape undreamed of by many older members of ASBS such as myself when we were young researchers.

Sadly, we also have less and less native vegetation on land and in the water to explore as incremental destruction of Australia's natural heritage continues, in some areas at rates ranking alongside those regarded as the world's worst (e.g. the brigalow belt). There is increasing urgency to train and adequately fund ongoing plant systematics professionals if the nation is to live up to its commitments in biodiversity conservation.

How can ASBS best achieve its objectives? Is it enough to produce this newsletter, host an occasional conference, and publish or co-publish the odd book, demanding as these tasks are for a dedicated and unpaid Council? Perhaps it's time we developed a more strategic approach as a society, setting ourselves simple clear objectives over meaningful timelines and doing our level best to achieve them. As a naïve and optimistic incoming President, I'm happy to commit to helping with such an initiative if the membership desires. I would value hearing from you on this issue. If there is something worthwhile and practical Council could do to better serve your Society's aims, do let us know.

As always, I look forward to catching up with many of you when I'm able to travel. I hope we attract record numbers to the forthcoming AGM in Melbourne in September, and help the National Herbarium of Victoria celebrate its first 150 years.

Steve Hopper
Kings Park & Botanic Garden

ASBS Inc. Business

Annual General Meeting

The Annual General Meeting of the Australian Systematic Botany Society Inc. will be held during the National Herbarium of Victoria 150 years conference at Melbourne University from 5:00 to 7:00 p.m. on Thursday 2nd October 2003.

Council elections: nomination forms enclosed

In accordance with the Society's Rules, nominations are hereby called for all positions on the Council for the 2003-2004 term of office: President, Vice President, Secretary, Treasurer and two Councillors.

Each nomination must be proposed by two financial members, and the nominee's acceptance of the nomination must accompany the nomination form. Nominations must be made on the form included in this *Newsletter* or a facsimile of it. All nominations must be in the hands of the returning officer (Brendan Lepschi) by Friday 30th May, 2003.

Hansjörg Eichler Research Fund awards for 2002

Five plant systematists applied for this year's Hansjörg Eichler Research Fund awards. The competition was tough and applications were all of a very high standard. Following assessment of the applications by the Eichler Research Committee, a total of $3000 was made available from the Fund.

The following three researchers have been awarded $1000 each for their respective projects:

- Siti Ariati (University of Melbourne): Preliminary DNA work to identify the informative region for the *Acacia victoriae* group.
- Rebecca Dillon (University of Tasmania): Field trip to collect Proteaceae in North Queensland for anatomical purposes.
- Greg Guerin (University of Adelaide): Evaluation of microcharacters in *Hemigenia*/*Microcorys* (Labiatae).

Congratulations to these applicants, and thanks to all who put time and effort into applying for the award.

Brendan Lepschi

Hansjörg Eichler Scientific Research Fund Applications for 2003

Applications to the Hansjörg Eichler Scientific Research Fund will close on 31st August 2003.

Applications are welcomed from all current financial members of the Australian Systematic Botany Society. The project must contribute to Australian systematic botany, must be carried out within Australia and the applicant must be attached to an Australian research institute.

The maximum grant awarded will be $1000. Large capital items will not be considered.

Students, recent graduates and postgraduates will be given preference. Applications will be assessed on the quality of the applicant and the proposed project. The project should be clearly defined in scope and preferably result in a publication.

The Grant Application Form is available from the ASBS Web site from where it can be saved as an electronic file, or from the Secretary of ASBS.

***Web**: www.anbg.gov.au/asbs/eichler/index.html*

Articles

Baking bread and drying plants

Robyn Barker
State Herbarium of South Australia

In preparing for the Encounter 2002 display in the State Herbarium last year (Symon 2002) I had hoped to be able to glean from the diaries available just how botanists went about collecting plants and how they dried and stored them during the long voyage in what were usually leaky ships. Unfortunately there are only passing mentions to give a tantalising glimpse of how they operated. A recent article in the *South African Botanical News* (Uiras 2002) about a field drying method involving the use of a bread oven reminded me of this search for information. Reproduced below are bits and pieces I was able to find about just how some of the early botanists on board ship went about their routine duties in the cramped, wet and vermin-infested conditions.

The naturalists of the *Endeavour*

A letter from John Ellis to Linnaeus (Duyker 1998) concerning the naturalists on board the *Endeavour* and their equipment is often quoted.

> No people ever went to sea better fitted out for the purposes of Natural History, nor more elegantly. They have got a fine library of Natural History; they have all sorts of machines for catching and preserving insects; all kinds of nets, trawls, drags and hooks for coral fishing; they have even a curious contrivance of a telescope, by which, put into the water, you can see the bottom to a great depth, where it is clear. They have many cases of bottles with ground stoppers, of several sizes, to preserve animals in spirits. They have several sorts of salts to surround the seeds; and wax, both beeswax and that of the Myrica; besides there are many people whose sole business is to attend them for this very purpose.

Well equipped they might have been, but this quotation gives little insight as to how Banks and Solander managed their plant collections and how they pressed their plants.

In his introduction to Banks's diary, Beaglehole (1963) quotes from a letter by Banks to someone in Sweden in 1785, where he reminisced about Solander and documented their daily regime on board ship.

> We had a suitable stock of books relating to the natural history of the Indies with us; and seldom was there a storm strong enough to break up our normal study time, which lasted daily from nearly 8 o'clock in the morning till 2 in the afternoon. From 4 or 5, when the cabin had lost the odour of food, we sat till dark by the great table with our draughtsman opposite and showed him in what way to make his drawings, and ourselves made rapid descriptions of all the details of natural history while our specimens were still fresh.

After this, the descriptions were copied by an amanuensis and the plants pressed. Again, there is no real picture of how the pair operated when collecting plants. The only reference found was when Banks wrote on the 2nd May 1770 at Botany Bay.

> Our collection of Plants was now grown so immensely large that it was necessary that some extraordinary care should be taken of them least they spoil in the books. I therefore devoted this day to that business and carried all the drying paper, near 200 Quires[1] of which the larger part was full, ashore and spreading them upon a sail in the sun kept them in this manner exposd the whole day, often turning them and sometimes turning the Quires in which were plants inside out. By this means they came on board at night in very good condition. (Beaglehole 1963, vol. 2, p. 58)

On the *Investigator*

From Peter Good's diary, it appears that it was the practice to carry a large tin box for the specimens to be placed in

> Set out early in the morning in company with Mr Brown, Bell, Bauer, etc for Cape Town, each carried provisions and a large tin box for specimens etc. (Oct 24th Cape Town; Edwards 1981)

Whether this large tin box was always taken is uncertain, but it seems likely that it was, at least on prolonged excursions. The carrying of such a tin box may have been the reason why the servants became exhausted on the traverse to Mt Brown, South Australia, and subsequently stayed at the base of the mountain while the rest of the party climbed it. Such a large tin box may well have been contemporary with or precursor to the more portable tin vasculum, the use of which was evolving at about this time.

On the 5th August 1802 at Port Curtis, Brown was attacked by the local aborigines, and recorded:

> I was at this moment employed in putting specimens of Plants in paper and had scarcely time to collect my scatter'd paper boxes &c & make a hasty retreat. (Vallance et al. 2001, p. 238).

Clearly paper was used to dry specimens, even though paper making was still all done by hand and from rags (British Association of Paper Historians, 2003). That paper was in short supply and was unavailable in the new colony is evident from three letters that Brown wrote from Port Jackson, after the southern traverse of Australia. On May 30th 1802 he wrote separately to Banks, Dryander and Greville. To each he commented on the lack of paper and his need for more, and one gleans some idea of the difficulty of storage of this paper. To Dryander he wrote:

> I have very unfortunately lost part of my paper from the dampness of the place in which it is kept. What remains is far from sufficient for the remainder of the voyage. I, therefore, take the liberty of begging you to purchase for me 8 reams[2] of Imperial brown paper. It is fully the size of cartridge. Its price when we left England was one pound 2 shillings per ream, and for the far greater part of the plants of this country, I find it, upon the whole, much superior to cartridge paper… If I do not get a supply of this most necessary article before our return to Port Jackson I shall be truly miserable, for paper of any description is not to be had here. (Vallance et al. 2001, p. 207).

And to Greville:

> I have had the misfortune to lose some of my paper from the dampness of the magazine, and what remains is far from being suff't for the whole voyage. Paper of any kind is not to be had here. I have, therefore, written to Mr Dryander to purchase me 8 reams of large brown paper (called Imperial crown paper). I find it for the greater No. of plants of this country much superior to cartridge, and less liable to be attacked by mice, with which we are much infested.
>
> I have found C. Flinders upon all occasions ready to give me every opportunity of collecting, but I find considerable difficulty in procuring proper, or indeed any, boxes made for my collection, or a safe place to place it in. (Vallance et al. 2001, p. 208).

The storage of the specimens collected was a very big problem in Brown's mind. This forms a major subject of his letter to Joseph Banks, penned on the 6th August 1803 on his return to Port Jackson for the second time. It is here that we find the mention of the use of the beams of the bread

[1] A quire is 24 sheets.

[2] A ream is 480 sheets of paper.

room for storage of specimens, presumably because it was at least warm and dry.

> I have now to mention a circumstance which has very materially injur'd the object of my mission. Which you perhaps, from your own experience, will be less surpris'd to learn than I was to meet with: it is the impossibility I have experienc'd of procuring proper boxes for my collection. On my application to Cap'n Flinders for these during the first cruise[3], I was told that they could not be made then, but that I would have them on arrival at Port Jackson. In the meantime the plants were put between the beams of the bread-room, where, altho' they remained tolerably dry, yet they suffered very much from mice and insects. (Vallance et al. 2001, p. 420).

Some boxes were made but these proved to be very flimsy and Brown had once more to resort to the bread-room on the second part of the voyage. But he had also discovered another source for storing his precious specimens – rum puncheons, of which there were presumably a large supply because of the daily rum ration for each man on board.

> In our last cruise[4] the bread-room was again had recourse to, and as before the specimens suffered much, not only from mice and insects, but from a moist atmosphere, all of which evils boxes would have sav'd them from. On our return here, in June last, despairing of being able to procure boxes of any description, I thought of employing [rum] puncheons. These I suppos'd would be more easily had, and would run less risk in the hold of the ship, either from accident of the admission of wet. The only objection to them was that the specimens would probably suffer from being bent, and this as far as the paper would permit, I have endeavoured to obviate by putting boards in the cask on which the parcels in a great measure rest. (Vallance et al. 2001, p. 420).

The rum puncheons must have proved to be satisfactory since J.D.Hooker recalled Brown's advice to him as a young man, just embarking on his own world voyage (Hooker 1890)

> When preparing myself for a similar voyage to that he had undertaken, he gave me much information respecting his own sea-life, together with invaluable advice. Above all things he told me not only to collect assiduously and in duplicate, but to make notes and observations on the living plant, and an accessible classified herbarium of small specimens of every species collected, stowing away the duplicates in empty rum-casks, headed up, where they should be safe from damp, rats and insects.

[3] The southern part of the voyage.
[4] The northern part of the voyage.

On the French ships

A possible source of information on collecting methods is the list of supplies taken on board ship. These are sometimes listed as an appendix to the account of a voyage. In the case of the French ships *Geographe* and *Naturaliste*, under the command of Nicolas Baudin, such an appendix is included within Baudin's journal (Cornell 1974). Within it are listed contents of each case taken on board. On each ship there were three cases, each containing eight reams of drying paper, and another case containing a single plant press, two tin boxes, two leather bags shaped like game bags and a myriad of smaller articles such as twine, notebooks, pruning knives, hand-saws, magnifying glasses, pens with inkstands, pencils and cartons lined with canvas.

Thus it would appear that the naturalists carried out their duties in a similar fashion and with much the same equipment as we use today. Apart from obvious technological differences (biros, secateurs, hand-lenses, plastic and calico bags, newspaper) and the ability to carry a camera rather than taking along an artist, little is different. The major innovation is our ability to know where we are; we have maps, where they were in the process of making them.

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Canberra's Student Botanical Internship Programme

Anthony Whalen
Australian National Herbarium

Now in its eleventh consecutive year, the Student Botanical Internship Programme of the Centre for Plant Biodiversity Research was originally conceived by Bob Makinson as a means to help supplement technical labour in the herbarium of the Australian National Botanic Gardens (CBG), whilst providing tertiary science students with valuable "industry" work experience. The programme then became an important part of the merger between CBG and the CSIRO's Herbarium Australiense, forming the combined Australian National Herbarium (CANB) within the Centre. Since the programme's inception in 1992, the annual intake of students has provided a valuable labour force for assisting with herbarium curation and botanical research. It is unique in Australia, the only comparable internship programme (so far as we know) being that offered by the Smithsonian Institute in the United States.

Interns in amongst the heath at Jervis Bay, January 2002

The Internship Programme starts in early January each year and runs full-time for eight weeks. As participation is unpaid and voluntary with no accommodation support, only the most motivated students take part. The average week is typically divided between training sessions and working in teams to provide basic herbarium assistance.

A total of 174 students have now participated in and graduated from the programme. The majority of intern graduates are successful in obtaining employment in science, particularly botany, and many are now working in fields as diverse as environmental policy development, National Park management, revegetation and rehabilitation, plant systematics and, of course, herbarium support. Others have found the internship helped provide direction into other areas of science, or spurred them to go on to further studies, with at least 15 previous interns having progressed to studies in botany or environmental science at Ph.D. level. CANB currently has eight ex-interns on staff, proving that the programme is a valuable "try before you buy" exercise. The programme has also had the effect of "stretching" CANB's staff in healthy ways, helping staff develop supervisory skills, as well as providing others with the opportunity to teach, through preparing training sessions and seminars as part of the programme.

This year, 18 students and graduates from 11 Australian universities were represented along with a number of individuals from overseas. Over the years students from the United States, Germany, Hong Kong, Thailand and Canada have given the programme an international flavour.

Interns provide assistance in a number of areas around the Herbarium and in associated research projects, but the main emphasis is on curatorial assistance. One area that has received considerable input in recent years has been the processing of herbarium specimens in "priority families" for the Australia's Virtual Herbarium (AVH) project. Other areas of intern assistance have included mounting and incorporation of vascular and non-vascular specimens, plant identification, assistance with loans and exchange, data entry, determining specimen geocodes, spirit collection maintenance, and general laboratory and herbarium tasks. Assistance has been also provided to CANB researchers, and in 2003 interns assisted with projects on interactive keys and fire ecology, as well as taxonomic research in Myrtaceae, Orchidaceae and Polygalaceae.

Interns surveying the aftermath of the Canberra urban bushfires, February 2003

Fieldwork is one of the highlights of each year's programme. This year the worst fires in Canberra's history disrupted a number of the planned local field trips, However, the now regular four-day residential field trip to Jervis Bay went ahead. It featured a mock ecological survey requiring intense plant identification and a specimen tracking exercise using old records and Global Positioning Systems (GPS). On return to Canberra, and once the fire danger had subsided, the opportunity arose for a project investigating fire behaviour, under the direction of retired CSIRO Fire Ecologist Malcolm Gill. This day-long survey was an exercise in forensic data recording that the interns found particularly interesting. It even captured the attention of the local media; local TV and radio stations interviewed a number of interns on the survey.

Overall, the 2003 Internship Programme was very successful. Each year it is staggering how much work gets done in the two months. As current coordinator, I hope the programme will run for many more years to come.

Development of the *Rules* of the Australian Systematic Botany Society

W.R. (Bill) Barker
State Herbarium of South Australia

This survey of the development of the constitution of the Australian Systematic Botany Society would have been very useful in assembling the extensive, recently adopted amendments. It was commenced and partially compiled just prior to the 2002 Annual General Meeting to check for past views and decisions and to provide a background in the comparative document that accompanied the ballot.

In its now reasonably complete state this survey of amendments hopefully will assist in future proposals. Surprisingly, because the Society has now adopted five amendments to the original *Constitution and Rules* devised 30 years ago, future proposals for constitutional amendment are not unlikely, although many would find the prospect less than desirable. The *Newsletter* has been used as the principle source of information. Minutes of Council meetings were not consulted; it is unclear what is archived in Melbourne.

Backdrop

Thirty years ago, almost to the day, on 7th April 1973, the *Australian Systematic Botany Society* was formed by an enthusiastic congregation of plant systematists from across the country who met at the National Herbarium of Victoria in Melbourne (George 1981, 1998). One major catalyst, from my memory of events, had been the activities surrounding a proposal by John Beard and Sir Maurice Mawby in the early 1970s to fund a current-knowledge *Flora of Australia* on an unrealistic funding base and time frame. It resulted in debate around the country. In Adelaide, for example, a meeting of ten to a dozen government taxonomists, lecturers and postgraduate students was convened by Hansjörg Eichler. It met several times at the State Herbarium to discuss and finally vote on options for use of the Mawby funds. The result was a more realistic alternative, an *Index to Australian Plant Names*, compiled by Nancy Burbidge in Canberra (see Catcheside 1974), the forerunner of the *Australian Plant Names Index*, which today facilitates our ongoing revisional studies. Proposed options and debate that took place in that period are detailed in George (1981) and George et al. (1999).

And so, the meeting in Melbourne was one way of ensuring that plant systematists took control of their destiny[5]. Selwyn Everist (1974), head of the Queensland Herbarium, discerned a wind of change in plant taxonomy in his opening "call to arms" in the Society's first *Newsletter:*

> To the botanists of the older generation it is particularly heartening that the younger taxonomists are sufficiently aware of their importance and scientific standing to speak out… For many years we have been taken for granted by those in other disciplines who always beat a path to our doors when they want a plant identified but have been either apathetic or condescending when it comes to recognition of systematic botanists as scientists.

I remember well those attitudes in botanical colleagues. It was a time when training of a new generation of systematists in the nation's capitals was in full swing and warranted this adventurous move. The new Society and its newsletter were established, despite the demise of *Australian Herbarium News*, newsletter of the Systematic Botany Committee of ANZAAS, 18 years earlier (Everist l.c.; George 1981). The respected place

[5] The Council of Heads of Australian Herbaria was also founded in 1973 (George et al. 1999), presumably for similar reasons.

of plant systematics in Australian biological science today and its continued attractiveness to new generations of students show the wisdom of those who drove the formation of the Society.

Robyn and I were driven to Melbourne for the meeting by David Symon. The Eichlers also went by car, as I suspect did others from Canberra and possibly even further afield. We experienced a National Herbarium lecture theatre full of taxonomists. I can also remember dining later at a nearby restaurant at the same table as Des Boyland, Don McGillivray, Bob Parsons and one who typically splashed out on a rich red or two, Dick Schodde.

1973: the original *Constitution and Rules*

One resolution of that inaugural meeting, chaired by Carrick Chambers, was to draw up a constitution. Denis Carr stressed the need to "keep it simple". For example, membership, he said, should simply be gained by payment of fees on application and continued by remaining financial.

The Society did not begin as an incorporated body. The original "*Constitution and Rules*" were framed by a process agreed at the meeting. This included consultation with the widely dispersed membership, as indicated in the following report by the founding President, Trevor Whiffin, to the General Meeting of the Society in Perth on 17th August 1973 (Henderson 1974):

> The President briefly outlined the history of the preparation of the Constitution and Rules.
>
> "The original draft of a constitution was drawn up by Roger Carolin and Don Blaxell. This was discussed by a number of groups of botanists around the country, and their comments sent to Melbourne, where they were incorporated into a composite draft rules, which was available to the inaugural meeting. Also before that meeting, as recorded on the minutes, were further comments from a Canberra meeting, and a draft constitution by Professor Carr.
>
> "The inaugural meeting founded the society, and passed to the Council these various documents, with instructions to "draw up the best possible Constitution and supporting Rules". The Council had before it, then, these various documents, and it had also the feeling of that inaugural meeting, some expressed in the form of motions, and others that emerged from a general discussion without being expressed in a formal motion. The Council took all these into account, and produced a Constitution and Rules best following the dictates of the inaugural meeting, while also maintaining consistency and logic. This is the Constitution and Rules that you have before you.
>
> "The Constitution and Rules are complete and contain all the necessary elements, including the ways and means of amending them. The inaugural meeting in Melbourne required that the Constitution and Rules be put before this meeting for adoption, and this I now propose to do."
>
> The proposed Constitution and Rules having been previously circulated among members, it was moved by Dr. Brittan, seconded by Dr. Churchill, that these be accepted. The motion was carried unanimously.

The original *Constitution* set out the name of the Society and its aim "to promote the study of systematics", and its membership "open to all those interested in systematics". Conduct was by means of a Council of the same six members as now, with a term of office being the period between General Meetings and there being no more than four consecutive years for any Council member but just two for President and Vice-President. Members only could vote and the subscription would be subject to determination at a General Meeting to be held at least once every two years. Accounts would be audited for each General Meeting and changes to *Constitution and Rules*, proposed by at least four members, would be determined by majority vote.

The accompanying *Rules* set out more detail on matters of membership (gained by payment of annual subscription, lost by being two years in arrears), resignation (by letter to the Secretary along with dues), calling of meetings of Council and procedures for election to it, the financial year (being the calendar year), auditing and signing of cheques, notice and conduct of the General Meeting (a quorum of 13 members required for decisions), and alteration of the *Constitution* or *Rules* (voting by post to all members).

The 1983 amendments

In 1983 three proposals for consideration at the 8th General Meeting of the Society to be held on 17th May 1983 were published in the *Newsletter* (Anon. 1983). They were: cementing the responsibility of Committees to Council; earmarking of 50–75% of the annual subscriptions to production of the *Newsletter;* and making the *Newsletter* Editor an *ex-officio* member of Council. The proposals prompted a response from across the country; eleven proposals, from 13 members in groups from Canberra, Melbourne and Brisbane, were discussed before the May meeting (West 1983a).

The additional proposals included alternatives to each of the three earlier proposals, syntactical and formatting changes, and the additional provision that no member could hold more than one position on Council simultaneously. The minutes (West l.c.) record comments sent from Adelaide and Canberra Chapters as well as from the floor.

Forms for the subsequent ballot of members accompanied the June *Newsletter* and the results were announced in the September issue (West 1983b). Of the 335 members 63 responded. Approved were the limitation on members on holding one position at a time, clarification that Committees were responsible to Council, and several syntactical changes. Proposals to place the Editor on Council and restrict expenditure of Society funds were rejected.

At this time Council established a Constitutional Sub-committee, convened by Rod Henderson, to investigate further changes that would be needed for incorporation of the Society (West 1983c).

1986: major changes with incorporation

In 1986 the Society decided to become incorporated under the Australian Capital Territory *Associations Incorporation Ordinance 1953*. This required amendments and additions to the *Constitution and Rules*. The opportunity to introduce other changes was also taken by the Constitution Committee,. The proposals were set out in a draft *Constitution and Rules* in the March *Newsletter* (Henderson 1986) with accompanying explanatory notes and call for debate.

On 26th August 1986 Council met and discussed an upgraded proposal based on response from the membership. The resulting slightly modified proposals were then tabled and discussed at the 10th General Meeting that day (Constitution Committee 1986a; Haegi 1986a).

A final check by the Corporate Affairs Commission prompted some further minor modifications (Constitution Committee 1986a). The final proposed *Constitution and Rules* (Constitution Committee 1986b), together with a ballot paper and accompanying notes (Constitution Committee 1986b) were included with the September *Newsletter* (Crisp 1986a). Announced in the December *Newsletter* was the result, "a unanimous vote for their adoption by the 77 members participating in the ballot" (Haegi 1986b). With an advertisement on the intention to apply for incorporation having appeared in the Public Notices of the *Canberra Times* on 14th October 1986 and with the approval of mandatory changes to the *Constitution and Rules*, incorporation was achieved in December 1986 with Mike Crisp the first Public Officer (Crisp 1986b).

Incorporation led to several mandatory inclusions to the *Constitution*:

- addition of "Incorporated" to the Society name;
- provision for use of Society income solely for promoting its interests;
- provision for the appointment of a Public Officer by Council whose role was to ensure that the Society operated in compliance with the legal requirements of incorporation;
- provision for a Common Seal for the Society with instructions for use.
- additional clauses on the annual auditing of the accounts prepared by the Treasurer where the Auditor(s) could not be part of the Society's membership, with a copy of the certified accounts being filed with the Corporate Affairs Commission;
- provision that any changes to the *Constitution and Rules* to be filed through the Public Officer with the Corporate Affairs Commission within one month of determination;
- provision for dissolution of the Society in compliance with the *Incorporation Ordinance* and the *Australian Capital Territory Companies Act*.

In addition to requirements of incorporation, proposals to amend the *Constitution* included:

- restriction of "systematics" to "plant" systematics in the Society's Aim and in defining Membership. This did not preclude promotion of systematics in a wider context;
- restriction of voting to financial members;
- provision that a 65% majority vote, based on a proposal of four members, be required for changes to the *Constitution and Rules*;
- restriction of the appointment to Public Officer to a financial member, who resided in Canberra and was not a member of Council unless independently elected,
- making the Public Officer responsible to Council;
- the inclusion of the *Incorporation Ordinance* as an annexure to the *Constitution and Rules* to which Council should be bound.

Changes to *Rules* additional to the requirements for incorporation included:

- provision for termination of a membership for the first time – by majority vote of at least four Council members;
- formalisation of the practice of student membership at a rate no less than 50% of regular membership, ratified at each General Meeting, with same rights and priveleges as Regular members;

- formalisation of voting procedure on Council (one vote per person; Chair with second casting vote if necessary);
- provision for Council to rescind appointments made by previous Councils;
- clarification of the procedures for election to Council. To resolve a tied ballot the membership had opted for a subsequent new postal ballot;
- additional clarification of the rules for altering the *Constitution and Rules*, involving notice in good time to all members prior to a General Meeting, dispersal to membership following modification there, and that the ballot have at least 13 valid votes cast.

Provisions for Honorary Membership had been removed by the Constitutional Committee. This followed untabled proposals for more varied forms of recognition for service to the Society and to plant systematics (Constitution Committee 1986a; Haegi 1986a). The proposals were to be published in subsequent *Newsletters*, but this failed to eventuate.

A new incorporation Act: the 1993 Rules

In 1991 a new *Associations Incorporation Act* was established in the Australian Capital Territory. The Act and its associated *Regulations* used new terminology (e.g. the constitution was now to be termed the *Rules*) and provided "model rules" for developing an acceptable document.

Need for substantially revamping of the constitution to bring it into line with the Act was raised by Council's Constitution Committee in the June 1992 *Newsletter* (Crisp et al. 1992). The "model rules" would be used. The main changes in content listed by the Committee were: a move to Annual General Meetings; with these meetings being more frequent maximum, consecutive terms increased to three years for President and Vice-President and six years for other Council members; annual submission of audited accounts.

A draft constitution was distributed to members (possibly with the September *Newsletter*), but it was superseded, first with amendments mailed to members dated 21st October 1992 (Conn et al. 1992a) and then, following feed-back from members, with some relatively minor alterations communicated in the December *Newsletter* (Conn et al. 1992b).

The constitution was debated at the January 1993 Annual General Meeting in Hobart (Conn 1993). Council saw no option but to comply with the requirements for disciplining of members and had also decided to remove provisions for voting by proxy at meetings. Concerns were raised by the membership about the greater formality of procedures, e.g. in becoming a member. Specified subscription rates were removed from the document, more flexibility was introduced in re-convening a meeting without a quorum, provision for dissolution of the Society was left to the Committee to introduce if necessary, and the best period for a financial year was debated and left as a calendar year.

The *Newsletter* does not contain a summary of the ballot results, but no doubt it is in Council Meeting minutes and the Treasurer Peter Wilson (1993) alludes to the "new Constitution, recently adopted by ASBS Inc." and Crisp (1994) indicated its acceptance by the membership.

The result of the 1993 changes is a document that matches in format our current *Rules*.

The 1998 amendments

At the 19th Annual General Meeting Council (R. Barker 1997) Treasurer John Clarkson proposed new amendments to the *Rules* primarily to enable tax deductibility for donations to the Hansjörg Eichler Research Fund through meeting requirements of the Australian Taxation Office for the Society to gain Approved Research Institute Status. The Linnean Society of New South Wales was approved as recipient of the funds if the Society was dissolved.

At the same time the opportunity was taken to:

- re-introduce, after a delay of some years, Honorary Life Member as a new class of membership in recognition of persons who have made an outstanding contribution to the Society.
- tidy up the wording on membership rules, which included four membership categories. In addition to personal membership for Ordinary, Student and Life Members. The category of Institutional Member was included though no discussion was minuted.

Ballot papers were sent out with the March 1998 *Newsletter* (Clarkson 1998). These proved uncontroversial proposals. Of the financial membership of possibly around 270, 90 valid votes were cast (11 were invalid); there were only 1–3 votes against those 6 of 9 clauses that were not unanimously approved (R. Barker 1998). Council soon after accorded Mrs Marlies Eichler the first Life Membership of the Society (R. Barker et al. 1998).

The 2002 amendments

By the Council meeting in Perth in late 1999 it had become increasingly clear to Council that the *Rules* did not reflect the way the Society

operated. In addition, links between various rules and sub-rules were difficult to discern and, apart from minimal cross-references to numbered sections in the incorporation Act, the *Rules* were not clear on important requirements of the Act.

The difficulties with use of the *Rules* as a management resource were underlined in the late 1990s. The lack of continuity in understanding of procedures for new Officers of Council had led to ignorance or misinterpretation of important roles which had legal implications. One early serious consequence in this period were fines imposed by the Registrar-General of the Australian Capital Territory, largely through late application for deferral of Annual General Meetings or late provision of accounts in 1997 and 1998 (Conn 2001). A later, averted threat of deregistration as an incorporated body was raised in late 2000 by the Registrar-General through the absence of records of annual accounts that had been submitted for the prior three years (Conn l.c.).

A set of draft *Rules* with a growing array of changes was developed over two years, given impetus whenever Barry Conn and I met in various centres on other business. Following presentation and debate at Annual General Meetings in Sydney in 2001 (W. Barker 2001) and Adelaide in 2002 (Barker & Barker 2002), an annotated document comparing the current with the proposed *Rules* was published in October 2002 on the Society's web page and circulated to members who lacked email addresses (Council of the Australian Systematic Botany Society 2002). The complexity and number of the changes were great and approval was requested for each of the 31 of the 40 rules that contained modifications. The membership responded in strength and over-whelmingly approved the changes (Lepschi 2002). A Special General Meeting, required by the 1991 Act to determine the ballot, was held in Canberra in December 2002. Three dissenting votes were recorded against proposals for modification of each of only four rules from 106 ballot papers received from members (Lepschi l.c.). The eligible financial membership was about 235 of a membership of 311 (A. Whalen, pers.comm., Sep. 2002).

Amendments in the new version of the *Rules* supported by the membership included the following:

- provision of a method for changing the Society logo;
- reference to legal responsibilities imposed by the Act on members and officers of the Society;
- improved cross-referencing between rules and to the provisions of the Act.
- clarification of intent in a number of existing provisions ;
- improved treatment of "special resolutions" required under the Act for dealing with changes to the Objects and Rules and winding up the Society (in rules dealing with calling of general meetings for their determination, notice, decisions, voting, etc.). In
- continued use of postal ballots of the membership, formerly used to determine changes to the Rules. These are allowable as part of the determination of spcieal resolutions but there was the additional need for a General Meeting for the determination of a ballot;
- definition and clarification of a "financial member" and the rights and privileges associated with being financial (e.g. nominating new members, voting, standing for Council membership);
- introduction of the term "officers of the Society" for members of Council in conformity with Act;
- transfer of "student members" to a new broader "concessional member" category. This facilitates Council decisions on concessions for the unemployed and retired that had been requested at several Annual General Meetings (e.g. R. Barker 1997) and, more recently, for spouses or partners;
- re-introduction and expansion of provisions for "institutional member" (this had not been incorporated into circulated copies of the 1998 *Rules*);
- introduction of a new category of "affiliated society", acknowledging, for example, the long-standing alliance with the Papua New Guinea Botanical Society;
- clarification of provisions for restoration of membership, particularly in relation to outstanding monies due;
- bringing payment of fees into line with practice, and providing for payment of lesser fees for concessional members and those joining part-way through a year;
- re-ordering of the procedures for election to Council to improve clarity. In particular, procedures for electing members to office on Council where there has been an ineffective ballot have been simplified, in alignment with widespread practices, with the removal of the need for another ballot;
- spelling out more clearly the roles of Secretary, Treasurer, Officers of the Society in general, and the Public Officer;
- clarification of the respective roles of Council and the Research Committee in administering and allocating Society funds for research;
- provision for archiving of non-current financial books;

- introduction of the use of electronic mail as a means of communication for Society business and giving members responsibility to notify changes of address;
- inclusion of the provisions established many years ago in the event of the Society being wound up;
- removal of alternative terms, settling on just one: "ordinary member" over "regular member", "fees" over "subscriptions", "ballot" over "poll";

Outstanding issues

During the three years of review of the *Rules*, participation in Council affairs had brought to light a succession of modifications. Despite this, in the several months that followed proposal of amendments according to the Act and existing *Rules*, several further issues nowhere addressed in the *Rules* came to light:

- ensuring that recognition of service is fully addressed. While the *Rules* now include Life Membership for service to the Society, they lack general principals for dealing with the Nancy Burbidge Lecture and, more recently, Medal (Entwisle 1997), which are our instrument for recognition of meritorious contributions to Australian plant systematics;
- dealing with the Society's archives should probably be presented in the *Rules* in general terms, along with a protocol for altering the location of the archive (e.g. determined by Council, and ratified, with appropriate notice, at a General Meeting);
- reviewing the recipient of assets in the event of dissolution of the Society, now that the Society for Australian Systematic Biologists has been formed and had at least one successful partnership with ASBS through the joint conferences in Adelaide in 1997;
- spelling out the occasions when the Common Seal should be used. These are very obscure, even in the greater detail of the 1986 *Constitution*; and
- further minor syntax changes (e.g. removal of "postal ballot" from Rule 11)

Conclusion

The constitution of the *Australian Systematic Botany Society*, now termed its *Rules*, was developed soon after its formation, and has progressed from a simple beginning, as called for by Denis Carr at the launch of the Society just on 30 years ago, to one of increasing complexity.

Subsequent changes have been determined via five postal ballots of the membership in 1983, 1986, 1993, 1998 and now 2002.

The *Rules* began and continue as a tool for use of members and Council, important because of frequent changes to Council and the wide dispersal of Officers of Council and membership around the continent.

With incorporation of the Society in the Australian Capital Territory in 1986, the *Rules* took on a further role. As an extension of the acts and regulations governing incorporated associations they have become a legal framework for managing the affairs of the Society.

The history of the *Rules* exhibits well the concern and capacity for debate in the Society, despite the wide distribution of the membership. Changes in 1983 and 1986 were promoted by desire to clarify and improve the service and running of the Society. They prompted comment and counter-proposals from groups of members elsewhere in the country. The more recent proposals of 1993, 1998 and 2002 were driven by Council largely on legal grounds, with discussion and a number of proposals during that period. In all cases, level of voluntary postal voting has been considerable, at around 25–30% of the financial membership, and the level of acceptance among respondents has been almost unanimous.

What we have now is a constitution that is hopefully much closer to the legal and working needs of an active and progressive membership and Council. It is the product of an evolution of ideas and debate involving many members of the Society. It is the responsibility of future membership and Councils to ensure that this document maintains its relevance as an operational tool.

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Addendum:

It is intended to add the various versions of the Society's constitution on the Society Web-site.

Comment

On *nomina subnuda*: a comment on Philip Short's article

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In the last issue of the *Newsletter* Philip Short (2002) discussed whether the binomial *Banksia alpina* published in a paper by Carl Wilhelmi in 1871 should be considered a *nomen nudum*, a *nomen subnudum*, or a validly published name. If the last then it must be taken up and *B. saxicola* A.S.George (1981) placed in synonymy. The matter of such names is currently under consideration by the Committee for Spermatophyta (Brummitt 2002) with a view to making proposals to clarify where the *International Code of Botanical Nomenclature* (Greuter *et al*. 2000) stands.

It is pertinent to consider how the *ICBN* defines valid publication insofar as a description or diagnosis is concerned. As pointed out by Dick Brummitt, the *Code* does not define or qualify 'description' in Article 32 but allows three ways to describe a new taxon: by a description, a diagnosis, or a reference to a previously and effectively published description or diagnosis. It does not explicitly explain the difference between a description and a diagnosis. Article 32.2 states that 'A diagnosis of a taxon is a statement of that which in the opinion of its author distinguishes the taxon from others'.

Beyond this, the *ICBN* does not define description or diagnosis, nor does it say whether such text should be accurate. It defines protologue ('everything associated with a name at its valid publication, i.e., description or diagnosis, illustrations, references, synonymy, geographical data, citation of specimens, discussion, and comments') but, because these are spelled out,

there is a clear indication that locality and habitat should not be considered part of a description or diagnosis.

Philip believes that a description should be a recording of any attribute(s) that aid in the recognition of a taxon. These include 'morphological, anatomical, chemical, genetic, ecological and geographic attributes' as well as the meaning of the epithet. I believe that, as covered by the current *ICBN*, a description or diagnosis should cover the morphological attributes but not the ecology or distribution, nor the meaning of the epithet. There are many epithets that are meaningless in this regard, e.g. those derived from a character common to many taxa (e.g. *Hakea teretifolia*), those referring to a plant's appeal (e.g. *Acacia pulchella*) and those commemorating people.

In his paper on *nomina subnuda* (Brummitt 2002), Dick wrote that 'Nobody in the Committee [for Spermatophyta] has argued that the critical factor should be whether the characters given are now diagnostic'. Some have felt that 'the only non-subjective way of determining whether such a name is valid or not is to accept anything and everything which can be regarded as descriptive. It has also been said that any other interpretation would lead to many names currently accepted as validly published being treated as invalid.' From the context of Dick's paper it seems that 'descriptive' is meant in the sense of a morphological description.

Where does this leave us with *Banksia alpina*? The data provided in Wilhelmi's article are (in translation):

- it was a gnarled tree
- it grew at the highest point on Mt William in The Grampians
- he listed other species in the vegetation
- he called it *Banksia alpina*.

I think that there is no herbarium specimen annotated by Wilhelmi with his epithet.

The morphological data are confined to the phrase 'gnarled tree' and there is no comparison with any previously named taxon. I have not looked up a wide range of definitions of a tree, but in the *Flora of Australia* (both editions of vol. 1) it is 'a woody plant at least 5 metres high, with a main axis the lower part of which is usually unbranched.' From my observations the plants of *Banksia saxicola* on the summit of Mt William are spreading shrubs no more than 3 metres tall (George 1981, p. 297). They have a single basal stem which branches within centimetres of the ground. Whether they can be described as gnarled is debatable: I would not do so as to me they are relatively compact, but Philip Short tells me that he would be happy to do so. This point is clouded by the fact that further down the slopes of Mt William, in sheltered gullies, *B. saxicola* grows as a tree, and here one also sees arborescent *Banksia marginata*.

I agree that *B. saxicola* is the only species on the summit of Mt William, but its habitat is not so distinctive that the vegetation and associated species mentioned by Wilhelmi help us to pinpoint its occurrence. Regarding the epithet used by Wilhelmi, Philip felt that it was 'stretching things a bit to describe the summit of Mt William as being alpine but it is high and windswept and it does snow there on occasions' and hence has alpine qualities.

There is a somewhat similar case with the name *Banksia floribunda* Drummond, *Hooker's J. Bot. Kew Gard. Misc*. 1: 375 (1849). In a letter from Drummond, edited and published by William Hooker, we find the following:

> I lately found again the beautiful blood-red Banksia, which I have described in a former letter: it is allied to B. verticillata, having ten to fourteen leaves in a whorl, and is the most beautiful species of this country. It well deserves the name of floribunda; for when one set of flowers is fully blown, the cone above it is prepared to bloom in two or three weeks, and a third in succession, still higher on the branch, is considerably advanced. (Drummond 1849).

Here we have three descriptive characters (leaf arrangement, inflorescence development, flower colour), an indication of affinity and a specific epithet.

In this letter, titled 'Swan River Botany', Drummond mentioned a number of plants from various places in south-western Australia, but there is no clear indication of the locality or habitat. The 'former letter' is unpublished and thus not relevant to the debate. This may well be the taxon that I named *B. littoralis* var. *seminuda* (now *B. seminuda* (A.S.George) Rye). However, when preparing my revision of *Banksia* (George 1981) I did not take up the name since the description of the leaves being in whorls of 10–15 is incorrect for *B. seminuda* which has 3–6 leaves per whorl. *Banksia occidentalis* R.Brown (1810) may have up to 12 leaves in a whorl and has red flowers, but I would expect Drummond to have been familiar with that species and its name. If we accept that character as correct, however, then the name would be placed as a synonym under *B. occidentalis*. Drummond collected both *occidentalis* and *seminuda* but no specimen is annotated with the name *floribunda*. I cannot tell

whether his flowering specimens had red styles (typically *seminuda* has golden styles).

Barker & Barker (1990) considered this and other names published in Drummond's letters to have sufficient diagnostic detail to qualify them as validly published under the *ICBN*.

In both these cases, however, I think that the data provided are not detailed or accurate enough for us to apply the names confidently. And what are we to make of a minimal diagnosis based on a cultivated plant of unknown origin where there is no accompanying specimen, e.g. *Banksia integerrima* Dum. Cours. (1811)? In that example it is virtually impossible to apply the name.

The intention of the author is also relevant. Given that people such as Drummond also 'described' many other plants that they considered different but did not provide names, was it their intention to publish new names, or were they making suggestions that others could take up when the taxa were described in more detail?

I would call these *nomina subnuda* or *nomina dubia* (though neither term is used in the *ICBN*) and reject them.

People have a full range of views on this matter, from those who would accept minimal data (even if not correct) as meeting the requirements for valid publication to those who would reject them. It will be interesting to see what proposals the Committee makes for consideration at the Nomenclature Sessions at the XVII International Botanical Congress in Vienna in 2005. As Dick wrote and as Philip mentioned in correspondence, there are many species now accepted as validly published based on minimal data. There is the potential for many of these to be replaced if the *ICBN* is modified in such a way as to make them invalid. Dick closed his paper by suggesting that current usage could be a critical factor in deciding such cases. If a "*nomen subnudum*" has never been taken up, it may be best to leave it lying in limbo. If such a name has been accepted and is in common use, then there is a good case for accepting it as validated by the minimal descriptive characters.' It may be that we are in for a number of potential name changes or a number of proposals to conserve specific epithets.

Acknowledgments

I am grateful to Philip Short for correspondence while preparing this article and for comments from Dick Brummitt and Roberta Cowan.

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What happened to the cereals ?
Note on the *Flora of Australia* Grasses volume introduction

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This note is in no way a review of *Flora of Australia* volume 43, Poaceae, Introduction and Atlas, but a comment on one aspect of it.

Extended essays prefacing important families have become a feature of recent volumes of the *Flora*. In the main one approves of these but hopes that the production of the *Flora* is not further delayed because of them.

In paragraph 3 of the Introduction we are told that the grasses are "indispensable" in human economics and the principal cereal genera are listed. Indispensable is a good strong word and like the word unique means what it says. It is not an exaggeration to say the present world order could not do without cereals. Yet these indispensables get short shrift in this volume.

Cereal species are not included in the maps. The distributions of the crops could readily have been obtained from the principal industries. As a southerner I would like to have seen just where our sorghum and maize crops now come from. It would be unreasonable to expect an agricultural essay on each crop but there are no references to recent major accounts. The fascinating evolution under domestication of *Triticum* does not get a mention. The new crop *Triticale*, which is now gradually becoming established, does not appear at all.

The chapters on economic attributes have a page on grass weeds, but wild oats, *Avena fatua*, one of the most studied weeds of the world, does not rate a mention though is mapped later.

Ethnobotanical uses, now largely superseded, get barely half a page, where surely a reference to Peter Latz's *Bushfires and Bushtucker* would be reasonable.

Well, this volume is an introduction and some of these aspects may be covered when the later volumes appear, but indispensable plants deserve a more appreciative treatment.

David lectured for many years in the Agronomy Department at the Waite Institute and has a deep interest in the domestication of plants. Eds.

News

Temporary move by Judy West

Judy West, Director of the Centre for Plant Biodiversity Research, took up a secondment in the Commonwealth Department. of Education, Science and Training (DEST) on 20th January to lead the Taskforce established by the Prime Minister to map Australia's Science and Innovation System.

The project aims to take stock of Australian science, technology and innovation by developing a comprehensive overview of resources, players, linkages and performance. The study will cover key aspects of the science and innovation system:

- Australia's ability to generate ideas for innovation in science, engineering, technology and related R&D;
- The use and commercialisation of R&D and other innovation; and
- The development and retention of relevant skills for science, innovation and internationally competitive enterprise.

Judy is due to return to her role as head of the Centre on 5th December this year, with delivery of the final report to Cabinet planned for that month.

Jim Croft is acting Director of the Centre in her absence. He continues with his HISCOM activities and is representing the Australian National Herbarium on CHAH.

Marco Duretto moves to Tasmania

Marco Duretto, who has headed the science programmes in the National Herbarium of Victoria, is to take up the vacancy in the Tasmanian Herbarium created by Andrew Rozefeld's move to Assistant Director in the Tasmanian Museum and Art Gallery. New positions in MEL, including Marco's, have been advertised recently.

Celebrating Bryan Womersley's achievement at the Botanic Gardens Restaurant, Adelaide. Clockwise from top left: a, Former phycological students, Scoresby Shepherd, Bob Baldock, Denis Steffensen and Murray Parsons. b, Speakers Scoresby Shepherd, Bryan, Murray Parsons and Bill Barker. c, Bryan with long-time research assistant Enid Robertson on the left and technical assistants (from left to right) Marian Faunt (formerly McDonald, Cheryl Price (formerly Anderson), Rosy Jones (formerly Krahling), Carolyn Ricci (formerly Birchby), and Lindy Scott.

Photos: State Herbarium of SA and Bob Baldock

Celebration of the completion of Marine Benthic Algal Flora

With the publication on 24th February of Part IIID of the *Marine Benthic Flora of Southern Australia* (see ABRS report), Professor Bryan Womersley has completed his landmark study of Australia's most diverse region of marine algae. This volume is the sixth in the series, the first of which was published in 1984

The achievement of this lifetime goal was celebrated at the Botanic Gardens Restaurant. Murray Parsons from Christchurch and Scoresby Shepherd marine biologist of the South Australian Research and Development Institute, spoke of the taxonomic and environmental significance of the work.

The work is a monument to Bryan's focus and high standards. Already both he and his work have received the highest international accolades.

WA Herbarium's on-line *FloraBase* receives recognition

FloraBase, the Western Australian Herbarium's highly advanced web facility, which provides extensive data and information on the Western Australian plants, was recently accorded high acclaim as a Finalist for Innovation at the State's Premier's Awards for Excellence 2002.

Canberra fires affect colleagues

Jim Croft reported that the January weekend bushfires touched, horrified and frightened many in Canberra. Of staff at the Australian National Herbarium and Australian National Botanic

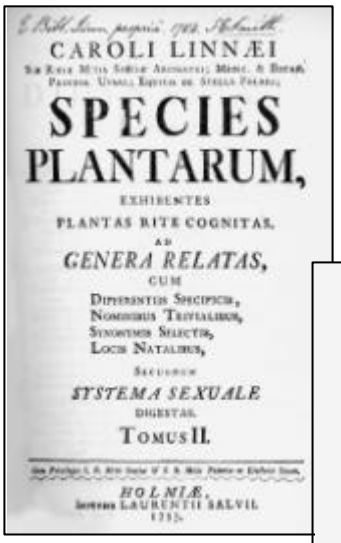
Gardens Andrew Slee and Jen Johnston, who work on eucalypts and lichens and other cryptogams, lost their entire home and possessions in the conflagration.

An appeal, advertised nationally amongst the herbaria, was established by friends and colleagues to assist Andrew and Jen with the task of putting their lives back together at a time of disruption and loss that most of us can only imagine.

During the fires, the herbarium was not under threat, though Black Mountain has had its share of bushfires.

Happy 250th birthday *Species Plantarum* and binomial nomenclature

To commemorate the 250th birthday on 1st May of the first edition of *Species Plantarum* we portray below a few reminders. The publication forms the starting point of botanical nomenclature of flowering plants and a number of other groups and was the first of Linnaeus's publications in which he was universal in his use of binomials.



CAROLI LINNÆI

SPECIES PLANTARUM,

EXHIBENTES

PLANTAS RITE COGNITAS,

AD

GENERA RELATAS,

CUM

DIFFERENTIIS SPECIFICIS,
NOMINIBUS TRIVIALIBUS,
SYNONYMIS SELECTIS,
LOCIS NATALIBUS,

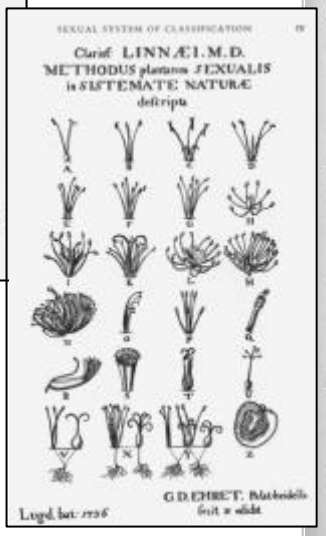
SECUNDUM

SYSTEMA SEXUALE

DIGESTAS.

TOMUS II.

HOLMIÆ,
IMPENSIS LAURENTII SALVII.
1753.



SEXUAL SYSTEM OF CLASSIFICATION

Clarif. LINNÆI. M. D.
METHODUS plantarum SEXUALIS
in SYSTEMATE NATURÆ
descripta

G.D.EHRET. Pictor delin. fecit et edidit

Lugd. Bat. 1736

PENTANDRIA MONOGYNIA. 185

Ex medio quasi fisso. *Pluk. alm.* 349. *t.* 111. *f.* 4. *mala.*
Habitat in America? ♄

5. SOLANUM caule inermi frutescente flexuoso, foliis *Dulcamara.* superioribus hastatis, racemis cymosis. *Hort. cliff.* 60. *Fl. suec.* 169. *Mat. med.* 95. *Ray. hagdb.* 424. *Dalib. paris.* 73.
Solanum scandens f. Dulcamara. *Bauh. pin.* 167.
β. Solanum dulcamarum africanum, foliis crassis hirsutis. *Dill. elth.* 365. *t.* 273. *f.* 352.
Habitat in Europæ sepibus humentibus. ♄

6. SOLANUM caule inermi frutescente flexuoso, foliis *tuberosum.* oblongis lateribus sinuatis, racemis cymosis.
Solanum foliis quernis. *Feuill. peruv.* 722. *t.* 15.
Habitat in Peru. *D. Jussieu.* ♄
Habitus S. *Dulcamaræ*; Rami *angulati.* Folia *ovato-oblonga, in petiolum decurrentia, venosa, glabra, lateribus pinnato-sinuata.* Pedunculi *ramosi.* Corollæ *violaceæ, obsolete quinto Dulcamaræ: maculis duabus pallidis ad basin singulis lobi.* Antheræ *flavæ, stylo breviores.*

7. SOLANUM caule frutescente subinermi, foliis cu- *lycopersicum.* neiformibus sinuato-repandis.
Solanum bonariense arborescens, papas floribus. *Dill. elth.* 364. *t.* 272. *f.* 351.
Habitat in agro Bonariensi. ♄
Folia & Flores maximi; Aculei aliquot in tenella planta, non vero in adulta.

8. SOLANUM caule inermi herbaceo, foliis pinnatis in- *radicans.* tegerrimis. *Vir. cliff.* 15. *Hort. cliff.* 60. *Hort. upf.* 48. *Ray. hagdb.* 423. *Dalib. paris.* 73.
Solanum tuberosum esculentum. *Bauh. pin.* 167. *prodr* 89. *t.* 89.
Habitat in Peru. ⊙—♃

9. SOLANUM caule inermi herbaceo, foliis pinnatis in- *Lycopersicum.* cisis, racemis bifidis. *Vir. cliff.* 15. *Hort. cliff.* 60. *Ray. hagdb.* 423.
Solanum pomiferum, fructu rotundo sulcato molli *Bauh. pin.* 167.
Poma amoris. *Cast. epit.* 521.
β. Solanum racemosum cerasiforme. *Bauh. pin.* 167. *prodr.* 90.
Habitat in America *calidiore.* ⊙. β ♃

M 5 10. SO-

Extracts from Linnaeus's *Species Plantarum. Left*: title page. *Right*: descriptions of *Solanum* species, including the potato *S. tuberosum* and tomato "*S. Lycopersicum*".

Centre: Ehret's 1736 representation of the Linnaean sexual system of classification, which forms the basis for arrangements of taxa in Linnaeus's works.

Notes on a commemorative scientific conference later this year in Uppsala are included in the Coming Events section (p. 32)

How Sweden celebrates Linnaeus

From Dave Morrison
(Our foreign correspondent in Uppsala)

Linnaeus is far more famous in Sweden for his cultural activities than for his biological ones. He was the first person to travel the land with the serious intent to record the culture and lifestyle, and his travel books are thus still in print and still widely read. In addition, his biological activities in Uppsala were intended for the general public, and he is thus also more famous for that than for his scientific biological activities. For exa mple, it is possible every summer to go "in the footsteps of Linnaeus" on day walks around the countryside. Consequently, there is always Linnaean activity in Uppsala, and an anniversary here or there would be redundant (and one can visit the garden and two of his three houses during summer, anyway).

The only reference to Linnaeus's science is the

repeated claim that scientists still use his classification scheme, which is false, of course, since we use his nomenclature but no-one has ever used his artificial classification (not even he used it for anything except filing his specimens).

Change of role for Adelaide's National Wine Centre

The controversy surrounding the establishment a National Wine Centre, in Adelaide's sacrosanct parklands, on the rubble of the State Herbarium of South Australia and the Botanic Gardens administration and nursery buildings, recently took another twist. The Centre will transfer from dependency on Government and inadequate wine-industry support to a new direction under a lease to the University of Adelaide.

The University will use the facility to run its oenology course. It sees advantage in the ability to expand its inadequate teaching laboratories and to utilise the exhibition space through student interaction.

Reviews

The genus *Nicotiana* illustrated

Review by David Symon
State Herbarium of South Australia

The genus Nicotiana illustrated.
Japan Tobacco Inc., Tokyo, Japan, 1994.
Edited and published by Japan Tobacco Inc.
Apparently unavailable.

Unusually, this generic monograph is published by an industry, in this case Japan Tobacco Inc.

When published in 1994 this volume was very expensive (Koeltz has quoted approximately US$620) and our librarian has been able to locate only a single gift copy, housed in the library of the Department of Primary Industry at Mareeba.

The volume is of 294 pages. It consists of a foreword, with contents (botanical names) and explanatory notes in Japanese and English. Then follow about 260 pages of colour plates of nearly all *Nicotiana* species. For each species there is a map of distribution, a picture of the karyotype, chromosome number, an illustration of seeds (reported to be x50 but actually looking more like x25), a page of close-up pictures and then two pages each with 6–8 photographs of plants growing in the wild. What wonderful trips the photographers had!

For species that have become feral there may also be a picture of the species in its adopted home e.g. *N. glauca* in Mexico and east of Adelaide, South Australia. The text in Japanese (repeated at the back of the book in English) gives derivation of the specific name, distribution and flowering time, brief description of morphology, the main alkaloids, resistance to disease and then utility for tobacco breeding. The colour plates seem good throughout, although some field pictures show all the difficulty of separating slender plants from their background.

The bibliography is partly classified. The references to morphology, photoperiodism, alkaloids and disease resistance are given in full, but those on breeding – 120 of them – are to author and journal only. The latest date noticed is 1988. Then follows a table of names, synonyms and doubtful names, and finally an index to the species illustrated.
Compared to taxonomic monographs this work lacks a key, full morphological descriptions, and any references to field biology.

No vouchers are cited but these may have been collected on the expeditions gathering photographs.

That being said the volume packs in a large amount of information on the genus and it is fascinating to see the species "at home" in the field.

The principal alkaloids given by Jeffrey (1959), Smith & Smith (1942), Schmuck & Borozdina (1941), Saitoh et al. (1985) and Japan Tobacco do not always agree and one is likely to query past identifications somewhere along the line.

N. debneyi ssp. *monoschizocarpa* Horton is here included with *N. debneyi* even though it probably deserves specific rank. Likewise *N. fragrans* var. *fatuhivensis* from the Marquesas is likely to be a good species though herbarium collections are very limited.

The foreword states that only four species were not included in the monograph, but they are not

listed and may include *N. burbidgeae* which was published in 1984. Three more species published since then for Australia are not included amongst the photographs. However *N. wuttkei* Clarkson & Symon (1991) is the last of the list of doubtful or insufficiently known species.

May one beg for a second edition, including our few new species, and one that is not so expensive and hence more readily available to the botanical community.

References

Jeffrey, R.N. (1959). Alkaloid composition of species of *Nicotiana*. *Tobacco Sci.* 3: 89–93.

Saitoh, F., Noma, M., & Kawashima, N. (1985). The alkaloid contents of sixty *Nicotiana* species. *Phytochemistry* 24: 477–480.

Schmuck A.A. & Borozdina, A. (1941). Alkaloids of various plant species within the genus *Nicotiana*. *Compt. Rend.(Doklady). Acad. Sci. URSS* 32: 62–65.

Smith, H.H. & Smith, C.R. (1942). Alkaloids of certain species and interspecific hybrids in *Nicotiana*. *J. Agric. Res*. 65: 347–359.

Postscript

Japan Tobacco Inc., now known as JT, is a Japanese tobacco and cigarette manufacturer, the third largest in the world, also with interests in plant biotechnology, pharmaceuticals and the food and beverage market. The company is listed on the Tokyo Stock Exchange and until 1994 was totally government owned. Now it is 67% owned by the government. The Japanese Tobacco Business Law apparently requires that the government owns more than 50% of the company in perpetuity and that it "promote the healthy development of the tobacco industry and ensure stable revenue in the interest of a sound national economy".

Since writing this review, David has received a complimentary copy of the publication and I have been given permission to reproduce the illustrations of Australian *Nicotiana* species in the interactive identification tool to Australian Solanaceae. Voucher information is still being sought.

Robyn Barker
State Herbariumof South Australia

Flora of Australia
Volume 43, Poaceae 1: Introduction and Atlas.

Review by David Morrison
Department of Parasitology
National Veterinary Institute and Swedish University of Agricultural Sciences
751 89 Uppsala, Sweden

Flora of Australia. Volume 43, Poaceae 1: Introduction and Atlas.
August 2002. ABRS/CSIRO, Melbourne. 424 pp. ISBN 0-643-06803-1 (paperbk) 0-643-06802-3 (hardbk).AU$ 85 (paperbk) AU$100 (hardbk).

In my student days, the first lead in the key to the grasses of the *Flora of the Sydney Region* divided the group into corn versus everything else. What I always liked about this was not its obvious truth as to the natural arrangement of the world, but that it neatly summarized my entire knowledge of grasses. Fortunately, a small amount has changed since then, both in the *Flora* and in my knowledge.

The main problem with grasses is not that they have modified flowers and leaves (the paleas, lemmas and glumes), although this situation alone is bad enough. No, the major problem with grasses is that very few of the species ever seem to have a standard number of all of these parts. More to the point, the particular pattern of absence (how many paleas, lemmas or glumes are missing) is always a crucial feature for identification. The keys keep telling you that this or that particular group of species has lost one or more of these bits, and you are therefore supposed to work out which ones are missing on the specimen in front of you. This is difficult enough to do when you know what the parts are supposed to look like, and where they are supposed to be, but if you have never seen this particular group before then you are in an impossible situation. If the parts are all there, then you can see what they look like; but if some of them are not there, then how are you supposed to work out what they would have looked like if they were there, so you can tell that they aren't? [Note that this mutual impossibility is not a case of catch-22, as many people seem to claim, or at least not as described in the book of that name. Catch number 22 in the book occurs when the goalposts keep moving further away every time you get near them. I do not have this problem with grasses, because I never get anywhere near the goalposts in the first place.]

So, my particular interest in reviewing this new book on grasses was whether it would help me deal with my problem. Especially, would it also help my students? After all, if I can't help them, then they desperately need a book that can. The only alternative is to turn out as ignorant as their teacher, which, come to think of it, is probably the fate of all students anyway.

Sadly, things did not start out too well in the book. I am sure that sweat broke out on my brow while Alison McCusker ('Structure and Variation in the Grass Plant') quietly assured me that all of my worst fears were going to come true: "when combined with the very large number of taxa contained in the family, their structural simplicity makes [grasses] very difficult to identify". Oh dear — I had hoped that it was only my own ignorance that made them that. Still, I was right about the next bit: "Variations in the form and arrangement of spikelets and their component parts dominate the keys for identification of grass taxa ... These are the most useful and important key characters, and are employed from the highest taxa down to the species level." A haunted look now entered my eyes, while the words re-echoed on the pages: "it is impossible to work through a key to identify a grass without interpreting the internal structure of its spikelets"; "for most of the spikelets ... it is not immediately obvious how many florets they contain"; "the presence, number and nature of incomplete florets are important taxonomic characters"; "the possibility of empty lemmas that look like glumes should not be dismissed lightly". But much worse was yet to come: "It may not be possible to identify your material unless samples at different stages of maturity have been included in the collection". It began to sound like it might not be possible to identify my material *at all*. How long was I being asked to stand out in the field waiting for these different stages of maturity? Most of the plant specimens collected by me don't last very long — they tend to ripen and then rot if I don't identify them pretty quickly (presumably this is due to some faulty learning on my part a quarter of a century ago). I discovered this characteristic when I used to try to simultaneously collect buds, flowers and fruits of acacias, because that's what the keys insisted you also needed to identify *them* — I'm sure that the same masochist is being paid to write all of these keys, because I am beginning to recognize their trademarks. But apparently grasses are even worse than acacias: "For some grasses it is important to determine, while in the field, whether the species is annual or perennial". This could take months, waiting to see whether the plant dies off over winter. Or is it the summer when they die? Presumably this is what the other volumes of the *Flora* are for – to give you something to read while waiting for the right season for identification in your current volume.

Still, in spite of the apparent gloom, I *did* actually find the answers to all of my questions. There is a helpful discussion of all of the potential identification problems, and practical advice is provided to help you overcome them. For example: "If one of the typical components of a spikelet has been completely aborted, e.g. if the upper glume is missing altogether, this can be detected by a gap in the regular alternation of the remaining components on the rachilla. In this example, the basal floret would occur on the same side of the rachilla as the one remaining (technically the lower) glume." This makes perfect sense within its context, and I wish someone had pointed this out to me a long time ago. I felt much better about grasses after reading this chapter than I did before, so it gets the thumbs-up.

Bryan Simon's 'Key to Genera of Australian Grasses' starts by pulling out the bamboos, which makes a nice change from corn. Next comes *Micraira*, on the grounds that it is the only group in Australia with spiral phyllotaxy. Elsewhere (p. 104), we are told that this is a "strange moss-like" group, and Plate 12 certainly makes it look unlike any grass I've ever seen, so I'm sure I'll recognize it if I ever see one of them (or probably fail to recognize it as a grass at all). Clearly, no-one will use these first few leads very often, nor are they intended to. Then we get to the meat of the key, first with details of the spikelets: "bisexual" versus "morphologically or functionally unisexual". After I've collected a plant it's usually not functioning at all, so that "or" is unnecessary in my case. Then both halves of the key proceed to distinguish 2-floreted spikelets from the rest (both 1 and >2), so all of the previous warnings about needing details of the inflorescences just to get started are correct. Most of the leads in the key are kept simple, rarely referring to more than one character. This is good if the character is carefully chosen, and in most cases they seem to be. Sometimes, however, this obviously becomes a bit too difficult, and leads 72 and 163 (for example) have little essays.

I rather suspect that in a group like this, a multi-access key will be used far more often than will a printed binary key like this. *AusGrass* will therefore presumably be a more viable alternative for most people.

The 'Key to Tribes of Australian Grasses' is a bit of an anomaly. We are told that becoming "familiar with morphological features that characterise at least the larger tribes ... is a very

useful and time-saving skill to acquire", but I am not sure that this key will help anyone to acquire it. For example, the second choice of the first lead has a long spiel that basically translates to "not as above", which is not an auspicious start. The problem is that very few of the tribes actually come out in any coherent manner in the key, even at lead 1- it takes 55 leads to identify only 29 taxa, so almost every tribe comes out in more than one place. Even distinctive tribes like the Bambuseae and Micraireae are buried away in a mass of flower details that have nothing to do with the features that most people actually use to recognize these groups. So, all in all, I cannot see too many people using this particular key.

Toby Kellogg's chapter on 'Classification of the Grass Family' is an inevitable inclusion in such a volume, but she is sadly fighting an uphill battle all the way. This is the sort of topic that has given systematics a bad name. Such chapters always begin with a review of the history of misclassification of the group, which makes systematists look like they make decisions on a whim and change their minds every few years or so. This is then inevitably followed by a lengthy description of the composition of the various groups of taxa, which, when read by a student, will certainly increase the ranks of physiologists and ecologists at the expense of systematists. I wish that we could find some other way to present this sort of information. I guess that we could start by de-emphasizing our respect for Robert Brown and George Bentham, and starting the history review in the 20th century at least. After all, Albert Einstein didn't introduce his ideas on relativity by discussing Galileo, and we could usefully follow this lead. Only a historian needs a historical review, while a scientist needs only a summary of the current evidence, preferably presented in some easily digested form. Note that my complaint here is about the topic, *not* the author or information. Toby has done an excellent job — I just wish that this particular job wasn't seen as necessary in systematics.

Steve Renvoize then provides some useful bedtime reading with his extensive and detailed survey of 'Grass Anatomy'. Everything you have ever wanted to know is here, with illustrations. Clearly, only the introductory overview is meant actually to be read, with the bulk of the chapter forming a valuable compendium for reference purposes only. There is a lifetime's work in compiling this encyclopaedia, and another one digesting it all. On top of this, the author is a supreme optimist: "the grass plant is instantly recognizable" — in my experience, most of the things that the general public instantly recognize as "grasses" are actually sedges and restios.

In addition to these 'background' chapters, the rest of this volume consists of chapters discussing the general biology of Australian grasses. Most of the chapters are an overview of the chosen topic, presenting an up-to-date synopsis of the information as it applies to Australia. However, some of the chapters are a bit more like catalogues, simply detailing the contents of the various papers that have been published, without necessarily providing a cohesive outline. The chapters have thus been written in different styles and with different purposes. This is to be expected in a compilation volume such as this, but it is a case of 'reader beware'. Several topics make their appearance in more than one chapter (eg. C4 metabolism, seed biology), thus making them appear somewhat disjoint.

A chapter by Bob Hill has become almost compulsory for volumes such as this. I'm not sure where the man gets the time to keep producing these works. He has clearly found more than 24 hours in each day, which is a trick I'd like him to pass on to me, if he can spare the time. Mike Macphail actually gets the guernsey as the major author this time so maybe Bob is slowing down. The chapter itself, 'Palaeobotany of the Poaceae', is a detailed consideration of what little is known about the early history of Australian grasses, written with a sensible restraint in the light of the rather poor data. I just wish that I could remember the names of all of those geological time-periods.

Russell Sinclair's chapter on 'Ecophysiology of Grasses' is one of the more catalogue-like chapters. This is partly because of the broad nature of the subject matter (almost anything can fit into physiology as a subject), and also because of our relative lack of knowledge about each of the topics (photosynthesis, water relations, soil nutrients, salinity, photoperiodism, pollen, germination). Some pertinent themes emerge from the chapter, nevertheless.

Richard Groves and Wal Whalley cover 'Grass and Grassland Ecology in Australia'. A diversity of topics is covered (seeds, breeding systems, conservation), but many more have been left out. This may have been the most difficult topic to summarize, probably needing a book of its own. Unfortunately, the various sections feel a bit too much like they were written by two different authors, which does not help the coherence of the subject.

Peter Linder, Bryan Simon and Carolyn Weiller attempt the difficult task of addressing the 'Biogeography of Australian Grasses' in the

absence of any detailed phylogeny of the group. This is an impossible ask, but the authors bravely try it nonetheless. They do this by providing an original analysis, rather than an overview, based mainly on pre-existing information. This is quite an interesting chapter, but it suffers from the lack of evolutionary context. It also suffers from the usual problems associated with the use of political rather than biological regions, and from a classification hierarchy that is neither consistent across levels nor particularly stable. The authors freely admit these limitations, so I am not saying anything original, but I would place somewhat more severe caveats on their conclusions than they do. The most "interesting" of their chosen regions is the 'Pacific Subtropical', which extends down the east coast to Green Cape peninsula. Anyone who has stood in Green Cape heathland will know that the wind has not touched land since it left Antarctica — 'subtropical' was therefore *not* the first description that leapt to my mind on the day I was forced to stand there, one winter during an undergraduate ecology fieldtrip.

Mike Lazarides rounds out the biology chapters by discussing 'Economic Attributes of Australian Grasses'. As with the Anatomy chapter, this is largely a compendium, prefaced with a overview. As its title suggests, it is the most anthropocentric of the topics, and as such it stands out from the others — this may be a good thing or it may not. It also exemplifies the problems associated with the length of time taken to produce all of these chapters, as the various contributions were clearly completed at different stages of preparation of the volume. In this case, the summary of endemism of Australian grasses does not agree with the summary in the previous chapter (which is only a minor thing, given the fluidity of the estimates).

In general, there is a consistent look and feel to the volume, in spite of the diversity of authors. There are minor differences in the formatting of the references in different chapters (e.g. capitalization of book titles), but that is about all. Unfortunately, the printing of my copy was not too good in several places.

Speaking as someone with a bit of editorial experience I can assure you that editors hate it when the subject of errors comes up. It is depressing to put an enormous amount of effort into something and then have people only point out the technical faults and not the technical perfection that has been achieved elsewhere. So, I will content myself with noting that, like any book, you can find things here if you have the required knowledge and look in the right place while concentrating very hard. However, if that is the length you have to go to find anything wrong, then I think that it is far more helpful to note that this book follows the same high standards that we have come to expect from the professional staff at ABRS.

Figure 11E (p. 47) represents the first glimmer of a deliberate sense of humour that I have detected in the *Flora of Australia*, which is about time too. (You will need to check this out for yourself, as I am not going to describe it for you.) However, the book also contains some nicely dry, but perhaps unintended, humour. After noting that resurrection plants are found sporadically among ferns, dicots and monocots, Russell Sinclair tells us (p. 138) that: "It is probable that the ability to tolerate complete dehydration has evolved on more than one occasion." It is the word "probable" that is so good, because the only alternative to polyphyly for these species is that the phylogeny underlying our botanical classification is rotten all the way to its core.

Also, I'm not sure what the general public will make of some of the names of these grasses. Surely "Walwhalleya" sounds more like a town out back o' Bourke than a genus of grasses, and I'm convinced that "Dallwatsonia" appears as a land somewhere in the *Lord of the Rings*. Perhaps its just my imagination.

So, should you rush to spend your hard-earned pennies on this volume? If you do, you will certainly learn something. Or, perhaps more accurately, I learned a lot, and if you are semi-clueless like me then you probably will too. But what if you are not clueless? Well, this book is designed to be a stand-alone compendium of our current knowledge of the biology of Australian grasses. There is nothing else like it on the market, which cannot be said for related groups like the Restionaceae, for example, where there is the excellent *Australian Rushes*. So, if you want the information all in one place, in an accessible and concise format, then this is the book you need.

However, if you do actually want to read this book, and think that you might refer to it again, then buy the hardcover version. Soft-cover books of this size do not wear well, and the cover of mine was creased within a very short period of time. Publishers should realize that the natural habitat of a book while being read is in a bed, and therefore they need to be small if they are to have a soft cover (the books, that is, not the publishers).

AusGrass: Grasses of Australia

Review by Neville Walsh
National Herbarium of Victoria

AusGrass: Grasses of Australia
Donovan Sharp and Bryan K. Simon, CD ROM & Manual. ABRS and Environmental Protection Agency, Queensland. CSIRO Publishing. $99.00. ISBN 0643068619.

The grasses are one of the most speciose and widespread families in the world (likewise in Australia). Their appeal to many botanical enthusiasts is nearly inversely proportional to their ubiquity. The recently released *AusGrass* CD attempts to bring the identification of all Australian species of this fascinating and economically and environmentally pivotal group within reach of anyone with an interest, a reasonably basic computer, and perhaps a x10 magnifier.

Setup requires a more recent Windows platform (95, 98, ME, NT(SP6), 2000 or XP, at least 16 Mb of RAM, free hard disc space of up to 52 Mb, and, to allow internet searches on the species name, Internet Explorer 5.0 (or greater) or Mozilla Web Browser 1.0 (or greater). It loaded without a hitch onto my machine.

This identification tool uses the familiar and effective LUCID interactive key – the same routine that operates keys such as EUCLID (Brooker et al. 2002), WATTLE (Maslin 2001) and the *Interactive key to flowering plant families in Australia* (Thiele & Adams 2002). For those who may not have used any of these user-friendly products, the the keying routine allows the operator to track characters available for identification, characters already used, species rejected, and species remaining. The obvious advantage in keying interactively is that it allows the user to select characters rather than being straight-jacketed into using features that a conventional dichotomous/polychotomous key dictates. *AusGrass* allows identification of the 1323 species known to occur in Australia at the time of preparation. Definitions of each of the 226 characters are accessed through a glossary of notes and helpful, simple, cartoon-like illustrations called up readily as new or unfamiliar characters are encountered through the keying process. Sets of characters that employ only for example vegetative features, inflorescence characters, spikelet characters, distribution (by biogeographic region within each state), or a combination of any of these may be selected rather than using the entire dataset. Or an option of a set of 24 'best and simplest' characters may be chosen. This is the set that most of my testing of the key employed, and I found it to be true to its word, allowing me in most cases to key to one species, but occasionally to a group of species. If the 24 'best and simplest' characters cannot discern between two or more species, the full dataset can then be opened and the 'best' or 'bingo' options may be invoked to identify the specimen at hand. Alternatively, the 'fact sheet' for each of the remaining species can be accessed by a single mouse-click and these may then be compared 'manually', or, more efficiently, a 'slide show' can be selected to scroll through the illustrations for each of the remaining species. Fact sheets may be called up at any time for any species in the keying process or as a separate option independent of keying. These contain protologue details, etymology, synonymy, detailed descriptions, line drawings, photographs and/or scanned specimen images and distribution maps.

As well as the interactive key, *AusGrass* includes a dichotomous key, which is essentially an update of the *Key to Australian Grasses* (e.g. Simon 1993). It incorporates an initial key to genera then a separate key for each genus. Keys for each genus can be accessed by a 'hotkey' within the key to genera, or by selecting from an alphabetic list. Unlike the dichotomous key, the interactive key does not allow keying from the genus down. In general this is not a particular weakness (the dichotomous keys generally work fine), but some interactive devotees may be disappointed by the absence of such a facility.

The product also includes very readable short essays or tutorials on grass structure (the latter also available in the accompanying guide book), recent changes in taxonomy, the economic importance of the family, and a comprehensive bibliography of Australian agrostology.

That's a rudely short summary of the product. There are more bells and whistles that enthusiasts will employ, but for someone who's something of a technophobe like me, at least all that I have mentioned, is simple and reasonably intuitive. So is it any good? In a little more than a word, it's pretty much the perfect compendium to Australian grasses. The quantity, and in most parts, quality and accessibility of the keys, information, descriptions and illustrations are generally most impressive.

I've been running grasses through the keys more or less at random as specimens have come across my desk. Generally they key to the species or at least a group from which the species is relatively simply achieved. In a few cases that I've encountered however, the weakness of the interactive keying process was revealed. As the facility to select any character at any time through the keying process is of great benefit, the consequence of character miscoding is exposed in a way that dichotomous keys probably less frequently suffer. If a character has been incorrectly or incompletely scored in the dataset for any species, then that species will be rejected from the keying process if that character is chosen. A few examples: a freshly collected specimen of *Pentapogon quadrifidus* had an inflorescence that best matched the option of 'inflorescence solid' (as opposed to 'compound' or 'digitate'). While the inflorescence of this species is undeniably paniculate, it is not uncommon for specimens to have a densely contracted inflorescence (and the illustration of the species shows such a state). Choosing the best matching 'solid' state inevitably lost that species as a possibility. Avoiding the inflorescence character, one could then attempt to negotiate the 'glumes awned/unawned' option. My specimen (and I believe the typical state for the species) had unawned glumes. Again a fatal consequence for keying on that character state. A similar experience was had with a fresh specimen of *Festuca arundinacea*. It was rejected when the 'lemma mucronate' option was chosen. Either 'lemma awned' or 'lemma muticous' (which logically represent the 2 extremes of the condition) would have allowed me to proceed. Similarly 'culm geniculately ascending' (which accurately described the state of my specimen) rather than 'culm erect' caused the rejection of *F. arundinacea*. Bemused by this, I further noticed (although I have not exhaustively compared this with specimens) that of the 24 Australian species of *Austrodanthonia*, all but one species (*A. penicillata* – geniculately ascending culms only) are coded as having erect culms, and four (*A. auriculata, carphoides, geniculata, pilosa*) are coded as having both erect and geniculately ascending culms. My suspicion is that problems might also be encountered keying on this character within the genus.

I tried identifying the cryptically-flowering *Pennisetum clandestinum* using the 'vegetative characters' character set. I was impressed at the rapid reduction to only three species (*P. clandestinum* plus *Cynodon dactylon* and *Stenotaphrum secundatum*) in only eight steps. But I had to bypass the 'ligule fringe type' character as my specimen (which I believe was typical) clearly was of the 'ciliate membrane' type. I was somewhat unconvinced of the final, clinching character that allowed separation from *S. secundatum* (leaf-blade vernation flat), but overall quite satisfied at the discriminating power of the routine. It is possible to absorb some degree of error in character state selection by increasing tolerances (generally set at 0), but I suspect this would greatly reduce the number of unique results.

There are a few apparent discrepancies between the dichotomous and interactive keys. Keying *Austrodanthonia* and *Rytidosperma* interactively, employing characters of the lemma (a simply chosen character set option), one reasonably chooses 'lemma apex lobed' and may then proceed with species of those genera still being in the 'remaining taxa' pool, but keying dichotomously, the option (at couplet 34) 'lemmas entire, dentate or slightly lobed' must be chosen against 'lemmas deeply or distinctly lobed' to allow those genera to be keyed successfully. More trivially, *Poa compressa* is given for NSW, Vic. and Tas. in the interactive key, but only NSW and Tas in the dichotomous key. And there are cases where there appear to be internal inconsistencies in the dichotomous key, e.g. to identify *Amphibromus* in the dichotomous key one must say (correctly) at couplet 73 that glumes are longer than lower floret, yet at couplet 108 the choice must be 'glume is shorter than adjacent lemma'.

It may be trite, and perhaps unnecessary for experienced keyers of grasses, but I was unable to find in the glossary or other guides whether the spikelet or lemma lengths included awns when present.

In the grand scheme of things, these are really pretty small nits to pick. It is virtually impossible to expect a data matrix of 1323 x 226 entries to be without fault. The perfect key to grasses is perhaps an unattainable dream (I am guilty of entrenching the ignoble tradition of the odd imperfect grass key myself) and 'odd' specimens will always be encountered to confound the best key. I'm assured that future editions will rectify some of the above annoyances to approach that holy grail of the flawless, comprehensive, guide to grass identification in this country.

Despite the minor quibbles mentioned above, I highly recommend *AusGrass* to anyone wishing to dip their toe into, or who has long been splashing in, the sometimes murky pool of graminology. I recommend that users note any apparent errors of data coding and inform the authors so that future versions of the key be made even better. I heartily congratulate the authors on the release of this fine product.

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Brooker, M.I.H., Slee, A.V., Connors, J.R & Duffy, S.M. (2002). *EUCLID, Eucalypts of south-eastern Australia*, 2nd edn. ABRS/CSIRO Publishing.

Thiele, K.R. & Adams, L.G. (2002). *The families of flowering plants*, revised edn. ABRS/CSIRO Publishing.

Report from CHAH

Consensus Census Workshop (Orchidaceae)

Venue, date and host:
9.30 a.m.- 4 p.m., 28 March 2003
Mount Annan Botanic Garden
Royal Botanic Gardens and Domain Trust

This workshop was organised by the Council of Heads of Australian Herbaria to assist in the preparation of a Consensus Census for Australia's Virtual Herbarium.

There were two major aims: to discuss the principles proposed in 'Towards a Consensus Census' in *Austral. Syst. Bot. Soc. Nsltr* 111: 2–3, and then to use these, or other principles, to resolve conflicting taxonomies within the Orchidaceae. The ultimate outcome was a very practical one – what names do we use in Australia's Virtual Herbarium?

CHAH has agreed that the AVH should provide a 'preferred name' for each taxon, but that alternative taxonomies should be available to those who wish to use them. The fact that a name is 'preferred' in the AVH does not imply that alternatives are incorrect or scientifically unsupported.

With this background, the meeting had the following agenda:

- Discussion of agenda and outcomes expected
- Discussion of the principles to be used
- Identification of areas of disagreement and uncertainty
- Options for key areas of disagreement
- Agreed compromise solutions for use in the AVH Consensus Census (e.g. for the next three years)
- Action needed after meeting for any unresolved groups

Just the major areas of discussion and recommendations are reported here (notes from the meeting can be obtained from the participants or your local CHAH member).

Principles

There was general agreement on the desirability of monophyly as a primary criterion for the definition or re-circumscription of genera.

Minimisation of taxonomic change (part of ICBN Preamble) was held as a strong principle by some participants, but not by all. There were certainly cases where adhering to this principle strictly would not result in a system acceptable to most people.

The principles about change being more acceptable in less 'charismatic' groups (a fact to note rather than a criterion to use), and that there may be more than one 'correct' name, were not discussed at the workshop but are generally accepted.

The lack of information held in monotypic taxa was raised as a reason to avoid such circumscriptions.

Although not an absolute principle, most participants thought very large genera were unwieldy.

Examples

Various contentious groups of taxa were discussed, first by examining the scientific evidence, then considering the nomenclatural responses to that data. Full agreement was clearly not going to be reached for any of the groups considered, except perhaps for the tribe Dendrobieae where all participants seemed to agree that a 'splitting' approach based on good scientific evidence was appropriate.

As a pilot for other groups, it was soon clear that a consensus approach at a workshop would not always be possible. An alternative was suggested – a national census based on the majority view of the herbarium censuses. In one sense this just moves the decision-making down a level, but it does better reflect the actual process of accepting taxonomic change.

Recommendations

- The AVH Census be derived from a 'majority rules' comparison of the holdings censuses of the eight State/Territory herbaria (i.e. the census that reflects curation/database within the herbarium). The precise mechanism for

this needs to be resolved (e.g. what do you do if we have a 50:50 view?) but it needs to be done fairly mechanistically. The onus will be on devisers of new systems to convince local constituencies of the scientific and social value of their new system. There was discussion about whether the State/Territory that contains a geographically restricted taxon should have a weighted 'vote', but this was dismissed as impractical and not necessary.

- CHAH to encourage journal editors/referees to advise authors to avoid describing species or infraspecies epiphets that might cause confusion if later referred to 'alternative taxonomies'; this is already a recommendation (23A.3.h) in the ICBN. This article is part of that advice.
- AVH interface to provide easy access to alternative taxonomies and to reduce the perception that the AVH preferred name is the only correct name. This will need some creative programming.
- A mechanism to be devised to allow linked data entries in alternative taxonomies for taxa without a formal name in a widely accepted alternative taxonomy (e.g. equivalent of phrase names). Either creative programming or careful consideration as part of the 'phrase name' working group set up by CHAH at its last annual meeting (contact: Bill Barker)
- 'Minimising taxonomic change' to be a key criterion when scientific information is lacking or incomplete. Its importance in deciding between alternative taxonomies that are equally well justified scientifically (e.g. where it is a matter of what rank is used) is a greyer area. Certainly this criterion should always be considered, along with all other rules and responsibilities.

Acknowledgements

Thanks to Bob Makinson who prepared the notes from which this article was prepared, and to all the participants of the workshop: Tim Entwisle (Facilitator), Royal Botanic Gardens and Domain Trust, Sydney (RBGDT); Judy West, Centre for Plant Biodiversity Research, Canberra (CPBR); Mark Clements, CPBR; David Jones, CPBR; Peter Weston, RBGDT; Steve Hopper, Botanic Gardens and Parks Authority, Perth; Neville Walsh, Royal Botanic Gardens Melbourne; David Banks, non-government sector, Sydney; Wayne Harris, Queensland Herbarium; Annette Wilson, Australian Biological Resources Study, Canberra; Jim Croft, CPBR; Bob Makinson, RBGDT. Peter Lavarack provided a written submission to the workshop.

Dr Tim Entwisle
Chair, CHAH
Royal Botanic Gardens and Domain Trust

Obituaries

Botanist and conservationist, teacher and educator
C.Keith Ingram OAM BA, BEc, J.P. 1912-2002

The Royal Botanic Gardens, Sydney, is to be the beneficiary of one of the largest private collections of specimens of Australian native flora ever collated. Keith Ingram compiled this extraordinary herbarium totalling some 37,000 specimens of predominantly eucalypts, native grasses and orchids over a period of 70 years. This included personal expeditions to all States and Territories, five to the Cape York region. To be named in his honour at the National Herbarium, Sydney, this collection will be used, not only as a permanent record of the nation's flora, but also by researchers.

Keith's passion for botany, and especially taxonomy, began at a very early age. His maternal grandfather, Jonathan Emms, had served his apprenticeship as a gardener at one of Britain's finest country estates, Somerleyton Hall in Suffolk, and had later (1856–60) been responsible for laying out the St Kilda Gardens in Melbourne.

Keith was raised on the Macleay River on the New South Wales Mid-North Coast where in 1930/31 he was first captain and dux of the new Kempsey High School. The award of a rare Commonwealth Scholarship at the height of the Great Depression enabled him to train at the Armidale Teachers College where he did so well (his thesis "The Flora of New England" achieved First Class Honours) that he was invited to lecture in entomology and botany. This lecturing position enabled Keith to undertake a degree in Economics at nearby University of New England.

Upon graduation in 1938 Keith married Jean Brenton, his childhood sweetheart, in a happy union that was to last 64 years. The pair moved to Sydney where Keith commenced an Arts degree at Sydney University and joined the University regiment.

After the outbreak of war Keith was posted as an Infantry Instructor to Ingleburn and Bathurst Army Camps training men destined for North Africa and European campaigns. After

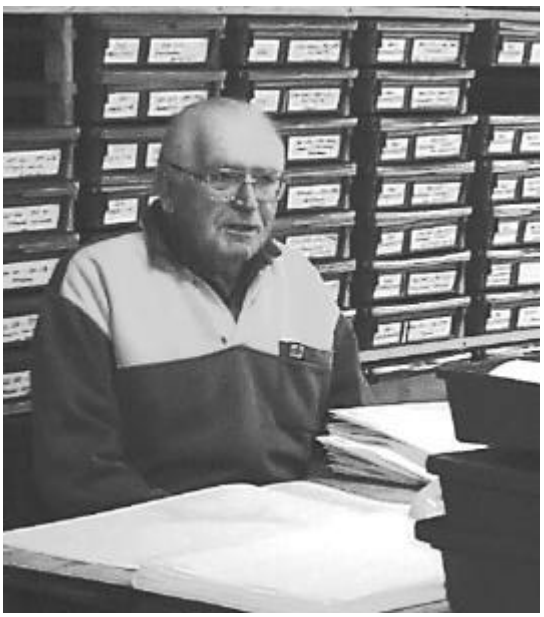
transferring to the 2nd AIF Keith was posted to Townsville, thence to action in New Guinea with 1Aust CRE[6] in the Lae area. His intimate knowledge of Australian and Pacific Island timbers was so rare and valuable that both the Australian and United States Army sought and benefited from his services. Prior to Keith's involvement the effective life of timber facilities, such as wharves, bridges, barracks etc so desperately needed to support the War effort, was often measured in weeks due to termites, dry rot, and so on. Keith's involvement in the New Guinea Campaign is documented in articles by him (Ingram 1993) and K. Howard (1994).

Until two weeks before his death on 16th April 2002 in Hawkesbury Hospital, Windsor, Keith was busy in his herbarium at Richmond naming plants sent to him by students, fellow botanists, enthusiasts and Councils from all over the country. His philanthropy, like his botanical knowledge, knew no barriers. In 2000 Keith was awarded an OAM for his lifelong services to Botany. Recently the Federal Government published a list of rare and endangered species of native flora. Three of these were named in Keith's honour. One, *Acacia ingramii*, adorned his casket, presented by grateful staff of the Royal Botanic Gardens, Sydney.

Keith's love of the native environment encouraged him to undertake meticulous research over many years of areas within New South Wales that he considered of special significance. As a direct result of his personal endeavours and quiet lobbying behind the scenes, the Munghorn Nature Reserve (Upper Hunter), Winburndale Nature Reserve (near Bathurst) and the Hat Head National Park (Crescent Head to Smokey Cape on the Mid north Coast) have been protected for future generations to enjoy.

Keith's professional career was in the state Education Department in which he served for 40 years. The war had delayed the conferring of his Arts degree until 1946. In 1946–1948 he taught at all Sydney "Demonstration" schools, 1949–53 at Mudgee High. Then in 1954 he became Principal of the new, but incomplete, Monaro High at Cooma. Keith always considered this a most challenging assignment, there being 27 nationalities represented in a school of almost 300 students. His efforts there were rewarded with further promotion as District Inspector, Central West at Forbes (1955–57), Western Area Secondary Inspector, Bathurst (1958–63) and thence to senior staff and administrative positions in head office, Sydney, until retirement in 1973.

[6] 1st Australian Commandant Royal Engineers (New Guinea Forests)



At his investiture at Government House Keith was asked by the then Governor, Gordon Samuels, why his passion for botany. To this he replied, "In the 19th Century there were few botanists and few gentlemen. Now there are even fewer botanists and no gentlemen!"

Those fortunate to know Keith during his long and productive life will endorse these sentiments. Ever the friend and mentor, a man of rare intellect and botanical knowledge.

Keith is survived by his wife Jean and their three children, Anne, Ross and John.

Epynomy

Acacia ingramii Tindale
Bertya ingramii T.A.James
Zieria ingramii J.A.Armstrong

References

Howard, R.A. (1994). The role of botanists during World War II in the Pacific Theatre. *Bot. Rev.* 60: 197–257.

Ingram, K. (1993) Botanists at war. *Austral. Syst. Bot. Soc. Nsltr* 75: 6–9.

Jan Allen
Mount Tomah Botanic Garden

This article, slightly modified here, was submitted to the Sydney Morning Herald but not published. Further information is available on the Mt Tomah pages of the Royal Botanic Gardens, Sydney, website.

The Ingram family hopes to have Keith Ingram's autobiography "Recollections in Tranquillity" edited and published.

Death of Dr Gerhard Benl (1910 – 2001)

Attention is drawn to the death of this German systematist. Dr Benl became well known to many Australian taxonomists and field workers through his visits to our continent to advance his revisional studies of the Australian genus *Ptilotus* (Amaranthaceae). It is a pity that he did not live to see his long-completed account of the genus published in the *Flora of Australia*. His draft key has been in use around Australia for many years.

The obituary cited provides a full list of his 144 publications, many of them on *Ptilotus*.

Reference

Hertel, H. (2002). Nachruf auf Herrn Dr. Dr. Gerhard Benl. *Sendtnera* 8: 195–204.

Robyn and Bill Barker

Correction

A bibliographic correction for two Western Australian papers

Two botanical papers published some years ago in volume 67 part 1 of the *Journal of the Royal Society of Western Australia* have errors in the header that could lead to wrong bibliographic citations, especially if one has only a reprint to hand. The papers are:

G.J.Keighery, Chromosome numbers in Western Australian plants, II. *J. Roy. Soc. W. Austral.* 67: 26–27.

E.R.L.Johnson (completed by Hj.Eichler from notes left by Mrs. E.R.L.Johnson), Taxonomic revision of *Isoetes* L. in Western Australia *J. Roy. Soc. W. Austral* 67: 28–43.

In part 1 of volume 67, pages 1–13, 27–28 and 42 have "Vol. 66, Part 4, 1984" in the header; pages 14–25, 29–41 and 43 have "Vol. 66, Part 3, 1983"; and pages 26 and 44 have "Vol. 65, Part 3, 1982". Furthermore, Part 1 has "April 1984" on the cover.

The correct date of publication for these parts was 19th December 1984 (see vol. 68, p. 27).

Alex George
c/- Royal Botanic Gardens, Kew

ABRS Report

Staffing

Once again I have to report changes in ABRS staff. At very short notice our Director, Mr Ian Cresswell, was promoted to Assistant Secretary, Marine, in the Marine & Water Division of Environment Australia. Appropriately, this means he has moved across Lake Burley Griffin to the John Gorton Building, and Dr Alice Wells has been appointed Acting Director, ABRS, for three months. Late in February the position of Director, ABRS, was advertised nationally, and we hope to have a new Director before too long.

Conferences

A number of ABRS staff have attended international conferences in the last few months.

Helen Thompson attended the *International Symposium on Plant Diversity in Eastern Asia and Workshop on Botanical Gardens*, run in March 5th–7th 2003 in Taichung, Taiwan. Helen was standing in for Jim Croft, who was unable to attend at short notice. She presented two papers, one on research and management at ABRS, ANBG and CPBR, the other a talk on the *Flora of Australia On-line* project and the AVH. There were also workshops to discuss the *Flora of Iriomote* Island, the databasing of the *Flora of Taiwan* and the *National Digital Archive Project of Taiwan*.

Annette Wilson and Tony Orchard attended the *Global Taxonomy Initiative Plan of Work* workshop in Paris from 12 to 14 February. This meeting, hosted by UNESCO, Bionet International and the CBD Secretariat, fleshed out the *GTI Plan of Work*, as a follow-up to an earlier meeting in Pretoria in mid-2002. The *Plan of Work* is planned to be tabled at the SBSTTA meeting in Montreal on 10th March,

Annette and Tony also attended the *Species Plantarum Project* meeting in Paris from 27th February to 1st March, at which considerable progress was made. A more structured editorial process was implemented, by which Dr Jan Kirschner (Czech Republic) will be Receiving Editor, responsible for organising refereeing and preliminary checking of all manuscripts received. Tony and Annette were confirmed as Production Editors, responsible for final editing, formatting

and publication. The series will continue to be published by ABRS. Our first major work, Juncaceae, was enthusiastically received, and we were able to report substantial progress on the next major monograph, Chrysobalanaceae, of over 500 species. A welcome offer of sponsorship for publication of Chrysobalanaceae has been received, placing the whole project on a more sustainable footing.

Publications

As foreshadowed in the last issue, *Catalogue of Australian Mosses* by Heinar Streiman & Niels Klazenga was published on 23 December 2002. It costs A$33, and can be ordered from ABRS (Publications), GPO Box 787, Canberra ACT 2601.

Marine Benthic Flora of Southern Australia Part IIID, Ceramiales – Delesseriaceae, Sarcomeniaceae, Rhodomelaceae by H.B.S. Womersley was published on 24 February 2003. The last part in this landmark series, it weighs in at 533 pages, in the familiar format. It can be obtained from ABRS (Publications), GPO Box 787, Canberra ACT 2601 for A$80, including surface postage and GST.

The latest ABRS publication *The Genus Mycena in South-eastern Australia* is now available. This is the first book to be published in Australia covering a single Australian mushroom genus. It is a co-publication between Fungal Diversity Press and ABRS. It covers 66 species of the mushroom genus *Mycena*, most of the species being from south-eastern Australia. Apart from species' descriptions, the history of the classification of the genus is discussed, as well as the history of the genus in Australia, previous Australian records, and the conservation status of species. The majority of species of *Mycena* included in this work proved to be both new to science and endemic to Australia. It is hard bound, of v + 350 pages and can be purchased for US$80 from Dr K.D. Hyde, Fungal Diversity Press, Department of Ecology & Biodiversity, The University of Hong Kong, Pokfulam Road, Hong Kong SAR, China (or visit the website: *www.hku.hk/ecology/mycology/FDP.html*)

Tony Orchard

ABLO Report

For those of you who do not know, let me say up front that these reports will be written largely in the plural, for Alex George and I have travelled to Kew together. I have taken up the position of ABLO for 2002–03 and Alex is spending a year as an associate of Kew.

We left Perth on 20 November and flew to Cape Town via Johannesburg. We visited John Rourke at Kirstenbosch and Alex renewed an old friendship with Ted Oliver who was the South African Botanical Liaison Officer at Kew when Alex was ABLO in 1968. I gave a seminar on *Taxonomic Literature Cryptogamia* (TLC), the 25-year project that Alex and I commenced in 2002, and on a web-based finding aid that I plan to produce for the archives at Kew that were microfilmed by the *Australian Joint Copying Project*.

Landing at Heathrow early on 26th November, we were collected by Pat Bostock. After a shower at the 'ABLO flat' we walked to RBG Kew in time for the weekly 11 a.m. news session in the herbarium staff room. Peter Bostock gave us a whirlwind tour of the herbarium, the state of play with ABLO duties, outstanding requests and the computer system. That evening we were guests of Simon and Marilyn Owens at The Orangery (being opened as a refurbished eatery) and later dinner at a local Italian restaurant to say goodbye to Peter. After a good night's sleep we spent the morning with Peter before he farewelled Kew to do a final pack for a 3 pm flight to Brisbane via Tokyo. Peter, and more especially Pat, his wife, have been a mine of information concerning all the small things that are so important for a smooth transition to a new country and employment.

Our first weekend was spent in familiarisation and settling in. It was while walking across Kew Green that I fielded the first ABLO query. Have you tried to explain the purpose of two large white screens on wheels, on opposite sides of the boundary of a large English grassed area, to two non-English-speaking mainland Chinese people?

On 4th December at the Linnean Society Dr Quentin Wheeler, Department of Entomology, Cornell University, gave the annual Systematics Association address 'Tree of Life or Roots of Destruction? Phylogenetics and Taxonomy'. The discussion centred on the future of systematics in the United States. The National Science Foundation is aware that graduates who can identify field material are not being trained at present and that this lack of expertise should be addressed.

Our first trip to the Natural History Museum (BM) was the following day. We attended the 4th

Annual Young Systematists Symposium (similar to that held by the Royal Society of Western Australia and probably elsewhere). There were four sessions of 18 talks and 11 posters. All presentations were of extremely high quality, as is often the case with student presentations. I also met the Botany Library librarian, Malcolm Beasley, to discuss *Taxonomic Literature Cryptogamia*.

At a meeting of the Linnean Society that evening Mariette Manktelow, from Uppsala University, spoke on 'Hamarby', the property where Linnaeus spent the summer teaching and running his farm. Students stayed in a small settlement south of the farm. The herbarium that Linnaeus had specially built in a cleared area on the hill (so that it was not in danger of fire) is now surrounded by trees, and the Uppsala community and Swedish Government must decide whether to return the farm to the way it looked when Linnaeus lived there or to the way it was when the farm was bought by the Government almost 100 years later. This is the kind of situation that the management committees of many 'living' monuments have to tackle. The decision on the farm will be made during the next few years as it is prepared for the 300th anniversary of Linnaeus's birth in 2007.

Our next visit to the BM was to meet Dr Richard Bateman, Keeper of Botany, and other staff. Dr Peter Schäfer, the curator at Montpellier, was on an extended visit to the BM and gave a seminar on the history of his institution and why it is an herbarium that more botanists should visit. He discussed the reasons he does not send out loans: e.g. he is the only person on staff to look after an herbarium of four storeys, and loans have been returned with type material destroyed.

In mid-December we attended a session on the new imaging process being instituted to replace the cibachrome at K. This process will also replace the CD-ROM of K images and will enable the public to search for images on the K website.

Just before Christmas Dr Sy Sohmer from the Botanical Research Institute, Texas, spent some time at K and we spent a pleasant lunch reminiscing over life at the Smithsonian Institution and discussing the TLC project. Sy has given us some possible funding leads.

It did not snow at Christmas, nor was it particularly cold; in fact, London had its warmest Christmas Day for 23 years. It was moving to sit in St Anne's Church beside the plaques to William and Joseph Hooker for the Royal Botanic Gardens Staff Carol Service.

On 2 January we headed off early to Luton to fly Ryan Air (one of many discount airlines now operating in Europe) to Dublin. We then caught the bus to Galway where we attended the first meeting of the British Phycological Society to be held outside Britain. I gave two papers at the conference, one on TLC and the other on a new genus of red algal parasite, work that I have done in collaboration with Dr John Huisman. We spent several days working in the library at the National University of Ireland, gathering bibliographic information for TLC. We then moved our base to Dublin, to work at Trinity College (TCD). It was a surprise to find no modern catalogue of the library collection of TCD and even the electronic catalogue of the College libraries represents only a portion of their massive collection. TCD has been a legal deposit library for Ireland and the UK for several centuries. We quickly realised that working in conjunction with the catalogue was not feasible and so tackled what are known as the 'bound algal pamphlets'. The herbarium holds important collections (plants and library), including those of William Henry Harvey and the head of the Botany Department, John Parnell, encourages botanists to travel to TCD to use them. Alex was asked to look at some Proteaceae and other material and was intrigued to find Australian material collected by Harvey and Ludwig Preiss that had never been determined.

In Ireland I was able to assist a visiting team of Korean phycologists who want to visit Australia to collect. They were extremely impressed with the efforts being made to provide biodiversity information via ABIF, as were the staff of Botany at Trinity College.

While we were in Ireland it snowed in London for the first time in 12 years (in Galway we simply had a big freeze). Otherwise the weather had been so mild that we thought that we were not going to experience snow at Gloucester Court, but no, it snowed again in the last week of January and brought traffic in London and counties to the north to a standstill.

ABLO requests (e.g., relating to specimens, literature, history) have continued steadily, both from Australia and from Kew staff. They sometimes bring pleasant surprises, such as the discovery of a 1912 letter from Arthur Dorrien-Smith to Arthur Hill, then Deputy Director at Kew, tucked among specimens of *Anigozanthos*.

Many Kew staff were extremely concerned to hear of the savage summer that eastern Australia has experienced. We were all amazed that Black Mountain in Canberra did not go up in flames when so much around it did.

February has been spent searching out the ABLO records and producing a simple but effective record management system for the position. Where the ABLO library was previously catalogued using an MSWord document, it now has a searchable electronic catalogue using the bibliographic software Biblioscape. The new catalogue will mean that the task of updating the catalogue, recommending items to be weeded, and recording loans will be much less time-consuming and easier to police. Alex has also begun researching the Kew archives in preparation for a book on the ABLO scheme.

In his February address to the staff, Professor Peter Crane announced an increase of £3 million in government funding, as well as an increase in the Capital Grant-in-Aid. Although wide-ranging plans for developments at Kew are still being prepared, the first priority in building is an expansion of the Jodrell Laboratory. This will accommodate staff from the Mycology Building which will probably be demolished to make way for the next addition to the Herbarium. The Jodrell expansion will also allow consolidation of the Micromorphology team as well as Economic Botany and Biological Interactions.

Kew's nomination as a World Heritage Site is complete; a decision is expected in July. A Conservation Plan for the site is also complete. Two significant recent releases onto the web from Kew are an electronic Plant Information System, which includes IPNI, and the Library Catalogue. A new Head of Wakehurst Place has been appointed: Dr Andy Jackson, who will oversee building of a new Visitor Centre and other developments there. Another recent appointment is Dr Martyn Rix as editor of *Curtis's Botanical Magazine*.

On 20th January we assisted in celebrating (at *The Greyhound*) the birthday of one of Kew's longest-serving stalwarts, Bernard Verdcourt.

Raphael Govaerts is the organiser of a systematics group at Kew that meets every two months. In December Alex gave an overview of the progress of systematic botany in Australia, and in February I spoke on bibliographies, *Taxonomic Literature* 2nd edn and TLC.

As I finish we are preparing for a short visit to Paris where Alex will attend a meeting of the *Species Plantarum Project* editorial committee and I shall explore the libraries for TLC.

We were sorry to miss Philip Short, Darwin, who came while we were in Ireland. In February we welcomed Ian Fox from Mareeba, who gave a seminar on the vegetation mapping program in northern Australia. Tony Orchard and Annette Wilson from ABRS, Canberra, spent several days at Kew between meetings in Paris and it was good to get first-hand account of recent happenings in Oz.

ABLO requests by email

Given the many virus-bearing emails these days, and the fact that I receive redirected emails from three academic institutions plus Kew, may I ask that, in queries sent to the ABLO electronically, the title of the message should state 'ABLO request' followed by keywords on the subject, e.g. '*Ptilota* type' or 'Linnaean reference'. A message from an unknown address bearing an abstruse title is likely to be trashed unopened rather than risk infection by a virus.

Roberta Cowan
Royal Botanic Gardens, Kew

Marking the Robert Brown bicentenary

Lectures in Darwin

David Mabberley completed his Austrian Embassy and ASBS-sponsored lectures on Ferdinand Bauer and Robert Brown in Darwin in mid-February. David's lectures were publicised several days beforehand on the Northern Territory government website and on the day of the talks in the *Northern Territory News* and that the lectures were well received by the audiences. The Bauer talk, held on Tuesday 11th February, attracted about 40 people, and about 50 attended on the following night to hear the lecture on Brown.

The talk on Brown also doubled as the first Darwin Day Lecture, being held on Darwin's date of birth. Barry Russell of the Museum & Art Gallery of the Northern Territory (where the lectures were presented) plans to make the Darwin Lecture an annual event. Robert Brown and Charles Darwin were linked, Prior to the voyage of the *Beagle* the Brown advised Darwin on botanical matters and the type of microscope to employ.

During his stay David also gave one or two radio interviews, visited Darwin's botanical gardens, and paid a brief visit to the local bush to collect and photograph *Citrus gracilis*.

Philip Short
Northern Territory Herbarium

Coming events

"150 National Herbarium of Victoria" Celebrating 150 years of plant research in Australia 29th September – 3rd October 2003

The conference celebrates the sesquicentenary of the National Herbarium of Victoria (MEL) and systematic botany in Australia.

A brochure is included with this issue of the *Newsletter*.

As a policy ASBS offers financial assistance to students who are members of the Society and who will be presenting a paper or poster. The amount offered has yet to be set, but it will be an amount not greater than the student early-bird registration fee. Submissions of papers are required by 31st May 2003.

Because the fees are quite expensive compared with most recent symposia, it is likely that the assistance will not cover the full amount. Recipients are expected to attend the Annual General Meeting of the Society to be presented with their reimbursement.

***Web**: www.conferences.unimelb.edu.au/150years/*

Species Plantarum 250 years: Uppsala 22nd – 24th August 2003

The programme of this celebratory conference has several themes:

- Historical aspects of *Species Plantarum*
- The future of biological nomenclature – What's in a name, where do we go from here? *ICBN*, biocode, phylocode or something else?
- Inventorying the flora of the world – Status, needs and problems
- Visit to Linnaeus' Garden and Museum

Speakers are listed on the symposium web page.

The logo of this symposium represents the living heritage of the scientific base of *Species Plantarum*: the surviving species from "Hortus Upsaliensis". More than 40 species from Linnaeus's garden has survived until today and become naturalised in Linnaeus's Hammarby, to where he transferred them in the 1760s. Together with three greenhouse species in the Botanical Garden, these surviving species form a "Hortus Upsaliensis Genebank".

The logo shows *Lilium martagon* from Linnaeus's Hammarby with its *nomen triviale* in the first edition of *Species Plantarum*.

During our symposium, a visit to Linnaeus's Hammarby is planned. This visit will include a general tour of the museum area, a picnic at lunch, and a special viewing of the latest research on the surviving Hortus Upsaliensis plant material.

Extracted from the Symposium Web Page
www.systbot.uu.se/sp.pl/index.html
www.linnaeus.uu.se/LTeng.html

Third National Native Grasses Conference November 27th & 28th 2003

Cooma, New South Wales

The Stipa Native Grasses Association and Friends of Grasslands invites all those interested in grassy landscapes and the productive use of native grasses to submit their ideas for papers and/or poster presentation.

Background

One morning in February 1997, forty-odd people, with a common interest in grasses, met for a breakfast meeting in Dubbo NSW, to discuss the formation of a native grasses group."

This was in response to the growing interest over the previous years in native pasture management and the environmental value of the native grasses. We considered that native grasses were undervalued and in an effort to promote their use we decided to exchange information on a regular

> basis through newsletter communication, field days and conferences Stipa Native Grasses Association was officially formed. (Cluff, D. 2001 Second Stipa National native Grasses Conference)

The Stipa Native Grasses Association has grown over the past five years with 1200 copies of the quarterly newsletter distributed nationally. Stipa has a strong landholder based membership and so has seen many "grass roots" articles printed in the newsletters from our primary producers, often with innovative and always interesting ideas.

Field days are an important educational vehicle and are held far and wide, usually on commercial grazing properties. Tooraweenah, Holbrook, Carcoar, Gulargambone and Gilgandra are some of the districts where these field days have taken place.

Two highly successful conferences have already been held. The first, In Mudgee NSW on the 16th & 17th March, 2000, attracted 120 delegates (46 were landholders) and was followed by a field day at our chairman's property at nearby Gulgong.

The second was held at the University of Melbourne's Dookie College. Over 200 delegates enjoyed 1½ days of presented papers and a field trip or workshop activities on the second afternoon following the conference proper. Many of the delegates and speakers alike were accommodated at the College. This proved to be extremely beneficial for new contacts being made, old ones reformed, the exchange of ideas and many new friendships developed out of the conference.

The coming conference

Plans are underway for the Third Stipa National Native Grasses Conference, to be held in Cooma on the 27th and 28th November, 2003. We are supported in our mission by The Friends of Grasslands (FOG), David Eddy of WWF, DLWC, South Coast Catchment, Snowy River Shire Council and the Cooma Monaro Shire Council.

Costs and format have not yet been finalised, but it is planned to follow a similar programme to the Vic. conference. Delegates and speakers alike will, however, have to arrange their own accommodation.

A general invitation for papers or posters is being sent out to a wide audience. Abstracts or summaries of these will be reviewed by a committee and the successful submissions will present their papers at the conference in Cooma. The papers will be edited, but not refereed, and compiled into a conference proceedings to be presented to delegates on arrival.

The general theme is "Sustainability and Beyond"

Expressions of interest should be submitted to Christine McRae by 30th March 2003.

Stipa's website is worth a look, although it needs updating as the details of the last conference are still in place.

***Web**: www.coolahddg.com.au/stipa/default.html.*

Christine McRae (Conference co-ordinator)
1480 Bocoble Rd. Mudgee NSW. 2850
cmcrae@hwy.com.au

XVII International Botanical Congress Vienna, First Circular 18th – 23rd July 2005; Nomenclature Section, 13th – 16th July 2005

General Information

The XVII International Botanical Congress (XVII IBC) takes place 2005 in Vienna, Austria. It is being organized by the IBC Organizing Committee, the Society for the Advancement of Plant Sciences and the Vienna Medical Academy, with support from many societies related to Plant Sciences, as well as universities, research institutions, and private sponsors. The XVII IBC is held under the auspices of the International Association of Botanical and Mycological Societies (IABMS) of the International Union of Biological Sciences (IUBS).

Purpose

The XVII IBC, like all its precursors, will be a major convention of scientists from around the world. The XVII IBC will be a centennial meeting, 100 years after the second modern IBC Vienna in 1905.

Registration

Registration is open to any person interested in any field related to plant biology. Payment of the registration fee allows entrance to all sessions, exhibitions and receptions; it will also include receipt of all congress documents and abstract publications. Reduced fees will apply to students and to scientists from developing countries.

Congress Site

The Austria Center Vienna is a large and attractive building with all modern facilities to support large international meetings.

Duration of the XVII IBC

Scientific Sessions and Ceremonies July 18 – 23 (Monday – Saturday) 2005.

The Nomenclature Section will be held during July 13–16 (Wednesday – Saturday) 2005 at the UNI-Campus "Neues Hörsaalzentrum".

Congress highlights

The congress will convene at the Opening Session on Monday, 18 July 2005, with welcoming ceremonies and plenary lectures. The Scientific Program, and commercial and other exhibitions will take place from Monday through Saturday.

Scientific events will end daily at 18:30 leaving evenings free for Society or social meetings, or for the many cultural events and attractions that Vienna has to offer.

The scientific program

In the tradition of previous IBC Meetings, the Scientific Program of the XVII IBC will consist of Plenary Lectures, Symposia (consisting of oral and poster sessions), Society or Association Meetings, New Media Presentations, and Discussions and Workshops. All participants (plenary speakers excepted) will be limited to one oral or poster presentation.

Scientific disciplinary areas

- Cell Biology and Molecular Genetics
- Genomics, Proteomics, Metabolomics
- Structure and Development including Functional Aspects
- Botanical Diversity, Systematics
- Population Biology
- Plant-/Eco- Physiology, Biogeogenic Cycles
- Phytochemistry (basic and applied)
- Ecology, Environment; Conservation Biology
- Human Society and Plant Sciences
- Natural Resources, Biotechnology, Economic Botany
- Knowledge sharing Databases, Bioinformatics, Electronic Communications, Education

Language

The official language is English. No simultaneous translation will be provided.

Excursions

Various pre-, mid- and post-Congress excursions will be offered.

Collections

The botanical collections in Austria are exceptionally rich. W and WU (Vienna), GJO and GZU (Graz, 150 km from Vienna) and LI (Linz, 180 km from Vienna) contain together 6,000,000 herbarium specimens including more than 500,000 types. Make use of the opportunity to visit these collections!

Deadline for symposium proposals

30 September 2003

All prospective participants are invited to submit a proposal for a Symposium fitting within one of the Disciplinary Areas. Proposed symposia that bridge two or more disciplinary areas are also welcome and encouraged.

Oral contributions and posters

All authors will have to supply abstracts, the deadline for which will be announced in the Second Circular.

Proposals or questions

Proposals or questions regarding the Congress should be sent to:

Dr. Josef Greimler
Secretary General
XVII IBC 2005
Institute of Botany, University of Vienna
Rennweg 14
A-1030 Vienna, Austria
e-mail: office@ibc2005.ac.at
Phone: +43-1-4277-54123
Fax: +43-1-4277-9541

Second Circular

To receive the Second Circular, please fill out the registration form on the web site and return it (preferably electronically) to the Secretary General.

***Web**: www.ibc2005.ac.at*

ASBS Publications

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

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

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

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

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

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

Australian Systematic Botany Society Newsletter

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

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

Katy Mallett
ASBS Sales
ABRS
GPO Box 787
Canberra, ACT 2601, Australia

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

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

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

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Mrs Macquaries Road
Sydney, NSW 2000
Tel: (02) 92318131

Contacting Major Australian Herbaria and Systematics Institutions

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

AD
tel: (08) 8222 9307
fax: (08) 8222 9353

BRI
tel: (07) 3896 9321
fax: (07) 3896 9624

CANB
tel: (02) 6246 5108
fax: (02) 6246 5249

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tel: (02) 6281 8211
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These listings are published in each issue. Please inform the Editors of any changes

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

The Society

The *Australian Systematic Botany Society* is an incorporated association of over 300 people with professional or amateur interest in botany. The aim of the Society is to promote the study of plant systematics.

Membership

Membership is open to all those interested in plant systematics. Membership entitles the member to attend general meetings and chapter meetings, and to receive the Newsletter. Any person may apply for membership by filling in a "Membership Application" form and forwarding it, with the appropriate subscription, to the Treasurer. Subscriptions become due on January 1 each year.

The ASBS *annual membership subscription* is $40(Aust.); full-time students $20. Please make cheques out to *Australian Systematic Botany Society Inc.*, and remit to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

The Newsletter

The Newsletter appears quarterly, keeps members informed of Society events and news, and provides a vehicle for debate and discussion. In addition, original articles, notes and letters (not exceeding ten published pages in length) will be considered.

Contributions should be sent to the Editors at the address given below. They should *preferably* be submitted as: (1) an MS-DOS file in the form of a text file (*.txt* extension), (2) an MS-Word 97 or earlier version *.doc* file, (3) a Rich-text-format or *.rtf* file. Send on an MS-DOS disk or as an email message or attachment. *Non-preferred* media such as handwritten or typescripts by letter or fax are acceptable, but may cause delay in publication in view of the extra work-load involved. Contact the Editors on *images*; their inclusion may depend on space being available.

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

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

Advertising

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

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

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

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