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Society



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# AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

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## PRESIDENT'S REPORT

### Where to now?

The establishment of an Australian society for systematists has (quite rightfully) forced us to explore various futures for ASBS. As I write, ASBS continues to do what it has done well for last 24 years. The new society, let's call it ASS, is in its formative stage with many systematic botanists among its enthusiastic supporters.

I intend to raise this issue yet again at the annual general meeting in Adelaide. At various times in the newsletter and in general meetings, the concept of changing the focus of ASBS to a biological systematics society or to a general botanical society has been aired. In 1988, Mike Crisp hoped that his proposals at that time would not 'lapse merely through apathy' (*ASBS Newsletter* 55: 3-5). Response to the establishment of ASS at the Melbourne meeting has been limited but not apathetic. I have received (verbally and via e-mail) strong missives in support of our current mission and equally strong petitions to broaden our taxonomic focus.

There are a number of alternatives (and plenty more I'm sure):

1. ASBS retains its current scope. ASBS and ASS evolve as different societies with overlapping membership lists.
2. ASBS broadens its scope to include all the aims of the new society, let's call it ASS. ASBS then invites ASS members to join it. ASS decides to either stand alone or to effectively merge with the new ASBS (*i.e.* it is their choice). Bob Hill has suggested that such a society could also

include the Palynological and Palaeobotanical Association of Australasia. Maybe it would draw members from cryptogam societies and others as well.

3. The Australian Institute of Biology acts as an umbrella organization for a number of societies. The AIB has the potential to handle professional accreditation (*cf.* foresters and engineers) and membership to all relevant societies could be streamlined through a single membership form and finance arrangement (this suggestion is from Bob Hill – apologies to Bob if I have minor details incorrect). AIB would have to initiate such a proposal.
4. We wait to see how ASS develops and reconsider our options on a regular basis.

I do not suggest we vote in Adelaide to decide absolutely on this issue (it would require changes to the constitution anyway). What I would like to resolve in Adelaide is whether there is a minority or majority wanting change, and how strongly these views are held. From there, the council can take appropriate action. There will be no knee-jerk reaction and no caving into the loud and/or lucid. The current council are bound to support the aims of the society unless the membership decide otherwise.

In January, I contacted all Chapter Convenors with a request for debate on this issue. If you have comments, questions, concerns or condemnation could you please contact your Chapter Convenor or a member of Council. I'd

like to receive all feedback by the end of August. You might also consider burdening a colleague with the duty of representing your views in Adelaide.

I'm sure there will be members thinking that while Rome burns (*i.e.* vegetation is cleared, research funding is reduced, plants go unnamed), Australia's systematic botany society is fiddling (in all senses of the word). While this is undoubtedly true, the issue needs resolution and the newsletter and society meetings are appropriate venues.

### Chapters

Andrew Lyne has sent all Chapter Convenors a list of current and not so current members. If you are reading this newsletter under false pretences you may receive a call from your local convenor in the near future. My chats with convenors revealed as many interpretations of a local chapter as there are chapters. A couple of new convenors have emerged (thanks Marco Duretto and Peter Jobson) and some chapters are planning to (re-)activate.

Seminars/talks are the popular social cohesive, ranging from monthly to 'a couple a year'. Topics range from learned to light-hearted, many convenors feeling that research seminars duplicated the efforts of nearby universities or herbaria. Alternatives include reports on field trips or conferences, and discussion groups. In Melbourne, a Chapter field trip is planned for spring. Email is seen as a boon for publicizing *ad hoc* meetings.

It may not be practical or useful to hold Chapter meetings in some regions, but please give thought to whether some sort of regular gathering might boost membership, build those oh-so-important professional bridges, or just

give you the chance to knock back a sherry or two.

### FASTS

We have a new representative on FASTS for our cluster of three societies. Snow Barlow (Australian Society for Plant Physiologists) will stand for three years, to be followed by a representative from ASBS. On behalf of the society, I'd like to thank Barry Fox (Ecological Society of Australia) for his efforts on our behalf over the past few years. If you have any issues for Snow to present on our behalf, please forward them to me in the first instance. I recently sent FASTS some ideas from the ASBS Council for the Review of Science and Technology Arrangements by the Chief Scientist, Professor John Stocker.

### National Biodiversity Council

As I outlined at the last general meeting, the NBC is undergoing something of a rebirth. The new 18 member council, where enthusiasm will be as important as reputation, will be elected early this year and all assembly representatives are due for renewal or change. Our representatives on the assembly are now Bob Hill (University of Tasmania) and Darren Crayn (University of New South Wales). Bob also represents a number of other societies and I will continue to represent the Australasian Society for Phycology and Aquatic Botany.

### And

If you thought the cover of the last issue reflects the research interests of the current President – lots of very small green things – you were wrong. I study larger red things. The esteemed editors are in the process of reworking the cover. I'm assured that the cover of this issue will be less spacious.

*Tim Entwisle*

## ASBS INC BUSINESS

### ANNUAL GENERAL MEETING

The 19th Annual General Meeting of the Australian Systematic Botany Society Incorporated will be held on Wednesday 1st October at the University of Adelaide, in conjunction with the joint national conference (Software and Systematics: Advancing Knowledge and Conservation of Australia's Biodiversity) of ASBS and the newly formed Society of Australian Systematic Biologists (28th September – 3rd October). Any members wishing to place an item on the agenda should notify the Secretary (Mrs Robyn Barker) in writing by Wednesday 17th September 1997.

### COUNCIL ELECTIONS

In accordance with the Society's Constitution, nominations are hereby called for all positions on the Council for the 1997–1998 term of office: President, Vice President, Secretary, Treasurer and two councillors. None of the retiring office bearers has served three consecutive years in the same office and so all are eligible for re-election.

Each nomination must be proposed by two 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 (Robyn Barker) by Friday 16th May, 1997.

*Robyn Barker*  
Secretary, ASBS Inc.

\*\*\* 1997 ASBS SUBSCRIPTIONS ARE NOW DUE \*\*\*

## NOMINATION FORM

Note: A separate nomination paper or facsimile of the same is required for each candidate.  
We, the undersigned members of the Society, wish to nominate:

.....

for: President, Vice-president, Secretary, Councillor.  
(Please delete the offices that do not apply to you nomination.)

### First Nominator

### Second Nominator

Name .....

Name .....

Signature .....

Signature .....

I hereby consent to my nomination for the position of .....

Signature .....

Date .....

Nominations must be in the hands of the Secretary by Friday 16 May, 1997.

**Secretary:** Mrs R. M. Barker  
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## LETTERS TO THE EDITOR

### ON THE DISTRIBUTION OF ABRs GRANT FUNDS TO FLORA AND FAUNA

*An open letter to Dr Hal Cogger, Chairman,  
Australian Biological Resources Study Advisory  
Committee*

From the report in *Biologue* 17 on the ABRs grants for 1997, it is clear that for this round the Advisory Committee abandoned the 50:50 split in funding between flora and fauna that has been adopted previously. This year the proportion of grant funding going to flora projects amounts to 44% of the total, with fauna projects receiving 56%. No explanation for the decision is given in *Biologue*.

One can argue inconclusively till the Linnaean system is superseded whether the botanists or zoologists have the bigger task in discovering and classifying our large biota, but this kind of action is both a slap in the face to the botanical community and unlikely to increase cordiality between them and zoologists. In our efforts to further the cause of systematics in Australia we need co-operation, not division.

I trust that the Advisory Committee redresses this situation by reversing the proportions for 1998 grants, and thereafter returns to equivalent funding.

*Alex George, 'Four Gables', 18 Barclay Road,  
Kardinya, Western Australia 6163*

## CONFERENCES

### ADELAIDE SYSTEMATICS CONFERENCE 28 SEPTEMBER – 3 OCTOBER 1997

Organization is now well advanced for the joint Australian Systematic Botany Society and Society of Australian Systematic Biologists meeting to be held in Adelaide in September. The provisional programme and confirmed speakers can be found in the Registration brochure included in the *Newsletter*. You will see from that the conference week is already starting to look very busy. A high level of interest has already been shown and you are

urged to register and make your accommodation arrangements early.

A number of other activities will also be held within and around the conference:

- The Australasian Mycological Society will meet on the Wednesday of the conference week.
- The meeting of Council of Heads of Australian Herbaria Information Systems Committee (HISCOM) will take place in the week preceding the conference from

Wednesday 24th to Friday 26th September at the State Herbarium of South Australia. This committee, composed of IT THE representatives from all of the Australian herbaria, will supply much of the expertise for the Software part of the conference programme.

- A Compositae Workshop will be held on Saturday morning, 4th October at the State Herbarium.
- The Flora of Australia Editorial Advisory Committee meeting will be held on Sunday 5 & Monday 6 October at the State Herbarium.
- The Council of Heads of Australian Entomological Collections (CHAEC) is meeting on Sunday 28th.

The National Conference of the Society for Growing Australian Plants overlaps with ours and they will be having their Spring display at the showgrounds on the weekend of 27/28

September. ANZAAS and the Australian Microbiologists will also be meeting in Adelaide in the same week. Some of the latter will be joining in our Friday session.

A registration brochure is included in this newsletter together with a call for papers. We urge as many of you to attend as possible even if it is only so that you can:

- see whether the audio visual facilities in Adelaide work any better than those in Melbourne
- enjoy the fantastic (and cheap) food in Adelaide s East End
- shoot off to the Barossa or any of the close-by wine regions
- catch up with your colleagues over a Cooper's beer
- hear John Clarkson's latest jokes

See you in September.

Bill & Robyn Barker

## ARTICLES

### THE IDENTITY OF EUCALYPTUS SALICIFOLIA CAV.

A. R. Bean

Queensland Herbarium, Meiers Road,  
Indooroopilly, Queensland, 4068

It is now 200 years since *Eucalyptus salicifolia* Cav. was described. It was one of six species of *Eucalyptus* described by the Spanish botanist A. J. Cavanilles in 1797. The descriptions were based on the collections of Luis Née, botanist with the Malaspina expedition which visited

Port Jackson in 1793. There is now general agreement about the identity of the other five species named by Cavanilles (*E. racemosus*, *E. platypodos*, *E. rostratus*, *E. obliquus* and *E. corymbosus*), but the identity of *E. salicifolia* has been the subject of speculation and guesswork by several botanists, so that errors have been made and perpetuated until the present time.

Bentham (1867) did not speculate on the identity of *E. salicifolia*. He stated that *E. salicifolia*, amongst others, was 'far too



imperfectly described to render identification possible'. This statement implies that he did not see the type material himself.

Maiden (1909, p. 151) was not so reticent in suggesting an identity for *E. salicifolia*. He firstly assumed that Cavanilles's name was based on *Metrosideros salicifolia* Sol. ex Gaertn., and listed *E. salicifolia* as a synonym of *E. amygdalina*. In reaching this conclusion, he was apparently influenced by a specimen he saw in Vienna Herbarium (W) which was annotated by Ferdinand Bauer as '*Eucalyptus amygdalina*, Labill., *Metrosideros salicifolia*, Gaertn., Ins. van Diemen, Herb. Bauer, Ferd. Bauer'. Later, on p. 234, Maiden apparently dissociated *Metrosideros salicifolia* from *Eucalyptus salicifolia*, but continued to link *E. salicifolia* with *E. amygdalina*.

Blakely (1934) faithfully followed Maiden's opinion that *E. salicifolia* was synonymous with *E. amygdalina* Labill. Blakely's contribution was to take up the epithet *salicifolia* (the earlier name) for the Black Peppermint of Tasmania. Blake (1953) showed that *Metrosideros salicifolia* and *Eucalyptus salicifolia* were described quite independently, and are definitely not synonymous. He expressed doubt about Blakely's application of the name *E. salicifolia*, but reached no definite conclusion.

In a detailed and comprehensive account, Cameron (1955) discussed the eucalypt species described by Cavanilles. In the case of *E. salicifolia*, he refuted the idea that *E. amygdalina* is a synonym, with the argument that Née did not visit Tasmania, and hence could not have collected the Black Peppermint, which is endemic to that state. This is indeed a compelling argument today, but in Maiden's

day, *E. amygdalina* was considered to extend to Victoria and New South Wales. Cameron concluded that *E. salicifolia* is a synonym of *E. saligna* Sm., a name which predates *E. salicifolia* by just a few months. His determination was apparently strongly influenced by a specimen of Née (one of the syntypes) which bears both names.

Strangely, Cameron's observations were soon overlooked. Johnston & Marrayatt (1965) reverted to listing *E. salicifolia* Cav. as a synonym of *E. amygdalina* Labill., which is exactly what Maiden did in 1909. This error was repeated by Hall *et al.* (1970), Pryor and Johnson (1971), and Chippendale (1976). More recently, in the *Flora of Australia* (Chippendale 1988), this error is glaringly obvious, as *E. salicifolia* Cav. (publication date given as 1787, rather than 1797) is listed as a synonym of *E. amygdalina* Labill. (1806).

Recently, I received photographs of the two syntypes of *E. salicifolia* from Madrid Herbarium (MA). Unfortunately the quality of the photographs is poor, so that the specimens appear almost as a silhouette, and the size is also inadequate. From these photos, it is impossible to determine important diagnostic features such as leaf discolouredness, leaf venation, presence/absence of operculum scar, and peduncle shape. However the following features are in evidence: the leaves are narrowly-lanceolate, c. 6-8 x 1.2-1.5 cm, with a distinctly oblique base; inflorescences are simple, axillary, and bear 5-7 buds; individual buds are diamond-shaped, and shortly pedicellate; the operculum is conical but not sharply pointed.

From the above, it can be stated categorically that the type of *E. salicifolia* Cav. is not The

synonymous with either *E. amygdalina* Labill. or *E. saligna* Sm. However, the combination of characters observed on the photographs can be found in many species of stringybark (*Eucalyptus* ser. *Pachyphloiae* Blakely). There are four stringybark species indigenous to the Sydney area which could match the type of *E. salicifolia*; *E. globoidea* Blakely, *E. sparsifolia* Blakely, *E. eugenioides* Sieber ex Spreng. or *E. oblonga* DC. In my opinion, *E. oblonga* is the most likely candidate. Ian Brooker has examined the photographs, and agrees that *E. salicifolia* is a stringybark, and considers *sparsifolia/oblonga* or *eugenioides* to be potential synonyms.

In summary, *E. salicifolia* is not synonymous with *E. amygdalina*, as claimed by Maiden (1909), and followed by Blakely and numerous others. Nor is it a synonym of *E. saligna* Sm., as claimed by Cameron (1955). *E. salicifolia* is undoubtedly a stringybark, and is possibly conspecific with *E. oblonga*. Close personal examination of the type specimen will be necessary to determine its exact identity. The correct identification of this name will be an essential task for the reviser(s) of the stringybark group, as *E. salicifolia* predates all other stringybark names except *E. capitellata* Sm.

#### Acknowledgements

I thank the Director of MA for sending photographs of Cavanilles's types, and Ian Brooker for examining same.

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## TAXONOMIC IMPEDIMENT AND THE CONVENTION ON BIODIVERSITY

*[The following is a paper written by K. Elaine Hoagland, Executive Director, Association of Systematics Collections (ASC). It appeared on the internet (at the ASC homepage: <http://www.ascoll.org/>) and is apparently in a recent issue of the ASC Newsletter. The article, including the opening editor's note, was received by us from Robyn Barker but originally distributed by Mike Crisp after David Yeates (Dept of Entomology, Univ. Queensland) had drawn his attention to it.]*

**Editor's Note:** The following is a White Paper written by ASC Executive Director K. Elaine Hoagland in response to a public call for a solution to the lack of adequate taxonomic resources for country-studies and other work mandated by the Convention on Biodiversity. At its last meeting (Fall, 1995), the Conference of the Parties to the Convention called upon the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to propose solutions to the taxonomic impediment. ASC responded with this White Paper, which has been sent to SBSTTA and the Convention's Secretariat. ASC invites comments and hopes that this paper is the beginning of a dialogue both within the systematics collections community and between it, policymakers, and users of biodiversity information.

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### Introduction

The Conference of the Parties to the Convention on Biodiversity (COP) has requested a report from the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) on ways to overcome the shortage of taxonomists available to inventory and characterize the world's biodiversity. This shortage has been recognized not only by the COP, but has been documented in many reports around the world (House of Lords Report, UK, 1991; Systematics Agenda 2000, 1994). It was called the Taxonomic Impediment by IUBS/ Diversitas, because lack of taxonomic expertise prevents other biodiversity research from going forward. The problem continues to worsen, despite innumerable calls for action issuing from countless meetings on the subject over the past 20 years. The Association of Systematics Collections (ASC) offers SBSTTA and the COP an explanation of the taxonomic impediment and ways to resolve the problem. ASC is the North American organization representing natural history museums, herbaria, and other institutions that maintain biological collections for taxonomic research. We have been developing policy for taxonomic resources for a quarter century.

### The Problem

The taxonomic impediment to progress in the study of biodiversity is linked to a world-wide shortage of taxonomists who can be called upon to identify species, describe species that are new to science, determine their taxonomic relationships, and make predictions about their properties. The shortage is expected to worsen, because the taxonomic workforce is ageing, coupled with a decline in students being trained in taxonomy. To complete the picture, there is a

decline in the number of paid positions that allow a person to spend time doing basic taxonomy. What is NOT lacking is an interest in taxonomy by potential taxonomists. Even the existing number of trained taxonomists are under-utilized due to insufficient commitment of funds to taxonomic study. Every major museum suffers from backlog of unstudied specimens and undescribed new species, while every curator can cite the loss of students who were interested in taxonomy, but could not get sufficient fellowship support or failed to find a paying job.

The decline in taxonomists available to study biodiversity at first appears puzzling. The decade of the 1990's has promoted the inventory, use, and protection of biodiversity as never before. It is widely recognized that taxonomic information is a prerequisite to understanding biodiversity and maximizing its use and protection. It is also widely accepted that, outside of mammals, birds, and some plant groups, we know only a fraction of the species on earth. The groups that are the least-known are those with the most potential for discovery of products of use to humankind, and for understanding emerging diseases and agricultural pests.

What is the cause of the taxonomic impediment? In short, taxonomy is largely outside the world economy. It is taken for granted as a free good by governments, resource managers, drug and seed companies, and even by many scientists. People want taxonomy, but not enough to pay for it.

### **Why are Taxonomists Needed?**

Taxonomists are needed to perform tasks such as to:

1. *Name and identify species.* While

parataxonomists and others can be trained to make 'first-cut' species identifications, it is necessary to rely upon a taxonomist with world-wide expertise in a group of organisms in order to provide key elements of training, develop identification manuals, and review the taxonomic work of parataxonomists, especially to deal with species that are as-yet undescribed or are members of difficult-to-identify species complexes.

2. *Recognize exotic pests and disease organisms.* Only taxonomists with broad knowledge of their taxon can recognize non-indigenous taxa, when first encountered, that may put native biota (including mankind) at risk. The taxonomist is the first line of defence against economic losses from exotic species.
3. *Improve knowledge leading to efficient use and protection of biodiversity.* Taxonomists determine phylogenetic relationships among species that, combined with local knowledge and biotechnological tools, can advance the use of biodiversity by predicting the chemical and behavioural properties of species. Taxonomic information also provides insights that are used by ecologists and management authorities to understand species distributions, untangle species interactions and ecosystem structure, rank and justify conservation areas, and plan restoration efforts.

### **Collections Infrastructure**

An international network of collections contains the biological specimens that document this work. The collections are visited

again and again by taxonomists to unlock new information, hand in hand with ongoing explorations of the natural world. As with systematists themselves, the resources of biological collections are often taken for granted and receive little support for being the scientific infrastructure they truly are.

### **Economics of Taxonomic Services**

Historically, the field of taxonomy was developed by amateurs in the best sense of the word - those who work for the love of the discipline, regardless of formal compensation, and this spirit continues to some extent into the modern day. Many taxonomists remain amateurs, or perform their taxonomic studies on their own or borrowed time, peripheral to a scientific career in a related discipline. Most taxonomists who ARE paid for their work as taxonomists are associated with governmental agencies or not-for-profit institutions (universities, museums).

Growing out of a tradition of reciprocity and collegiality, taxonomists frequently do not charge clients directly for their specialized services and products, such as identifications and biodiversity databases, even though the users of these services and products now extend far beyond their fellow taxonomists. These service activities are often ancillary to a taxonomist's basic monographic work, for which he or she receive grant funds, or subsidizes on his own or through his employers. The cost of doing taxonomy is not factored into most biodiversity or ecology projects. Research grants (even in taxonomy) and ecological monitoring activities rarely include funds for the curation and care of voucher specimens, or the establishment and maintenance of museums.

The result is a classic market failure in which

the cost of taxonomy is externalized. Employers are unwilling to hire persons who do not bring in financial resources. In business terms, taxonomists are a net financial drain (opportunity cost) on the organization. Students shy away from the field of systematics in favour of fields that offer more fellowships, grants, and jobs. Courses in taxonomy are therefore under-subscribed, giving universities further incentive to cut faculty positions. The few remaining taxonomists are over-worked and burdened by new tasks, including now being asked to computerize millions of specimen records going back 200 years. At many institutions, taxonomists willingly stay on beyond retirement, doing work that could go to newly-trained individuals, and positions are not filled. Although there is keen interest in taxonomy in many developing countries, there too, emphasis is on areas of science that bring direct financial reward.

This downward spiral is compounded by world-wide government retrenchment at all levels, affecting taxonomists whose jobs are in the public sector, such as agricultural and fisheries resource agencies and national and local government-financed museums. There is a lack of diversity of private organizations that traditionally hire taxonomists, making this discipline particularly vulnerable to government cutbacks.

The economics of taxonomy in support of biodiversity was examined by Aylward *et al.* (1993) as part of a study of the economic viability of the biodiversity prospecting program at INBio, the institution in Costa Rica dedicated to the understanding, use, and protection of biodiversity. They concluded that INBio, while recognizing the necessity of bringing in taxonomic experts and doing a

great job of promoting the importance of taxonomy, still did not fully internalize the cost of taxonomic services. Taxonomic services on the part of world experts was a voluntary contribution of knowledge on the part of the scientists, often in exchange for the privilege of access to Costa Rican specimens for taxonomic study. Aylward concluded that, if the full cost of doing taxonomy and training parataxonomists and taxonomists in Costa Rica were calculated, there would be a shift in the economics of INBio. He generalized, 'Market failure in this [taxonomic] input may lead to a reduced incentive to invest in the broader base of taxonomic knowledge itself. Whether this unpaid social cost is interpreted as an external factor of production that does not enter the market calculus or as an implicit government subsidy (since most collection facilities are funded by public funds) is not important. The point is that carrying out such activities for free is a drain on already scarce taxonomic resources.'

Due to the good will and sincere interest of hundreds of world-wide taxonomists, pro bono help is available to INBio and many other projects in developing countries. INBio is proceeding with plans for an exciting All-Taxon Biological Inventory (ATBI), with the deserved enthusiasm of many taxonomists world-wide. However, this one project alone strains the world's taxonomic resources in many taxonomic groups. If taxonomists are directly compensated for their work with the Costa Rican ATBI, the ATBI will contribute to the solution of the taxonomic impediment in a way that is a visible model to the rest of the world.

Taxonomists are highly-trained scientists with intellectual skills and investment in formal education equal to or greater than doctors,

lawyers, accountants, and other highly-compensated individuals in society. Their knowledge is in demand. Their skills are scarce resources in an economic sense. By all these criteria, market forces should increase the value of taxonomists' work, and should drive the hiring of more taxonomists. The problem is not the willingness of persons to enter taxonomy from an intellectual perspective. Why, then, is this market adjustment not occurring?

### **Solutions**

We must change the tradition of taxonomy as an 'off-the-budget' entity supported only by meagre public funds to individuals in academic-style institutions. Government agencies that want these services must begin to pay for them or support them within their own staff budgets. Companies and conservation NGO's that want taxonomic information must begin to factor the cost into their operations. Taxonomists must begin to recognize their own worth and demand payment for services. They must even be willing to provide an accounting for the value of their services to each other, while retaining a collegial reciprocity where appropriate.

The insertion of taxonomy into the market will increase the accountability of taxonomists to their funders, be they private or public. There will be more incentive for taxonomists to work on problems that are of immediate relevance to society, and to improve performance as well. Taxonomists will be recognized in society as relevant and valuable, and biodiversity itself will be more highly valued. Currently, taxonomists receive material to identify that may sit for years, while higher priority work is done. Work on monographs may last a lifetime before work is published, because there is no one calling for delivery of an interim product. A

market approach will change the dynamics of taxonomic research to the benefit of taxonomy providers and users alike.

We are not suggesting that taxonomy be entirely privatized. Market-driven revenues can never replace long-term government funding of collections and taxonomic infrastructure. The value of taxonomic research and information resources is spread over many generations of users, and is not concentrated enough for infrastructure costs to be covered by an identifiable set of current users. Specific taxonomic services and products such as identification manuals and databases are built upon an infrastructure of collections, databases, and fundamental monographic research that will always be up to enlightened individuals and governments to support on behalf of the broader public. There is also cultural value in natural history institutions. Therefore, governments that are concerned about their biological resources need to invest in taxonomic infrastructure and human resources, much as they do in basic biomedicine and other aspects of health and safety. However, within the existing world-wide publicly-supported taxonomic research system, market forces and business plans should be used to identify and increase the value of the research and those who do it.

In every country, there should be at least one national museum, as well as taxonomic resources distributed among agricultural, natural resource management, and other governmental divisions at national and local levels. These institutions should be staffed by taxonomists with world-wide expertise on their taxonomic group, as part of a world-wide network of taxonomic groups covering the world's major taxa (the 'Taxasphere' of D.

Janzen, 1993). There should be taxonomic training centres in public and private universities, and governments should, in their role of supporting the public good, help support these institutions.

Financial incentives and the resulting infusion of new taxonomists (especially in developing countries) will go a long way to solving the taxonomic impediment. The taxonomic impediment will NOT be solved, however, by resorting to short-cuts using local folk taxonomies that stand apart from the world taxonomic framework, by giving suspected new species a serial number and a photograph, or by using ecological groupings of species as surrogates for species delineation.

There are those who will say that there is no new money available for taxonomy. But if the need is as great as has been said by the COP and others, modest resources can be found. In fact, various foundations are willing to spend substantial funds on conferences and workshops to discuss the problem. It is time to put the same resources into the taxonomic infrastructure.

### **Biodiversity Prospecting Legislation and the Taxonomic Impediment**

There is a new impediment to taxonomic research and information, which is an unintended consequence of the Biodiversity Convention itself. Many countries are drafting legislation and regulations that seriously impinge upon the ability of taxonomists to do field work, to obtain specimens for the comparative studies that are imperative to taxonomy, and even to freely publish the results of their taxonomic studies. It is not possible to study and describe new species in one country without reference to specimens of related organisms elsewhere.

Rather than restrict access to biological specimens for basic taxonomic research, countries should nurture their own comparative collections, where their own scientists will work and contribute to the international Taxasphere. International collaborative work sharing the world's limited taxonomic expertise should be encouraged, so that we do not have to duplicate the same taxonomic expertise in every country. Mechanisms such as Material Transfer Agreements can be established so that commercial development can be controlled. We must recognize that foreign taxonomists working on the biodiversity of a country are making a positive contribution to the host country, and should be encouraged, rather than being charged a high tariff. It should be clearly understood that taxonomic information is worth nothing to anyone unless it is published and internationally available. The result of restrictive legislation will be to drive taxonomic resources, both foreign and domestic, out of the country, resulting in greater taxonomic impediment and loss of biodiversity information.

### **Summary of Recommendations**

In order to remove the taxonomic impediment on biodiversity studies and achieve the objectives of the Biodiversity Convention, the signatories to the Convention, NGO's, corporations, scientists, and world funding bodies might consider the following actions.

#### ***Scientists:***

Using existing organizational resources such as the Association of Systematics Collections, Systematics Agenda 2000, and/or ETI, taxonomists could work towards the establishment of a Taxasphere - a network of taxonomists who can be called upon to perform taxonomic research and services in support of

biodiversity inventory and management world-wide. The Taxasphere could make use of various databases of taxonomic expertise that are now being developed in several countries. It could be a clearinghouse for requests for taxonomic services and opportunities for funding. It could align research priorities with funding opportunities, and identify training needs based on real jobs and funded programs. Models for the Taxasphere exist. One very good one is ABRS of Australia, which helps set priorities by focusing attention on needed taxonomic work, helping to arrange training when needed, and funding research and publications on a modest scale. Another model is more international although taxonomically narrow: having recognized a problem in the disappearance of frogs and other amphibians, an international group of herpetologists established a clearinghouse for information and opportunities to research that problem. Foundation support has led to funding of pilot studies and communications among researchers. The Taxasphere would be a larger project, but is conceptually similar. It would be internet-based and minimally bureaucratic.

#### ***Taxonomic Institutions:***

Institutions housing systematics resources should develop business plans that bring taxonomic services into the market, and explicitly show how taxonomic infrastructure is supported, as appropriate to the mission and needs of the institution and its clients and funders, including those representing the long-term public interest. Institutional leaders should review internal budgeting and public relations procedures to demonstrate the value that is produced by taxonomic research and resources both within the institution and via collegial exchange of services and information. They should help the staff develop a new outlook on



their own value and potential as the economic paradigm shifts to one of taxonomy (including basic research) as a valued commodity. Grant applications, collaborative research projects, and contracts should include direct or reciprocal compensation for measurable taxonomic services such as identifications and curation of voucher specimens. Institutions should educate trustees, donors, government sponsors, and taxpayers that the 'public good' of taxonomic services is spread widely across society and hence justifies core funding of research infrastructure and basic research as a social benefit.

***Convention on Biodiversity Stakeholders:***

Countries serious about biodiversity inventory and conservation will want to include taxonomic research, collections and databases as part of the infrastructure of biodiversity programs, as Costa Rica and Indonesia have done. Countries might wish to establish and nurture their own national-scope natural history museums as physical nodes for biodiversity studies. These may be governmental museums, NGO's (a la INBio or the US's American Museum), or university-based. Countries writing biodiversity prospecting laws and regulations would best keep an eye towards simple mechanisms to promote taxonomic research and infrastructure, such as reciprocity arrangements that encourage foreign taxonomists to help build collections and taxonomic skills within the country as part of collaborative research. Taxonomists should be consulted in writing such laws.

International funding sources should encourage grant applications that contain requests for funds to cover taxonomic services. Projects that demand such services but do not contain a mechanism to pay for them should be suspect,

and should be returned for clarification and possible adjustment of the budget to internalize taxonomic costs. Biodiversity prospecting arrangements, in addition to supporting indigenous peoples and conservation goals, should be written to cover any hidden cost of taxonomic services, whether in-country or as part of the Taxasphere.

Conservation NGO's that use taxonomic data and resources can develop collaborations, contractual relationships, or other mechanisms to insure that they are not inadvertently contributing to the taxonomic impediment by causing an uncompensated drain on taxonomic resources. They can help taxonomists and taxonomic institutions explain their worth to society and funders by speaking on their behalf when appropriate, and avoid direct competition that may lead to the extinction of taxonomic resources. (In other words, there should be niche separation between conservation NGO's and taxonomic resource institutions.)

International environmental and legal services NGO's that work in support of environmental law in developing countries should be aware of issues affecting taxonomists when working on biodiversity prospecting legislation and related issues. Taxonomists from developing countries are available to consult on such legislation. Such consultation will avoid unintended consequences that could discourage international co-operation in taxonomic research benefiting the developing country.

Corporations such as seed companies and drug firms are beginning to publicly recognize the tremendous debt they owe to taxonomists (as well as indigenous people and farmers). They now must recognize their responsibility to pay

their fair share of development costs, including taxonomic services and infrastructure.

Corporations that ask not-for-profit natural history institutions to serve as middlemen (e.g., collectors) in biodiversity prospecting arrangements, and the institutions themselves who take on such responsibilities, should recognize the complications that such arrangements may cause for taxonomists whose work is not linked to industry. Clear lines of responsibility for compensation to the host country and the museum should be established at the outset.

#### References

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#### SOME NOTES CONCERNING J. D. BATT (1843-1919)

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Willis (1959) and Hall (1978) provided some biographical information on the collector J. D. Batt, one of many collectors who gathered plant specimens for Melbourne botanist, Ferdinand Mueller. In this note I provide additional information to that supplied by Willis and Hall and correct the notion that Batt was employed in some capacity with the East-West Telegraph Service.

Previously published information on Batt is mainly the result of research by the late Jim Willis, with Jim providing information for Norman Hall. Jim received details of Batt's life from a letter from Mrs E. E. Batt (1958) whose late husband George was J. D. Batt's nephew. The following account of Batt's life is based on this letter, information on early Western Australian settlers published by Erickson (1979), displays at the Eucla museum which I visited in 1990 and 1993, and information from MEL herbarium labels.

John David Batt was the son of Joseph Batt (b. 1800, d. 4 June 1884, Jarrahdale) who first married, on 10 April 1838, Ruth Downton (d. 1 Feb. 1867). The couple and their first child arrived in Western Australia from England aboard the *Westmoreland* on 2 January 1840 and first settled at 'Black Adder Creek' near Guildford, Western Australia. It was apparently there that John David Batt was born on 20 January 1843 (*cf.* Hall 1978). The movements of the family in subsequent years is to some extent

unclear. Erickson (1979) recorded that from 1850–1858 Joseph Batt was a farmer and miller at Canning, subsequently a postmaster at Serpentine and eventually, after his second marriage in 1872, lived at Jarrahdale. The letter from Mrs Batt suggests that the family – a family of ultimately 12 children – moved at a much earlier date from ‘Black Adder Creek’ to Jarrahdale.

In a note added to Mrs Batt’s letter Jim Willis recorded that Jack Batt, by which name the subject of this note was usually known, ‘bought a farm at Tambellup, but he was not a success on the land, preferring to wander the country at will’. There is nothing to substantiate this statement but it is none the less apparent that Jack Batt spent more than a decade, perhaps several decades, working in the vicinity of Eucla. In her letter Mrs Batt speculated that Jack was in some way connected with the telegraph station at Eucla, perhaps being employed as a linesman. In published articles this speculation was treated as fact, Jim Willis recording that Batt was ‘a telegraph linesman’ (Willis *l.c.*, p. 95), and Norman Hall noting that Batt, ‘in the 1880s joined the staff, probably as a linesman, of the telegraph station at Eucla’ (Hall *l.c.*, p. 15). A visit to the Eucla museum has disproved this.

The museum at Eucla covers two main topics. One is the history of the Telegraph Station. The display includes a list of names of ‘The men who manned and maintained the East–West Telegraph Service between December 1877 and March 1927’. Jack Batt is not listed. The second display, is entitled ‘John Reid Muir 1836–1878 First Settler at Eucla’ and includes extracts from Muir’s diary, which record how Muir

*... sailed from Albany King George Sound*

*Western Australia in the brig ‘Emily Smith’ 142 tons, William Davidson Master on the 23rd of February 1872, having on board about 650 sheep, 2 horses, 2 sheep dogs and 3 white men besides myself and a native boy Jackey and a years provisions for Port Eucla with the view of forming a sheep station here. After being drove around with contrary winds for eleven days during nearly all the time dreadfully sea sick, we arrived at Port Eucla on the 5th of March 1872 having lost during the voyage about 20 sheep ...*

The same display contains various photographs relating to the sheep station. Captions include:

*Moopina homestead below the escarpment was built by John and Thomas Muir 1870’s. The stone store was built by Jack Batt 1880s.*

*Jack Batt with Aborigines about 1880. Jack worked for the Muirs at Eucla for 12 years. After John Muir died he managed the sheep station until it was sold in 1885.*

Clearly, Jack Batt was not a telegraph linesman as previously suggested.

The photograph alluded to above shows a long-bearded, apparently tall man and this agrees with Mrs Batt’s physical description of Jack Batt. Mrs Batt also recorded that Jack possessed a loud voice, had a kindly disposition and was a keen walker, so much so that to visit her family at Marradong in about 1912 he had apparently walked from Eucla, about 1,200 km distant. It seems from this recollection that Jack Batt must have remained at Eucla for some years after sale of the Muir station in 1885. However, although there are Batt collections at MEL that were gathered from the Eucla region between 1880 and 1893 I do not know of any that were

gathered from the environs of Eucla after that period. In fact his subsequent collections are only known to come from between Dundas Hills and Lake Lefroy in 1893 and from the vicinity of Fraser Range in 1896. Although it is possible that specimens have been overlooked or that Batt had decided that there was little new to be found from the Eucla region and ceased his collecting activities there, this information suggests that Jack may not have remained at Eucla until about 1912 as implied by Mrs Batt's letter.

The display at Eucla also contains copies of assorted letters pertaining to the Muir family. When I visited they were contained in a small volume entitled 'Muir Family Letters 1858–1915 ... compiled by Alison Muir'. Using the index I found one letter from Batt to, I assume, his employer. It was dated 3 June 1883 and concerned 'the driest season I have seen, only two inches of rain fell since Christmas up to now' and information on the sheep station, including lambing, making a shearing paddock, etc. There are several other letters to or from members of the Muir family which make mention of Batt, including the tantalising warning in a letter written in January 1874 from Elizabeth Muir to Thomas Muir in Eucla, *i.e.* 'Tell Jack Batt if he doesn't come home soon he will lose Rose as Billy sticks in very close!' It seems that Billy may have continued to 'stick close' as Jack apparently remained a single man.

My notes are incomplete but I believe that original letters and photographs pertaining to the Muir family are housed in the Battye Library, Perth.

John David Batt died in Fremantle on 15 September 1919.

### East–West Telegraph plant collectors

Although Batt was apparently not connected with the East–West Telegraph at least two of the plant collectors listed by Willis (1959) as having collected in the Eucla district were. Henry Stuart Carey collected (*e.g.* *Pomaderris forrestiana*, MEL 55219) at Eucla in 1877 when involved with the surveying of the route of the telegraph line from Albany to Eucla (Crowley 1971). Furthermore, it seems likely that Mrs Clara O. Ryan was the wife of one of the men who manned and maintained the telegraph station. The list at the Eucla museum records an E. Ryan and an M. Ryan as having worked on the Telegraph. Mrs Ryan, whose name occasionally appears on labels as 'Mrs C. O'Ryan', gathered specimens at Eucla in 1895 (*e.g.* of *Rhodanthe haigii*, MEL 110567) and in 1896 (*e.g.* *Minuria multiseta*, MEL 544005).

### Eponymy and type specimens

*Eremophila battii* F.Muell., *Proceedings of the Linnean Society of New South Wales* 5: 187 (1890). — *Pholidia battii* (F.Muell.) Kranzlin, *Repertorium Specierum Novarum Regni Vegetabilis* 54: 56 (1929). T: 'Near Eucla; J. D. Batt.'

*Rhodanthe battii* (F.Muell.) Paul G. Wilson, *Nuytsia* 8: 413 (1992). — *Helipterum battii* F.Muell., *The Victorian Naturalist* 10: 144 (1893). T: 'Between Dundas-Hills and Lake Lefroy; J. D. Batt.'

*Templetonia battii* F.Muell., *The Chemist & Druggist of Australasia* 2:31 (1887). — *Bossiaea battii* (F.Muell.) R.Tate, *A Handbook of the Flora of Extratropical South Australia* 65 (1890). T: 'NEAR EUCLA; D. BATT.'

As well as collecting type material of the above species Batt gathered syntype specimens of *Brachyscome tatei* J.M. Black.

### Batt's collections at MEL

I have examined collections of about 50 taxa at MEL that were gathered by Batt in Western Australia. Many are merely labelled as coming from Eucla, but others are labelled as coming from '100 miles north of Eucla', 'Nullarbor Plains', 'Sand Patch, Great Australian Bight', 'Near Fraser's Range' and 'between Dundas Hills and Lake Lefroy'. Labels accompanying specimens are variously recorded as having been gathered by 'Batt', 'J. Batt' and 'J. D. Batt' and Mueller, when describing *Templetonia battii*, apparently cited the specimen as having been gathered by 'D. Batt' (original not seen by me, type citation from APNI). Some specimens are numbered. The collections themselves are generally in reasonable condition and most are of flowering plants. However, there are at least two fungal collections at MEL, both being of *Battarrea stevenii*. Examples of collections gathered by Batt, are listed below. They have been selected to cover all years for which collections are known to exist and all localities known to have been visited by Batt in any given year.

1880

*Battarrea stevenii*  
Eucla, 1880 (MEL 1054039)

1884

*Eucalyptus gracilis*  
Eucla, *J. D. Batt* 5, 1884 (MEL 1610482)

1886

*Kippistia suaedifolia*  
Eucla, 1886, *Batt* 62 (MEL 70496)

1887

*Templetonia battii*  
Eucla, Jan. 1887, *J. D. Batt* (MEL 564736, syntype)

1889

*Vittadinia eremaea*  
100 miles N of Eucla, 1889, *J. D. Batt*  
(MEL 1004569)

*Vittadinia nullarborensis*  
Eucla, 1889, *J. D. Batt* (MEL 1004600)

1890

*Westringia rigida*  
Eucla 1890, *Batt* (MEL 614574)

1891

*Eucalyptus concinna*  
Nullarbor Plains, 1891 (MEL 704069)

1893

*Battarrea stevenii*  
Eucla, 1893 (MEL 1054037)

*Eucalyptus angustissima*  
Between Dundas Hills and Lake Lefroy,  
1893 (MEL 519744)

1896

*Trichanthodium skirrophorum*  
near Fraser's Range, 1896, *Batt* (MEL 85402)

### Undated collection

*Eucalyptus incrassata*  
Sand Patch, Great Australian Bight (MEL 230400)

### References

Batt, E. E. (1958). Unpublished letter to J. H. Willis, dated 7 December 1958. Library, National Herbarium of Victoria.

Crowley, F. K. (1971). *Forrest 1847-1918. Volume I, 1847-91. Apprenticeship to Premiership.* (University of Queensland Press: St Lucia).

Erickson, R. (1979). *Dictionary of Western Australians: 1829–1914*. Vol. 3. (University of Western Australia Press).

Hall, N. (1978). *Botanists of the Eucalypts*. (CSIRO: Melbourne).

Willis, J. H. (1959). Notes on the vegetation of Eucla District, W.A. (with brief account of botanical collections represented in Melbourne Herbarium). *Muelleria* 1(2): 92–96.

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## INTELLECTUAL PROPERTY RIGHTS IN DATABASES

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Major changes in the Berne Convention affecting intellectual property rights (IPR) in databases have been proposed to the World Intellectual Property Organization - not by scientists or educationalists but rather by people more commercially oriented than the average scientist or academic, mainly in the entertainment industry. It is not a matter that we can afford to ignore, given the ever poorer funding in many areas of science and education, because treaties set up by WIPO are adhered to by its member nations, which includes a large proportion of the world's countries.

We have come to take for granted 'public interest or fair use' exceptions to IPR and copyright for scientific and educational use of printed material (although I understand that even that might change), and we should certainly be involved in any discussion of their

abolition in the electronic area. It may well be that the proposed changes are soundly based, but on the face of it they represent major changes to the way scientists have operated, and they should be thoroughly discussed with relevant people, i.e. us, the scientific community!

The Data Access Group in CODATA (ICSU's Committee on Data for Science and Technology) became worried last September at the lack of consultation about these changes, which were to come up at an international WIPO meeting last December. This particular proposal for a treaty was apparently initially strongly endorsed by the USA and European Community, but other nations, including Australia, were ambivalent.

At the October CODATA conference in Japan, the Data Access Group urged members to start agitating at the national level for deferral of the proposed treaty on IPR in databases so that further discussion could take place, especially with scientific and academic groups. The Data Access Group distributed a brief paper (Appendix 1) at the conference, setting out the problems.

Subsequently, scientists in a range of disciplines lobbied their national delegates to the WIPO meeting. Here, various individuals and groups contacted the Australian delegation through the Principal Solicitor in the International Trade Law and Intellectual Property Branch of the Attorney General's in Canberra, pointing out the great ramifications for scientists in the proposed alterations. ASBS and the Academy of Science (*Academy Newsletter* 35:3, 1997) were among the bodies that lobbied the delegation.

Thanks to strong lobbying here, in the USA (ref. *Science* 274: 494, 1074 (1996)) and other countries, the December WIPO meeting decided to defer action on the proposed treaty on IPR in databases for two years, so that further consultation can take place. This is a great relief, and an indication that scientists can actually achieve something by lobbying – at least sometimes!

As a member of the CODATA Data Access Group, I will keep ASBS members informed of progress in discussions over the next two years. Relevant documents and up-dates from WIPO can be accessed directly on their Web site (address <http://www.wipo.org/>). I urge other ASBS members to take an active interest in a matter of increasing importance to science.

**Appendix 1: Notice headed 'Database property rights' and distributed by Data Access Group at CODATA conference, October 1996.**

A new legal regime being proposed in the World Intellectual Property Organization (WIPO) would establish a new intellectual property right in the contents of databases that would:

- \* Prohibit unauthorized extraction, use, or reuse of any database, or any substantial portion of a database (as defined by the database vendor), and effectively establish the basis for a pay-per-use system.
- \* Remove ALL data that are of commercial interest to ANY publisher from the public domain WITHOUT any public interest or fair use exceptions such as those traditionally used for scientific and educational purposes.

- \* Make PERPETUAL protection the norm for databases that are updated, as is typical for electronic databases, because a 25-year initial term of protection is renewable with EVERY new change or addition to a database.
- \* Include strong civil and criminal enforcement provision, INCLUDING third-party liability provisions (that is, it would extend to an unwitting intermediary or disseminator).
- \* Raise serious constraints on fundamental procedures in science and education, undermining the ability of researchers and educators to access and use scientific data.

This issue will be considered by the WIPO as an amendment to the Berne Convention. If ratified, it will become the new international norm in intellectual property law. To date, there has been little or no discussion of this issue in scientific or academic communities. The WIPO conference on this subject will take place in Geneva, 2–20 December 1996.

For further information, contact: Ferris Webster, Chair, ICSU CODATA Working Group on Data Access. Tel: 1-302-645 4266. Fax: 1-302-645 4007. Email: [ferris@udel.edu](mailto:ferris@udel.edu)

26 September 1996

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## COUNCIL OF HEADS OF AUSTRALIAN HERBARIA

### REPORT OF THE 24TH ANNUAL MEETING

CHAH met for the 24th Annual meeting in Darwin on 10, 11 September, 1996. Members present: Mr C. R. Dunlop (Chairperson), Dr G. P. Guymer (BRI), Mrs G. Harden (NSW), Dr H. J. Hewson (CANB), Dr J. P. Jessop (AD), Dr N. G. Marchant (PERTH), Dr J. H. Ross (MEL), Dr I. Pascoe (VPRI). Observers present: Dr M. Parsons (CHR – representing the New Zealand National Herbarium Network); Dr G. Shaughnessy (Director, Flora, ABRs), Dr L. Haegi (AD).

### HISCOM

While the majority of Australian herbaria have their collections computerized to varying degrees, exchange of specimen data between institutions has been a long held desideratum. Through an initiative originating with Alan Brooks and Dr Barbara Briggs, a committee of herbarium IT personnel was formed and held its first meeting at NSW in September 1995. The committee, HISCOM, meets annually to discuss cooperative ventures in information technology, including data transfer; a report on the deliberations is produced for the CHAH annual meeting.

Members welcomed the Convener of HISCOM for 1996, Alan Brooks, who presented the report of the HISCOM meeting held in MEL in July. Amongst the topics discussed by HISCOM96 were the new software *Platypus* and *Lucid*, HISPID3, *Viridans* (Victorian Flora on CD - Rom), APNI and the CHAH database of Type photographs.

### *Platypus*

Developed by ABRs for the production of the *Zoological Catalogue of Australia*, *Platypus* is recommended by HISCOM for trial use by botanists with the intention of approaching the developers to modify the database for botanical use. Several herbaria will assess the software over the next year.

Continuing development and refinement of the Australian Plant Name Index (APNI) database has been undertaken at the Centre for Plant Biodiversity Research. The process of restructuring the data has progressed over a number of years and will result in a database with an interface to the World Wide Web where taxonomic specialists will be able to enter and edit from remote locations.

### *Data interchange*

The grand vision for all Australian herbaria to be linked with the free flow of data between them is slowly but surely being realized with the work of HISCOM in trialling data exchange. Successful exchanges between NSW - CANB and NSW - MEL (both ways in each) have been made and hopefully similar progress involving the rest of the herbaria will be made in the coming year. Efficient transfers are dependent on compatible data which are dependent on the implementation of HISPID standards. The rejuvenation of the HISPID project by HISCOM in the last two years has resulted in the production of **HISPID 3** (published by Royal Botanic Gardens, Sydney for CHAH).

### *Database of Type photographs*

A CHAH database of photos of overseas types



held in Australian herbaria has been maintained at BRI for a number of years. The database has been revamped by Peter Bostock and will be copied periodically to the Australian Botanical Liaison at Kew to avoid duplication of effort.

#### **Plant Systematics Research in Australasia (6th Edition)**

This is being prepared by the Centre for Plant Biodiversity Research on behalf of CHAH. It is nearing completion and should be published soon.

Also being produced by the Centre is the

*Australian Herbarium Resources Handbook* (title not yet confirmed), modelled on *New Zealand Herbarium Resources 1993* published by the NZ National Herbarium Network. The publication will provide a thumb nail sketch of each herbarium, along the lines of *Index Herbariorum* but with more detail.

Dr Gordon Guymer (BRI) was elected Chairman for 1997. The 1997 meeting of CHAH will be held in Hobart in October or November.

Clyde Dunlop, DNA

## ABRS REPORT



**Australian  
Biological  
Resources  
Study**

### **PUBLICATIONS**

It is with considerable satisfaction that I can again report publications which have recently appeared or are in press.

**Flora of Australia Supplementary Series No. 7: Checklist of Australian Lichens and Allied Fungi, by Rex Filson.**

This book was published on 20 December 1996. Its appearance has been warmly welcomed, with almost 20% of the print run already sold. Details appeared in a brochure circulated with the last *Newsletter*, or obtainable on request from me.

**Fungi of Australia vol. 2A, Catalogue and Bibliography of Australian Macrofungi 1. Basidiomycota, by Tom May and Alec Wood.** This book went to CSIRO Publishing on 24 January 1997, and should be in print by late March. The book will be available from CSIRO Publishing, PO Box 1139, Collingwood Vic 3066, for \$64.95 (hardcover) and \$49.95 (softcover). Brochures were distributed late last year, but if you would like another, please let me know.

#### **Biologue**

Our annual ABRS newsletter, *Biologue*, was

posted to everyone on the updated Participatory Program list on 14 February 1997. This list was newly generated from responses received to the mailout last year, in which previous registrants were asked to confirm their continuing interest. If you did not receive *Biologue*, but would like to, then please contact Liz Visher, ABRS Grants Program, GPO Box 636, Canberra ACT 2601; phone (06) 250 9554; fax (06) 250 9555; email liz.visher@dest.gov.au. Remember to request a registration form so that you can be placed automatically on the mailing list for next year. There is no charge.

### **PARTICIPATORY PROGRAM PREFERRED OBJECTIVES**

The preferred research objectives for the next grants round have now been advertised, and also appear in *Biologue*. Applications close on 10 April 1997. Application forms and Guides have been distributed to major herbaria, university grants administrators and museums. If you cannot get copies from one of these agencies, please request them from Liz Visher (address above, under *Biologue*). For those who have not seen the list, it is reproduced below. Note that groups advertised in previous years, but not funded, remain valid, and are treated on the same basis as groups in this year's list. As well as the specific groups below, the advertisement called as usual for more wide-ranging grant applications, for taxonomic work on Areas of National Priority. Those wanting details of criteria for this aspect should contact me or Liz Visher.

### **Taxonomic Research on groups supporting the Publication Program: FLORA**

#### ***Vascular Plants***

*Baeckea* and related genera; Cunoniaceae; Grossulariaceae; Saxifragaceae.

#### ***Bryophytes***

*Bazzania*, *Cephaloziella*, *Frullania*, *Riccia*.

#### ***Lichens***

*Buellia*, *Bacidia*.

#### ***Fungi***

*Cortinarius*, *Dermocybe*, Hygrophoraceae.

#### ***Algae***

Zygnemataceae.

### **AUSTRALIAN BOTANICAL LIAISON OFFICER IN KEW**

Applications have been called for this position for the 1999-2000 tour of duty (not 1998-1999 as listed in *Biologue*). Applications close on 1 September 1997. Copies of the duty statement and selection criteria are available from The Director, Flora, ABRS, GPO 636, Canberra ACT 2601.

### **ABRS POSTGRADUATE SCHOLARSHIP INTAXONOMY**

Applications for this 3-year scholarship have also been called, for awards beginning 1998. Applications close on 1 November 1997. The application form and Guide are available from Liz Visher (addresses under *Biologue*, above).

*Tony Orchard*  
Executive Editor  
ABRS Flora  
21 Feb. 1996

## ABLO REPORT



### Australian Botanical Liaison Officer

I have now reached the half-way point of my stay at Kew and I look back and wonder where the time has gone. Already my successor is making plans to come over here.

Last year was one of the driest on record and the new year has started off the same way with January having one of its lowest ever rainfalls.

At the moment the gales have returned and we have had a mixture of clear skies and sunshine interspersed with cold, windy, cloudy days. The first bulbs putting their heads above the grass indicate Spring may not be far away, however, those in the know remind us that March can be very cold.

#### Travel & Requests

I will be travelling to Cambridge within the next few weeks to service several long standing requests for photographs of Lindley types. Another visit to CGE later in the year maybe possible depending on what requests are received over the next five months.

The only definite European visit that I have planned is for late March or early April is to

PARIS when I hope to spend about a week looking at *Stenocarpus* specimens and attending to several requests received over the past months. If there are other urgent needs from other European herbaria let me know as soon as possible. The number of places I will be able to visit will be limited. So far I have requests to look for material at LEIDEN, GENEVA, LUND and FLORENCE, however, it is hard to justify a visit to photograph a single specimen.

#### Systematics Conference, Oxford, 19-21 August 1997

Already a number of Australian botanists have indicated they will be attending this conference and I look forward to seeing them there and maybe at Kew before or afterwards. For further information contact Toby Pennington at the Royal Botanic Gardens, Edinburgh.

#### Other Conferences

I have just received a second circular for 'Perspectives on the Bird's Head of Irian Jaya, Indonesia' to be held in Leiden from 13-17 October, 1997 (too late for me alas). Abstracts for papers close April 1st. Contact ISIR Secretariat, Perspectives Conference. Nonnensteeg 1-3, 2311 VJ Leiden, The Netherlands.

#### Debate at the Linnean Society

A debate 'That this house believes that Linnean classification without paraphyletic taxa is nonsensical' will be chaired by Dr David Frodin at the Linnean Society on 6 March 1997. Dick Brummitt and Alan Paton from Kew will be putting the case 'for' and Chris Humphries and Peter Forey the case 'against'. I'll report on the outcome next time.

### **Visitors**

There has been a steady trickle of Australian and New Zealand visitors to Kew. Not all sought the assistance of the ABLO but it was nice to see those who did. Previsit contact of some kind should always be made to make sure that the people and/or material you want to see are available.

## **NEWS FROM KEW**

### **Information Systems Department**

I recently had the pleasure of meeting Alyson Prior, the newly appointed Head of the Information Systems Department. This follows the retirement of Professor Gren Lucas at the end of last year. The important facilities of the Library, Archives and the wonderful cibachrome machine come under the control of ISD.

Speaking of Archives, it was announced in *ASBS Newsletter 87* (June 1996) that the Archives at Kew had closed. Happily a new archivist, Lesley Price, was appointed some months ago and the Archives have been reopened. You no longer need a letter of dispensation from the Pope or reigning Monarch but an appointment is essential.

### **Millennium Seed Bank**

The contracts for this 76.5 million pound project to be developed at the Wakehurst annexe have been signed. The amount Kew will get is expected to be somewhat more than was previously hoped for.

### **Renovations in the Gardens**

Kew Palace is now closed and is undergoing major renovations, as is Queen Charlotte's Cottage. Renovation of the old Economic Botany Museum has also started.

### **Retirements**

January 31 saw the retirement of Peter Gooch (photocopier) and Percy Kimber (Messenger and friend to former ABLOs) as well as several other people from the messenger service.

Presentations were made to both Peter and Percy and I am sure past ABLOs who knew these gentlemen would want to wish them a happy retirement. Both have ambitions to visit 'down under' so brush off the spare beds. Peter has promised to take me to the cricket when the Australians come over here later in the year.

### **Disruptions at Kew**

Starting in April this year and continuing through to June 1998 visitors to Kew can expect disruptions to the normal running of the Herbarium and Library. The ability to service some requests may also be affected. Most of the work will centre on D-wing which will have new windows, an additional floor and a new reception area added. As well the Herbarium buildings are to be completely rewired and have a new alarm system installed. More details will no doubt be released as the work progresses.

*Don Foreman*  
ABLO  
22 Feb. 1997

**\*\*\* 1997 ASBS SUBSCRIPTIONS ARE NOW DUE \*\*\***

## NEWS FROM FASTS

### 'TENTOP' ISSUES FOR 1997

*[FASTS' Council have listed 10 major issues to be used in guiding FASTS Board and Executive in their submissions over 1997. The 'top ten' were released by Dr Joe Baker on 1 January 1997.]*

#### 1. **A national vision for Australia to 2020 and beyond**

FASTS urges the Government to determine a national vision for Australia's sustainable development, and to establish what science and technology is needed to support that future. This process, working through a national summit, should set broad national priorities.

#### 2. **The differential HECS fees and science**

FASTS recommends that the Government monitors science enrollments in universities and the impact of differential HECS fees, and takes immediate remedial action should there be any significant decline in numbers.

#### 3. **Science and mathematics teaching**

The Government must address the decline in the quality and quantity of teachers in science and mathematics, and the lack of rigour and substance in Australia's science and mathematics curricula and teaching practices. All students are taught by appropriately qualified teachers. HECS charges for teaching education should be in the lowest bracket.

#### 4. **Encouragement of private R&D**

Funding for private R&D should be increased to internationally competitive levels. Peer-reviewed competitive grants should be used as a mechanism to distribute funds and ensure the

quality of research, and the Government should address the shortage of long term venture capital by encouraging superannuation funds to invest in R&D.

#### 5. **Restructuring the universities**

Australia has too many universities to be able to offer high-quality science courses in all disciplines at all institutions. FASTS advocates a restructuring process that guarantees access to high-quality science education and research, and which may involve amalgamation or shared teaching.

#### 6. **Provision of career paths for scientists**

Too many young scientists face uncertain careers on short term funding. More talented people, especially women, need to be attracted into scientific careers through better remuneration and more secure career paths, with real opportunities to obtain competitive research funding.

#### 7. **Infrastructure in research organizations**

The Government is urged to accelerate its program of replacing worn-out equipment, libraries, computer facilities and buildings in research organizations.

#### 8. **Basic Science**

A higher proportion of Government funding for science should be directed to basic science, to underpin future developments in applied science.

#### 9. **The Australian Ocean Territory**

Australia needs to boost its scientific exploration of the AOT in order to exploit marine and seabed resources in a sustainable

manner. Government should ensure adequate funding is directed the research agencies in this area, including the provision of a scientific marine fleet.

### **10. Protection of intellectual property**

The protection of Australian intellectual property is as vital as its discovery and development. Patent costs should be an allowable R&D expenditure.

### **CIRCULAR FOR DECEMBER & JANUARY**

On January 7, the Government declared 1997 to be 'The Year for Youth in Science'. In making what is largely a symbolic declaration (there was no new money for initiatives in this area!), Minister Peter McGauran said that Australia needed more scientists, technologists and engineers, and not more doctors, lawyers and accountants.

FASTS believes the most useful step the Government could take to boost youth interest in science is to improve the quantity of properly qualified science and mathematics teachers, and to modernize science laboratories in schools. The evidence of difficulties in teaching is mounting. Reports have pointed out the weaknesses - a huge projected shortfall of teachers, the dissatisfaction of the existing workforce, lower numbers entering the discipline areas. The Preston Report by the College of Deans of Education confirms anecdotal reports of the situation in Australian schools and universities:

- \* that too many school students are being taught mathematics and science subjects by teachers not qualified to teach these subjects
- \* that the universities are not producing enough teachers with qualifications in areas such as mathematics, physics and chemistry

- \* that the pool of graduates in science and mathematics available to go on to gain teaching qualifications is growing smaller in number and weaker in quality

Australia needs to boost the supply of good science and mathematics teachers to inspire students to enter these courses at university. All sorts of career opportunities open up to people with qualifications in science and mathematics. The corollary is that all sorts of difficulties lie ahead for the nation which fails to educate the next generation to cope with the challenges of the future.

### **Careers Forum**

FASTS and the National Tertiary Education Union are organizing a one day Forum to examine the question of career opportunities for younger research scientists. It will be at the National Press Club in Canberra on Wednesday March 19, and features a nationally-televised lunch time address by Professor Ian Lowe of Griffith University. The Minister for Science and Technology and his shadow counterparts have been invited to speak, along with young scientists and leading figures from industry, research and the universities. The Forum goes all day, and the registration fee includes a seat at the Press Club lunch. This is an opportunity to devise constructive solutions to a problem which threatens the next generation of Australia's research scientists.

### **The West Review of Higher Education**

FASTS' Secretary Dr Chris Easton, of the Research School of Chemistry at the ANU, is coordinating FASTS' submission to the Review (ph 06-279 8201, email easton@rsc.anu.edu.au). The advertisement calling for submissions will appear on February 19, and submissions have to be in by April 4. Review Secretary is Ian Creagh (ph. (06) 240 7344, fax (06) 240 8854, email

ian.creagh@deetya.gov.au). An indication of FASTS' approach to this Review is in an article I wrote for the *Sydney Morning Herald* last month: 'Scientists working in the Universities are walking a funding and budgetary tightrope. All they can see ahead are red lights and danger signs, as the Universities face up to a series of challenges. These include providing quality teaching for students, and adequate careers for staff in a time of declining budgets; coping with a shrinking demand for S&T courses (particularly from quality students with high tertiary entrance scores) and the uncertain effects of differential HECS; finding the funds for sophisticated equipment; and meeting the challenges of international competitiveness and industry and commerce.'

#### **The Factor (f) Scheme**

I have asked to Prime Minister to extend the life of the Factor (f) Scheme. Under this Scheme, Government incentives for companies to undertake R&D are compensated for by lower-cost pharmaceuticals to the Australian public. It has led to strong growth, significant private investment in infrastructure and research, and the development of a world-leading pharmaceutical industry in Australia.

FASTS supports Factor (f) as an example of the way Government can encourage industry to undertake R&D, and believes that the Government could well consider how the concept could be extended to other scientific and technological areas. As Robert Gottlieb said in the *Business Review Weekly* recently: 'Many countries to our north would walk over hot coals to get the technology we have developed here as a result of Factor f. I suspect many European countries would have the same view' (December 16, p. 6).

The Factor (f) scheme is a clear example of good science combined with good business. It would

be to the detriment of Australia's interests if this scheme were to be curtailed or abandoned.

#### **Meeting with Chief Scientist, Professor John Stocker**

Members of the Board and Executive of FASTS had a profitable half day meeting with John Stocker and Eric James from DIST on 24 January. Much of the discussion revolved about FASTS 'Ten Top' issues for 1997, and the Review of S&T that the Chief Scientist will carry out. (Details have already been distributed to Member Societies.) It is interesting that the Chief Scientist's terms of reference nominate FASTS (along with the academies of science) as an organization he must consult.

Release of the 'Ten Top' issues sparked much discussion this year, particularly number five which began 'Australia has too many universities ...'. Lots of people reached for the phone and email before finishing the sentence: '...to be able to offer high quality science courses in all disciplines at all institutions.' Since then I have expanded on this sentence, to say in the SMH article that in any reorganization of the universities, the views of academic scientists working at the coal-face must be prominent: 'They alone know how to arrange their resources in the science and technology-based discipline areas. They should be the ones to identify and analyze alternative approaches to maintain student access, and standards of teaching and research in S&T. They are closest to the problem, they are best able to understand the resources available, and have the best appreciation of the non-financial impacts of any recommended course of action.'

#### **Media**

There has been a lot of interest in science lately, with HECS, the shortage of teachers, cuts to funding, the Nobel Prize winner becoming 'Australian of the Year', and editorials on

science in several papers. The interest is spreading, and it is good to see 'non-scientists' recognizing the impact of a society inadequate in S&T.

Member Societies can contribute to this interest by drawing matters of interest to the attention of the press. Often these ideas are contained in your newsletters.

An idea from the *Statistical Society Newsletter* faxed to the *Age* newspaper made a good page three story on the economies of buying cold petrol. This sort of coverage can lift the profile of a Society and underline the relevance of science to everyday life.

FASTS recent coverage includes appearances on national ABC radio and Channel 7 TV; and among the headlines were: 'Call for Review of Maths', 'Scientists warn of threats to uni standards', 'Call for unis to consider merger of resources', 'Scientists in call for quality, not quantity', 'Flight from science feared', 'Vanstone defiant on uni cut-offs', 'Vanstone concedes as science cut-offs fall' and 'Science walks a tightrope'

Joe Baker  
3 February 1997

## **MEDIA AND PRESENTATION SKILLS COURSES FOR 1997**

These courses are run by Toss Gascoigne and Jenni Metcalfe, and are especially designed for scientists and those involved in science.

### **Media skills courses**

This practical two-day workshop teaches scientists to:

- \* control their message to the media with confidence

- \* practice their interview techniques with 5 working journalists
- \* get their message out accurately

The aim of the media skills course is to help scientists control their media appearances. Dates for 1997: Adelaide - March 13-14; Canberra - April 22-23; Sydney - June 19-20; Brisbane - July 17-18; Melbourne - August 14-15.

### **Presentation skills courses**

This practical two-day workshop teaches scientists to:

- \* give presentations with confidence
- \* structure talks in a logical way
- \* deliver interesting and animated presentations
- \* handle the unexpected question
- \* use visual aids to add impact

The aims of the Presentation Skills Course is to help participants to communicate their message effectively to a range of audiences. Dates for 1997: Adelaide - March 10-11; Canberra - April 17-18; Sydney - June 16-17; Brisbane - July 14-15; Melbourne - August 11-12.

Courses can be run in other locations, and special workshops can also be conducted - intensive workshops for smaller groups, one day workshops, or combined Media and Presentation Skills workshops. Discuss your needs with the presenters.

For further information contact: Jenni Metcalfe, Senior Consultant, Econnect - environmental and science communication, PO Box 464, Paddington QLD 4064, Phone (07) 3367 2646, Fax (07) 3217 6376, Mobile 014 91 6372.



## AWARDS

### CSIRO EXTERNAL MEDAL

Congratulations to Kevin Kenneally, Daphne Choules Edinger and Tim Willing, winners of the 1996 CSIRO External Medal, for *Broome and Beyond: Plants and People of the Dampier Peninsula, Kimberley, Western Australia*.

[The CSIRO Medals were established in 1985 to honour excellence in Australian research to benefit the Nation. In 1996 two medals were awarded to CSIRO staff to mark outstanding achievement or leadership and one medal, the one to Kevin and his colleagues, was awarded to researchers from outside CSIRO. The Australian retail price for *Broome and Beyond* is \$39.95. The following is the CSIRO press release.]

The book *Broome and Beyond: Plants and People of the Dampier Peninsula, Kimberley, Western Australia* was published in April 1996. It is a thorough, well presented documentation of the flora of an area of Australia that has been paid little attention before.

The book had its genesis in 1983 when botanist Kevin Kenneally published a ten page plant species list for the Dampier Peninsula. 1983 also saw the foundation of the Broome Botanical Society, one of whose aims was the protection of significant local vegetation.

Kevin Kenneally and Society members were acutely aware that the plant list represented a far from complete assessment of the region's then little-known flora. Society members began to

undertake field trips to collect further plant specimens. Particular targets were ephemeral herbs of the wet season, annual grasses, remote coastal vine thickets, swamps and claypans. They believed it was imperative to meet with Aboriginal elders in Broome and outlying communities to document their often encyclopaedic knowledge of traditional plant uses, before such opportunities were lost forever.

Diligent fieldwork over a decade by Tim Willing and Botanical Society members (especially Brian Carter, Paul Foulkes, Dave Dureau and John Martin) was enthusiastically shared and supported by Kevin Kenneally and his volunteer assistant Daphne Choules Edinger. Plant specimens were processed and forwarded Australia-wide for taxonomic determination, while the plant list was progressively updated and expanded, using a computer database format.

The results of their painstaking work are now available in this high quality book, which was compiled with the help of grants from the Gordon Reid Foundation for Conservation and from the Department of Conservation and Land management. It contains descriptions and usages for over 700 plants together with a wealth of colour photographs.

The book is being promoted by the Bardi Aboriginal Community as part of their school curriculum, some of its botanical information has been incorporated into a 1996 ANCA publication on wetlands in Australia and it has

also contributed material to CSIRO's *Interactive Rainforests Key* and the *Flora of Australia*.

*Broome and Beyond* combines the oral botany of Aboriginal-Australian traditional culture with the literate, scientific botany of European-Australian culture, in the spirit of national reconciliation. It is an excellent example of cultural interaction with the aim of improving knowledge of our environment.

Volumes I and II of *The Banksias* were published in 1981 and 1988 respectively. Copies were presented to the Queen as official gifts during her visits in 1982 and 1992. Previously, Celia illustrated *The Mosses of Southern Australia* by George Scott and Ilma Stone, mainly with very fine pencil drawings of whole plants, enlargements and microscopic details. She has also prepared illustrations for Australian stamps.

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Alex George, 'Four Gables', 18 Barclay Road, Kardinya, Western Australia 6163

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### PRIZE FOR CELIA ROSSER

Celia Rosser of Monash University, now painting the final species for Volume III of *The Banksias*, has been awarded the Jill Smythies Prize for Botanical Illustration for 1996 by the Linnean Society of London. The prize, awarded annually since 1988 'for published illustrations of high quality aiding plant identification, with emphasis on botanical accuracy and the portrayal of diagnostics characteristics', is thoroughly deserved, for Celia's work ranks highly in a field with a tradition that goes back several centuries. In the new edition of *The Art of Botanical Illustration* (1994, p. 313), William Stearn wrote that 'To portray them [banksias] and their variety of foliage is an intimidating task demanding infinite skill and patience ... The paintings ... are the finest botanical illustrations produced in Australia by an Australian artist, each one a work of art in its own right; in grace and minute attention to detail they are worthy to stand alongside the Australian flower paintings of Ferdinand Bauer.'

In recognition of her work, Celia was awarded an honorary Master of Science by Monash in 1981, and she received an OAM in the Order of Australia in 1995.

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### DR DAVID SYMON AND THE AUSTRALIAN SYSTEMATIC BOTANY SOCIETY

David Symon is an inaugural member of the Australian Systematic Botany Society and a staunch member and contributor to the local Chapter. He was awarded the degree of Doctor of Science by the University of Adelaide in 1996. The last meeting of the year for our Chapter was a celebration of this event (somewhat tardily since the doctorate was bestowed in May 1996) with David and a recognition of the contribution he has made to ASBS through the years.

Contributors to the evening included David, talking about his life experiences with respect to botany, Enid Robertson on the overlapping years they shared at the Waite Institute, chiefly in the 40s and 50s, Bill Barker on David's contribution to the local Chapter of ASBS, Robyn Barker on his contribution to the National body, Judy Symon on her botanical experiences as David's wife and finally, Laurie Haegi summed up David.

When written down in this fashion, you can be forgiven for thinking that this sounds like a bit of an ordeal, but the approach was light-hearted and some of David's more endearing idiosyncracies were exposed.

A brief resume of David Symon's involvement in the SA Chapter of ASBS is given below.

**1973** In April, David drove to Melbourne for the inaugural meeting of the Australian Systematic Botany Society at the Herbarium. On the 7th November, the inaugural meeting was held at his home to discuss the formation of a South Australian Chapter. Eighteen people were present.

**1974** A meeting was held at David's home in April, where he was the speaker on the topic of 'Problems of Taxonomy in a large Cosmopolitan Genus'.

**1976 September** David led a walk through the Waite Institute Arboretum.

**1977 February** A talk on 'Disjunction of arid Australian plants – some new thoughts on phytogeography in Australia'.

**1977 October** An informal gathering of the SA Chapter with Heads of Herbaria at David & Judy Symon's home, c. 50 people attending.

**1978 May** David spoke on 'Fruit and seed diversity and dispersal in *Solanum* (Solanaceae)'

**1978 July** A dinner was held to mark the publication of J. M. Black's *Flora of South Australia* 3rd edn. Volume 1 at Chateau Fort. The Toast was by David Symon.

**1979 September** David and Judy Symon were

part of a Houseboat trip survey of area upstream from Renmark, partly as precursor for planning a possible 1981 International Botanical Congress Tour.

**1982–3** Convener of the SA Chapter.

**1982 June** Contributor to a discussion on 'Concepts of the inflorescence'.

**1983 August** Contributor to a discussion on dividing up large genera.

**1983 November** One of several short talks. David's topic was 'Personal choice of specific names'.

**1984 November** Contributor to the lighter side of taxonomic botany.

**1985 November** Barbecue to mark the impending retirement of David Symon from the Waite Institute. Speakers: Enid Robertson & John Jessop

**1986 March** A talk on 'The feeding habits of snails on thorny plants'.

**1988 April** A talk on 'Early artists as a source of botanical information'.

**1989 July** At short notice David (together with Laurie Haegi) presented 'The *Datura* Story'.

**1990–92** Records not up to date.

**1993 October** Informal gathering of SA Chapter with Heads of Herbaria at David & Judy Symon's.

**1994 September** Prime organizer of the International Solanaceae conference in Adelaide.

At the National level, David has been a constant contributor to the *Newsletter* and this is perhaps best illustrated by quoting from David Morrison's analysis of contributors to the *Newsletter* (*Newsletter* 66, March 1991 p. 14) in which he stated 'David seems to be far and away the most active supporter of the Society who has never held an official post ... We all owe him a considerable debt ...'.

Since his retirement from the Waite Institute in 1985, David has continued to work in the State Herbarium as an Honorary Research Associate on at least 3 days a week and his zest and somewhat lateral approach to things botanical remains undiminished. How he fits in all of his other interests, which range from pottery and

books to theatre, remains a mystery to most of us. Who else could cope with two months to judge 200 books for a prize at the Adelaide Festival of Arts Book Week?

The delight and pride David showed in receiving his doctorate was profoundly moving, and in this cynical world, a privilege to behold. In my memory it even outranks another highlight of David's botanical life when the South American botanists at the Solanaceae conference paid tribute to him in song.

Robyn Barker

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## PLANT NOTES

### *APHANES PUMILA*

This species was described by Rothmaler in *Feddes Repert.* 58 (1955) 309-311. The taxon was based on a single collection *McBarron* 5026 4.x.1950 from Walbundrie, New South Wales. To date the name has not been taken up in any of the more recent State Floras. The New South Wales collection was later considered to be rabbit-grazed specimens of *A. australiana*. However, in 1990 D. Kraehenbuehl (*D.N.K.* 5326) collected similar dwarf plants under *Eucalyptus leucoxyton* in Bundaleer Forest, south of Jamestown, South Australia. After much searching this was recollected in 1996 from the

same site of shallow stony soil under an open canopy.

The plants are only 0.5-1 cm tall and must be amongst the smallest Rosaceae in the world, forming pale green buttons with no apparent signs of flowering. No taller plants (ungrazed *A. australiana*) could be found. No similar plants were seen in the Victorian collections at Melbourne. The disjunction of hundreds of kilometres is disconcerting.

The plants are essentially ephemeral, inconspicuous during their growth and fragmenting with the first hot dry weather. This

is a request for collectors to watch for these tiny plants next spring. They can best be described as looking like a small pale green piece of parsley leaf.

David E. Symon, *Honorary Associate, AD*

**MILLOTIA JACKSONII**

In my revision (Short 1985, *Australian Systematic Botany* 8: 1-47) of *Millotia* I described the species *M. jacksonii*, noting that it is only known from Kalbarri National Park. Recently Margaret Corrick has sent me an additional collection (*Corrick 11329*) which she gathered with Bruce Fuhrer on 8 October last year. It was collected NE of Eneabba, *i.e.* Bunney Road, 3 km N of corner with Kangaroo Road (Arrowsmith River catchment), 29° 37' 10"S, 115° 25' 38"E.

In checking the identity of the specimen I used my key to species and noted an unfortunate slip in couplet number 6. The diagnostic features of

the papillae on the fruit ('minutely' and 'shortly' are defined in the text) are unfortunately interchanged for *M. jacksonii* and *M. greevesii*. Furthermore, it would be better if it is made clear that in *M. jacksonii* the junction between the fruit and the corolla tube is indistinct. The latter characteristic should also be used first as in some fruit papillae are absent or difficult to observe. Thus, the couplet (on p. 12) should read:

- 6: Apex of fruit ± dilated and the junction between the beak and corolla tube distinct; beak and corolla not hardening to form a hook; fruit minutely papillate  
..... 7. *M. greevesii*
- 6. Apex of fruit not obviously dilated at the junction between the beak and corolla tube, the junction not or barely evident at maturity; beak and corolla hardening to form a hook; fruit shortly papillate or ± glabrous and smooth  
..... 14. *M. jacksonii*

*Philip Short, DNA*

**MISCELLANY**

**ROBERT BROWN'S MANUSCRIPT NAMES**

ABRS is currently editing the Robert Brown Diary of his visit to Australia 1801-1805, including the circumnavigation with Flinders in the *Investigator*, his subsequent visits to Tasmania and the Bass Strait islands, and collecting in New South Wales. The book contains substantial numbers of references to the plants collected, cited by the manuscript or

temporary names that Brown used at the time of collection. Many of these were never published, while others were subsequently corrected. The authors of the Diary transcription have gone to considerable lengths to try to relate these to currently accepted names, but there are many for which this has not been possible.

This plea is to researchers who may have examined Robert Brown material in the course

of their studies, who noted the manuscript names, and can provide accurate redeterminations. If you can help in this respect I would be very glad to hear from you, with details of the specimens involved and the reconciliation of names.

Tony Orchard,  
ABRS Flora, GPO Box 636  
Canberra ACT 2601  
Phone: (06) 2509442  
Fax: (06) 2509448  
email: [tony.orchard@dest.gov.au](mailto:tony.orchard@dest.gov.au)

As well as acknowledging the generosity of AAE and thanking Nancy for her efforts I also take this opportunity for publicly thanking Cathryn Coles and other MEL staff who were involved in the databasing, packaging and removal of the loan. I understand that 5,000 MEL daisy specimens were databased between August and December. It was a great effort and is much appreciated.

Philip Short, DNA

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### NEW BRI EMAIL ADDRESSES

General address:  
[qld.herbarium.1@env.qld.gov.au](mailto:qld.herbarium.1@env.qld.gov.au)

Gordon Guymmer:  
[gordon.guymmer@env.qld.gov.au](mailto:gordon.guymmer@env.qld.gov.au)

Peter Bostock: [peter.bostock@env.qld.gov.au](mailto:peter.bostock@env.qld.gov.au)

*[Communicated by Peter Bostock, 10 January 1997. No other email connections to Herbarium staff were available at that stage. Note that it is a 'one' before '@' in the general address.]*

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### AUSTRALIAN AIR EXPRESS

A shift from MEL to DNA meant that 16,000 herbarium specimens also needed to be moved to Darwin. A bill of perhaps \$8,000 looked likely but thanks to the efforts of Nancy Staub, Sponsorship Officer at RBG, Melbourne I can report that Australian Air Express generously delivered the 112 boxes of specimens for free.

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### DRAFT NSW BIODIVERSITY STRATEGY

The draft Biodiversity Strategy for New South Wales is now available for comment. It includes recommendations about taxonomy, systematics and herbarium collections. Anyone with even a passing interest in the plants of New South Wales should read the strategy and provide constructive criticism. Support those objectives that will ensure systematics remains an essential part of biodiversity research, and highlight any omissions or mistakes.

The strategy is available from the Royal Botanic Gardens, Sydney, or contact the National Parks and Wildlife Service (ph: 02-9585 6333, fax: 02-9585 6635).

It can be also found at <http://www2.peg.arc.org/~bdnet/nswbdst/nswbiodi.htm>.

All submissions must be received by 23 May 1997.

Tim Entwisle, MEL

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### 'IWISHTO THANK'

Written acknowledgements accompanying publications ranging from taxonomic papers to pulp fiction are sometimes unjustifiably verbose. Clearly, not all editors examine them with due care. A common verbosity that occurs in the opening sentence, *i.e.* 'I wish to thank', 'I would like to thank', is one that tends to irritate me. 'I thank' is all that is required. Although it may be a bit blunt perhaps 'I thank' can also be deleted, *e.g.* 'John Smith provided technical support' instead of 'I thank John Smith for providing technical support'.

Philip Short, DNA

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### AN EDITORIAL COMMENT

Terms currently in vogue in flora conservation are *in situ* and *ex situ*. In various publications, they have appeared in several forms—italic and roman, with and without a connecting hyphen. *Situs* is a Latin word meaning, among several things, 'a situation, position, location'. Placing *in* before the ablative form *situ* gives the meaning 'in a place or locality' and the phrase has come into use in the context of conserving or growing a plant in its natural habitat. *Ex* refers to growing it elsewhere, either in cultivation or in a wild locality where it was not previously recorded. Being two words, the

insertion of a hyphen is definitely wrong. Whether to set it in italic is less clear cut. Many words or phrases of non-English form have become so well established that they are commonly not even thought of as 'foreign' and are set in roman. Some that are less widely used are set in italic, but there is no firm guideline as to when one crosses the divide from italic to roman, although words that require diacritics are usually italicised. For the present, I suggest that it is preferable to use the form *in* or *ex situ*.

Similarly, with *in vitro* and *in vivo*.

Incidentally, *situs* also has the meanings 'idleness, sloth, inactivity' and 'an effect of neglect, mould, mustiness, dirt'. Thus, *in situ* could well be used for some other matters conservational.

Alex George, 'Four Gables', 18 Barclay Road, Kardinya, Western Australia 6163

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### 'WILDFLOWERS OF SOUTHERN WESTERN AUSTRALIA'

We hear from both Alex George and Margaret Corrick that *Wildflowers of Southern Western Australia* (reviewed in the December '96 issue of this *Newsletter*) has sold-out. It is to be reprinted shortly, with a few corrections.

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## JOSEPH HOOKER AND ARAUCARIA CUNNINGHAMII SEEDS

While researching something entirely different I came across the following notice in the *Hobart Town Gazette* of Tuesday 19 August, 1873. The *Hobart Town Gazette* was the vehicle for Tasmanian Government notices, and eventually evolved into the *Tasmanian Government Gazette*. It is not a source that botanists would normally search, so the notice is reproduced here.

Tony Orchard  
ABRS (Flora)

### GOVERNMENT NOTICE.

No. 120.

*Colonial Secretary's Office, 14th August, 1873.*

THE Governor directs the publication of the following Despatch and its enclosure for general information.

By His Excellency's Command,

THOS. D. CHAPMAN.

CIRCULAR.

*Downing-street, 23rd May, 1873.*

SIR,

WITH reference to my Circular Despatch of the 9th February, 1872, I have the honor to transmit to you, for information in the Colony under your Government, a copy of a letter from Dr. Hooker, C.B., Director of the Royal Gardens, Kew,

from which will be learnt the method which in that gentleman's opinion is most likely to secure the successful germination of seeds when despatched from distant localities.

I have the honor to be,

Sir,

Your most obedient humble Servant,

KIMBERLEY.

*The Officer Administering the  
Government of Tasmania.*

*Dr. HOOKER to Mr. HERBERT.*

*Royal Gardens, Kew, 14th May, 1873.*

(Copy.)

SIR,

I beg to acknowledge your letter of May 7th, enclosing a Despatch from the Lieutenant-Governor of Natal, with the Reports on the germination of seeds of *Araucaria Cunninghamii* transmitted from Queensland packed in sand, charcoal, and sugar. Only one seed out of the whole seems to have germinated, and that was out of the packet packed in sand.

A similar experiment in which the seeds were transmitted from Queensland to the Cape resulted in the germination of five seeds out of the packet packed in sugar, while all the rest failed.

On the other hand, seeds of the same plants, transmitted from Sydney to the Cape in a linen bag through the post, appear to have germinated freely: I think, therefore, that it is safe to conclude that none of the methods tried by the Queensland Acclimatization Society are superior to this.

Our experience at Kew is quite conformable. Except for very exceptional cases, in which it is desirable that the seeds should be kept moist, we find that they travel best without any packing whatever.

I am, &c.,

(Signed) JOS. D. HOOKER, *Director.*

R. G. W. HERBERT, *Esq., Under Secretary, &c.*



## BOOK REVIEWS

**Evolution of Crop Plants.** Edited by J. Smartt & N. S. Wimmonds. Published by Longmans Harlow, U.K. 1995. Second Edition.

The first edition of this well received book published in 1976 contained 339 pages written by 77 authors. It was tightly edited with regular patterns for diagrams and maps, effectively welding the many authors to produce an excellent reference book used by many lecturers.

The new edition published in 1995 of 531 pages written by 102 authors (39 common to both editions) has been edited to a similar uniform style. It includes references up to 1992. In some crops, e.g. beans, there has been an almost complete replacement of references.

Some new crops have been added: *Actinidia*, *Leucaena*, *Bactris* and *Stylosanthes*. At the same time there are a number of strange omissions in the second edition. Gone are *Macadamia*, *Cyphomandra*, *Mangifera*, *Papaya*, *Linum*, *Asparagus*, *Vanilla*, *Cola* and *Artocarpus*. Despite crisis in plant diversity surely these have not become extinct, or are authors extinct.

Like the first edition this book gives cytotaxonomic background, early history and domestication to modern cultivars and some comment of future prospects.

The feeding of the human population depends on these plants. There are no illustrations of the individual crops nor are botanical authorities used in this excellent introduction to any of the

100 or more crops discussed.

The many authors are amongst our 'end-users of plant taxonomy'. For them and for the many plant breeders, the cytology, gene pools, breeding barriers, wild ancestors, plant geography and inferred evolutionary structure of each genus are essential elements in planning plant breeding programmes.

If taxonomists need a morale booster or arguments to convince the philistines such a book demonstrates the critical importance of plant taxonomy.

David E. Symon,  
Honorary Associate, AD

---

**Flora of Victoria. Volume 3. Dicotyledons, Winteraceae to Myrtaceae.** N. G. Walsh, T. J. Entwisle (eds). Published by Inkata Press, Melbourne. 1996. 1093 pp., colour plates. ISBN: 0 409 30852 8. Australian Retail Price: \$295.00

The present volume is part of a four volume work: Volume 1 - *Introduction*, was published in 1993, Volume 2 - *Ferns and Allied Plants, Conifers and Monocotyledons* in 1994; Volume 4, to be published, will contain families Olacaceae to Asteraceae (following the classification of Cronquist, 1981).

Victoria is the most closely settled State in Australia with arguably the most intensively collected and the best documented flora of any

region. While Victorians have been well served for the past twenty years by Willis's *A Handbook to Plants in Victoria* (1970, 1973), the appearance of the first volumes of this modern Flora must have been very welcome.

The whole approach to the *Flora*, which I would describe as *traditional and comprehensive*, has been sound: descriptions and notes are substantial, illustrations are copious (almost all species are illustrated), all taxa have distribution maps while the treatment of nomenclature and referencing would satisfy the most fastidious user. The family key, glossary and introduction are repeated in each volume (other than Vol. 1) for the convenience of the user. In addition to the editors, 35 specialists have contributed to the text, giving the treatments an authoritative touch as well as making the Flora as up to date as possible. There are no new names published in the Flora though revisional work has been done on some groups especially for the *Flora*. I notice for instance that *Cardamine* (Brassicaceae) is now represented by 12 species in Victoria; the *Flora*

*of Australia* account (Hewson, 1982), recognized 6 species and a number of forms of some species. The illustrations I might add are superb; the paintings of Anita Barley are so splendid they almost seem out of place in a working botanists Flora.

The generous and comprehensive nature of the *Flora* has ensured that the volumes are large. At the present rate of 1.35 taxa per page (volumes 2 & 3 with a total of 2046 pages have 2,767 species described), the final volume will be over 900 pages long. The price is also rather large: \$579.00 in total for the three volumes published so far. The *Flora* will certainly be attractive to bibliophiles; the question arises though, will those native Victorians thirsting for knowledge of their flora be able to afford it?

The editors, contributors and illustrators, as well as the publishers, should be well satisfied that this *Flora* more than does justice to the 150 years of botanising in the State.

Clyde Dunlop, DNA

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# A.S.B.S. INC. MEMBERSHIP RENEWAL

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED  
(incorporated under the Associations Incorporation Act 1991)



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Subscriptions for A.S.B.S. membership for 1997 are due on 1 January, 1997. If you have already paid your subscriptions for 1997, please ignore this *pro forma* notice. The *Australian Systematic Botany Newsletter* will not be sent to unfinancial members. Correspondence concerning membership and subscriptions should be sent to the Treasurer at the address below.

Subscriptions for 1997, including the *A.S.B.S. Newsletter*, are:

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In addition, your contribution to the HJ. Eichler Research Fund would be most welcome. Please return the form below with your 1997 subscription, plus any arrears, voluntary contributions to the Research Fund or payment for CSIRO journal subscriptions, with any address corrections, to the Treasurer at the address shown below. Your cheque should be made payable in Australian dollars to: Australian Systematic Botany Society Inc.

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## A.S.B.S. PUBLICATIONS

### History of Systematic Botany in Australia

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

\$30; plus \$10 p. & p.

For all those people interested in the 1988 A.S.B.S. 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

A.S.B.S. 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*.

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

Edited by W.R. Barker & P.J.M. Greenslade. A.S.B.S. & 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.

### 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.

Also available are sweaters (\$25), t-shirts (\$15), mugs (\$8 each, or \$42 for a six-pack), and scarfs (\$20).

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Please inform us of any changes or additions.



# 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 an "Membership Application" form and forwarding it, with the appropriate subscription, to the treasurer. Subscriptions become due on January 1 each year.

## 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 one of the editors at the address given below. They should preferably be submitted as:- an unformatted word-processor or ASCII file on an MS-DOS or Macintosh diskette, accompanied by a printed copy; as an unformatted word-processor or ASCII email file, accompanied by a fax message reporting the sending of the file; or as two typed copies with double-spacing if less than one page.

The deadline for contributions is the last day of February, May, August, and November.

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