

# AUSTRALIAN BIOLOGICAL RESOURCES STUDY

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A biannual newsletter which provides information on the progress of the ABRS Participatory Program, Publications and other activities.

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# B I O L O G U E



*Department of the Environment and Heritage*

A PROGRAM OF ENVIRONMENT AUSTRALIA

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## INTRODUCTION

The Australian Biological Resources Study (ABRS) is a Program of Environment Australia. It was initiated in 1973 by the Commonwealth Government to address the lack of adequate knowledge of the flora and fauna of Australia.

ABRS promotes taxonomic and biogeographic studies of Australian biodiversity through two mechanisms:

- the Participatory Program, a unique research grants scheme which provides funds towards taxonomic and biogeographic research; and
- the Scientific and Communication Subprograms which produce major national series of flora and fauna books, electronic products and databases. ABRS also produces occasional publications on taxonomy, biogeography and closely related subjects.

In addition to the grants scheme and the publications, ABRS also offers other information services and funding schemes. Details of these programs and services are provided in this newsletter, and are also available on-line at the ABRS Web site home page: [www.anbg.gov.au/abrs](http://www.anbg.gov.au/abrs).

## ABRS, AIM AND OBJECTIVES

The **Aim** of the ABRS is to provide the underlying taxonomic knowledge necessary for the conservation and sustainable use of Australia's biodiversity.

The **Objectives** are to:

- facilitate at a national level, the collection, description and classification of Australia's biota;
- enhance Australia's capabilities in taxonomy and systematics;
- support studies of the origins, evolution and relationships of Australia's biota;
- document and disseminate information on the taxonomy and biogeography of Australia's biota;
- develop partnerships to foster knowledge on Australian biodiversity; and
- meet Australia's national and international taxonomic and biogeographic responsibilities as custodian of a mega-diverse biota.

## UPDATE ON ABRS ACTIVITIES

### New Director, ABRS and Branch change

As stated in the last issue of *Biologue*, Mr Ian Cresswell took up the position of ABRS Director in late December 2000, replacing Dr Geoff Dyne who acted in the position pending Ian's arrival. ABRS would like to thank Dr Dyne for his contribution during 2000 and wish him all the best for the future. Mr Cresswell's contact details are:

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The ABRS is now located in the Parks Australia South Branch of Parks Australia Division of Environment Australia. Mr John Hicks is the Assistant Secretary of Parks Australia South, and Mr Peter Cochrane is the Director of National Parks. Parks South Branch includes ABRS, the Australian National Botanic Gardens, Beecroft Ranger Station (Defence area), Booderee National Park, Calperum Station, Norfolk Island National Park and Botanic Garden, and National Reserves System Section.

### Grants schedule

As advised in the last issue of *Biologue*, the ABRS is changing the Participatory Program grants from financial to calendar years. See Grants News for a detailed schedule of the next grants round in 2002/2003.

### **Advisory Committee changes**

Following changes to the Advisory Committee structure last year, you will find the list of new members who were appointed by the Minister of Environment in December 2000 in this issue of *Biologue*.

### **Progress of Subprograms**

Since the implementation of the restructure in 2000 ABRS subprograms have progressed well. See below for information on each subprogram and the latest activities and products. ABRS not only seeks to train young people in taxonomy through the Participatory Program, but also through offering temporary contract jobs to graduates to assist with the completion of a number of internal projects. The current employees include:

- Scott Gilmore who is assisting Patrick McCarthy with editing of the moss volume (see Lichens and Bryophytes Subprogram report below);
- Lee Halasz and Jasmyn Lynch who are assisting Tony Orchard with the Species Profile and Threats Database (see Vascular Plants Sub program report below); and
- Matt Carr (a GAA) who is assisting Graham Ross with projects associated with the Species Information Subprogram.

### **Communication Subprograms**

#### **ABIF-Fauna**

ABIF Joint Subprogram Leader (Fauna)  
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#### Australian Faunal Directory (AFD)

Feedback on the AFD, the main section of ABIF-Fauna web site, has been very positive and rewarding. As resources have allowed, additional taxa have been prepared and new facilities developed. These include data for an additional 4,000 species in eight groups—such as the Acarina, Odonata and Thysanoptera; new illustrations and distribution maps; options to download checklists; further development of underlying structures for automatic searches and links; upgrade to the site maps; and links to explanations of data format. As *Biologue* goes to press, the new web files are being loaded on the Web site.

See: <http://www.environment.gov.au/abrs/abif-fauna>

#### Census of Australian Vertebrate Species (CAVS)

An automated search and report facility has been developed to extract relevant CAVS data from the AFD and to display the data on the ABIF-Fauna site. When the required new and updated CAVS data is provided from other sources, it will be incorporated into the AFD files. The mammal and bird sections should be available on-line shortly. Data for the Amphibia and Reptilia should be available later this year.

#### Platypus Version 3

*Platypus* is the software platform used to compile, manage and generate the data for the Web site. Over 40% of the estimated described Australian fauna has now been databased using this software package. *Platypus* is also being used to database taxa worldwide, including compilation of a world database of over 14,000 Protist taxa.

*Platypus* has been upgraded to 32 bit and extensively revised. Version 3 was released late last year and various minor upgrades have been released since. The new look *Platypus* includes many additional features, such as a graphics database, options for alphabetic or user-defined order of taxa in the checklist, new import and export options, and methods of data selection. The checklist can now be used also to manage botanical names. The 32 bit format has also allowed us to improve many functions, especially the speed of operation, and to tidy up many of the forms. The Help facility has also been extensively upgraded. An option to include palaeontological data will be released shortly.

*Platypus* v. 3 may be downloaded from the Web and trialed free of charge. See: <http://environment.gov.au/abrs/platypus.html>.

## ABIF-Flora

ABIF Joint Subprogram Leader (Flora)  
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The *Australian Biological Information Facility* (ABIF) is a Web-based source of authoritative information on Australia's biodiversity.

ABIF-Flora plans to database published taxonomic volumes of the *Flora of Australia*, *Fungi of Australia* and *Algae of Australia* for delivery on the Internet. ABRIS has already collaborated in the funding and production of database projects such as the *Australian Marine Algal Name Index*, *Census of Freshwater Algae in Australia*, *Checklist of Australian Lichens*, *Catalogue of Australian Fungi* which are currently available on the Internet and which will be linked to ABIF-Flora. The *Flora of Australia* volumes of the Proteaceae, Casuarinaceae and a number of smaller families are nearly ready for delivery, but further developmental work on the database delivery is still required.



The *Flora* material will also be linked to the Australian Plant Name Index (APNI) database currently maintained by the Australian National Botanic Gardens (ANBG) and the Centre for Plant Biodiversity Research (CPBR). Links to the National Plant Photographic Index of the ANBG will be developed. Access to the *Flora* data will be either through the ABRIS website or through the APNI database. The ABIF-Flora data will be readily accessible to the Australian Virtual Herbarium (AVH) through its ANBG/CPBR links.

The electronic *Flora* will be stored in a database format, and will be searchable within the constraints of the data. Because there are no plans to database

individual character states within taxon descriptions, there will be limitations to what can be retrieved through a search.



Data fields will include:

- name
- protologue
- typification
- synonymy
- descriptions
- chromosome number
- flowering & fruiting times
- distribution
- distribution maps
- habitat
- line drawings
- colour images
- major family references

At present the data is not available, however it will soon be made available through either the ABIF-Flora site of the

ABRS website or through APNI. The data is delivered as an entire Flora treatment (for the specified taxon) when accessed through APNI, or delivered as subsets/larger sets of information when generated by a query from the ABIF-Flora site.

ABIF ENQUIRIES. We welcome any suggestions or enquiries that you may have about ABIF, including enquiries from authors who may wish to make their data available on or linked to this site. Please contact Keith.houston@ea.gov.au (Fauna & Protists) or Helen.thompson@ea.gov.au (Flora).

### **Species Information**

Subprogram Leader  
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As a new initiative of ABRS, an easy-to-use species information resource is presently under development. It is a Community resource aimed at providing information on species of interest to the Community, ranging across all taxa from protozoans to higher plants and animals within the Australian Region. It will be freely available on the web, and pitched at a level appropriate for 9-10 year-olds onwards. Treatments will comprise 350-500 words of authoritative information, under a set of headings, with a photograph and distribution map, and where possible, sound and video footage. Further reading will be linked to URLs where possible, to keep interactivity on the net at a high level. Topics and other search terms associated with each species treatment will form the basis of an educational overlay particularly relevant to environmental education. A feedback mechanism will assist in identifying and understanding the needs of the Community, with the aim of enabling the Community to take ownership in the program.

An assessment of the web for similar material suggests a niche for such products, for searches on 127 major taxa of higher plants and animals showed that only 15 sites of 7600 sites examined had material similar to that proposed [an information file on some 600 sites was assembled during this search and is available on request]. Approaches are being made to the builders of the 15 sites, as potential partners in a consortium approach to assembling the proposed website. Such partnerships will be critical in diminishing the overall cost to any one contributor, including ABRS. The projected number of species treatments in the first three years is in the order of 2500-3000.

### **Scientific Subprograms**

#### **Fungi of Australia Subprogram**

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The focus of the Fungi subprogram has been the completion of the *Fungi of Australia, Volume 2B, Catalogue & Bibliography of Australian Macrofungi 2. Basidiomycota p.p. & Myxomycota*, as well as editing some initial chapters for *Fungi of Australia, Volume 29 p.p. Hygrophoraceae* and *Volume 13 p.p. Phyllachoraceae*.

The internet accessible version of *Fungi of Australia, Volume 2A, Catalogue & Bibliography of Australian Macrofungi 1*, is now available on the Royal Botanic Gardens, Melbourne website (<http://www.rbghmelb.org.au/fungi/>). The Interactive Catalogue of Australian Fungi includes all records from Volume 2A as well as corrections, additions, and changes to the taxonomy of fungi that have occurred subsequent to Volume 2A's publication.

Just released is the Lucid interactive key, *101 Forest Fungi* by Dr Tony Young, which is a joint publication between ABRS and Knowledge Books, Qld. This CD contains a key to 101 fungi that commonly occur in Eastern Australian forests. It has extensive notes and images accompanying each species and also includes general information on characters used in identifying fungi. See Latest Products for a special deal on buying this CD.

*Forthcoming publications:*

- *Fungi of Australia, Volume 2B, Catalogue & Bibliography of Australian Macrofungi 2. Basidiomycota p.p. & Myxomycota.* This is the second of the three volume Catalogue of Australian Fungi. As in Volume 2A, for each name the catalogue provides place and date of publication, taxonomic synonyms and a comprehensive list of all works in which the name has been used in an Australian context. This Volume will also form part of the internet accessible version of the catalogue.

**Protists Subprogram**

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Development of an ABIF-Protists web facility is on track and contracts to compile the data and develop the site have been let. It is anticipated that the site should be on-line in the second half of 2001.

**Invertebrates**

Joint Subprogram Leaders

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As indicated in our October *Biologue* Report, the ABRS Invertebrates Subprogram aims to 'target on-line community access guides and keys, especially for those taxa for which such tools are not presently available in any medium, supply information at several levels for ABIF, and bring closure to several outstanding projects ...'

Progress in this direction includes:

- delivery to ABRS of the LucID *Keys to Identification of Soil Mites*, developed by Dr David Walter, Queensland University, and Dr Heather Proctor, Griffith University. This project was supported by ABRS and the keys are currently being prepared for CD-ROM publication.
- financial assistance to Dr Mike Hodda, CSIRO Entomology, to enable him to set up on-line access to his Delta *Interactive Key to Nematodes of the Murray-Darling River System and Coastal Freshwaters of Southeastern Australia*. The key was developed with support from the ABRS.
- progress on development of an interactive LucID *Key to Polychaete Families of the World*, a project undertaken by Dr Chris Glasby, NTMAG, supported by ABRS. This key will be published on CD-ROM.
- the *Zoological Catalogue of Australia, Volume 31.6, Lepidoptera: Hesperioidea, Papilionoidea* (Butterflies) is now available.
- the *Zoological Catalogue of Australia, Volume 17.2, Mollusca: Aplacophora, Polyplacophora, Scaphopoda, Cephalopoda* (chitons, tusk shells, squid, octopus, etc.) is presently with the publisher.
- the proposed two Crustacean *Zoological Catalogue of Australia* volumes in final stages of preparation include so many more species than originally expected that they will require four volumes. These *Catalogues* include many significant commercial species and species critical to conservation managers (for example, krill upon which some whale species feed), thus, this will be an important set of volumes.
- the above *Catalogues* are all developed from databases derived in *Platypus*, and will be incorporated into ABIF-Fauna post publication.

**Lichens and Bryophytes Sub-programs**

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**Lichens**

Editing of the third lichen volume (*Flora of Australia* Volume 58A) is now complete. It is hoped that this volume will be published in mid-2001.

An updated on-line *Checklist of Australian Lichens* was completed in February 2001 and is available at: <http://www.anbg.gov.au/abrs/lichenlist/introduction.html>.

A richly illustrated booklet, *Key to the Genera of Australian Lichens: Apothecial Crusts*, is now available as *Flora of Australia Supplementary Series* No. 11 from ABRS at the cost of \$31 (includes GST and postage).

Editing of the fourth lichen volume of the *Flora* (56A) will begin in mid-year. A contract has been let to Prof. Jack Elix (ANU) to complete *Flora* treatments of Lecanoraceae and Porpidiaceae for this volume.

### **Bryophytes**

Scott Gilmore (previously at Australian National University) has joined ABRS for 9 months on a temporary contract basis to edit parts of the first moss volume of the *Flora of Australia* (Vol. 51) and prepare treatments for the second volume (52A).

From mid-year, priority will be given to completing and publishing the first moss volume as quickly as possible.

### **Vascular Plants Subprogram**

Subprogram Leader

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Substantial progress has been made with the *Flora of Australia* program with both *Acacia* volumes having gone to press in the first half of 2001. *Flora of Australia* volume 11A, *Mimosaceae, Acacia Part 1*, edited by Annette Wilson, has gone to press. It contains introductory essays, keys to all species, and descriptions of 462 species, with the usual maps, distributional information, ecology, and illustrations. The companion volume, *Flora of Australia* volume 11B, *Mimosaceae, Acacia Part 2*, contains the remaining 493 species. The companion CD, WATTLE, containing a LuclD key to all Australian *Acacia* taxa, is also in production. The three *Acacia* products will be marketed as a package by mid-year. The *Acacia* project, dealing as it does with Australia's largest genus of flowering plants, has been a major project for ABRS for many years involving collaboration and cooperation between a large group of researchers, editors, illustrators and photographers from many institutions, and between them they have produced a series of products which bring great credit to Australia's taxonomic community. We can be very proud of the result.

Katy Mallett is progressing the first *Flora* volume on grasses (Poaceae), and it is anticipated that this will be ready to go to press mid-year.

ABRS, with the Centre for Plant Biodiversity Research, was a successful tenderer for populating the Environment Australia Species Profiles and Threats (SPRAT) database, for use as a management tool for the new EPBC Act. The database will contain information on populations, habitats, biology and perceived threats to rare and endangered species, and will be a key management tool for biological managers. Two temporary staff, Ms Jasmylyn Lynch (seconded from Environment Australia), and Mr Lee Halasz, have been engaged to carry out this work, under the supervision of Tony Orchard.

The vascular flora group is also involved with *Species Plantarum, Flora of the World*, of which two additional parts were published in March 2001. Part 4 Schisandraceae describes an essentially Asian family of the Illiciales. Part 5 describes the monotypic rush family Prioniaceae, a close relative of Juncaceae from southern Africa.

Tony Orchard is working on the final stages of editing *Nature's Investigator, The Diary of Robert Brown in Australia 1801-1805*. This year is the bicentenary of this pivotal voyage, in which Matthew Flinders completed the first circum-navigation of Australia. Brown and other naturalists on board *Investigator* made major plant, animal and geological collections. These events will be commemorated in various places around the country over the next year or two, and the Brown *Diary* will be published to coincide with these celebrations.

A poster and series of information leaflets on the Floral Emblems of the Australian Commonwealth, States and Territories has been produced as a joint ABRS/Australian National Botanic Gardens project, and is now available. See Latest Products for details on purchasing your copy. The poster features very attractive paintings by Sydney-based artist Marion Westmacott.

**Algae Subprogram**

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Nearly all chapters for the *Algae of Australia* volume 1, *Introduction* book are now in-house, and the missing parts are expected very soon. A contract has been let with Mr Alex George, former Executive Editor, *Flora of Australia*, to edit this work. It is expected to go to press early in 2002. As for the introductory volumes of *Flora of Australia* and *Fungi of Australia*, this volume will provide an overview of the orders and families within Australia, including their ecology, distribution, taxonomy and economic aspects. There will be a glossary of terms to be used in future descriptive works, and detailed bibliographies. A useful precursor to the *Algae of Australia* series will be the book *Marine Plants of Australia*, jointly published by ABRS and University of Western Australia Press in November 2000. This work is discussed elsewhere in this *Biologue*.

**Website development**

The Department of Environment is currently redeveloping its web site, and the ABRS has participated in this by reviewing its current site to conform to the Departmental format. It is anticipated that the new web site for Environment Australia, and hence ABRS will be on-line after June 2001. In the meantime, ABRS will continue to update the old site [www.anbg.gov.au/abrs](http://www.anbg.gov.au/abrs) as much as possible to keep stakeholders informed until the new site is formally launched.

**Australia's Virtual Herbarium**

For some years now the Combined heads of Australian Herbaria (CHAH) and its technical committee, HISCOM, have debated the merits and technical issues surrounding the concept of having all Australian herbaria specimens databased and accessible over the Internet. That concept has taken a major step forward in the past 6 months with the peak body of Environment Ministers (ANZECC) agreeing to the concept of building an Australia's Virtual Herbarium (AVH).

The long-term vision of the AVH includes a comprehensive on-line information resource of Australian plants and Australian botany. ABIF-Flora is a participant in the AVH and will be a significant contributor to the AVH information base.

On behalf of Environment Australia, ABRS hosted a joint meeting of CHAH and HISCOM at the Australian National Botanic Gardens on the 5th and 6th of March 2001. The meeting worked through both the policy and technical setting that will be required to turn the dream of the AVH into a reality. All state, territory and Commonwealth herbaria are now actively working to ensure the funding is secured to make the project happen. It is hoped that a decision will soon be made that will see the project fast-tracked.

## PARTICIPATORY PROGRAM

### List of ABRS research projects for Year 2001 and other awards

\* indicates a new project

#### Algae

Grantees	Institution	Project Title	Amount 2001
T Entwisle & S Skinner *	Royal Botanic Gardens, Sydney	Taxonomic revision of the order Oedogoniales (Chlorophyta) in Australia	\$30,000
GM Hallegraef & CS Bolch *	University of Tasmania	Molecular phylogeny and morpho-taxonomy of Australian gymnodinoid dinoflagellates	\$45,000
JM Huisman & WJ Woelkerling	Murdoch University	Revision of the Acrochaetiales and Bonnemaisoniales (Rhodophyta) in Australia	\$40,000
Dr GT Kraft	University of Melbourne	The Marine Red Algae of tropical and subtropical eastern Australia	\$20,000
WG Vyverman, KH Sabbe & DG Mann *	University of Gent, UK	Diversity, ecology and biogeography of Australian freshwater diatoms - a revision of the Eunotiophycidae and selected genera within the Bacillariophycidae	\$15,000

#### Fungi

AW Claridge, JM Trappe & MA Castellano *	NSW National Parks & Wildlife Service, Queanbeyan	Taxonomy and biogeography of Australian sequestrate fungi in the Pezizales, Elaphomycetales, Boletales and Hysterangiales	\$10,000
KD Hyde & AJS Whalley	University of Hong Kong, HK	Xylariaceae of Australia	\$4,000
T Lebel *	Royal Botanic Gardens, Melbourne	A taxonomic and systematic revision of the sequestrate Russulales of Australia and their allies, based on morphological and molecular characters	\$10,000
TW May	Royal Botanic Gardens, Melbourne	Catalogue and Bibliography of Australian Microfungi	\$30,000
TW May & SH Lewis *	Royal Botanic Gardens, Melbourne	Interactive key and synopsis to the genera of macrofungi in Australia	\$40,000
A Young *	Unattached, QLD	Completion of the revision of Hygrophoraceae of south-eastern Australia	\$35,000

#### Vascular Plants

DE Albrecht & NG Walsh *	Royal Botanic Gardens, Melbourne	Treatment of Lobelioideae (Campanulaceae) for the <i>Flora of Australia</i>	\$5,000
RJ Bayer	CSIRO, Division of Plant Industry	Systematics of Australian Polygalaceae and Xanthophyllaceae	\$18,500

<b>Grantees</b>	<b>Institution</b>	<b>Project Title</b>	<b>Amount 2001</b>
JA Chappill & MD Crisp *	University of Western Australia & Australian National University	Taxonomic revision and phylogenetic analysis of <i>Aotus</i> , <i>Phyllota</i> , <i>Otton ined.</i> , <i>Urodon</i> , <i>Eutaxia</i> , <i>Euchilopsis</i> and <i>Latrobea</i> (Leguminosae, Mirbelieae)	\$20,000
LA Craven	CSIRO, Division of Plant Industry	Generic limits of the Australian representatives of Hibisceae (Malvaceae)	\$7,000
RPJ de Kok & J West *	CSIRO, Division of Plant Industry	Interactive identification system for pea-flowered legumes of Australia	\$40,000
MF Duretto & PY Ladiges	University of Melbourne	A systematic and biogeographic analysis of <i>Phebalium</i> (Rutaceae) and its allies based on morphology and molecules	\$7,000
MJ Henwood	University of Sydney	A revision of Australian Apiaceae	\$58,000
JA Jeanes	Royal Botanic Gardens, Melbourne	A taxonomic revision of the genus <i>Thelymitra</i> J.R. Forst. et G. Forst. (Orchidaceae) in Australia	\$32,000
PY Ladiges, JW Grimes & F Udovicic	University of Melbourne	Phylogeny of <i>Acacia</i> subgenus <i>Phyllodineae</i> - new characters for the discovery of sectional groups	\$10,000
T Pocs	Eszterhazy College, Hungary	Taxonomic revision and phytogeographic evaluation of the genus <i>Frullania</i> Raddi (Hepaticae) in Australia and the adjacent islands	\$5,000
CJ Quinn & PG Wilson	University of New South Wales	Generic concepts in the <i>Baekea</i> complex	\$40,000
IR Thompson & NG Walsh *	University of Melbourne	A taxonomic review of <i>Senecio</i> (Asteraceae) and a treatment of taxa in tribes Senecioneae, Anthemideae and Lactuceae for <i>Flora of Australia</i>	\$40,000
<b>Protists</b>			
RD Adlard & M Peirce *	Queensland Museum	Characterisation of blood-borne protozoan parasites of Australian birds	\$8,000
<b>Animals</b>			
JS Ashe	Natural History Museum, USA	Aleocharine staphylinids (Coleoptera) of Australia	\$44,000
AD Austin	University of Adelaide	Taxonomy, diversity and endemism of cryptobiotic insect parasitoids - the Doryctinae and Helconinae (Braconidae)	\$30,000
BC Baehr & RJ Raven *	Queensland Museum	Australian ant spiders (Araneae, Zodariidae, Storeninae): biodiversity of the Australian fauna, taxonomy, systematics and phylogeny of the Australian species	\$40,000

<b>Grantees</b>	<b>Institution</b>	<b>Project Title</b>	<b>Amount 2001</b>
MS Bryant *	Queensland Museum	Characterisation of the Nematomorpha of Australia: a pictorial key to aid in their identification	\$3,000
AA Calder	CSIRO, Division of Entomology	Australian Cerambycine genera: overview and keys	\$50,000
LRG Cannon *	Queensland Museum	Taxonomy of the typhloplanid microturbellarians (Platyhelminthes) of Australia	\$35,000
DH Colless *	CSIRO, Division of Entomology	Taxonomy of Australian Diptera	\$3,000
MJ Colloff	CSIRO, Division of Entomology	A taxonomic overview of Australian centipedes (Chilopoda), with an interactive key to the families, genera and species	\$50,000
TH Cribb & MA Schneider *	University of Queensland	Taxonomy of thelastomatoid nematodes of Australian cockroaches	\$22,000
VE Davies *	Queensland Museum	New spiders (Araneae: Amaurobioidea) from Australian forests	\$10,000
AL Dyce	CSIRO, Division of Entomology	Atlas of wing photographs, with a summary of numerical characters of the <i>Culicoides</i> species of the Australasian zoogeographic region	\$6,000
J Fromont, S Toze, DC Sutton, KM Usher, & JS Kuo *	University of Western Australia	Systematics and biogeography of the genus <i>Chondrilla</i> (Porifera: Demospongiae) and its cyanobacterial symbionts in Australia using molecular and classical taxonomic techniques	\$24,000
PJM Greenslade	Australian National University	Biogeography and revision of <i>Setanodosa</i> (Collembola: Brachystomellidae)	\$5,250
B Halliday	CSIRO, Division of Entomology	Generic overview of Australia non-psoroptid Astigamata (Acari)	\$50,000
MS Harvey, DK Yeates & ME Hodda	Western Australian Museum	Australia's terrestrial invertebrates: an interactive key	\$50,000
RJ Hoare *	Landcare Research, New Zealand	The Depressarilid Genera of Australia (Lepidoptera: Gelechioidea)	\$12,000
M Horak	CSIRO, Division of Entomology	Completion of the Australian genera of the <i>Phycita</i> group (Pyralidae: Phycitinae)	\$45,000
WF Humphreys *	Western Australian Museum	Towards the documentation of the subterranean fresh-water fauna of inland Australia	\$15,000

<b>Grantees</b>	<b>Institution</b>	<b>Project Title</b>	<b>Amount 2001</b>
JT Jennings & AD Austin *	University of Adelaide	Evanioid wasps of Australia (Insecta: Hymenoptera): taxonomy, (distribution and host relationships)	\$14,000
MK Jones, TH Cribb, & ID Whittington *	University of Queensland	The Platyhelminthes of Australia: an interactive, pictorial Web-based database of species, relationships, distribution, habitats and hosts	\$40,000
J Just *	Queensland Museum	Australia's Paramunnidae, marine Isopoda (Asellota, Janiroidea)	\$15,000
RJ Kohout *	Queensland Museum	Towards a complete treatment of the Australian spiny ants, <i>Polyrhachis</i> (Formicidae: Formicinae); revision of the subgenus <i>Hagiomyrma</i> Wheeler	\$5,000
P Mather *	C/- Queensland Museum	Taxonomy of the Ascidiacea	\$35,000
AJ McArthur	South Australian Museum	Revision of <i>Camponotus claripes</i> , <i>novahollandae</i> and <i>subnitidus</i> groups of ants	\$5,000
PB McQuillan	University of Tasmania	Generic review of biosystematics of southern Australian ennomine geometrid moths	\$20,000
DC Morris & LA Mound	CSIRO, Division of Entomology	The taxonomy and biological diversity of the thrips species-swarm on Acacia trees in arid Australia (Insecta, Thysanoptera, Phlaeothripidae)	\$50,000
KR Norris	CSIRO, Division of Entomology	Taxonomy and bionomics of Australian blowflies	\$4,000
R Pearson & Dr R Sluys *	James Cook University	Biodiversity, biogeography, and phylogeny of Australian aquatic planarians (Platyhelminthes, Tricladida, Paludicola)	\$45,000
WF Ponder & SA Clark	Australian Museum	Interactive CD Rom guide and key to the freshwater Mollusca of Australia	\$30,000
WF Ponder & PU Middlefart	Australian Museum	Systematics of problematic, small-sized marine bivalves of the Galeommatoidea, Cyamioidea and Condylardiidae	\$25,000
BJ Scott *	Victoria University of Technology	Systematics and biogeography of the hadroid Camaenidae of eastern Queensland (Gastropoda: Pulmonata): preparation of manuscripts for publication	\$4,000
JD Taylor & EA Glover	Natural History Museum, UK	Systematic revision of lucinoid bivalves of Australia (Mollusca, Bivalvia, Lucinoidea)	\$10,000

<b>Grantees</b>	<b>Institution</b>	<b>Project Title</b>	<b>Amount 2001</b>
GDF Wilson & SJ Keable	Australian Museum	A systematic revision of the Phreatoicidea (Crustacea, Isopoda) of Australia	\$40,000
G Woerheide & J Hooper	Queensland Museum	Australian calcereous sponges (Porifera: Calcarea): biodiversity of the Great Barrier Reef fauna, taxonomy and systematics of Australian species	\$30,000
DK Yeates & ME Irwin	CSIRO, Division of Entomology	Expeditions to inform systematic research on Australian Stiletto Flies (Diptera: Therevidae)	\$10,000

#### **Australian Botanical Liaison Officer**

Amount: \$50,000 (Australian)

##### Summary

Since the 1930s, an Australian Botanical Liaison Officer has been appointed annually to work at the Royal Botanic Gardens at Kew in the United Kingdom. The role of the Officer is primarily to assist Australian botanists with relevant searches of library and plant specimen holdings at the Kew Herbarium. Applications are invited each year from experienced Australian taxonomic botanists. The appointment is for up to 12 months, with the Officer's own institution providing a salary and allowances, and the ABRS contributing towards travel and living expenses. The appointments for 2001 and 2002 are currently under consideration by the Minister.

#### **ABRS Postgraduate Scholarships**

Amount: \$64,000

##### Summary

The ABRS awards postgraduate scholarships to foster research training in the taxonomy of the Australian flora and fauna. Applications are sought from outstanding students wishing to pursue a career in taxonomy. One Postgraduate Research Scholarship is awarded each year, and has a tenure of up to three years. The ABRS award includes an equivalent stipend to that of the Department of Education, Training and Youth Affairs (DETYA) Australian Postgraduate Award (currently \$17,606) plus a \$2,500 research support grant. The ABRS has already awarded three scholarships, the most recent being to Ms Jennifer Tonkin from the University of Melbourne for 2001 to study agaracoid genera *Lactarius* and *Russula* (Russulales) which are forest macrofungi.

#### **New Bursaries for Students**

Amount: \$10,000

##### Summary

As part of the ABRS objective to encourage training of young taxonomists, the ABRS Advisory Committee allocates up to \$10,000 every year towards travel to national and international conferences for students studying taxonomy. Awards from \$500 to \$1,000 are awarded each year. See page XX for more details on the awards given in 2001.

### Information on Grants Schedule for 2002/2003

As advised in the October 2000 issue of *Biologue* the ABRS Participatory Program is shifting the awarding of grants from calendar year to financial year. Below is the new schedule for the Year 2002/2003 grants. Information on the new research priorities, guidelines and application forms will be posted on the ABRS web site by August 2001, and notification to institutions will be distributed before the advertisement scheduled for 29 September 2001 in the *Weekend Australian*.

Activity	Timing
Advertisement in <i>Weekend Australian</i> and letters to institutions advising on call for grant applications	29 September 2001 (Saturday)
Deadline for research grant applications	10 November 2001
External peer review process	mid December-February 2002
Advisory Committee grants selection meeting	mid March 2002
Ministerial consideration and approval phase	late March/early April 2002
Notification to applicants on outcome	May 2002
Receipt of signed Offer of Grant forms	June 2002
Initial payment of ABRS grants	July 2002

Note that process of submitting ABRS applications forms will change from hardcopy to full electronic submission. Detailed information on how to submit applications will be included in the Year 2002/2003 Guidelines for Research Grant Applicants are due out in August 2001. Information on the new research priorities will be released in August 2001.

### Grant News

#### Participatory Program contracts - Update

In Year 2000 ABRS funded six contracts (listed below) and most are now completing or near completion. Products from all these projects are being prepared for public access this year. The October 2001 issue of *Biologue* will give full details of these exciting new products.

Name: Associate Professor AD Albani  
Located: Department of Geology, University of New South Wales  
Project Title: TAXOMORPH - an interactive computer catalogue for the natural sciences. Module 2 - Recent Foraminifera from the South Pacific.

Name: Mrs RM Barker, Dr WR Barker, and Dr L Haegi  
Located: C/- State Herbarium of South Australia  
Project Title: An electronic key to *Hakea* (Proteaceae).

Name: Mr JR Croft and Mr M Fagg  
Located: CSIRO Division of Plant Industry, Centre for Plant Biodiversity Research/ Australian National Botanic Gardens, Canberra  
Project Title: What's its name? A regular periodic review and newsletter of plant name changes in the Australian flora.

Name: Dr JK Lowry and Dr PB Berents  
Located: Australian Museum  
Project Title: Interactive Identification System for the marine benthic Amphipoda of Australia.

Name: Mr RO Makinson  
Located: CSIRO, Division of Plant Industry, Centre for Plant Biodiversity Research

Project Title: An interactive identification key to *Grevillea* (Proteaceae) in LucID.

Name: Dr R Raven and Dr M Harvey  
Located: Queensland Museum/Western Australian Museum  
Project Title: An interactive key to Australian spider families and genera.

Name: Dr DE Walter and Dr HC Proctor  
Located: Department of Zoology and Entomology, University of Queensland  
Project Title: Biodiversity on the Web: An Introduction & Key to the Mites of Lamington National Park.  
Also available as a CD-ROM.

#### **Dr Ian Common given Order of Australia in 2001.**

In the Honours List of the centenary of Federation, Dr I.F.B. Common was made an Officer of the Order of Australia for his outstanding contribution to entomology, science, and education of the community. In his retirement from CSIRO, Entomology, and supported by funding from ABRS, he has worked tirelessly to produce a three-volume generic revision of the mallee moths (Oecophorinae).

Ian Common joined the CSIRO Division of Entomology in May 1948 and in 1951 was able to concentrate on lepidopterous pasture and crop pests. There followed his classic taxonomic revisions of *Heliothis*, *Agrotis*, *Persectania*, *Pectinophora*, *Scirpophaga*, *Epiphyas* and *Merophyas*. Also outstanding was his ecological investigation of the bogong moth, *Agrotis infusa*.

In 1960 he transferred to full-time taxonomic research concentrating initially on the Tortricinae and later on the Oecophorinae. Some of his most outstanding work, however, was on the higher classification, the studies on the Tortricinae, *Carthaea*, *Munychryia*, *Imma*, *Lophocorona* and *Hypertropha* all having global implications for the classification of the Lepidoptera. This work was best demonstrated by his Lepidoptera treatment in *The Insects of Australia* (1970), a classic overview which has aided and stimulated research around the world.

He also recognised community interest in Lepidoptera, producing small books on moths (1963) and butterflies (1964) and later, with D.F. Waterhouse, publishing *Butterflies of Australia* (1972) which became a "bible" for enthusiasts around Australia; the latter was extensively revised in 1981. In *Moths of Australia* (1990), Ian Common condensed more information on Australian moths than any other author could have done, producing the first and only reasonably comprehensive book on their biodiversity in Australia. Following this he concentrated on his favourite group, the Oecophorinae, represented in Australia by 271 genera, 1899 described species and about 3300 known species as well as many undoubtedly currently unknown. In the three volume project funded by ABRS, he completely reorganised the genera to provide a meaningful the generic classification making the group accessible to future work.

His contribution to Lepidoptera studies was recognised by the award of the Karl Jordan Medal in 1996, the international award for Lepidoptera research. His contribution to scientific societies was recognised by Honorary Life Memberships of the Lepidopterists Society and the Australian Entomological Society in 1987.

He has contributed most towards building the Lepidoptera section of the ANIC into by far the most comprehensive collection of Australian butterflies and moths, as well as one of the best curated. His protocols have maintained this excellence of preservation and documentation; he has also designed some of the most sophisticated light traps for collecting Lepidoptera.

His wide and detailed knowledge has meant that he is as at home in talking to international workers on the higher classification as he is to colleagues on the details of the fauna or to amateurs on their latest discoveries or on field collecting. To those who have the pleasure of working with him he is scholarly, meticulous, critical, approachable, open minded and generous with his knowledge, and modest.

Article from E.D. Edwards

#### Dr Ian Common's contribution to ABRS activities

ABRS congratulates Dr Common for his Order of Australia award presented in 2001. From 1992-1998 over \$330,000 was awarded to Dr Common from ABRS to complete a major project on Oecophorine genera of Australia (Lepidoptera: Oecophoridae) or mallee moth. In Australia there are about 5500 species of mallee moth in 250 genera and Dr Common is an internationally recognised specialist in this group. Dr Common has since produced three major illustrated monographs on Oecophorinae outlining the identification, distribution, biology and names of all species of each genus. The volumes contain the wealth of research

information accumulated by Dr Common over the last 50 years, and ABRS is very proud to have supported his work that has led to these three major publications.

Common, I.F.B., 1994. Oecophorine genera of Australia. I. The Wingia group (Lepidoptera: Oecophoridae). - Monogr. Aust. Lepid. 3: i-xvi, 1-390.

Common, I.F.B., 1997. Oecophorine genera of Australia. II. The Chezala, Philobota and Eulechria groups (Lepidoptera: Oecophoridae). - Monogr. Aust. Lepid. 5: i-xvi, 1-407.

Common, I.F.B., 2000. Oecophorine genera of Australia. III. The Barea group and unplaced genera (Lepidoptera: Oecophoridae). - Monogr. Aust. Lepid. 8: i-xvi, 1-453.

## **Obituaries**

### **Dr Ebbe S. Nielsen 7 June 1950 - 7 March 2001**

Dr Ebbe Schmidt Nielsen died suddenly in his sleep in California on his way to attend a meeting on the Global Biodiversity Information Facility. Although Ebbe had had major heart surgery two years ago he recovered remarkably well and would tell how he had not felt better for a decade. His death at only 50 years of age came as a shock to friends and professional colleagues.

Ebbe grew up on a small farm near Ry in Jutland in one of the most beautiful parts of Denmark, in a loving family with no tradition of academic pursuit, but with a deep appreciation and understanding of the surrounding nature. From an early age Ebbe showed a keen interest in plants and animals, an interest which soon focused on insects, and moths in particular. Ebbe completed his PhD at the University of Copenhagen in 1980, with research based to a large extent on material collected during a six months expedition to Patagonia and the Chilean Andes in South America. After two years affiliation with the Zoological Museum, University of Copenhagen, where Ebbe and I met for the first time, he was 'lured' to CSIRO Division of Entomology in 1982 on the recommendation and persuasive work of Dr Ian Common. In 1990 Ebbe was appointed Director of the Australian National Insect Collection (ANIC), a post he held and treasured to his death.

Over the years Ebbe became strongly engaged in promoting taxonomy in Australia and globally; he was a driving international force in the development of the Global Biodiversity Information Facility (GBIF) and played a major role in the promulgation of the Global Taxonomy Initiative (GTI). He was a great supporter of the Australian Biological Resources Study (ABRS), where he served for nearly a decade on its fauna editorial committee with considerable influence on ABRS' publication programs. Ebbe had an uncanny ability to explain and visualise taxonomy to politicians, bureaucrats, scientists and the general public: from Prime Ministers to young volunteers; his achievements will last, but the loss of his untiring efforts will be felt for a long time to come.

Ebbe received many honours as one of the world's leading entomologists for his work on the taxonomy, phylogeny and biogeography of primitive moths in particular. Among other accolades he was the recipient of the highest honour in entomology: the Karl Jordan Medal (1990), and he was awarded the David Rivett Medal (CSIRO, 1990) and the Ian Mackerras Medal (1992). He was made Foreign Associate of The U.S. Academy of Science (1997) and Foreign Fellow of The Royal Danish Academy of Sciences and Letters (1998).

In many ways Ebbe was larger than the life he enjoyed so much and lived to the full. He was extraordinarily generous and faithful to his many friends in Australia and all over the world. His death - not least on a very personal note - is an irreplaceable loss.

May his never failing enthusiasm, optimism and compassion be a guide for us all. He will live in our hearts.

Jean Just  
Former Director, Strategies and Research  
Australian Biological Resources Study

**Emeritus Professor Sir Rutherford (Bob) Robertson A.C., C.M.G., Ph.D. (Cantab.),  
D.Sc. (Syd.), F.A.A., F.R.S.  
1913 – 2001**

Botanists in Australia and abroad, and many members of the wider scientific and tertiary education communities, were saddened to learn of Bob Robertson's death on 5 March 2001. He had been one of Australia's most distinguished biological scientists for decades, a teacher and mentor to generations of students and a role model for more than a few of them. For many of us his passing marks the end of an era in Australian botany.

Born in Melbourne before the First World War, Bob spent part of his childhood in Christchurch, New Zealand, where he attended St. Andrew's College before entering the University of Sydney to study botany and chemistry. This combination formed the basis for his distinguished research career in plant physiology, which began with his appointment to a Linnean Macleay Fellowship at the University of Sydney in 1934 and continued at St. John's College, Cambridge, 1936-39.

Returning to Sydney University on completion of his Ph.D. degree he was appointed as Assistant Lecturer in Botany and, in addition to his teaching and research responsibilities, was given the task of co-ordinating the Botany teaching programs of the main campus of the University and the then newly established New England University College at Armidale (now the University of New England). There began a phase of his career – combining scientific research and science administration – that was to last half a century.

Bob Robertson joined CSIR (later CSIRO) in 1946, initially as a Senior Research Officer in the Division of Food Preservation, located in Sydney – first at Homebush and later at Ryde – applying his research on the physiology and biochemistry of plant respiration to improving the storage of agricultural produce, especially apples and pears. In the early 1950s he negotiated with the University of Sydney to establish a joint Plant Physiology Unit between CSIRO and the University. The Unit was set up in the University's Botany Department in 1952 with Bob as its head, an arrangement that enabled him to take an honorary teaching appointment at the University and to establish one of the most lively and productive post-graduate research groups yet to be seen in Australian botany. It was then that his group's work on the role of mitochondrial membranes in plant respiration, which was perhaps the highest achievement of his research career, was most productive and Granny Smith apples of high quality became available from Australian fruit vendors throughout the year. He also contributed very substantially to teaching plant physiology to undergraduate students in the Faculties of Science and Agriculture, which became fertile recruitment grounds for his research group.

It was a constant source of frustration to Bob that, as his career advanced, he was even more in demand as an administrator of scientific programs than as a hands-on research scientist. Clearly, he preferred the latter role but after a year as Visiting Professor at UCLA in 1958–59 he was persuaded to join the CSIRO Executive in 1959. However, when invited to take up the Chair of Botany at the University of Adelaide in 1962, he welcomed the opportunity it provided to resume his personal research agenda. There he joined forces with Hansjoerg Eichler, Keeper of the State Herbarium of South Australia, to boost taxonomic training in botany. Eichler was given honorary staff status within the Botany Department, and in that capacity supervised or co-supervised a large number of post-graduate students over more than a decade. This fruitful partnership to build a taxonomic centre of excellence delivered a cohort of taxonomists who are still active in many Australian (and overseas) herbaria and universities.

Administration caught up with Bob again when, from his base in Adelaide, he was elected Vice-President of the Australian Academy of Science in 1963–64 and appointed by the Commonwealth Government as Chairman of the Australian Research Grants Committee for the period 1965–69. In 1969 he moved to Canberra, accepting an invitation from the ANU to take up the position of Master of University House, with the prospect of spending part of his time on research in plant physiology. This he did, and he was also elected President of the Australian Academy of Science in 1970–74, having become one of its earliest Fellows in 1954 and its Secretary (Biological Sciences) in 1958. He was appointed Director, Research School of Biological Sciences, ANU in 1973 and retired from that position in 1978, though he remained with the ANU, for a time, as its Pro-Vice-Chancellor and was also Deputy Chairman of the Australian Science and Technology Council at this time. He was appointed President of the 13<sup>th</sup> International Botanical Congress, held in Sydney in 1981 and worked tirelessly to make the Congress a great success.

Although he had no direct, academic interest in plant taxonomy himself, Bob Robertson was to become a significant figure in the development of plant taxonomy in Australia. In addition to the Adelaide initiative described above, he maintained a strong interest in the Academy of Science's initiatives to promote the preparation of a new *Flora of Australia*. When the Government established the Interim Council for ABRS in 1973 he strongly supported the Academy, of which he was then President, to combine funds provided by

private donors with CSIRO resources to carry out preparatory studies for a flora. Three projects – the *Australian Plant Name Index*, a compilation of *Plant Taxonomic Literature in Australian Libraries*, and some experimental flora treatments – were undertaken at the CSIRO herbarium under the direction of Dr Nancy Burbidge and the guidance of the Academy's Flora Committee.

When ABRS was established as a continuing program by the Fraser government in 1978–79, Bob Robertson was appointed Chairman of the ABRS Advisory Committee, continuing in that role until September 1981. One of the Advisory Committee's earliest recommendations to the Minister was that the Government should embark on the writing of a new *Flora*. The Government accepted this challenge and established an Editorial Committee with Bob as its first Chairman. It was appropriate, therefore, that when the *Flora of Australia* was launched at the Sydney IBC, he was involved in the key roles of Chairman of the Editorial Committee and President of the Congress.

Bob maintained a very active interest in scientific developments until the end of his life. He continued to receive several key journals in his fields of interest and to read them thoroughly and thoughtfully. Sometimes he would contact authors, occasionally even writing to them, to discuss what they had written and to contribute his ideas on the subject. It was fitting, therefore, that in 1999 a large group of members of plant science societies in Australia and New Zealand – about 100 of them, including many of his former students and collaborators – combined to write *Plants in Action: adaptation in nature, performance in cultivation*, a large modern textbook of plant physiology which they dedicated to Bob "in recognition of his formative influence on plant science in Australasia". A copy of the book was autographed and presented to him by all the contributors shortly before he was diagnosed with cancer early last year.

It was a privilege for me to have known Bob for most of my career in botany; we had our first meaningful conversation about plants at a party at the University of Sydney, convened to celebrate his 40<sup>th</sup> birthday, and our last when I visited him and his wife, Lady Mary Robertson, at their home in Yass only 3 weeks before his death. On the latter occasion he updated me on a new research initiative in plant membrane physiology that he was trying to have established, through friends and colleagues, in the last months of his life. Then he sought my views on the package of science policy initiatives announced by the Prime Minister a few days previously. The incisiveness of his mind on that day, compared with the weakness of his body, was almost unbelievable.

In a paper published in 1992 Bob wrote:

*"I believe that the most satisfying philosophy of life encourages unselfishness, with concern for and tolerance of fellow humans. In this, science can play a vital role, helping us to leave the world a better place for having lived."*

Nobody would doubt that Bob adopted this philosophy for himself, and that there will be lasting benefits from his unselfishness, concern, and many outstanding contributions to science.

He was survived by his wife, Lady Mary Robertson, their son Rob and his family. Lady Robertson died tragically, following a motor vehicle accident, on 21 April 2001.

The ABRS staff extends its condolences to Rob and his family.

Written by Alison McCusker

**Dr Doug F Waterhouse, O.A., C.M.G., D.Sc, F.R.S, F.A.A., F.T.S.**  
**1916 – 2000**

Dr DF Waterhouse (known to his many friends as Doug) was born in Sydney on 3 June 1916, the second of four sons of Professor EG and Mrs Janet Waterhouse. From a very early age he wanted to be an entomologist and in this he was greatly encouraged by his uncle Dr GA Waterhouse, then the authority on the butterflies of Australia, whose large collection was subsequently donated to the Australian Museum, Sydney.

Doug graduated from Sydney University with 1<sup>st</sup> Class Honours and the University Medal in 1937 and was immediately appointed to the Division of Economic Entomology of CSIR in Canberra, and this was to remain his lifelong workplace. In 1960 he was appointed Chief of the Division of Entomology and continued in that position until his retirement in 1980. He initiated many developments as Chief, including arranging for the gazettal of the Australian National Insect Collection (ANIC), and he was responsible for initiating the production of the internationally recognised textbook "The Insects of Australia". He was also instrumental in the establishment of the Grain Storage Laboratory, which has done much to minimise pest damage in Australian grain, and he was particularly concerned to ensure the development of new projects in biological control, from which many innovative developments emerged. For example, Doug gave full support to a proposal for the importation of dung beetles in order to provide control of the buffalo fly and other dung-breeding pests. He arranged use of a plant parasitic fungus for the control of skeleton weed, of nematodes for insect control, especially of *Sirex* wood wasp, and for many other successful programs; and he was influential in promoting Integrated Pest Management systems (IPM) both in Australia and overseas.

Doug was co-opted by FAO in the very early stages of the examination of the resistance of pests to pesticides, and remained involved with FAO in many aspects of insect control.

In addition to his pre-eminent role in entomology, Doug was influential in many other aspects of the development of Australian biological science programs, for example, in the development of ABRS. Questions relating to the need for a biological survey of Australia had been on the scientific agenda since the early 1900s. Each of the States had established herbaria and museums to cater for their local needs and State Governments did not see the necessity for a national institution. In spite of representations by ANZAAS and other bodies, successive federal governments of all political parties had shown no interest in the matter. The Australian Academy of Science had established a Flora and Fauna Committee in 1959 and on the basis of its review, Doug, as its Secretary, (Biological Sciences), had written to the appropriate Ministers in 1962, 1964 and 1968. The early proposals were not accepted, but all his life Doug had shown determination, patience, and the ability to argue a persuasive case. All those qualities were needed, and in addition he was totally committed to ensuring that the Australian biota be better understood.

By 1972 both major political parties had accepted the proposal for a biological survey and in 1973 the Minister for Science established an Interim Council for an Australian Biological Resources Study, with Doug Waterhouse as the Chairman. The Interim Council reported to the Government in 1975, proposing

- (1) the preparation of the *Flora of Australia*, (2) the preparation of an inventory of the Australian fauna, and
- (3) the establishment of a storage and retrieval system of taxonomic information on the flora and fauna.

Doug took the bold step of setting out to improve the funding position of the State institutions by supporting individual projects to form the basis of a national biological survey. In 1979 ABRS was finally established as a branch of the Environment Division of the Department of Science and the Environment. Doug was proud of his role in the establishment of ABRS.

Doug was also much involved in education in the ACT. He was member of the Interim Council to establish the Canberra CAE (now the University of Canberra). In 1969 he became Chairman of the Council of the College and subsequently its Chancellor. He served for many years on all the major Committees of the College (the Finance Committee, the Buildings and Site Committee, etc), and continued his association with it when it attained University status.

For his many contributions, Doug was the recipient of numerous honours and awards; he was appointed CMG in 1970, and made an Officer in the Order of Australia in 1980. He was awarded DSc (Sydney) in 1952, DSc (Hon) ANU in 1977, Fellow of The Australian Academy of Science 1954, Fellow of the Royal Society of London 1967, and Honorary Fellow of the Royal Entomological Society 1972. He was also appointed a Foreign Fellow of the Brazilian Academy of Sciences 1974, and of the USSR Academy of Sciences, a Foreign Member of the US National Academy of Science, and many more.

After his retirement, Doug gave much time to encouraging the use of biological control of insect pests notably in developing countries and especially in the Pacific and SE Asia, where his efforts were greatly appreciated. In 1993 Doug was diagnosed with cancer, but in spite of intense therapy he continued to work with great vigour and published extensively for the next 7 years. Several publications are currently in press. Doug is survived by his wife, Dawn, their daughter Jill and sons Douglas, Jonathan and Gowrie, and their families.

The staff of ABRS extends its condolences to Doug's family.

Written by Max Day, CSIRO, Division of Entomology

### **Research Scholarship for 2001**

Ms Jennifer Tonkin Cross from University of Melbourne was awarded the 2001 ABRS Postgraduate Research Scholarship, to study agaracoid Russalales (macrofungi). The project title is *Systematic studies in the Australia agaracoid genera Lactarius and Russula (Russulales)* and will include the study of over 60 species, including some undescribed taxa. The taxonomy of these genera plus distribution patterns, conservation status and ecological preferences will be studied. Ms Tonkin will receive a stipend plus a research support grant for three years to complete her PhD. Her supervisors are Dr Teresa Lebel and Dr Tom May from Royal Botanic Gardens, Melbourne, and Dr C McLean from University of Melbourne. Congratulations on your award Jennifer!

### **Bursaries Update**

Each year ABRS offers financial support to postgraduate students in Australian institutions for travel to a national or international conference relevant to both the student's research program in systematics or taxonomy and the Aim and Objectives of the ABRS. A maximum of \$1,000 is available for an international conference and \$500 for travel within Australia. Up to \$10,000 is available each year for these awards.

#### **Eligibility**

1. ABRS Bursaries are open to permanent residents of Australia.
2. The student must be currently enrolled in a PhD or Masters degree (including a research component) in the field of Systematics or Taxonomy.
3. The conference must be relevant to Systematics or Taxonomy.
4. The student must show that a poster or oral paper presentation has been accepted by the organisers of the conference.
5. The student must demonstrate the benefits of the travel to their research and to the Aim and Objectives of ABRS.
6. Preference may be given to applicants who receive matching funding from their home institution or other source.

To obtain an application form contact:

Ms Liz Visher  
Business Manager  
Australian Biological Resources Study  
GPO BOX 787  
CANBERRA ACT 2601

PH. (02) 6250 9554  
FAX (02) 6250 9555  
Email: [liz.visher@ea.gov.au](mailto:liz.visher@ea.gov.au)

Or download the form via the ABRS Website: <http://www.anbg.gov.au/abrs>.

Applicants should ensure that completed forms are lodged with ABRS by 10 September 2001.

The latest awards are to Ms Adele Harvey from La Trobe University to attend the Australasian Society for Phycology and Aquatic Botany Conference in Queensland, and to Gilianne Brodie from James Cook University to attend the World Congress of Malacology in Austria. Both conferences are in August 2001. Congratulations to these students for their travel award.

During Year 2000, three students were awarded the \$1,000 grant to attend an international conference. One of the students, Mr Skye Thomas-Hall from University of New England has submitted a report on his trip to the U.S.A. for this issue of *Biologue* (see below).

#### **Skye Thomas Hall - recipient of ABRS year 2000 bursary award**

G'day, I'm Skye Thomas-Hall of the University of New England, Armidale. I'm currently finishing off my PhD in microbiology, more specifically, characterising new species of Antarctic Yeasts by modern molecular and classical techniques. Recently I was awarded an ABRS bursary, which helped to fund my travel to the 10<sup>th</sup> International Symposium on Yeast in 2000. This was held at Papendal Conference Center, Arnhem, the Netherlands. There were 460 participants, and attendance at this conference was beneficial as it helped me to make many new contacts and strengthened old ties with professionals in my field from the world over. I now maintain regular communication with a number of Professors regarding research topics of mutual interest. At the conference I presented a poster on eleven new Antarctic yeasts and I also gave an invited talk on modern taxonomic methods and possible industrial applications for these new yeast species. Both presentations were well received. I was also heavily involved in the final summary session, which stimulated a considerable amount of lively debate on past, present and future applications of classical and modern biological techniques in yeast taxonomy.

To sum up, this conference was a most valuable experience and I believe my contribution was successfully presented and received. I would like to sincerely thank the Australian Biological Resources Study for awarding me this travel bursary and consequently providing me with this opportunity.

### **PUBLICATIONS**

#### **Latest products**

##### **Marine Plants of Australia by John Huisman**

ABRS is proud to announce publication of an important new book on a hitherto neglected part of Australia's biodiversity. In partnership with University of Western Australia Press, ABRS published *Marine Plants of Australia* by John Huisman on 14 November 2000.

The book provides an illustrated account of over 300 species of macroalgae and seagrasses from all parts of the Australian coast. While the flora of terrestrial habitats is relatively well-known and conspicuous, the equivalent forests and meadows beneath the sea are virtually unknown to all but a few scientists and enthusiastic divers. To most people, seaweed conjures images of rotting plants piled high on beaches, or slithering menacingly around bare ankles in rock pools. In truth the algae contribute the same benefits as land plants: providing carbon sinks and oxygenation, and shelter and food sources at the base of the food chain.

Until now there has been a dearth of introductory texts to this rich and varied flora, although ABRS is moving closer to publication of a new series, *Algae of Australia*, which will eventually meet this need in the same way that *Flora of Australia* is providing a uniform overview of the terrestrial vascular flora and *Fungi of Australia* is treating the fungal biota. In each case, the preparation of the texts involves a major cooperative effort with Australian and overseas scientists, and is a lengthy business. *Marine Plants of Australia* will provide an invaluable interim guide, pending publication of the more detailed series.

Author John Huisman graduated with a PhD from the University of Melbourne in 1985 and has spent the intervening years photographing and studying the marine plants of his adopted home, Western Australia. He has published numerous scientific papers and served for several years as the president of the Australasian Society for Phycology and Aquatic Botany. For several years he also served on the ABRS Editorial Committee. At present he is a research fellow at Murdoch University. *Marine Plants of Australia* has been his labour of love for many years, combining as it does his dual passions for phycology and underwater photography.

*Marine Plants of Australia* has recently been nominated for the prestigious Prescott Award of the Phycological Society of America.

*Marine Plants of Australia* comprises 312 pages, approx. A4 in size, with over 300 spectacular colour photographs, mostly taken in situ, plus a large number of line drawings of morphological detail. There are introductory chapters on history, morphology, collecting techniques, economic aspects and classification. The main part of the book contains descriptions of the main macroalgal and seagrass genera of the Australian coast, with illustrations, bibliographic data and distributional information on characteristic species.

There is a glossary of terms, and a taxonomic index. It is available from University of Western Australia Press, Cnr Mounts Bay Road and Crawley Avenue, Nedlands WA 6907, Australia for \$82.50 (incl. GST), or \$75 to overseas addresses. Postage is extra - \$7.70 within Australia, \$29.00 by Economy Air or \$19 surface overseas. (UWA Press can also be contacted by phone on +61 8 9380 3670; fax +61 8 9380 1027; email: [uwap@cyllene.uwa.edu.au](mailto:uwap@cyllene.uwa.edu.au)).

#### **On-line Checklist of Australian Lichens.**

This highly regarded tool from ABRS, first released in late-1999, is now updated (January 2001). The address is: <http://www.anbg.gov.au/abrs/lichenlist/introduction.html>. This checklist, which is updated annually, includes 2877 species in 378 genera. Genera are listed alphabetically, as are the accepted species under each generic heading. Synonyms are inserted under the appropriate accepted name. Doubtful and excluded names, misapplied names and those reported in error from Australia are also provided. Letters indicate the distribution of species among the States and mainland Territories of Australia, as well as Lord Howe Island, Norfolk Island and Macquarie Island.

'101 Forest Fungi of Eastern Australia' a LucID interactive key by A.M. Young, published in partnership with Knowledge Books & Software, Qld, 2001.

#### **LOOK! SPECIAL DISCOUNT PRICE FOR 101 FOREST FUNGI OF EASTERN AUSTRALIA**

The interactive key '101 Forest Fungi of Eastern Australia' has just been published by ABRS in partnership with Knowledge Books and Software, Qld. **If you order before 31 July 2001 you can buy the key for the special price of \$54.95 (includes GST) + \$5.00 postage and packing (total = \$59.95). Please include a copy of this article with your order form.**

*101 Forest Fungi of Eastern Australia* is the first interactive identification key for macrofungi to be produced in Australia. It has been designed to be suitable for beginners to advanced students of biology. As an interactive key, the user can choose the characters used and the order in which they are used. The CD has an extensive library of images outlining the characteristics of fungi to assist the user as they progress through the key. Each species is illustrated in colour and has extensive accompanying notes. The images, information and key design were the work of Dr Tony Young, a leading fungal specialist. *Buy now and save!*

**Key to the Genera of Australian Microlichens: Apothecial Crusts** by H.T. Lumbsch, P.M. McCarthy & W.M. Malcolm. *Flora of Australia Supplementary Series* No. 11. Canberra, ABRS, 2001. This is an identification guide to the 151 genera of apothecial crustose lichens known from Australia. It will also greatly facilitate the identification of microlichens in South-East Asia, Indonesia, P.N.G. and the South Pacific all of which share the majority of their genera with tropical Australia. The key is illustrated with superb 173 colour photographs. Primary diagnostic characters are supplemented with information on morphology, anatomy and chemistry. Diversity, habitats and distribution in Australia are outlined, and literature references are listed for each genus.

Image

#### **Floral Emblems of Australia - Poster**

Just in time for the Centenary of Federation, ABRS has published, in partnership with the Australian National Botanic Gardens, a poster depicting the floral emblems of the Australian Commonwealth, States and Territories.

The poster features magnificent original artwork by Sydney artist Marion Westmacott. Copies are being sent to each Australian primary school along with an information kit which contains additional information on the names of the plants, where they grow, and their history. Information from the poster and kits will also be loaded on the ANBG and ABRS websites in the near future. It is hoped that other products using the same artwork will also be developed.

The posters are available from the ANBG Botanical Bookshop for \$5 each over the counter. Please contact the bookshop for terms of postal sales (ANBG Botanical Bookshop, PO Box 351, Jamison Centre ACT 2614; Email: [botanical.bookshop@netspeed.com.au](mailto:botanical.bookshop@netspeed.com.au); Phone (02) 6257 3302). The kits are only supplied to schools and other educational institutions.

### Launch of Floodplain Flora

As highlighted in the October 2000 issue of *Biologue*, the *Flora of Australia Supplementary Series No. 10: Floodplain Flora* was published in partnership with the Parks and Wildlife Commission of the Northern Territory. The book contains Flora of the coastal floodplains of the Northern Territory, Australia. It describes and illustrates all of the plants found in the seasonally inundated floodplains of the Top End, with keys to their identification. On 2 February 2001, Dr Sharman Stone launched the Floodplains Flora as part of the National Launches on World Wetlands Day at the Wetlands Centre, Newcastle, NSW. The book is still available from ABRS (Publications), GPO BOX 787, CANBERRA ACT 2601, FOR \$66 (GST inclusive).

### Forthcoming publications

- *Flora of Australia* Volumes 11 A & B (*Acacia*)
- WATTLE - Acacias of Australia (an interactive key using LucID software)
- *Flora of Australia* Volume no. 43 (Poaceae - Introduction)
- Interactive Key to Australian Grasses (using LucID software)
- *Flora of Australia*, Volume no. 58 A; Lichens 3
- The third volume on the lichens of Australia features a number of macrolichen families that are dominant in rainforest and alpine habitats in south-eastern Australia, as well as crustose groups that are significant stabilisers of soil in arid and semi-arid regions and some of the most diverse microlichen families of tropical and cool-temperate rainforest. Publication in mid-2001.
- *Zoological Catalogue of Australia*, Vol. 17.2 Mollusca: Aplacophora, Polyplacophora, Scaphopoda, Cephalopoda by A.M. Scheltema, K. Gowlett-Holmes, K.I. Lamprell, J.M. Healy and C.C. Lu.
- *Zoological Catalogue of Australia*, Vol. 19.2b, Crustacea, Malacostraca: Leptostraca, Stomatopoda, Euphausiacea, Amphionidacea, Decapoda, by P.J.F. Davie.
- Interactive Key to Polychaete Families of the World, by C. Glasby & K. Fauchald [LucID CD-ROM Key].

### Staff Publications

Below is a list of recent publications from ABRS staff members:

Bridgewater, Peter, and **Cresswell, I. D.** (1999). Biogeography of Mangrove And Saltmarsh Vegetation: Implications for Conservation and Management in Australia. *Mangrove and Saltmarsh*. 3. 117-125.

**Cresswell I.D.** (2000). Ecological significance of freshwater seeps along the western shore of Leschenault Inlet. In: Semeniuk V & Withers P C (eds) The Leschenault Inlet estuary. *Special Issue Journal Royal Society of Western Australia* 83 (4).

**Cresswell I.D.**, Malafant K., & Semeniuk V., (2000). Mollusc abundance and associations in Leschenault Inlet estuary. In: Semeniuk V & Withers P C (eds) The Leschenault Inlet estuary. *Special Issue Journal Royal Society of Western Australia* 83 (4).

Tait, J.T.P., **Cresswell, I.D.**, Lawson, R. and Creighton, C., (2000). How are we managing? Auditing the health of Australia's ecosystems. In: *Ecosystem Health*, 6 (2): 149-163.

**Cresswell, I.D.**, (2000). The Global Taxonomy Initiative. In *Association of Systematic Collections Newsletter*, 28(5): 5.

**Houston, K. & Thompson, H.**, (2000). The Australian Biological Information Facility. In: *Association of Systematic Collections Newsletter*, 28(5): 9.

Hale, P.T., Barreto, A.S. and **Ross, G.J.B.** (2000). Comparative morphology and distribution of the *aduncus* and *truncatus* forms of bottlenose dolphin *Tursiops* in the Indian and Western Pacific Oceans. *Aquatic Mammals* 26(2): 101-110.

**McCarthy, P. M.** (2000) *Porina austropacifica* (Trichotheliaceae), a new species from Norfolk Island. *Australasian Lichenology* 46: 21-24.

**McCarthy, P. M. & Kantvilas, G.** (2000) Additional lichen records from Australia 43. *Verrucaria fusconigrescens* and *V. prominula* in Tasmania, with notes on the habitats and biogeographical affinities of Tasmanian Verrucariaceae. *Australasian Lichenology* 46: 31-35.

**McCarthy, P. M.** & Elix, J. A. (2000) Additional lichen records from Oceania. 4. Some pyrenolichens in Fiji. *Australasian Lichenology* 46: 40-42.

**McCarthy, P. M.** (2000) Key to the saxicolous taxa of *Porina*. *Lichenologist* 32: 1-14.

**McCarthy, P. M.** (2000) Lichens of Rarotonga, Cook Islands, South Pacific Ocean. I: pyrenocarpous taxa. *Lichenologist* 32: 15-47.

**McCarthy, P. M.** & Kantvilas, G. (2000) A new bryophilous *Porina* from Tasmania, and notes on the diversity, habitats and biogeographical affinities of Tasmanian *Trichotheliaceae*. *Lichenologist* 32: 247-256.

**McCarthy, P. M.**, Elix, J. A. & Sérusiaux, E. (2000) *Kantvilasia* (Lecanorales, *Ectolechiaceae*), a new foliicolous lichen genus from Tasmania. *Lichenologist* 32:317-324.

**McCarthy, P. M.** & Kantvilas, G. (2000) *Trichothelium meridionale* (Trichotheliaceae), a new foliicolous lichen from Tasmania. *Australasian Lichenology* 47: 5-7.

**McCarthy, P. M.** (2000) Additional lichen records from Oceania. 5. Miscellaneous new records. *Australasian Lichenology* 47: 23-25.

**McCarthy, P. M.** (2000) Additional lichen records from Oceania. 6. Some corticolous pyrenolichens from Vanuatu. *Australasian Lichenology* 47: 26-29.

**McCarthy, P. M.** & Kantvilas, G. (2000) A new terricolous *Pyrenocollema* (lichenized Ascomycotina, Xanthopyreniaceae) from Tasmania. *Herzogia* 14: 39-42.

## INTERNATIONAL NEWS

### Global Taxonomy Initiative

The Global Taxonomy Initiative (GTI) is an initiative of the Convention of Biological Diversity (CBD) to support the development of the institutional and human capacity in taxonomy required to underpin the CBD's objectives. The CBD has called on all countries to designate a GTI focal point to help in dissemination of information about the GTI to the taxonomic community, as well as to act as a conduit to receive back information to help inform each country's input to the CBD. The Australian Government nominated the Director of ABRS as the Australian GTI focal point. Ian Cresswell has recently returned from Montreal where he was the GTI Program Officer within the CBD Secretariat, and is well placed to take up this challenge.

To facilitate information exchange in Australia, the Australian GTI focal point would like to use two mechanisms: firstly the provision of information through existing publications in both hard copy and electronic, and secondly the establishment of a GTI list server freely accessible to anyone interested.

There have been several major developments in the GTI over the last year that are worthy of reporting. In May 2000 the Conference of the Parties (COP), the governing body of the CBD, created a steering committee for the GTI, and this met for the first time in December 2000 in Montreal.

In December 2000 a draft program of work for the GTI was released by the CBD Secretariat for discussion at the March 2001 meeting of the SBSTTA (the Convention's peak scientific advisory body). The draft work program is available at <http://biodiv.org/doc/meeting/sbstta/sbstta-06/official/sbstta-06-10-en.pdf>. SBSTTA had called for the work program to be adopted by all governments, including Australia. The draft program provides many opportunities for Australian institutions and researchers to be actively involved in bettering our global taxonomic capacity to support biodiversity conservation and sustainable use of biodiversity. Australia is well placed both to provide help and to benefit from GTI activities, through the provision of training opportunities and intellectual capital.

ABRS has had a long involvement with the development of the GTI (for example see the Darwin Declaration on the ABRS website: <http://anbg.gov.au/abrs>). Ian Cresswell recently attended a regional GTI meeting in South Africa to help prepare regional priorities for Africa, and to help inform African taxonomists about the GTI and the Convention. While there, Ian was able to liaise with several long-standing supporters/contributors to ABRS, as well as to learn more of international developments in taxonomy. ABRS would like to acknowledge the generous support of the Government of Sweden who paid for Ian's attendance.

## **Update on Global Biodiversity Information Facility**

The Global Biodiversity Information Facility (GBIF) is an international collaborative effort to create an interoperable network of biodiversity databases and information technology tools that will enable users to navigate and access the world's vast quantities of biodiversity information.

The purpose of establishing GBIF is to design, implement, co-ordinate, and promote the compilation, linking, standardisation, digitisation and global dissemination of the world's biodiversity data, within an appropriate framework for property rights and due attribution.

GBIF will work in close co-operation with established programs and organisations that compile, maintain and use biological information resources. The participants, working through GBIF, will establish and support a distributed information system that will enable users to access and utilise vast quantities of new and existing biodiversity information to generate new knowledge, wealth and ecological sustainability.

The Global Biodiversity Information Facility (GBIF) was established on 1 March 2001. Currently there are fifteen countries that have signed the formal Memorandum of Understanding; Australia, Belgium, Canada, Denmark, Finland, France, Germany, Japan, Mexico, Netherlands, New Zealand, Slovenia, Spain, Sweden and the U.S.A. Over US \$2 million was pledged from member countries towards the first twelve months of GBIF's activities. The GBIF Board met on 9-11 March 2001 in Montreal, Canada and a small delegation from Australia attended. The closing date for bids from countries to host the Secretariat was 1 March, and four bids are currently under consideration: Australia, Spain, Denmark and the Netherlands. Australia hosted the bid assessment team on 7<sup>th</sup> of May in Canberra. ABRS will continue to report on GBIF developments in future issues of *Biologue*.

## **AUSTRALIAN BIOLOGICAL RESOURCES STUDY ADVISORY COMMITTEE NEW MEMBERSHIP LIST**

In December 2000, the Minister invited new members to the ABRS Advisory Committee following recommendations made on the ABRS restructure. Below is the list of the Committee and its membership. The Minister is considering the appointment of a new Chairman, and following confirmation from the Minister's Office, ABRS will announce the appointment on its website and in the next issue of *Biologue*.

### **CHAIRMAN**

To be announced soon

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