



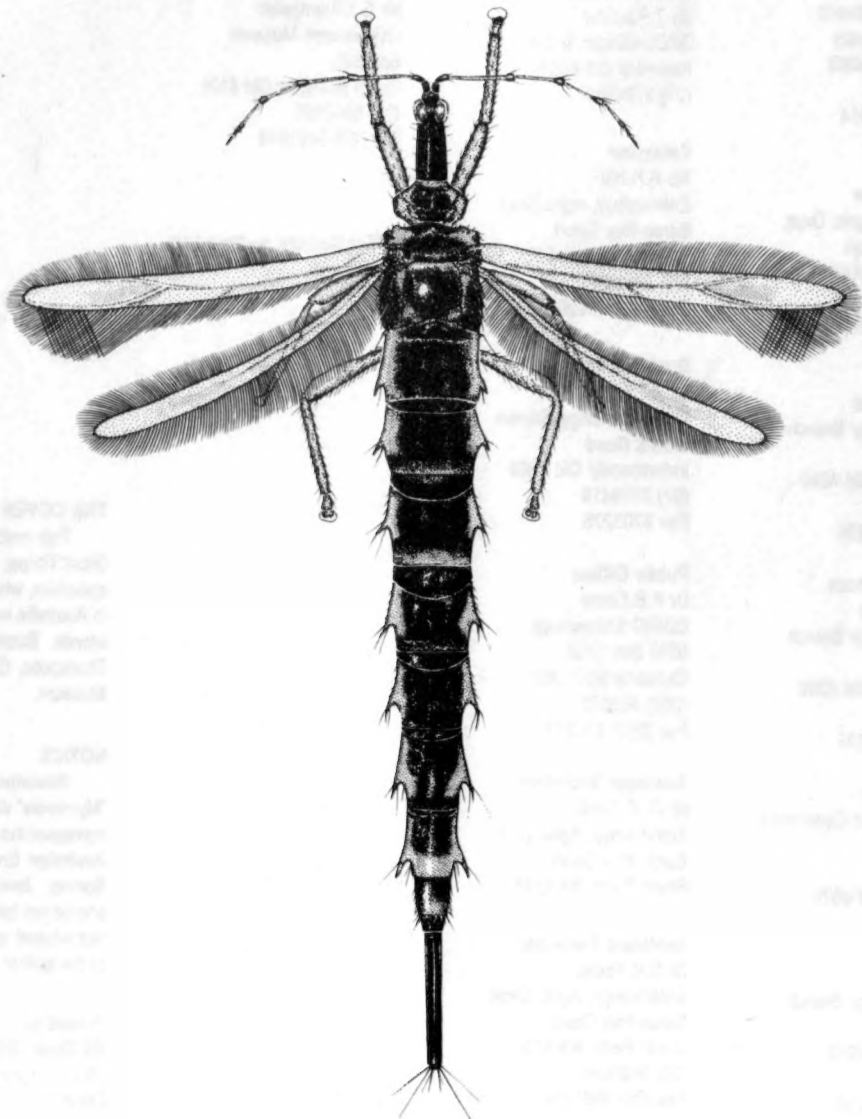
# MYRMECIA



News Bulletin of the Australian Entomological Society Inc.

**Volume 25, Part 2, May 1989**

Reg. by Australia Post; Publication No. QBG3480; Price: \$2



**AUSTRALIAN  
ENTOMOLOGICAL  
SOCIETY  
OFFICE BEARERS**

**President**

Dr T.R.New  
Zoology Department  
LaTrobe University  
Bundoora Vic 3083  
(03) 4791111  
Fax (03) 4785814

**Secretary**

Mr J. D.Sandow  
Entomology, Agric. Dept.  
Baron-Hay Court  
South Perth WA 6151  
(09) 3683256  
Fax (09) 3681205

**Chief Editor**

Dr N.W.Heather  
DPI Entomology Branch  
Meiers Road  
Indooroopilly Qld 4068  
(07) 3779382  
Fax (07) 8703276

**Technical Editors**

Dr B.K.Cantrell  
DPI Entomology Branch  
Meiers Road  
Indooroopilly Qld 4068  
(07) 3779418  
Fax (07) 8703276

Dr P.G.Allsopp  
Southern Sugar Experiment  
Station  
Box 65  
Bundaberg Qld 4670  
(071) 793228

Dr D.J.Rogers  
DPI Entomology Branch  
Box 23  
Kingaroy Qld 4610  
(071) 621355  
Fax (071) 623238

**Vice President**

Dr T.J.Ridsdill-Smith  
CSIRO Entomology  
Private Bag  
Wembley WA 6014  
(09) 3870640  
Fax (09) 3876046

**Immediate Past President**

Mr T.Passlow  
30 Dumbarton Drive  
Kenmore Qld 4069  
(07) 3784053

**Treasurer**

Ms A.R.Hill  
Entomology, Agric.Dept.  
Baron-Hay Court  
South Perth WA 6151  
(09) 3683250  
Fax (09) 3681205

**Business Manager**

Mr J.F.Donaldson  
DPI Entomology Branch  
Meiers Road  
Indooroopilly Qld 4068  
(07) 3779419  
Fax 8703276

**Public Officer**

Dr P.B.Carne  
CSIRO Entomology  
GPO Box 1700  
Canberra ACT 2601  
(062) 465077  
Fax (062) 470217

**Assistant Secretary**

Mr D. F. Cook  
Entomology, Agric. Dept.  
Baron-Hay Court  
South Perth WA 6151

**Assistant Treasurer**

Dr D.K.Yeates  
Entomology, Agric. Dept.  
Baron-Hay Court  
South Perth WA 6151  
(09) 3683246  
Fax (09) 3681205

**News Bulletin Editor**

Dr G.B.Monteith  
Queensland Museum  
Box 300  
South Brisbane Qld 4101  
(07) 8407699  
Fax (07) 8461918

**Assistant Bulletin Editor**

Mr G.I.Thompson  
Queensland Museum  
Box 300  
South Brisbane Qld 4101  
(07) 8407690  
Fax (07) 8461918

(Office Bearers continued on  
rear cover)

**THE COVER**

The front cover shows the Giant Thrips, *Idolothrips spectrum*, which is widespread in Australia on dead eucalypt leaves. Illustration by Geoff Thompson, Queensland Museum.

**NOTICE**

Statements made in "Myrmecia" do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be referred to or reproduced without permission of the author of the material.

Printed by:  
**All Clear Offset Printers,**  
15 Lamington St, New Farm  
Qld 4005



## Contents

New Members.....	34
Address Changes.....	35
Annual Report.....	36
Auditors' Report.....	43
Minutes of 20th Annual General Meeting.....	46
20th Conference Organisers' Report.....	49
Sydney Conference Scientific Programme.....	54
The Frass Newsletter.....	56
Results of 1989 Illustration Competition.....	57
Student Award Winners.....	58
Winning Colour Illustrations.....	59
Winning Black and White Illustrations.....	60
Key to Conference Photograph.....	61
Sydney Conference Photograph.....	62
Regional News	
Queensland.....	64
Australian Capital Territory.....	66
New South Wales.....	68
South Australia.....	71
Western Australia.....	72
Tasmania.....	74
Victoria.....	74
Northern Territory.....	75
New Zealand.....	77
Directory of Australian Acarology.....	77
News from Affiliated Societies	
Entomological Society of Victoria.....	77
Entomological Society of Queensland.....	77
Entomological Society of New South Wales.....	78
Hymenopterists' Corner.....	78
Australian Biological Resources Study.....	79
Journal Manuscripts.....	79
Aphids Wanted, not Dead but Alive.....	80
1989 Postgraduate Projects Survey.....	81
Report of Conservation Committee.....	90
Coming Events.....	91
New Books.....	92
Call for Research Grant Applications.....	93

## Editorial

This May issue of "Myrmecia" will be a few days late because we held fire on production so that all reports of the recent successful Society conference in Sydney could be included.

The annual Society conference marks the start of a new Society year with the election of a new Council. I'd like to personally thank the seven retiring Councillors, Margaret Schneider, Errol Hassan, Mike Downes, Joanne Daly, Dinah Hales, Mike Braby and Don Ewart for their efforts in rounding up regional news for "Myrmecia" (and its predecessor) during their terms of office. The complete new line-up of Regional Councillors is given on the rear cover of this issue. These are the people to whom members should pass news information for transmission to me as "Myrmecia" copy.

On page 66 of this issue there is a photograph of a very pleased looking bunch of coleopterists in the field in north Queensland. I'd like to use more photographs of entomologists doing their thing like this one. If you think you have something appropriate, and it is a good sharp image, then send it in; colour prints are fine and will be returned if requested.

GEOFF MONTEITH  
Myrmecia Editor

## Deadline for Next Issue

Material for publication in the August issue of "Myrmecia" should be in the hands of the Editor, Geoff Monteith, at his address on the inside of the front cover by Friday, July 21.. Fax transmission may be used to (07) 846 1918.

## Myrmecia Advertising Rates

	Single Issue	Four Issues(One Year)
Full Page	\$60	\$180
Half Page	\$35	\$105
Quarter Page	\$24	\$72

These rates apply for camera-ready copy supplied by the advertiser. Where this is not supplied a small extra charge may be made for preparation of the layout.

In addition loose inserts supplied by the Advertiser will be included for \$50 per enclosure. These should be of a size which will not project beyond the pages of "Myrmecia".

# Executive Quarterly Report

## MEETINGS

The Executive met on February 13, March 9 and April 17, 1989.

## MEMBERSHIP

The Executive accepted 27 nominations for membership and elected 19 new members. The distribution of members is as follows:

QLD 164 WA 43  
NSW 156 TAS 25  
ACT 118 NT 13  
VIC 96 O/S 55  
SA 64 Address Unknown 3

### Membership by categories is:

Full 567 Honorary 6  
Student 81 Joint 22  
Retired 61 TOTAL 737

### The Executive accepted resignations from:

Dr M.L. Debenham  
Dr G. Dodson  
Dr I. Griffith  
Dr J. Nolan  
Dr B. Thistleton

### WHERE ARE THEY?

Mail has been returned from the following members.  
Does anyone know their new addresses?  
Mr T.R. Glare (ACT)  
Dr A.J.E. Orian (NSW)  
Ms C. Satasook (VIC)

# New Members

## WE WELCOME THE FOLLOWING NEW MEMBERS: Elected March 9, 1989

Mr S.J. Little, BSc, 3 Warwick Street, St James, WA 6102. Stuart obtained his Bachelor degree in land management at Macquarie University. He is now a student at the Curtin University of Technology completing an honours degree.

Ms C. Stone, BAgSci, MSc, D.I.C., c/- Forestry Commission, PO Box 100, Beecroft, NSW 2119. Christine worked previously with the NSW Agriculture Department. She is interested in forest entomology, ecological entomology and acarology.

Ms P.J. Wells, BSc, 1/103 Carrington Road, Randwick, NSW 2031. Peter is a research assistant with an interest in medical entomology, especially arboviruses, and in conservation.

## Elected April 17, 1989

Mr S. Asante, BSc (Hons), MSc, Department of Zoology, University of New England, Armidale, NSW 2350. Stephen is a PhD student with an interest in the biology, ecology and control of sap sucking Hemiptera.

Mr C.P. Canty, BSc (Agric), Incitec International, PO Box 140, Morningside, QLD 4170. Christopher is a market development agronomist coordinating research projects in termite control and pests of sugar cane and rice.

Ms F.S. Clissold, BSc, 16 Thomasina Street, East Bentleigh, VIC 3165. Fiona is an MSc (Preliminary) student currently studying endocrinology, particularly the ecdysteroids of flies.

Mr R.N. Emery, BAppSci (Biol), DiplNatRes, 63 Paddington Street, North Perth, WA 6006. Robert is an entomologist at the Western Australian Department of Agriculture with responsibility for stored product pests.

Mrs G. Dillon, BSc (Hons), CSIRO Heliothis Research Unit, PO Box 59, Narrabri, NSW 2390. Gina is an experimental scientist currently working on insect sampling methods in cotton. She has an interest in entomological

philately.

Miss N.M. Endersby, BSc (Hons), 56 Looker Road, Montmorency, VIC 3094. Nancy works at the Vegetable Research Station, Frankston, for the Department of Agriculture and Rural Affairs. Her current projects involve minimal chemical usage and organic farming. She has a special interest in the Psocoptera.

Dr D.N. Gassen, MSc, Department of Entomology, Lincoln College, Canterbury, New Zealand. Dirceu was a scientist with the Ministry of Agriculture in Brazil before becoming a PhD student at Lincoln College. He has worked in biological control and integrated pest management in cereals and soybeans.

Mr A. Henderson, BAgSci, Plant Research Institute, Burnley Gardens, Swan Street, Burnley, VIC 3121. Andrew is an entomologist with responsibility for stored product pests. He also has an interest in pasture entomology.

Miss L. Hughes, BSc (Hons), School of Biological Sciences, Macquarie University, North Ryde, NSW 2109. Lesley is a PhD student studying seed dispersal by ants.

Mr M. Lindsay, BSc, Arbovirus Laboratory, Microbiology Department, University of Western Australia, QEII Medical Centre, Nedlands, WA 6009. Michael is an MSc student with an interest in arboviruses and their vectors. He is studying the ecology of Ross River Virus.

Mrs L.J. McLeod, BSc (Hons), Fowlers Gap Research Station, via Broken Hill, NSW 2880. Lynette is a technical officer and post-graduate student studying the ecology and control of *Lucilia cuprina*.

Mr A.H. O'Toole, BA, 248 Scotchmer Street, North Fitzroy, VIC 3068. Anthony is a technical assistant in the Victorian Department of Agriculture. He is interested in parasitic wasps and a number of agricultural pests in the Lepidoptera and Coleoptera.

Dr R. Peakall, BSc (Hons), PhD, School of Biological Sciences, Macquarie University, North Ryde, NSW 2109. Rod is a research fellow with an interest in the pollination biology of plants and especially the behaviour of hymenopteran pollinators of orchids.

Mrs S.G. Peam, BSc (Microbiol), Department of Agriculture, New Town Research Laboratories, St Johns Avenue, New Town, TAS 7008. Mrs Peam is a technical officer working in insect pathology.

Mr T. Qin, BSc (Agric), Department of Zoology, Australian National University, GPO Box 4, Canberra, ACT

2601. Tingkui was a lecturer in agricultural entomology at Guizhou Agricultural College before becoming a student at ANU. He is currently studying Australian *Pulvinaria* species [Coccidae].

Mr N.S. Sherwood, BAgSci, Smithkline Research Farm, Burratorang Road, The Oaks, NSW 2570. Nicholas is a research officer and part-time MSc student of the Sydney University. He is interested in the control of insect pests of sheep, including lice and blowflies.

#### CHANGES OF NAME, ADDRESS OR TITLE

Dr C.L. Bellamy (formerly Mr) Department of Entomology, US Museum of Natural History, Smithsonian Institute, Washington DC, USA 20560 (O/S).

Ms F.A. Berlandier, 2/36 Modillion Ave, Shelley, WA 6155.

Mr M. Braby, Zoology Department, James Cook University, Townsville, QLD 4811 (VIC).

Dr E. Bruzzese (error in initial).

Dr G. Cassis, Australian Museum Entomology Dept., PO Box A285, Sydney South, NSW 2000 (until Oct 89).

Dr D.J. Colgan, Evolutionary Biology Unit, Australian Museum, PO Box A285, Sydney South, NSW 2000 (ACT).

Dr D.F. Cook (formerly Mr).

Dr D.M. Ewart (formerly Mr).

Miss J.A. Ewers, 4 Rama St, Scoresby, VIC 3179 (VIC).

Mr I.G. Faithfull, c/- RMB 3263, Mansfield, VIC 3722 (VIC).

Mr W.E. Frost, Plant Research Institute, Burnley Gardens, Swan Street, Burnley, VIC 3121 (WA).

Dr J.G. Hamilton, School of Agriculture, Uni. of South Pacific, Private Mail Bag, Alafua Campus, Apia, Western Samoa (NSW).

Ms M.M. Harris (formerly Elson-Harris).

Dr M.S. Harvey, Western Australian Museum, Francis Street, Perth, WA 6000 (VIC).

Ms D. Heilpern, Medical Entomology Unit, Westmead Hospital, Westmead, NSW 2145 (NSW).

Ms K.L. Hergstrom, 14a The Esplanade, Torquay, VIC 3228 (VIC).

Ms A.R. Hill, c/- Public Service Commission, 111 St George's Tce, Perth, WA 6000 (WA).

Dr C.E. Hoelscher, 411 Minnie Belle Heep Building (2475) College Station, Texas, 77843 USA (USA).

Mrs J.A. Horne (formerly Miss J.A. Comery).

Prof. G.W. Howard, 112 Young St, Parkside, SA 5062

(Zambia).

Miss C.S. Lewis, PO Box 355, Mt Pleasant, QLD 4740 (NT).

Ms K.A. Lyonns, PO Box 167, Ashgrove, QLD 4060 (QLD)

Dr D.B. McCorquodale (formerly Mr) 19 Elginfield Dr,  
Guelph, Ontario, N1E 4E5, Canada (ACT).

Mr R.S. McInnes, Unit 52, "Hamilton Park", 21 Cossington  
Smith Crescent, North Lyneham, ACT 2602 (ACT).

Dr A. Macqueen, CSIRO Entomology, PMB3, Indooroopilly,  
QLD 4068 (QLD).

Dr B. Napompeth, National Biological Control Research  
Centre (change of organization name).

Ms D.A. Patrick (formerly Miss D.A. Davis).

Mr B.A. Pyke, PO Box 483, Biloela, QLD 4715 (QLD).

Dr A.D.M. Smith, CSIRO Entomology, GPO Box 1538,  
Hobart, TAS 7001 (SA).

Mr G.B. Smith, 9 Cumbee Lane, Caringbah, NSW 2229  
(NSW).

Dr D.M. Spratt, CSIRO Wildlife & Ecology (change of  
organization name).

Mr M.M. Stevens, Yanco Agricultural Institute, NSW Dept.  
Agric., Yanco, NSW 2703.

Mr K.L. Taylor, CSIRO, Division of Entomology, GPO Box  
1700, Canberra, ACT 2601 (TAS).

Dr K.G. Wardhaugh, CSIRO, Division of Entomology, PO  
Box 1700, Canberra, ACT 2601.

Mrs L.J. Whitfort, PO Box 232, Aspley, QLD 4034 (QLD).

Mr C.G. Wilson, PO Box 79, Berrimah, NT 0828 (NT).

# The Australian Entomological Society Inc

## ANNUAL REPORT, MAY 1989

The Society's Twentieth Annual Report covers the period  
June 1988 to May 1989.

### Executive Meetings

The Executive met 11 times being also attended  
by the Assistant Secretary, the Assistant Treasurer and the  
WA Regional Councillor.

### Officers, Councillors and Executive Appointments

#### Executive Officers:

President	Dr T.R. New
Vice President	Dr T.J. Ridsdill-Smith
Secretary	Mr J.D. Sandow
Treasurer	Ms A.R. Hill
Public Officer	Dr P.B. Carne
Chief Editor	Dr N.W. Heather
Business Manager	Mr J.F. Donaldson

#### Other Councillors:

Immediate Past President	Mr T. Passlow
Immediate Past Vice President	Dr G.H.L. Rothschild
Immediate Past Treasurer	Mr T.A. Weir
Technical Editors	Dr B.K. Cantrell Dr P.G. Allsop Dr D.J. Rogers
News Bulletin Editor	Dr G.B. Monteith

#### Regional Councillors

QLD	Miss M.A. Schneider Dr E. Hassan Mr M.F. Downes
NSW	Dr D.J. James A/Prof D.F. Hales Dr D.J. Bickel
ACT	Dr P. Cranston

VIC	Dr J.C. Daly Mr M. Braby (to 9/2/89) Mrs J.A. Home (nee Comery) (from 10/2/89) Mr D.M. Ewart
TAS	Mr L. Hill
SA	Mrs A. Wells Dr D.A. Mackay
WA	Mr P.R. Davis
NT	Mr E.S.C. Smith

**Representative Councillors:**

Mr G. Daniels (Ent. Soc. Qld)  
Mr J.A. Macdonald (Ent. Soc. NSW)  
Mr K.L. Walker (Ent. Soc. Vic)

**Executive Appointments:**

Assistant Secretary	Mr G.P. Hall (to 30/8/88) Mr D.F. Cook (from 21/11/88)
Assistant Treasurer	Dr D.K. Yeates
Assistant News Bulletin	
Editor	Mr G.I. Thompson
Editorial Assistant	Mrs K. Heather
Overseas Correspondents	Mr M. Arura (PNG) (to 17/1/89) Mr J. Tenquist (NZ)

**Conservation Committee:**

Ms P. Greenslade (Convenor)  
Dr A.N. Andersen  
Dr J.M.E. Anderson  
Mr L. Hill  
Dr B.Y. Main  
Dr E.G. Matthews  
Dr T.R. New  
Dr D.P.A. Sands

**Editorial Board:**

Dr I. Abbott  
Dr R. Domrow  
A/Prof D.F. Hales  
Dr K.L.S. Harley  
Dr G.H.S. Hooper  
Prof R.L. Kitching  
A/Prof F.J.D. McDonald  
Dr B.P. Moore

Dr M.J. Rice  
Dr T.C.R. White

**20 AGM Organizing Committee:**

A/Prof D.F. Hales (Convenor)  
Dr G.A.C. Beattie  
Dr D.J. Bickel  
Dr K.R. Brown  
Dr A.D. Clift  
Dr P.B. Hughes  
Mr J.A. Macdonald  
Mr D. Rugg  
Ms C. Stone

**21 AGM Organizing Committee:**

Dr J.C. Daly (Convenor)  
Dr P.S. Cranston  
Dr R.A. Farrow  
Dr P.J. Gullan  
Dr P.W. Wellings  
Dr E.J. Wright

**Promotional Publications Committee:**

Dr J.L. Madden

**Membership**

Fifty-three new members joined during the year. Despite resignations and terminations the Society experienced moderate growth. The Executive recorded with regret the deaths of Mr T.G. Campbell and Dr J.J.H. Szent-Ivany. Membership is now 737 (567 full, 81 student, 61 retired, 22 joint and 6 honorary). Queensland still leads with a total of 164. The greatest increase was in overseas membership, rising from 45 to 55.

**Subscriptions**

From 1989 discounts on subscriptions paid prior to March 1 will also apply to first subscriptions of new members regardless of their joining date. The custom of allowing new members joining after October 1 to nominate the year to which their first subscription applies will be retained.

**Australian Entomological Society Research Grants**

The Executive has proposed the establishment of a research/travel grant scheme to further encourage entomo-

logical research and to put some of the Society's funds to more productive use. The proposal is a synthesis of ideas and contributions of all Executive members and Councillors and was passed at the 37th Council Meeting. The scheme will be financed through interest derived from a special account set up for the purpose. Copies of the operational details of the scheme are available from the Secretary. The first grants will be awarded in October 1989.

### Student Award

The Executive was pleased with the response of nine entries submitted for judging. Mr Geoff R. Allen of the Waite Institute was awarded first prize by a panel appointed by the President. He will present his paper at the 20 AGM. Other entries also attracted favourable comment from the judges; the paper submitted by Ms Christine Stone of Macquarie University was highly commended.

### Biological Illustration Competition

A judging panel comprising 2 professional illustrators and an entomologist viewed 126 illustrations submitted by 50 entrants in this competition. Some of the work will be on display at the 20 AGM. The quality of entries was high although a number of contestants failed to heed the restrictions on the types of illustrations that would be accepted. Mr Milton Lewis (ACT) was awarded first prize in the black and white section. Second prize went to Ms Genevieve Wallace (NSW). The colour section was won by Ms Marrietta Eden (NSW) with Mr Brian Davidson (NSW) second.

### Update of the Directory of Australian Entomologists

Dr P.B. Carne (Public Officer) has undertaken the preparation of the 3rd edition of the "Directory of Australian Entomology". This extremely useful publication first appeared in 1972 and was revised in 1983. Dr Carne has engaged the able assistance of Ms Kathy Pickerd who will carry out the changes, deletions and additions to the database.

### Marketing Manager/Committee

The Executive is investigating means of improving the marketing of Society publications. One of the proposals currently under review is the appointment of a Marketing Manager and/or Committee to advise on and oversee all

aspects of the Society's marketing strategies. A meeting has been convened to coincide with the 20 AGM to discuss the issue.

### Support for the Australian Entomological Magazine

In recognition of the Society's stated commitment to support this Magazine, published by the Entomological Society of Queensland, the Executive unanimously agreed to underwrite the fourth issue for 1988. A once only grant of \$1000 was made to cover an unforeseen overrun in publication expenses.

### "Myrmecia"

The Executive extends its thanks and congratulations to Dr Geoff Monteith for his continuing tireless efforts as New Bulletin Editor. The publication of the most recent edition of the Society's News Bulletin under its new banner is a credit to all concerned.

## TREASURER'S REPORT

During 1988 the Society's financial position improved further and is now in a very healthy state, so evidenced by the attached audited accounts.

Total Society investments now stand at \$57,398, composed of \$32,398 with SIROCREDIT, \$20,000 in interest bearing deposits with the General Account and \$5,000 in an interest bearing deposit with the Publications Account. These investments, and the working General and Publications Accounts, returned a total of \$6,918 in interest for the year.

News Bulletin production cost \$5,072 for the year, which is approximately 20% of total General Account income, compared with 16% in 1987. This was offset by \$494 of advertising income.

The Editorial Assistant's salary was \$4,848 for the year, accounting for 19% of total General Account income for 1988. The increase over the salary paid in 1987 is due to automatic indexation to National Wage Case rises.

The taxation return for 1988 will show once again that, for the purposes of the Act, the Society incurred an operating loss for the year. Consequently there is no taxation liability.

Our auditor, Mr Graeme Wovodich of Dalbrook Financial Planning Centre Pty Limited, has prepared a comprehensive document of the Society's financial situation and met our obligations to the Taxation office. I thank him for the work



he has put in and the advice he has given me as a new Treasurer.

Considering the sound financial state of the Society, and after consultation with the auditor, I recommend that the subscriptions for 1990 remain the same as those for 1989.

I wish to thank Tom Weir for his assistance and advice during the transition period of the new Executive and in my early days as Treasurer. I am grateful to David Yeates and David Cook for their assistance during the year.

ANNE R. HILL  
Treasurer

## REPORT BY THE CHIEF EDITOR

This report is for the period 1 January to 31 December 1988 and covers production of Volume 27 of the Journal of the Australian Entomological Society together with other responsibilities of the Chief Editor.

### Journal

Production statistics for J. Aust. ent. Soc. during the period (with figures for 1987 in parentheses are as follows:

#### Manuscripts:

received	61	(51)
accepted	42	(54)
rejected	5	(7)
withdrawn	1	(0)
lapsed	3	(3)
with editors 30.11.88	42	(23)
awaiting printing 30.11.88	7	(10)
printed proofs ready for publication 30.11.88	89pp	(93pp)

The number of manuscripts submitted during the year exceeded that for 1987 but was still below the total for 1986. However, sufficient good or potentially good manuscripts are being received to maintain the journal at its present rate of production. There is a fine balance between a consistent production rate and minimal waiting time for printing. I believe that we are close to the optimum in this regard. As the numbers of pages of printed proofs ready for publication at completion of Vol 27:4 show, the production delay is approximately 3 months. This is about the manageable minimum, given the accuracy level required for a journal of

the standard to which we aspire. Most delays occur between editors, reviewers and authors. Technical editors strive to keep these minimal but occasional delays are inevitable.

### Publication

Volume	Part	Published	Pages	Papers	Book Reviews
27	1	29 Feb.	80	14	3
	2	31 May	80	11	7
	3	20 Aug.	80	13	5
	4	29 Nov	80	10	2

Costs of publication will be reported in detail by the Business Manager but it is again pleasing to note a modest inflation related increase.

### Miscellaneous Publications

The only miscellaneous publication to be handled during the year was Australian Arachnology. It was printed in time for release at the Brisbane AGM. Some informal comment was made on the type style used in our camera ready copy. Perusal of contemporary symposium proceedings produced for FAO and similar bodies by European publication houses will show a similar style. However, our low error rate is far superior. Recently, available "desk top" publishing software for word processors and laser printers will make future publications of this type much more professional. However the Society cannot be assured of its availability and may need to look to the acquisition of its own hard and software. Such an initiative could reduce journal printing costs also although I foresee problems of compatibility with authors' systems and the need to incorporate review modifications.

During a visit to Perth in November 1988, I was able to meet with other Executive members for very useful discussions on publication policies of the Society. Concern had been expressed at the poor sales achieved for miscellaneous publications except No. 3, "Collection and preservation of insects" by Upton and Norris. That the problem lies with the market demand for the publications is shown by the success of No. 3.

My suggestion of a strategic planning session on publication policy was taken up and will be commenced at the next AGM. The executive needs to be clear on Society publication objectives and goals. Past miscellaneous publication decisions have clearly not been based on profit considera-

tions and my personal view is that this was and is still entirely proper for us as a scientific society.

### General

This has been another successful year for the journal in terms of numbers of papers handled and speed of publication. It has been made possible by the input of the Technical Editors Drs Peter Allsopp, Bryan Cantrell and John Rogers and the Editorial Assistant, my wife Katie. The team was stable throughout the year making for easier management of the journal. I would like to pay a tribute to the team for the work which they put into papers which are only "potentially publishable" when we receive them. This is reflected in our low rejection rate compared to some other journals, without lowering of standard.

Our printer's representative Mr Keith Whittam also contributed to the journal in ways which may not be immediately obvious. However, he keeps us abreast of latest trends in modern conservative printing and economics of operation favourable to us.

Finally I would like to thank John Donaldson for his support and assistance. John's input to the Society could easily be overlooked because of his low profile style but he more than any other deserves the credit for the present sound financial position of the Society with respect to the Journal.

N.W. HEATHER  
Chief Editor

### REPORT BY NEWS BULLETIN EDITOR

A synopsis of costs, advertising revenue and page size for the issues of 1988 is as follows:

	Costs	Advertising Income	Pages
Feb issue	\$ 914.57	\$ 74.00	28
May issue	\$1859.45	\$210.00	72
Aug issue	\$ 916.01	\$ 60.00	32
Nov issue	\$1382.43	\$125.00	40
	\$5072.46	\$469.00	17

The number of total pages rose from 168 in 1987 to 172 in 1988 while overall costs rose by 15%. The May issue containing both the annual listing of postgraduates and the

reports of the Brisbane AGM set a new size record of 72 pages and 30 photographs.

Advertising continues to be a useful damper against growing costs. All members are urged to direct potential advertising to the Bulletin which has become an effective vehicle for delivering commercial messages to the Australian entomological community.

Plans to change the Bulletin's title to "MYRMECIA" and to upgrade its format were put off until the first issue of 1989.

G.B. MONTEITH  
News Bulletin Editor

### REPORT OF THE BUSINESS MANAGER J. Aust. ent. Soc. Vol. 27

Part 1: Printed on 29.II.1988	80 pages
Cost of printing	\$6280.00
Cost of reprints	\$ 468.00
Cost of postage	\$ 395.37
Total cost	\$7143.37
Reprint income	\$2392.00

Part 2: Printed on 31.V.1988	80 pages
Cost of printing	\$6280.00
Cost of reprints	\$ 369.20
Cost of postage	\$ 389.42
Total cost	\$7038.62
Reprint income	\$2082.00

Part 3: Printed on 30.VIII.1988	80 pages
Cost of printing	\$6280.00
Cost of reprints	\$ 485.01
Cost of postage	\$ 399.78
Total cost	\$7164.79
Reprint income	\$2385.00

Part 4: Printed on 29.XI.1988	80 pages
Cost of printing	\$6280.00
Cost of reprints	\$ 431.20
Cost of postage	\$ 428.04
Total cost	\$7139.24
Reprint income	\$2240.00

**Total Costs**

Printing	\$25120.00
Reprints	\$ 1753.41
Postage	\$ 1612.61
<b>TOTAL</b>	<b>\$28486.02</b>

**Total Income**

Reprints	\$ 9099.00
Subscriptions	\$16494.00
<b>TOTAL</b>	<b>\$25593.00</b>

**Deficit for Volume 27** \$ 2893.02

**FINANCIAL REPORT FOR THE YEAR 1988**

Opening balance 15246.44

**INCOME**

Subscriptions	16208.66
Transfer from General Acc.	5000.00
Sale of Vol. 6 onwards	30.04
Reprints	8947.00
Sale of M.P. 1	3.00
Sale of M.P. 3	284.95
Sale of M.P. 4	25.00
Sale of M.P. 5 (& reprints)	2164.90
Changing Patterns	3.00
Cards	76.04
Postage recovered	160.60
Interest	771.68
News Bulletin	38.50
Sale of publication (AGM)	274.00
Sale of publication (VIC)	44.00
<b>TOTAL</b>	<b>34031.37</b>

**EXPENSES**

Printing of Journal	26736.00
Printing of reprints	1886.81
Postage on Journal	1638.31
Printing of M.P. 5	4070.00
Printing of leaflets	220.00
Petty cash	1000.00
FDT	11.10
Australia Post	40.00
W.C.B.Q.	20.00
Money refunded	40.19
<b>TOTAL</b>	<b>35662.41</b>

Closing Balance 13615.40

**PETTY CASH**

Opening balance 4.57  
From Publication Account 1100.00

**EXPENSES**

Postage	388.69
Stamps	636.35
Stamp duty	18.60
Stationery	46.25
<b>TOTAL</b>	<b>1089.89</b>

Closing Balance 14.68

J.F. DONALDSON  
Business Manager

**REPORT BY CONSERVATION COMMITTEE**

The members of the committee remained the same this year and a majority of them voted for each of us taking responsibility for one particular topic rather than all concentrating on a single issue. Our activities this year were mainly geared toward preparing submissions to various government bodies in response to advertised invitations for comment on land management proposals. In general we drew attention in our submissions to the need to consider insect conservation. These submissions are listed below:

Tasmanian Forest Practices Code (L. Hill)  
Jabiru Pipeline (A. Andersen)  
Innamincka Regional Park (E. Matthews)  
Tourism in the Antarctic (P. Greenslade)

My discussions with staff of the Department of Arts, Sport, Environment, Tourism, Territories confirm that this is the best way in which we can influence policy and land management decisions and we are keen to do as many of these as time permits.

As far as P.R. aspects are concerned, we displayed some propaganda material at the Australian Conservation Foundation conference in Sydney in October 1988 and have

been looking into the feasibility of an exhibit on insect conservation. We have also been contributing a report to "Myrmecia" each quarter listing our activities and requesting help from other members of the Society but sadly have received only one reply.

PENELOPE GREENSLADE  
Conservation Committee Convenor

## REPORT BY PROMOTIONAL PUBLICATIONS COMMITTEE

Prior to the last AGM 3,000 cards were produced featuring the winning entries in the inaugural and second Illustration Competitions. Most of these were despatched to the AGM but unfortunately they arrived late and were not distributed until the second last day. Since that time they have been advertised for sale in the AES News Bulletin.

Now, 12 months later, I have to report that only 1,300 have been sold. In other words, the venture has not been supported by the general membership. The cards are of high quality and very competitively priced (with envelopes) and the response from recipients, receiving the card either for greetings or as thank-you cards (or with a presentation), have been very favourable.

A decision has to be made at this AGM as to whether this venture, which aims to raise funds for the Society, will continue or not. If the meeting votes in favour then certain procedures have to be formalised.

1. The cards should be distributed for sale through councillors to minimise the responsibility of circulation.
2. The cards must, and should from the beginning, be more actively promoted.
3. Printing, etc. should be done in Sydney or Melbourne or, if launched at an AGM, in the venue's city in order to minimise production and transport costs.
4. The responsibility for production should be shared by a group of members, ideally working in the same institution.

J.L. MADDEN  
Promotional Publications Committee

## REPORT OF 21ST AGM ORGANISING COMMITTEE

The meeting will be held at ANU in Canberra during the period June 30-July 4, 1989. The Organising Committee is as follows:

Dr Joanne C. Daly  
Dr Peter Cranston  
Dr E. Jane Wright  
Dr Roger A. Farrow  
Dr Paul Wellings  
Dr Penny Gullan

### Symposia are planned on the following topics:

1. Insect/Plant Interactions - organised by Roger Farrow.
2. The Role of Molecular Biology in Modern Entomology - organised by Joanne Daly.
3. Evolutionary Ecology - organised by Paul Wellings. In addition there will be sessions on applied taxonomy, applied entomology, stored grain entomology and general entomology. The last day will be an excursion to a tract of coastal rainforest.

JOANNE DALY  
21 AGM Organising Committee

## ACKNOWLEDGEMENTS

It is now 12 months since the headquarters of the Society were transferred to Perth. The Executive is pleased to report that any fears regarding the "tyranny of distance" and its effect on the smooth running of the Society's affairs have proved groundless. This is largely due to the ready cooperation of all Executive members, Councillors and Executive Appointments and for this the Perth-based Executive Officers are grateful. Thanks are also extended to Mrs Margaret Wallace who has typed all the Executive minutes and reports.

On behalf of the Executive,

T.J. RIDSDILL-SMITH  
Vice President and Chairman of the Executive

J.D. SANDOW  
Secretary

# Auditors Report

I have audited the books of accounts and other records of The Australian Entomological Society Incorporated for the year ended 31 December 1988 in accordance with Australian Auditing Standards and report as follows:

(a) I have obtained all the information and explanations which to the best of my knowledge and belief were necessary for the purpose of my audit.

(b) The Society, in common with similar non profit making associations is unable to have a full system of internal control over income and consequently I was unable to confirm that all accounts receivable by the Society have been properly accounted for. However, I was able to sight adequate support for income and expenditure recorded in the books of account. Subject to the above, in my opinion the attached balance sheet, statement of income and expenditure, statement of sources and applications of funds and notes to the accounts are properly drawn up so as to exhibit a true and fair view of the financial position of the Society at 31 December 1988.

(c) The financial statements have been prepared in accordance with the Australian Accounting Standards and applicable approved accounting standards.

G.V. WOVODICH  
Registered Company Auditor  
Dalbrook Financial Planning Centre Pty Ltd  
Perth 12 April, 1989

## THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

### BALANCE SHEET AS AT 31 DECEMBER 1989

	Note	1988(\$)	1987 (\$)
<b>Current Assets</b>			
Cash	2	18 142	28 022
Receivables	3	2 970	4 300
Inventories	4	8 643	2 877
Other	5	<u>500</u>	<u>500</u>
		<u>30 255</u>	<u>35 699</u>

### Non Current Assets

Investments	6	<u>57 398</u>	<u>43 201</u>
-------------	---	---------------	---------------

<b>Total Assets</b>		<u>87 653</u>	<u>78 900</u>
---------------------	--	---------------	---------------

### Current Liabilities

Creditors & Provisions	8	<u>12 326</u>	<u>11 555</u>
------------------------	---	---------------	---------------

Total Liabilities		<u>12 326</u>	<u>11 555</u>
-------------------	--	---------------	---------------

<b>Total New Assets</b>		<u>\$ 75 327</u>	<u>\$ 67 345</u>
-------------------------	--	------------------	------------------

### Accumulated Funds

Retained Surplus	9	<u>75 327</u>	<u>67 345</u>
------------------	---	---------------	---------------

<b>TOTAL FUNDS</b>		<u>\$ 75 327</u>	<u>\$ 67 345</u>
--------------------	--	------------------	------------------

Trust Funds	7	<u>\$ 3 003</u>	<u>\$ 3 147</u>
-------------	---	-----------------	-----------------

### GENERAL INCOME AND EXPENDITURE STATEMENT FOR THE YEAR ENDED 31 DECEMBER 1988

	Note	1988 (\$)	1987 (\$)
<b>Income</b>			
Subscriptions Received		15 448	15 847
Interest Received		6 146	5 710
A.J.Z. & other Publications		91	2 780
Surplus Funds - AGM's		3 299	3 000
Sales		80	106
Advertising Income		<u>494</u>	<u>404</u>
		<u>25 558</u>	<u>27 847</u>
<b>Less Expenditure</b>			
News Bulletin		5 072	4 665
Salary - Editors Asst.		4 848	4 720
Publications & CSIRO		575	2 260
Auditors remuneration	10	1 700	1 750
AGM expenses		1 500	1 250
Stationery & postage		1 672	317
Biolog. Illustr. competition		800	450
Bank charges & incidentals		106	173
Journal labels		22	
Student Awards		642	750

Grant to AES promotion	500	
Subsidy to magazine publ.	1 000	
Tfr of executive costs	230	
Subscription F.A.S.T.S.	125	
Conservation committee	20	
Filing cabinet	160	
Hall - hire	25	
Mackerras medal engraving	6	
	<u>19 003</u>	<u>16 335</u>
Operating Surplus	6 555	11 512
Income Tax expense		
	\$ 6 555	\$ 11 512

(Notes to and forming part of these accounts are annexed)

#### PUBLICATIONS INCOME AND EXPENDITURE STATEMENT FOR THE YEAR ENDED 31 DECEMBER 1988

	Note	1988 (\$)	1987 (\$)
<b>Income</b>			
Subscriptions received		16 209	15 960
Interest received		722	1 014
Income from page charges, reprints and back issues		<u>12 050</u>	<u>11 306</u>
		<u>\$ 29 031</u>	<u>\$ 28 280</u>
<b>Expenditure</b>			
Opening stocks 1/1/88		2 877	2 675
Closing stocks 31/12/88:			
— publications		6 414	2 877
— medals		<u>2 229</u>	
		<u>\$ (5 766)</u>	<u>\$ ( 202)</u>
Typing costs		4 290	1 480
Printing costs		26 848	31 633
Stationery and postage		2 091	1 714
Petty Cash			
Bank charges		41	11
Workers Compensation			20
Subscriptions		100	
		<u>\$ 27 604</u>	<u>\$ 34 656</u>
Operating Profit/(Loss)		1 427	(6 376)
Income tax expense			
Deficiency for the year		\$ 1 427	\$ (6 376)

NOTES to and forming part of the Accounts For the Year ended 31 December 1988

#### NOTE 1

##### PRINCIPAL ACCOUNTING POLICIES

The accounting policies adopted by the Society in its accounts are in accordance with the accounting standards issued by the Australian Accounting Bodies and generally accepted accounting principles. Where a choice exists between two or more acceptable accounting methods the notes fully explain the method adopted.

##### (a) HISTORICAL COST ACCOUNTING

The accounts have been prepared under the Historical Cost Convention and have not been adjusted to take into account changing money values or current valuations of non-current assets of their impact on the operating results.

##### (b) STOCK ON HAND

Stock on hand has been valued at the lower of cost and net realisable value.

##### (c) INCOME TAX

The income tax expense charged against operating result is based on the liability method of Tax Effect Accounting whereby the current liability and future liability in respect of the year's results are included at the rates applicable at balance date in accordance with the law at that date and future income tax benefits are brought to account when the future realisation of the benefit can be regarded as assured beyond any reasonable doubt.

Future income tax benefits in respect of losses which will not be reduced in the foreseeable future are not brought to account. Income tax is payable on that portion of income less expenses attributable to non-members only.

#### NOTE 2 CURRENT ASSETS CASH

	1988 (\$)	1987 (\$)
Cash on hand	15	100
Cash at bank		
— General account	4 512	12 675
— Publications account	13 615	15 247
	<u>\$ 18 142</u>	<u>\$ 28 022</u>

**NOTE 3 CURRENT ASSETS - RECEIVABLES**

Debtors	\$ <u>2 970</u>	\$ <u>4 300</u>
---------	-----------------	-----------------

**NOTE 4 CURRENT ASSETS — INVENTORIES**

Stock on hand — Publications	6 414	3 877
— Medals	2 229	
	\$ <u>8 643</u>	\$ <u>3 877</u>

**NOTE 5 CURRENT ASSETS — OTHERS**

5th Australian Conference		
Invertebrate Ecology, Vic.		
Interest free loan - payable on call	\$ <u>500</u>	\$ <u>500</u>

**NOTE 6 NON CURRENT ASSETS — INVESTMENTS**

Interest bearing deposits		
CBA - Victoria Park	10 000	
Publications - CBA	5 000	5 000
General - CBA	10 000	10 000
Other Deposits - Sirocredit	<u>32 398</u>	<u>28 201</u>
	\$ <u>57 398</u>	\$ <u>43 201</u>

**NOTE 7 TRUST FUNDS**

Ian Mackerras Memorial Medal Fund		
Balance - 31/12/1987	3 147	3 084
Interest Received	<u>60</u>	<u>63</u>
	\$ <u>3 207</u>	\$ <u>3 147</u>
LESS cost of medals presented during year	<u>204</u>	
Balance 31/12/1988	\$ <u>3 003</u>	\$ <u>3 147</u>

## Represented by:

Cash on deposit		
- Sirocredit	774	714
Interest receivable		18
Stock - Ian Mackerras Memorial Medals on hand at cost	<u>2 229</u>	<u>2 415</u>
	\$ <u>3 003</u>	\$ <u>3 147</u>

**NOTE 8 CURRENT LIABILITIES - CREDITORS AND PROVISIONS**

Subscriptions in advance	3 870	2 105
Creditors and accrued charges	<u>8 456</u>	<u>9 450</u>
	\$ <u>12 326</u>	\$ <u>11 555</u>

**NOTE 9 ACCUMULATED FUNDS - RETAINED SURPLUS**

Balance 1 January 1987	67 345	62 209
Surplus for year		
Publications Account	1 427	(6 376)
General Account	<u>6 555</u>	<u>11 512</u>
	\$ <u>75 327</u>	\$ <u>67 345</u>

**NOTE 10 AUDITORS REMUNERATION**

Total amounts receivable by the auditors of the Society

Audit Fees	800	850
Other Services	<u>900</u>	<u>900</u>
	\$ <u>1 700</u>	\$ <u>1 750</u>

# Minutes of 20th Annual General Meeting

Minutes of the 20th Annual General Meeting of the Australian Entomological Society held at Macquarie University at 5.15 pm on Thursday May 4, 1989.

## OPENING

The President, Dr T.R. New, opened the meeting and welcomed the 53 other members in attendance. (A signed register is attached to the file copy of these minutes).

## ANNOUNCEMENT OF PROXIES AND APOLOGIES

Apologies were received from (proxies in brackets): Dr P.B. Carne (Dr T.J. Ridsdill-Smith), Dr P.S. Cranston, Mr J.F. Donaldson, Mr M.F. Downes, Dr D.M. Ewart, Dr V.E. Harris (Dr E.M. Exley), Dr J.L. Madden, Dr G.B. Monteith (Mr M.S. Moulds), Prof. D.E. Pinnock, Dr D.J. Rogers, Mrs A. Wells (Dr A.D. Austin).

## DEATHS OF MEMBERS

Members stood in silence as a tribute to Mr T.G. Campbell and Dr J.J.H. Szent-Ivany whose deaths had been recorded since the previous AGM.

## MINUTES OF THE 19 AGM

The minutes of the 19 AGM, published in the News Bulletin in May 1988, were adopted (moved Mr Macdonald, seconded Dr Smithers). No business arose from them.

## EXECUTIVE ANNUAL REPORT

The Chairman of the Executive, Dr T.J. Ridsdill-Smith, spoke to the first part of this report highlighting the success of the Society's competitions, the proposed revision of the "Directory of Australian Entomology" and the Executive's intention to explore avenues to improve the promotion of the Society and its saleable products.

Dr Ridsdill-Smith announced the inauguration of the Australian Entomological Society Research Grants. The proposal was circulated to Councillors on April 7, 1989 and was unanimously adopted at the 37 Council Meeting. Several members made suggestions regarding the

administration of the grants scheme. Dr C.N. Smithers noted that a \$50,000 capital might be desirable in view of interest advantages and also suggested seeking contributions from sustaining associates or other benefactors. The Executive agreed to consider all suggestions.

The Chief Editor, Dr N.W. Heather, spoke briefly to his report noting that efforts to publish papers quickly had reduced the backlog of manuscripts to an optimal minimum. Dr Heather acknowledged the continuing support of the Business Manager, Mr J.F. Donaldson. In answer to a question, Dr Heather reiterated the view that advertising was not a lucrative proposition for the Journal.

The President presented the reports of the News Bulletin Editor and the Business Manager in their absence. Details of the costs, revenue and page size of the 4 issues of the News Bulletin for 1988 were summarised. Dr New paid tribute to Dr Monteith for his continuing tireless efforts and noted that the first edition of the News Bulletin under its new title "Myrmecia" had received universally favourable reaction.

The Business Manager's report was also summarised briefly. Neither report prompted discussion.

Ms Penny Greenslade, Convenor of the Conservation Committee, spoke to her report. The Committee had prepared 4 submissions in response to land management proposals. Ms Greenslade also noted that conservation articles which had appeared in the News Bulletin were under review at the request of the Executive.

The President then spoke to the Promotional Publications Committee report in Dr J.L. Madden's absence. Dr New noted the excellent work that had been done in production and sale of greeting cards. Dr Madden had tendered his resignation as convenor of the Committee in anticipation of the Society's new marketing initiatives.

The Annual Report of the Executive was adopted on the motion of A/Prof. D. Hales, seconded Dr A. Clift. The President expressed appreciation for the efforts of the Executive members.

The Annual Report of the Executive was adopted on the motion of A/Prof. D. Hales, seconded Dr A. Clift. The president expressed appreciation for the efforts of the Executive members.



**WINNER OF THE STUDENT AWARD**

The President announced that Mr Geoff R. Allen of the Waite Agricultural Research Institute was awarded first prize in this competition. There were 10 entries and the Executive was pleased with the response. The paper submitted by Ms Christine Stone of Macquarie University was highly commended by the judges. The announcements were greeted with applause.

Dr New spoke of the difficulties of judging, not only because of the overall quality of submissions, but also because of their number. Many entomologists who had acted as judges previously were supervisors of entrants this year, rendering them ineligible to be on the panel.

**WINNERS OF THE BIOLOGICAL ILLUSTRATION COMPETITION**

The President noted that response to this competition was also good. Mr Milton Lewis (ACT) was awarded first prize in the black and white section. Second prize went to Ms Genevive Wallace (NSW). The colour section was won by Ms Marietta Eden (QLD) with Mr Brian Davidson (NSW) second.

**BUSINESS ARISING FROM THE 37 COUNCIL MEETING**

The Vice President read 3 motions which had been passed unanimously at the 37 Council Meeting, for the

information of members. Two related to the setting up and administration of the Australian Entomological Society Research Grants and the third related to the terms of office of Executive appointees. Executive appointments will now be for up to 2 years with unlimited eligibility for reappointment.

**OFFICE BEARERS AND COUNCILLORS FOR 1989/90**

The Secretary read the names of office bearers and councillors nominated for election. As there was one nominee for each vacant position, all were elected to office.

President:	Dr T.R. New
Vice-President:	Dr T.J. Ridsdill-Smith
Secretary:	Mr J.D. Sandow
Treasurer:	Ms A.R. Hill
Chief Editor:	Dr N.W. Heather
Business Manager:	Mr J.F. Donaldson
Public Officer:	Dr P.B. Carne

SOCIETY OFFICE BEARERS AT SYDNEY CONFERENCE: Back row (L-R), Dan Bickel (NSW Councillor), James Ridsdill-Smith (Vice President), Joanne Daly (ACT Councillor), Margaret Schneider (Old Councillor), Tim New (President). Front row (L-R), Errol Hassan (Qld Councillor), Bryan Cantrell (Technical Editor), Janet Horne (Vic Councillor), John Macdonald (Ent Soc NSW Councillor), David James (NSW Councillor), Dinah Hales (NSW Councillor).



Technical Editors:	Dr P.G. Allsopp
	Dr D.J. Rogers
	Dr B.K. Cantrell
Myrmecia Editor:	Dr G.B. Monteith
Regional Councillors	
QLD	Mr D.H. Foley
	Dr P.H. Twine
	Mr R.I. Storey
NSW	Dr D.G. James
	Dr D.J. Bickel
	Ms D. Heilpe
VIC	Mrs J.A. Horne
	Mr P.J. Vaughan
ACT	Dr P.S. Cranston
	Dr E.J. Wright
TAS	Mr L. Hill
SA	Dr D.A. Mackay
	Mrs A. Wells
WA	Mr P.R. Davis
NT	Mr E.S.C. Smith

#### Representative Councillors

Ent. Soc. Qld.	Mr G. Daniels
Ent. Soc. NSW	Mr J.A. Macdonald
Ent. Soc. Vic.	Mr K.L. Walker

### INTERIM REPORT ON THE 20 AGM ORGANISING COMMITTEE

A/Prof. D. Hales spoke to her interim report, briefly giving some statistics relating to conference enrolments. She encouraged Organising Committees to enforce deadlines strictly, since late submission of abstracts and registrations caused many problems.

The level of support for the Conference from delegates, invited speakers and advertisers had been very gratifying. The numbers of papers and posters presented were also high. A/Prof. Hales especially thanked Ms Janelle Murphy of the Macquarie University Information Unit for her efforts in widely publicising the Conference.

### REPORT OF THE 21 AGM ORGANISING COMMITTEE

Dr Daly presented her report of progress toward the organisation of the next AGM. The meeting would be held from June 30 to July 4 during the Universities' common week. Dr Daly outlined the proposed timetable including three symposia and sessions of general entomology. She

also drew attention to other planned activities. A warm invitation to attend was extended to all present.

### OTHER BUSINESS

The President invited members to raise items of other business. In answer to a query re the venue for the 22 AGM Dr New announced that the 37 Council Meeting had agreed that the Executive should offer the opportunity to convene this meeting to the members in the Northern Territory. Should they decline, the Victorian Regional Councillors would be invited to organise the meeting.

There being no other business, the President thanked the members for their attendance and closed the meeting at 6.05 pm.

## 20th Conference Organising Committee Report

The 20th AGM and Scientific Conference of the Society was held at Macquarie University, Sydney, from 3rd to 6th May, 1989. Our final count of registrations was 147 full registrations (including 29 students) with a geographical breakdown as follows: NSW 86, QLD 22, ACT 13, VIC 13, SA 8, TAS 2, WA 8, overseas 3. The numbers for particular sessions were swelled by 40 day registrants. College accommodation was provided at Dunmore Lang College, with 47 registrations staying in College for all or part of the meeting. We thank Mrs Bev Fox of Dunmore Lang for her easy-going acceptance of entomological indecisiveness. College numbers were perhaps a little lower than usual, maybe because of the relatively higher cost (Dunmore Lang is a private company and receives no subsidies) or because nearly everyone knows friends or relative in Sydney and took the opportunity of staying with them. We're told however that staying in College was "a very friendly affair" and feel in general that group accommodation gives more opportunities for informal interaction.

I should like to say at the outset that the major decisions regarding the running of this meeting were based on discussion by the whole Organising Committee and were not the prerogative of individuals. Our first break with tradition was to run the meeting from Wednesday to Saturday, with delegates departing on Sunday. This was in fact the only time when any of the Sydney tertiary education sector could contribute to the meeting throughout the May period. We are aware that this did not suit many out-of-Sydney Universities, but unfortunately the shift to a semester system has resulted in lack of consistency in the timing of so-called mid-semester breaks. We missed the company of our absent colleagues and expect that most future meetings will be held in July, in order to capture a maximum number of participants (frightening prospect, in view of the already large numbers!). Otherwise the Wednesday-Saturday format appeared to be well-accepted, most delegates choosing to use the Sunday for the trip home. There are

one or two practical considerations in including the weekends in future meetings; with the universities increasingly forced toward "user-pays" cost recovery and even mild profit-making, weekends will be more expensive for such things as overtime and possibly accommodation. A weekend finish also limits flexibility for major social functions: if your dinner venue suddenly evaporated in the 18 months before the meeting, there would be no hope of finding a substitute.

Registration on Wednesday morning was followed by our major symposium on prospects and problems of chemical control. The program appears elsewhere, but we take this opportunity of thanking all invited speakers, especially David Williams who agreed at very short notice to replace David Bell, prevented from attending by family illness. We advertised the symposium to the general public, and attracted some day registrations from non-entomologists, but we could have accommodated a lot more. In retrospect, an evening or weekend time might have been better. Paul Hughes (not at the meeting, called away overseas by urgent family business) had the overall responsibility for assembling the topics and speakers for the symposium. We restrained him from running it over two days, but there does seem to be a need for further intense and critical discussion of some

Dr Victor Eastop, currently President of the Royal Entomological Society of London, participated in the opening of the Sydney Conference.



of the points raised.

After the symposium, delegates proceeded to the recently-reopened Macquarie Club for food, drinks and the chance to talk to colleagues. Judging by the noise level, the latter objective was achieved! We were delighted to be joined by members of the Entomological Society of New South Wales, some of them for their first exposure to the national society. Our thanks go to John Southey, and David and Peter Bullis for their friendly cooperation and excellent club facilities. Dan Bickel was the committee's organiser for this function. Later in the evening, Council members adjourned to a quieter area for the 37th Council meeting.

It is notable that despite a shorter meeting and smaller number of registrants, the number of papers was very similar to last year, with 61 submitted, 10 invited in various categories, the student award paper, and 19 posters plus commercial and society displays.

Thursday morning saw the beginning of the regular sessions, with an excellent account from Robin Bedding on nematodes as biological control agents. It's a pity Robin couldn't stay a little longer - many of us would have liked to talk to him. The session on biological control was very popular with contributors, and papers on this topic eventually became distributed throughout the program. It's a clear indication, and one not fully appreciated by the public, of the trend away from exclusive reliance on pesticides by professional entomologists. While this is partly brought about by the practical problems of resistance management, it is also philosophically more attractive to most modern day biologists.

The AGM was held immediately after the day's sessions, and the minutes appear elsewhere in this issue. It was announced that only a single entry for the photographic award had been received before the meeting, and that the judges had recommended that it be awarded a prize. The organising committee has therefore forwarded an award to Bill Ballard of the University of Queensland for his black and white print of polytene chromosomes from a simuliid. (As last year's committee warned, you have to work hard to get entries out of the membership). Thanks anyway to Rod Peakall for agreeing to run the showing of the non-existent slides!

Friday morning brought together a small field of masochists, otherwise known as fun runners. We had examined and discarded the idea of hosting the Society's first triathlon

or possibly iron-person event, and had a collection of volunteers for five, ten and 25 km. Organiser Christine Stone had spent seemingly endless time in negotiating the preparation of a cross country course, but atrocious Sydney weather had the last word, and the paddocks were un-mowable and un-runnable. A road race was therefore substituted. Martin Horwood was the sole survivor of the 10 km field, and Dan Papacek was declared the winner of the 5 km section after the disqualification of 10 km entrants Majer and Ohmart (you have to nominate the distance before the race!). Christine Stone won the women's section, making with Martin a husband and wife double. Congratulations! Since there was no woman entrant in the 10 km section, the second women's prize went to Debbie Rae, runner up in the 5 km. There is as yet no report on the performance of 25 km entrants Beattie, Brown, Fletcher, Clift and Schicha. John Macdonald provided a champagne and croissants breakfast for all present.

The morning proceeded with Bob Taylor's fascinating account of the discovery and biology of *Nothomyrmecia*, leading off the section on ant biology, and after morning tea Don Colless was provocative as usual about cladistics.

Friday afternoon was dedicated to posters, displays and special interest groups, and was, we thought, highly successful. The standard of submitted posters was generally excellent, giving the ad hoc judging committee something to think about. John Matthiessen and James Ridsdill-Smith got the vote for their dramatically coloured account of potato pests. Not all judges approved of the bright pink graphs, however. We thank our commercial advertisers and exhibitors for their support. Advertising revenue enabled the committee to provide a better standard of materials and services than would otherwise have been possible. Advertisers were W.A. Flick\*, Hawkaid Integrated Pest Management Service\*, Zeiss\*, Monitor Sensors, Chemical Enterprises, and Schering\*. Displays were provided by those asterisked above and by Wild-Leitz and CERIT. We recommend a continued commitment to poster display sessions; they are not only spectacular, but also help keep the spoken presentations to a more manageable number. We felt that the intermingling of commercial displays and posters was particularly successful. We have no particular news on the special interest groups: we know the ants had a Chinese banquet in the Macquarie Dragon, and the aphids got together for a bit of a chat. We hope

there were others out there too. The organising committee can't do much more than provide a point of contact and rooms if requested for these groups, but they can be a valuable way of initiating personal contact, especially for newcomers to our meetings. This means, incidentally, that more established people have a responsibility to make themselves available too.

Saturday saw a return to regular sessions. The "Hormones and Physiology" session provided the first opportunity for this discipline, relatively small in Australia, to get together under the Society's banner. There was no official lead speaker (we'd realised that an extra ten minutes would be hard to find) but Keith Binnington's talk gave a fine state of the art introduction. Brian Robert's last minute rearrangement of his teaching enabled him to be with us on Friday and Saturday, and his short paper on dipteran diapause was added to the end of the session.

Lunch at the Macquarie Club was on the house (the committee's house, not the Club's) and was attended by most of the remaining registrants. The Council was banished to a working lunch elsewhere.

The final afternoon included, as well as contributed papers, two significant events, Geoff Allen's student award

winning paper, and Fred McDonald's invited address. Geoff's paper fitted conveniently into a session otherwise devoted to forest entomology, and his presentation was an exemplar of polished delivery. Fred dedicated his address to the memory of his predecessor in the training of entomologists at the University of Sydney, Tony Woodhill. The address combined amusing anecdotes with deep concern for the future of entomological training and research in this country.

The crowning social event, and to many the highlight of the meeting, was the annual dinner, held at the Taronga Centre. Delegates arrived slightly ahead of schedule, thanks to the efficiency and enthusiasm of our Urban Transit bus drivers. On arrival, delegates were ushered on to the roof balcony, to be greeted by what must surely be one of the world's most spectacular urban vistas, and looking its very best, with glassy harbour, clear skies and city lights. This interlude allowed last minute discussion of the best paper award, as well as consumption of champagne, beer,

SYDNEY CONFERENCE ORGANISING COMMITTEE: Back row (L-R), Dan Bickel, Christine Stone, Andrew Beattie. Front row (L-R), John Macdonald, Alan Clift, Dinah Hales (Convenor), Ken Brown.



orange juice etc. The dinner itself was equal to the view; pumpkin soup followed by chicken breasts Florentine, served with Rosemount wines. Formalities were deliberately kept to a minimum. Murray Fletcher performed the role of MC with typical aplomb (one of the contributions the committee thanks him for). Murray's assorted rude remarks were succeeded by Tim New's generally nice remarks to the prize winners (fun run, poster and paper, the latter shared by Joanne Daly and Alice Del Socorro), and to the organising committee. The response to Tim's vote of thanks was given by the convener, with a balanced design of nice and rude remarks and a deep sense of relief. Don't forget the dessert - chocolate box with liqueured berries, followed by coffee and petits fours.

Many people contribute to the success of a meeting such as this. Some have already been thanked, but it should go on the permanent record too. Firstly, my personal thanks to the whole committee. I reiterate the team aspect of the work, but thank especially John Macdonald, indefatigable and unruffled in his attention to detail and his pursuit of recalcitrant procrastinators, both on and off the committee. Nothing was too much trouble for him. Secondly, we thank all participants for their good will, and of course all invited speakers, contributors and chair (s, men, persons: I recognise some inconsistency in my usage).

The Macquarie University community made my job much easier by their pleasant cooperation in organising many aspects of the meeting. Jan Bohan got us the rooms we wanted and was patient with our endless requests and questions. Bob Martin in the Printery was unperturbed by the rather late arrival of the copy for the abstracts volume, which was largely typed by Robyne Middleton, who'd just arrived expecting to do some gentle part time typing. Peter Kinna and his Audio Visual Services staff provided a trouble free and user friendly projection service. Property Services and the attendants were efficient and helpful, and got us the furniture we needed when we needed it. My own research and teaching technical staff helped in many ways, especially in provision of teas and additional projection. Thanks Dianne Morris, Ray Cameron and Eren Turak. Other postgrads Lesley Hughes and Lou Rodgerson volunteered their help at registration. Margot Walker, Head of School's secretary pro tem., did assorted last minute jobs for us. The School's illustrators, Gillian Rankin and her successor Barbara Duckworth, designed and executed the logo and

subsequent artwork. And Janelle Murphy, of the Information Unit, did an absolutely magnificent job of getting our stories into the media. We had reports in the Sydney Morning Herald and the Australian with more to come in the specialist press. We also hit the airwaves, with interviews on the ABC's Country Hour, Hunter District radio, 2SER-FM and 2GB. All this came as something of a surprise and we suggest delegates keep in mind the potential of these meetings to publicise our concerns. Preparedness is the key to success. Media visibility is a precedent we think future committees should try to follow.

From BCRI, we give particular thanks to Lowan Turton for our group photography, and all those who patiently took messages during the Rydalmere renovations.

CERIT staff were too far away for close involvement in the organisation, but we're grateful to them for doing the airport transport service.

I'm not sure who to thank for the weather. We had the only four consecutive fine days since I can't remember when. Perhaps it was brought by the interstate delegates. On their departure, the rain returned again.

Finally, we should thank our families, students, colleagues and bosses for their tolerance over the past months. Even when physically present we were often mentally somewhere else, preliving the meeting. But its successful completion has made the effort worthwhile. We wish Joanne and her committee all the best.

DINAH HALES

Convener, Conference Organising Committee

SCENES FROM THE CONFERENCE DINNER: (1) President Tim New with joint winners of the best presented conference paper, Joanne Daly (L) and Alice del Socorro. (2) Cicadacentrics, Max and Barbara Moulds (L), with psococentrics Tim New and Courtenay Smithers. (3) Murray Fletcher (R) explaining abstruse concept to admiring Mike Keller (L) and Gary Fitt. (4) Army malaria entomologists, Steve Frances (L) and Tony Sweeney compare notes with midge-fancier, Alan Dyce (R). (5) Martin Horwood receives his winners' prize for the 10km fun run. (6) Fred McDonald, who gave the invited Tony Woodhill Memorial Address.



# Sydney Conference Scientific Programme

## CHEMICAL CONTROL OF INSECTS AND MITES: PROSPECTS AND PROBLEMS

### Urban Entomology Section (Termite Control)

(Chair: Dr P.F. Miller)

Mr R. Eldridge— Termites: Taxonomy, Biology and Economic Impact.

Mr G. Sirmai — Pest Control and Public Concern.

Mr P. Lamond — Termite Control: the Australian Standards and Pest Control Company Policy.

### Agricultural Entomology Section (Mite Control)

(Chair: Dr M. Bengston)

Mr D. Williams — Two Spotted Mite Control—  
The Grower's View.

Mr R. Mayer— Mite Control in Deciduous Fruit.

Dr V.E. Edge— Acaricide Resistance and its Management  
in Spider Mites.

## BIOLOGICAL AND INTEGRATED CONTROL 1

(Chair: Dr T.J. Ridsdill-Smith)

R.A. Bedding— Integrated control and entomophilic  
nematodes.

D.G. James — Biological control of *Tetranychus urticae*.

B.M. Doube - African dung fauna and control of buffalo fly.

L. Wilson — Host plant resistance to spidermites in cotton.

M. Keller — Influence of parasitoid behaviour on levels of  
parasitism.

## MIXED SESSION

(Chair: Dr C.N. Smithers)

P. Greenslade — Inventory of invertebrates from Tasmanian  
rainforests.

S.A. Ward— Do aphids speciate sympatrically?

D.G. Williams— Comparison of sampling methods for  
monitoring mites.

INVITED SYMPOSIUM SPEAKERS, SYDNEY CONFERENCE: Back row (L-R),  
Vic Edge, David Williams, Merv Bengston (Chairman-mites). Front row (L-R),  
Peter Lamond, Peter Miller (Chairman-termites), Geoff Sirmai, Ron Mayer, Bob  
Eldridge.





M.J. Fletcher and G. Singh— Regeneration of ant communities following treatment with chlordane.

T. Qin — Australian cottony scales.

### MEDICAL AND VETERINARY ENTOMOLOGY, INSECT PATHOGENS

(Chair: Dr J.M.E. Anderson)

R.C. Russell, D. Heilpern, P. Wells and M. Geary - Monitoring mosquito arbovirus populations in NSW.

M.R. MacFarlane and J.A. Osmelak - Integrated control of two-spotted mite in strawberries.

A.W. Sweeney, S.L. Doggett and G. Gullick - A microsporidian parasite of mosquitoes.

G.W. Levot and P.B. Hughes - Suppression of oviposition by Australian sheep blowfly on cycloprothrin-treated sheep.

### MIXED SESSION

(Chair: Assoc. Prof. D.F. Hales)

P. Weinstein - Prolonged diapause in a host-parasitoid complex.

M.A. Terras - Mites as vectors of fungal contaminants in plant tissue culture.

M.A. Horwood - The effects of parasitisation on the Australian Plague Locust.

G.R. Brown - Functional morphology of thynnine coupling mechanisms.

D.J. Bickel - Secondary symmetry in the male postabdomen of Dolichopodidae.

### BIOLOGICAL AND INTEGRATED CONTROL 2

(Chair: Mr W.G. Thwaite)

D.G. James - Non-chemical management of spined citrus bug in inland citrus in southern NSW.

D.J. Rae - Efficiency of *Anagyrus saccharicola* against *Saccharicoccus sacchari*.

I.C. Barrass - Chemical and biological control of the longtailed mealybug.

M. Purcell and J. Balciunas - Australian insects as biological control agents for the submersed water weed, *Hydrilla verticella*.

### CURRENT INVESTIGATIONS IN ANT BIOLOGY

(Chair: Dr M. Keller)

R.W. Taylor - New biology of the "living fossil" ant *Nothomyrmecia macrops*.

M.J.W. Crosland - Kin recognition in ants - current issues.

R. Peakall and A.J. Beattie - Exclusive pollination of the orchid *Microtis parviflora* by flightless worker ants.

R.H. Crozier and P. Pamilo - Why small ant colonies produce more males.

C. Peeters - Reproduction in ants without queens.

J.D. Majer and N. Keals - Conservation status of ant communities along the Wubin-Perenjori corridor.

### CHEMICAL AND INTEGRATED CONTROL

(Chair: Dr G.A.C. Beattie)

M.R. Cahill - Sampling for insecticide resistance - a laboratory study.

N.W. Forrester, M. Cahill and J. Layland - Counteracting mixed function oxidase pyrethroid resistance in *Heliothis armigera*.

M.A. Williams - Fungicides and integrated mite control in Tasmanian apple orchards.

G.A. Herron, D.E. Price, R.D. Maldonado and H.G. Greening - Fenitrothion as a grain protectant on farms in NSW.

G. Smith and K. Whitfeld - Alsystin - an IGR new to Australia.

### ADVANCES IN SYSTEMATICS

(Chair: Assoc. Prof. F.J.D. McDonald)

D.H. Colless - Cladistics

J.W.H. Trueman - Evolution of insect wings - a limb-exite-plus-endite hypothesis.

M.J. Fletcher - Use of DELTA for the genera of Typhlocybiinae.

V.F. Eastop - Australian aphids - the remaining taxonomic problems.

D. Colgan - Glycerol-3-phosphate dehydrogenase isoenzyme polymorphism and insect flight.

### GENERAL SESSION

(Chair: Dr P.C. Gregg)

G.P. Fitt - Overwintering abundance and survival of *Heliothis*.

H. Gu and W. Danthanarayana - Genetic control of flight performance in light brown apple moth.

M. Coombs and W. Danthanarayana - Tethered flight of *Heliothis*.

A.P. De Socorro - Reproductive behaviour of the common armyworm.

J.C. Daly and J.H. Fisk - Evolution of insecticide resistance in *Helicoverpa*.

C.P. Madden - Structural deformities in chironomid larvae associated with pesticides.

### HORMONES AND PHYSIOLOGY

(Chairman: Dr H. Mariath)

K.C. Binnington - Neurosecretory cells and the modern morphologist.

P. Smith - Assaying juvenile hormone.

P. Smith - Mating-induced switch-off of receptivity in *Lucilia cuprina*.

K.S. Lefevere - Control of diapause termination in Colorado potato beetles.

B.E. Roberts - Dipteran diapause

### GENERAL SESSION(Chair: N.W. Forrester)

P.A. Horne - Parasitoids of the potato moth in Victoria.

L. Hughes - Movement of ant nest entrances: consequences for ant dispersed seeds.

J.D. Sandow - Early warning system for cucumber mosaic virus in lupins.

A.D. Clift and G.A.C. Beattie - A computer model for numbers of citrus red scale.

G.A.C. Beattie, A.D. Clift and R.G. Weir - Effect of nitrogen on two citrus wax scales.

### FOREST ENTOMOLOGY

(Chair: Dr T.R. New)

D.A. Haugen - *Sirex noctilio* outbreak in 1987: lack of technology transfer?

C. Stone - Insects, mites, nematodes and fungi associated with *Ips grandicollis*.

C. Ohmart - Insect pest management in intensively-managed eucalypt plantations in Australia.

### STUDENT AWARD WINNER

G.R. Allen - Behavioural interactions between *Uraba lugens* and its parasitoids.

### MIXED SESSION

(Chair: A.L. Dyce)

M.C. Calver and J.S. Bradley - Can microhabitat selection explain sex-related morph frequencies in *Acrida conica*?

C.C. Bower - Structural adaptations of orchids for pseudo-copulatory pollination by male thynnine wasps.

### A.R. WOODHILL MEMORIAL ADDRESS

F.J.D. McDonald - Insects in perspective.

## The Frass Newsletter

The Frass Newsletter is a publication designed to provide a vehicle for communication among people involved in insect rearing world wide and monitor their advances and challenges. It is published twice per year (May and August) by the Insect Rearing Group (IRG), a non-profit organization committed to promoting the science and art of insect rearing.

Frass has recently been reorganised. Six regional contributing editors have been nominated. Their duties are to solicit input for the newsletter. Input includes editorial comments, short papers on new rearing techniques, information requests, requests for starter colonies, your source lists for supplies, items for sale or trade, new publication citations or abstracts, announcements, appropriate meeting dates, or other related news items.

As your contributing editor for the South Pacific region, I would welcome your input. I need to receive all contributions by mid March and mid August for the May and October issues. Please send your contributions regularly.

The Frass Newsletter's effectiveness as a communication tool depends on the continuous input of information from you.

Frass is sent free of charge. If you wish to receive a copy, please send me your mailing address.

GRAEME CLARE  
Regional Editor  
Frass Newsletter  
Entomology Division  
DSIR Private Bag  
Auckland New Zealand

## Results of 1989 Illustration Competition



The Society conducts an annual competition for taxonomic illustrations of insects. First (\$300) and second (\$100) prizes are offered in both colour and black and white categories. An entrant may not be employed as an entomologist or as a biological illustrator. This year saw a record entry field of 126 illustrations entered by 50 entrants. The winners were announced at the Sydney conference where a selection of the best entries were displayed. The winning entries are reproduced on pages 59 and 60 of this 'Myrmecia.' It is worth noting that three of the four winners are students of the Illustration Course at the Hunter Institute in Newcastle taught by Society member, Andrew Atkins. Details of the winners, with biographical statements by themselves, follow:

### COLOUR SECTION

**First Prize: Ms Marietta J. Eden**, 5 Strange Street, Currajong, Townsville, Qld 4812.

**Subject:** *Papilio aegaeus aegaeus* (Lepidoptera: Papilionidae).  
**Statement:** The pieces I entered in the competition are my first attempts at full scale taxonomic illustration and I hope won't be my last. Natural history and art have been my main interests for as long as I can remember. To find work in the area was something I didn't think about till after I got the travel bug out of my system after high school. I was unable to find an interesting job and felt that further studies were the

only way to achieve this. Commercial art can be a highly competitive area and the only one open to art graduates without some specialisation so instead of art school I did a biology degree at James Cook University of North Queensland where I majored in Marine Biology. I didn't quite make it to art school after Uni. I found an interesting job at the Australian Institute of Marine Science and for six years have been doing interpretative illustration of research data, that is charts and graphs, for the scientific staff of the Institute. When I heard of the Post-Graduate Illustration course at the Hunter Institute of Higher Education, I had to do it. It would finish off what I had always intended to do. The aim is to obtain the skills and confidence in the more pictorial types of illustration I am so keen to do. The competition has helped me towards this goal.

**Second Prize: Mr Brian Davidson**, 15 Ackerson Street, Mayfield, NSW 2304.

**Subject:** *Agarista agricola* (Lepidoptera : Agaristidae).  
**Statement:** I entered the BA Visual Arts as a mature age student at the age of 28; "it wasn't until this time that I decided what I really wanted to do". I found the most beneficial and pleasing field in the wide range of art disciplines offered was in flora and fauna illustration and after a trial period selected this area as my major study component. Throughout my undergraduate years I worked to produce a folio of Lepidoptera as well as working on other subject areas. This I have carried through to the Post Graduate level where I am presently primarily involved in the study and illustration of intertidal rock platforms.

### BLACK AND WHITE SECTION

**First Prize: Mr Milton Lewis**, 72 Clarey Crescent, Spence, ACT 2615.

**Subject:** *Auloicerya acaciae* (Hemiptera : Margarodidae).  
**Statement:** Milton was born in 1961 and completed his BSc(Hons) in 1985 at the Australian National University where he is now employed as a Technical Officer. He has a keen interest in many forms of art, but especially in photography. The majority of his spare time is taken up in the pursuit of this and ornithology; the latter to form the basis for further graduate studies. Like most busy people there is never enough time for all his interests, but in the future he hopes that they may become more than just hobbies.

**Second Prize: Ms Genevieve Wallace, 66 Bull Street, Mayfield, NSW 2304.**

**Subject: *Musgraveia sulciventris***  
(Hemiptera : Tessaratomidae).

**Statement:** Born in Waratah, Newcastle, in 1970, I studied art for my HSC, which I completed in 1987. As a result I gained good marks in 2-unit Art and 3-unit Art History. In 1988 I decided to continue my studies in the visual arts at the Hunter Institute of Higher Education by enrolling in the BA(VA) course. Now in 2nd year, I will most probably decide to major in Illustration. Although I enjoy all aspects of illustration, including scientific illustration, I most enjoy fantasy aspects of book illustration.

### STUDENT PRIZE AWARDS

The Society presents an annual Student Award for a paper up to 5000 words submitted by a current student not yet endowed with a PhD. Entries are judged by a panel appointed and chaired by the President. The winner receives \$250 cash plus travel and registration costs to enable him to present his paper at the Society's Annual Conference.

Student Award winner Geoff Allen, from the Waite Institute, is congratulated by Tim New at the conference dinner.



This year's winner was Mr Geoff Allen, a student at the Waite Institute in Adelaide. Geoff graduated in 1982 with first class honours in Zoology from the University of NSW where he learnt entomology under the principal guidance of Erik Shipp and Jenny Anderson. His Honours project was supervised by David Croft and was on the pit building behaviour of ant lions. Following his graduation he worked as a research assistant for Tony Sweeney at the Army Malaria Research Unit, Ingleburn, NSW. He remained there for two years working principally on *Culicinomyces clavisporus*, a fungal pathogen of mosquito larvae.

In 1985 he accepted a Commonwealth Postgraduate Research award and commenced a PhD in the Entomology department at the Waite Agricultural Institute, Adelaide. There he continued his interest in predator/prey and host/parasitoid systems by working on his PhD entitled "Behaviour and ecology of the primary parasitoids *Cotesia urabae* and *Dolichogenidia eucalypti* (Hymenoptera: Braconidae) and their host *Uraba lugens* (Lepidoptera: Noctuidae)". Mike Keller and Andy Austin have been co-supervising Geoff during his PhD research. The paper he presented for the Student Award was part of his PhD research which he is now in the process of writing up.

The judges presented a special runners-up prize of \$50 to Christine Stone for a paper on the community of insects associated with the pine borer *Ips grandicollis*. Christine undertook her BAgSc at University of Tasmania in 1977-1980, receiving first class honours. During 1981-82 she completed a MSc in applied entomology at the Silwood Park campus of Imperial College in the UK. From 1983 to 1984 she served as an entomologist at the Yanco Agricultural Institute before joining the Forestry Commission as a Forest Entomologist at Beecroft in 1985, a position she still holds. In 1985 she commenced a part-time PhD candidature at Macquarie University on the topic which formed her entry for the Student Award.

### WINNING COLOUR ILLUSTRATIONS

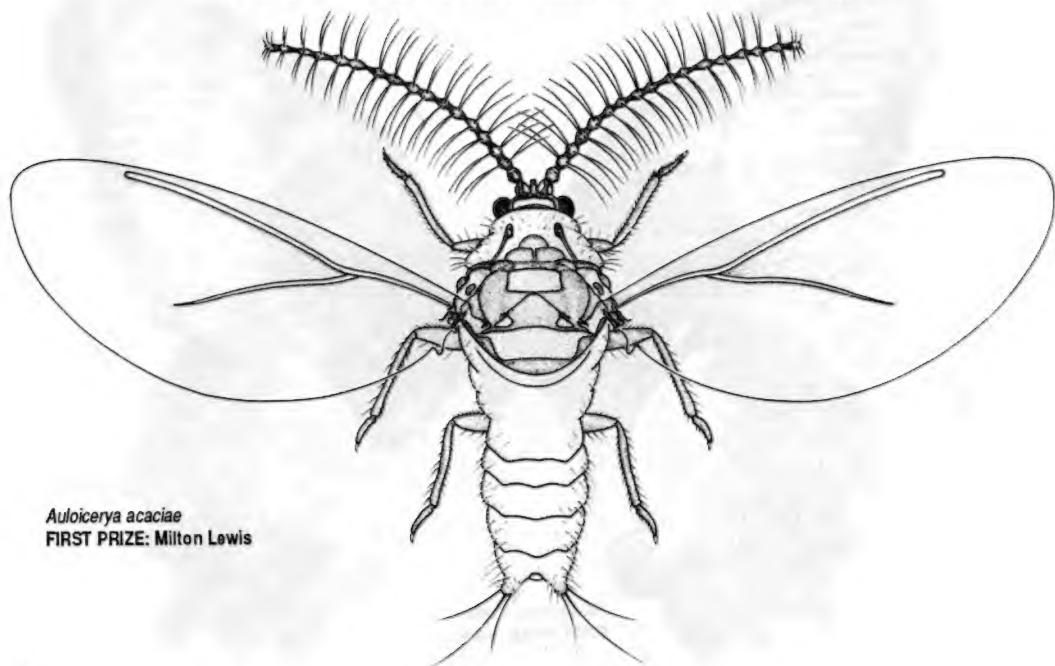


*Papilio aegaeus aegaeus*  
FIRST PRIZE: Marietta Eden



*Agarista agricola*  
SECOND PRIZE: Brian Davidson

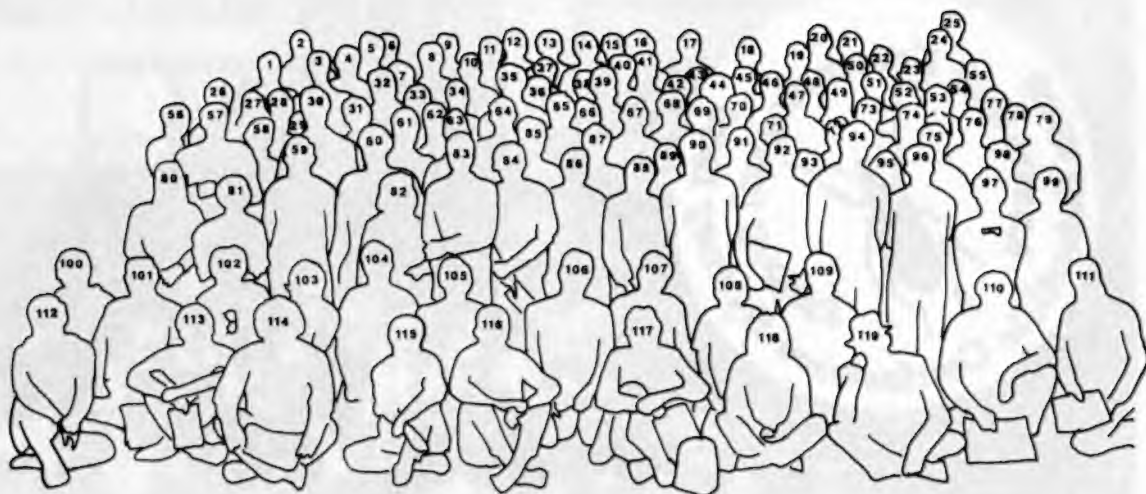
## WINNING BLACK AND WHITE ILLUSTRATIONS



*Auloicerya acaciae*  
FIRST PRIZE: Milton Lewis



*Musgraveia sulciventris*  
SECOND PRIZE: Genevieve Wallace



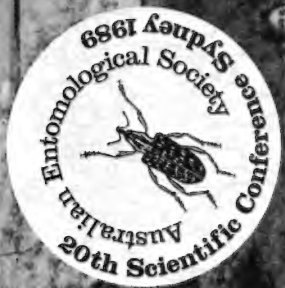
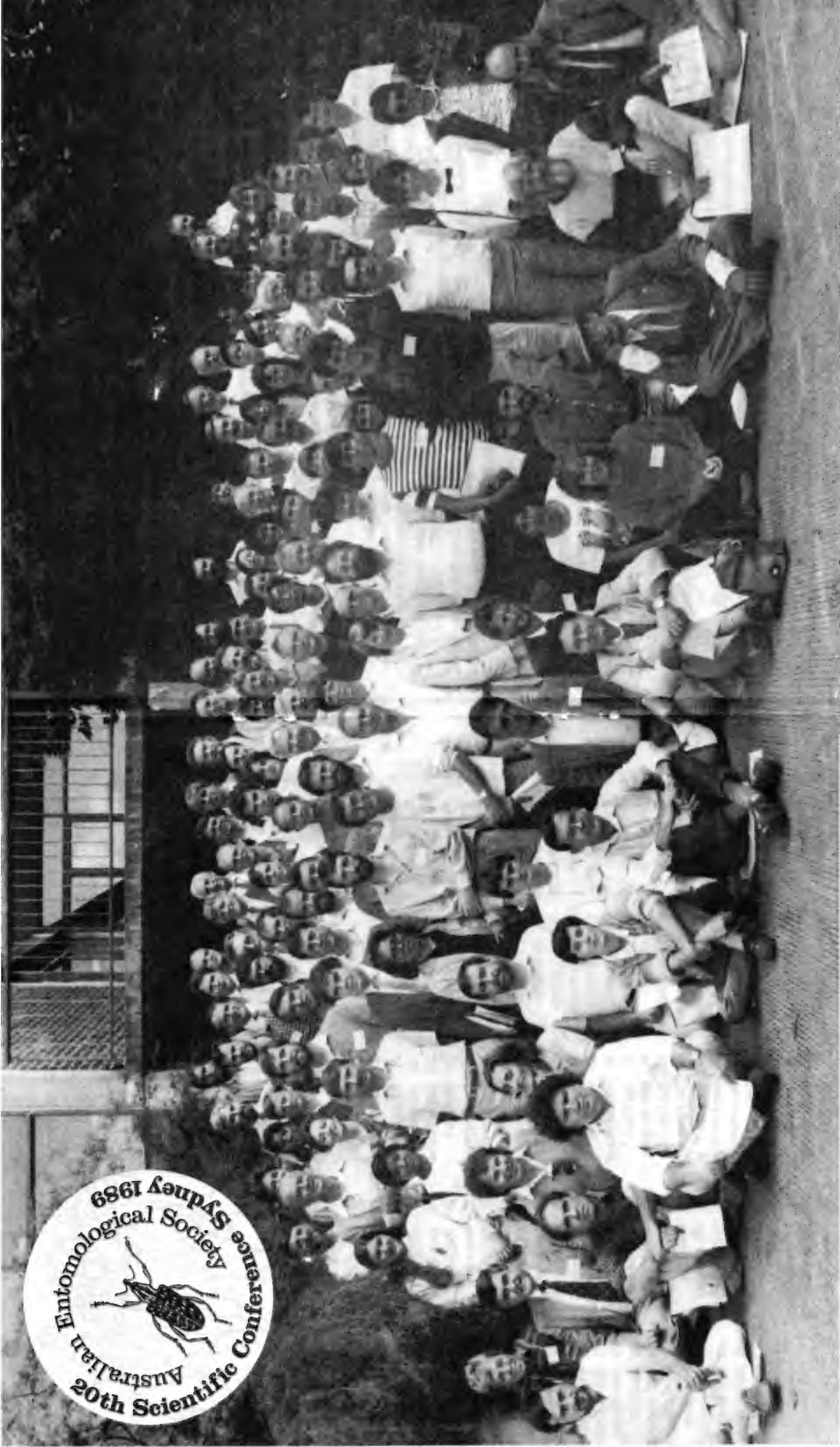
### KEY TO SYDNEY CONFERENCE PHOTOGRAPH

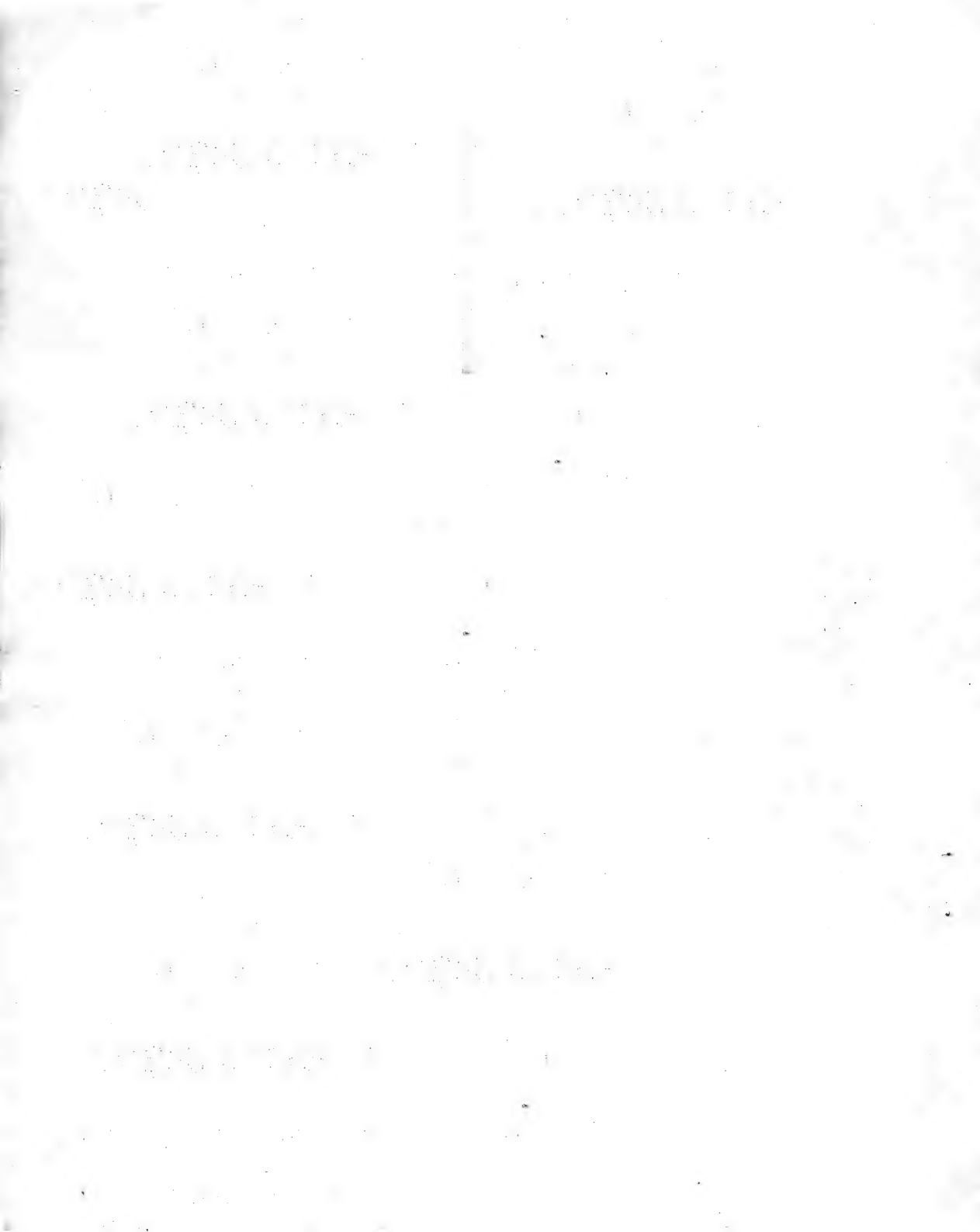
1 Seamus Ward	26 Debbie Rae	51 Hainan Gu	76 Max Moulds	100 Elaine Brough
2 Dan Papacek	27 Lillian Blanco	52 Vic Eastop	77 Cliff Ohmart	101 Howard Greening
3 Ian Barrass	28 Keith Houston	53 Murray Fletcher	78 Lewis Wilson	102 Alan Westcott
4 Richard Bull	29 Fiona Clissold	54 Gina Dillon	79 Tony Clarke	103 Myriam Lefebvre
5 Simon Lean	30 Mike Keller	55 Dinah Hales	80 Janet Horne	104 Neil Forrester
6 Graham Goodyer	31 Win Bailey	56 Keith Chandler	81 Alice Del Socorro	105 Grant Herron
7 James Ridsdill-Smith	32 Roger Toffolon	57 Alan Dyce	82 Saartje Rondonuwu	106 Jonathan Majer
8 Robin Bedding	33 David Jones	58 Kathy Lefevere	83 Garry Taylor	107 Graeme Smith
9 Courtenay Smithers	34 Mark Collier	59 Bryan Cantrell	84 Tony Wright	108 Penny Greenslade
10 Andy Austin	35 Marc Coombs	60 Don Colgan	85 Peter Samson	109 Eren Turak
11 Dennis Haugen	36 Lesley Hughes	61 Peter Prammer	86 Errol Hassan	110 Keith Binnington
12 Eberhard Schicha	37 Geoff Allen	62 Paul Horne	87 Margaret Williams	111 Bernard Doube
13 Ian Galloway	38 Gary Levot	63 Matthew Purcell	88 Mary Ann Terras	112 John Osmelak
14 Phil Weinstein	39 Geoff Waite	64 Ray Piggot	89 Richard Faulder	113 Dan Bickel
15 John Trueman	40 Ken Brown	65 Merv Bengston	90 Graham Brown	114 John Macdonald
16 Nello Angerilli	41 Martin Collet	66 Ray Kerr	91 Christine Stone	115 Frances Fitzgibbon
17 David Williams	42 Gary Fitt	67 Ted Taylor	92 Stuart Little	116 Mike Calver
18 David James	43 Jenny Anderson	68 Kay Khoo	93 Glynn Maynard	117 Peter Sheldon
19 John Sandow	44 Joanne Daly	69 Martin Horwood	94 Bill Doherty	118 Kate Whitfield
20 Alan Clift	45 Graham Thwaite	70 Denis Warnod	95 Krisana	119 Richard Bejsak
21 Woody Horning	46 Matt Cahill	71 Debbie Kent	Rungrowanich	
22 Tingkui Qin	47 Graham Young	72 Ross Lardner	96 Tim New	
23 Stephen Burman	48 Yean Wang	73 Ken Fairey	97 Heloisa Mariath	
24 Peter Smith	49 Jenny Fisk	74 Stephen Doggett	98 Margaret Schneider	
25 Andrew Beattie	50 Francoise Berlandier	75 Chris Madden	99 Joan Lai-Fook	











# Regional News

## QUEENSLAND SOUTH EAST QUEENSLAND

### Health Department

The northern most of the Torres Strait islands, Boigu and Saibai, were the locations for an investigation during April by Pipi Mottram and Peter Elesworth (Biocontrol, Warwick) in order to design a rational management policy for *Anopheles*. Pipi also spent time trapping and identifying mosquito species as part of an ongoing programme to detect malaria vectors in these islands which are very close to the Papua New Guinea mainland.

### Lands Department, Alan Fletcher Research Station

Ruth Huwer from the Geissen University, West Germany is completing her fourth year undergraduate project which she has been working on at Sherwood since September, 1988. The project involved host testing of the rubber vine hawk moth.

Warwick Wright of Australian Plant Quarantine Service, Canberra, visited during April to discuss problems being experienced with importing insects.

### Forestry Department

Ross Wylie travelled to northern Queensland in mid-April to inspect the state of the Department's eucalypt plantations near Cardwell and Ingham. The trees have been having a hard time lately: firstly, they suffered severe defoliation by scarab-beetles; secondly what leaves were left were infected with a leaf fungus, and last but not least, cyclone 'Aivu' had a go at the trees. Ross was not expecting a leafy sight.

At the end of May, Ross has been invited to be a keynote speaker at the 'Workshop on Forest Health in the South Pacific' in Rotorua, New Zealand. He will be speaking on forestry quarantine and also on dieback problems. After the conference, he plans to spend some time looking at insect problems in New Zealand Pinus plantations.

### Queensland Institute of Medical Research

Brian Kay spent one week in April in Moscow for a steering committee meeting of the Panel of Experts on Environmental Management for Vector Control and a water resource seminar at the Martinovsky Institute. After these meetings, he visited WHO, Geneva and then Francois Riviere in France to write up recent studies of the broad scale release of *Mesocyclops* on Rangiroa Atoll for *Aedes polynesiensis* control.

### University of Queensland

Hugh Paterson travelled to Russia during the second half of April to present a paper at the "International Symposium on Fundamental Problems of Evolutionary Biology" in Moscow. Hugh's paper was entitled "An Alternative to the Modern Synthesis".

Congratulations are due to three of the Department's postgraduate students who were awarded their degrees at the April graduation ceremony: Dave Merritt, now working on a Post Doc at the State University of New York at Albany, was awarded a PhD for his thesis on the sensory physiology of *Lucilia cuprina* ovipositors; Win Win Myint of Burma received a Master of Agricultural studies for her work on mating behaviour and sex ratio in *Spalangia cameroni* (Hymenoptera, Pteromalidae); and Chris Bruwell, in addition to receiving his BSc with first class Honours, was awarded a University Medal for his excellent undergraduate grade score.

### Queensland Agricultural College

Meron Zalucki visited Errol Hassan and the Plant Protection Department to discuss the consolidation of Queensland Agricultural College and the University of Queensland. Meron spent the day talking to various staff members of the department.

The second workshop for the 3V strategy will occur on May 11th at QAC. The committee is preparing the handbook for the workshop which will be on potatoes, carrots, onions and beetroot.

Miss Andrea Nash from the Plant Protection Department presented a precis of her study project to the Queensland Camellia Society at the botanical gardens at Mt Coot-tha auditorium recently. The meeting was very well attended.

Miss Celia Greening an Agronomist with Consolidated Fertilizers Limited visited Errol for discussions on crucifer

pests. Celia presented a talk to fourth year Plant Protection students on the role of sales agronomists in agri-business.

### DPI Entomology Branch

Congratulations to Merv Bengston who has officially been appointed as the Director of Entomology Branch, after acting in the position for the last year. Merv joined the Entomology Branch in 1949 as a Cadet and completed his BSc from the University of Queensland in 1953 after studying as a part-time student. He spent the early part of his career as District Entomologist among the deciduous fruit orchards of the Stanthorpe. There he put his research on mite pests of deciduous fruits towards both MSc (1963) and PhD (1967) degrees from the University of Queensland. He moved to Head Office in Brisbane in 1969 and since then, among other things, has been involved with coordinating research on stored product entomology. He has served as Deputy Director of the Branch since 1973.

Other promotions were: Les Robertson, in Emerald, was promoted to Senior Entomologist Div. I; Judy Grimshaw was promoted to Senior Technician; and Brad Scholz was promoted to Temporary Laboratory Technician Div. II.

Dr Merv Bengston, newly appointed Director of the Queensland DPI Entomology Branch.



A Workshop on soil dwelling invertebrates was held at DPI, Indooroopilly on the 11th and 12th of April. Some 30 delegates attended from as far afield as WA and Tasmania. Papers covered all aspects of entomology. The withdrawal of organochlorine soil insecticides has caused an upsurge in problems, especially with white fringed weevils. An enjoyable restaurant dinner was held for the delegates.

Dick Drew visited Malaysia in early April to attend a review of the ACIAR fruit fly project.

DPI held a seminar on Biological Control on the 13th of April. The seminar covered many aspects of biocontrol, including agents, quarantine and technical issues. The seminar was very well attended.

MARGARET SCHNEIDER AND ERROL HASSAN  
Regional Councillors

## NORTH QUEENSLAND NEWS

### James Cook University

Prof. Ron Rutowski of Arizona State University is currently visiting the Zoology Dept. His studies concern the evolution of courtship behaviour and sexual selection in butterflies; two of his current subjects are *Hypolimnas* and *Cressida*.

Jamie Seymour aims to complete his PhD studies on the braconid wasp *Microgaster* sp. by the end of this year (such optimism!); his future plans are to move in a somewhat different direction - to investigate the biogeography of onychophorans.

### DPI Mareeba

Marie Ablin from the Lands Department lab in Charters Towers visited Mareeba with respect to her work on biocontrol of rubber vine. She also flew to Wrotham Park to examine release sites first hand.

A taxonomy workshop was held for DPI Entomology field staff in Mareeba. All the Mareeba and Ayr staff attended, together with Bryan Cantrell and Ian Galloway, who together with Ross Storey, organized the two day programme.

MIKE DOWNES  
Regional Councillor

A gathering of beetle collectors took place at Paluma (Mount Spec) in north Queensland in January this year. From left: Ernest Adams (Edungaba, west of Rockhampton), Anne Howden (Ottawa, Canada), Eddie Adams (son of Ernest), Ross Storey (DPI, Mareeba), Joy and Gordon Burns (jewel beetle enthusiasts from Melbourne). Photo taken by Henry Howden, Carleton University, Ottawa.



## AUSTRALIAN CAPITAL TERRITORY

### Australian Plague Locust Commission

The locust population has remained generally low although numbers have begun to increase in the Northern Flinders Ranges of South Australia, around Narromine in central western New South Wales and north of Longreach and Winton in Queensland.

Surveys for locusts have been severely restricted by the flood rains, which began falling in late February in South Australia and since have extended throughout the eastern States. Rain is continuing to fall. Some laying of overwintering eggs, by adults at swarm density, has taken place in the Narromine and Parkes areas. As for the other areas - we can only make educated guesses at the moment! This is a frustrating time particularly as the light traps at Birdsville, Dulkaninna, Longreach and Julia Creek are catching adults. Final surveys for the season will begin as soon as the weather improves. Spring promises to be busy,

with the possibility of some aerial spraying in the central west and the northern Flinders Ranges.

Dave Hunter is continuing to look at egg parasitism by *Scelio fulgidus* and the eggbeds in the central west will provide him with more study sites. Kim Bryceson's study using LANDSAT and NOAA AVHRR data to detect possible habitats for eggbed sites in the Broken Hill area is nearing completion. Similar work will be done for the locust areas near Oodnadatta and Hawker in South Australia.

### CSIRO Division of Entomology

Max Whitten, E. Delfosse, Wendy Milne and Mick Julien (Indooroopilly) attended the International *Vedalia* Symposium on Biological Control. This meeting was to celebrate one hundred years of cooperation between Australia and USA. *Vedalia* was successfully introduced to California 100 years ago to control scale insects on citrus fruit. The conference also highlighted current aspects of biological control. Max gave a keynote talk and Del

organised a symposium on 'Regulation in Biological Control'.

Exciting news from Stored Grains Section. Bob Winks' 'SIROFLO' system for grain protection will be opening officially in Moree on 19 May at the site of its first commercial use by the Grain Handling Authority of NSW. The system allows for the fumigation of stored grain insects in silos which cannot be fully sealed. Jane Wright has recently commenced her field program on trapping and detection of stored product insects in horizontal wheat storage sheds throughout southern New South Wales. (Jane assures us that life beside the railway track is pretty exciting stuff). The aim of the project is to detect insects at very low density. Jane is testing some traps not currently in use in Australia and it seems that her initial results are very promising. Jonathan Banks, Peter Annis, Bob Winks and Jan Graver all gave papers at the Fumigation and Controlled Atmosphere Storage of Grain Conference held in Singapore in February.

Robin Bedding is in Brazil for four weeks investigating a major outbreak of *Sirex* wasp. He will be advising the Brazilian government on feasibility of using nematodes for biological control.

E. Delfosse is pleased that after many years of frustration and delays the *Echium* program is off to a good start; 30,000 *Dialectica* have been released at Jugiong south of Gundagai, NSW. The recent rains have resulted in widespread germination of *Echium* which will help with the establishment of the moth. Releases of the weevil, *Ceutorhynchus*, have also begun. A collaborative project for Heliotrope control has begun between CSIRO, the WA Department of Agriculture, the Agricultural Protection Board and local shires in Western Australia. A biological services building for the weeds section was recently opened in grand 'happy hour' style. The building was funded by the Australian Wool Corporation.

The Division will be sad to see Pat Wellisch leave for greener pastures with the Australian Government Printing Service. Trish has played a key role in the area of publications in recent years.

Copies of the Proceedings of the joint CSIRO/DSIR Workshop on Application of Pheromones to Pest Control (Canberra 1988) are now available for A\$6 within Australia and New Zealand and \$8 overseas. (Free copies will be sent to participants and sponsors). Please make cheques or money orders payable to Collector of Public Monies,

Division of Entomology and send orders to Dr Tom Bellas, CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601.

### Australian National Insect Collection

This contribution looked like being a travelogue recounting the peripatetic activities of the taxonomists. However, the extended wet delayed one trip, that of Marianne Horak, Ebbe Nielsen, Ian Naumann and Tom Weir to the McIlraith Range in far north Queensland. It has been rescheduled for May/June, by which time access roads should have been reconstructed.

Jo Cardale, John Lawrence and John Balderson did get to Christmas Island to spend three weeks surveying the insects for the Australian National Parks and Wildlife Service. Successfully fending off robber crabs, they collected in all floristic regions. The relative impoverishment of some groups such as Orthoptera was confirmed, but John Lawrence more than doubled the beetle list (to over 200) without examining Berlesates. The weather wasn't an impediment, but the group were on to their 4th Suzuki 4WD by the end of their visit.

Peter Cranston spent April in the north, wondering about the difference between the "wet" and the "tail end of the wet". Access to Office of the Supervising Scientist study sites in the Alligator Rivers region was restricted by the extended rains, the height of the rivers and a faulty helicopter. However, when chironomid larvae could be collected from the sediment loaded torrents, they pupated and rapidly emerged as adults - relived to find quieter waters in rearing tubes? Co-consultants Alice Wells and Phil Suter found collecting harder, their creatures seeming to seek refuge from sandblasting by as-yet-unknown strategies.

Visitor numbers seem to diminish as the northern winter draws to a close. Gaden Robinson from the BMNH visited us for a month or so, working with Ebbe to complete a joint review of Australian tineid genera. Ebbe tells me that the publication of "Monographs of Australian Lepidoptera" has been transferred from E.J. Brill to CSIRO Publications and that volume 1 will appear in July. Ian Common was here for two weeks concerned with completing his substantial contributions to the check list of Lepidoptera. Ian was pleased to have completed scrutinising the second set of proofs for his "Moths of Australia" tome. Larry Orsak visited again on his return to California from over-wintering in

Papua New Guinea. Steve Johnson (DPI, Townsville) also visited Ted Edwards to discuss butterflies, Neil Evenhuis (Bishop Museum, Hawaii) spent one month on terra australis looking for warmth-loving bee-flies. A mis-timed visit if there ever was one - only 5 days with sunshine and record rainfalls wherever he went.

Ian Naumann had a group of Canberra School of Art students visit to seek inspiration from the Hymenoptera and were introduced to Girault's lunacy as a potential source. Ian then escaped to Brisbane, to visit DPI and the Queensland Museum. Gerry Cassis, temporarily at the Australian Museum, returned for a brief visit and seemed to spend his time on the SEM and writing grant applications. Another refugeé from the BMNH, Victor Eastop, is well into a year's visit to the Division, working on many aphid matters. Vic obtained the prestigious McMaster Visiting Fellowship and has been travelling widely in the SE as well as cultivating masses of aphids (and their parasites).

While these last months have seen fewer itinerants, we saw the departure of several longer stay visitors. Ross Bell (Vermont) gave a talk then vanished northwards, meeting the southern advance of the floods in central Brisbane. Phil Ward (Davis) also gave us a lucid lecture on the need for phylogenetic hypotheses before making ecological speculations, a message welcomed by the larger than usual audience that included a cladist or ten. Bob Taylor and Renate Sadler are at a loose end in a visitor-free ant section. Jarmila Kukulova-Peck (Ottawa) also greatly enlivened ANIC during her three month visit, during which she interpreted and drew hundreds of coleopteran wings and shared some colleagues liking for opera.

### **Australian National University**

Penny Gullan brought her second year students, a larger batch than usual, on the annual tour of ANIC. Penny's desks are piled with manuscripts as term end approaches and her clutch of postgraduate students all finish writing concurrently. Large sections of Chris Reid's thesis on chrysomelids are being regurgitated from the Mac, but how does the laser printer work eh? Chris is off to visit the South Australian Museum and then return to the final push to complete the thesis. Meanwhile, John Trueman has completed his graduate diploma entitled "A preliminary study of the eggs and second instar larvae of some Australian dragonflies with references to problems of libelluloid higher

taxonomy". John is to extend this study in his PhD. Shelley Rosario, faced with slide mounting more Kakadu chironomids, and Sunita Bhatti, faced with mountains of scaly cladistic output, are both finding time to write. Penny is to seek refuge from this deluge of paper by visiting the Christensen Research Institute in Madang (PNG) with Ralf Buckley (Bond Uni.) to study ant/plant/homoptera interactions, to collect scales, and to snorkel.

Finally, Cladistics and Coopers, moved to the new location of the ANU University House, has roamed around the molecular side of phylogenetics. Curious how attendees have described to this absentee reporter (PC) how simple these sequence techniques are, but how difficult it is to recall the intricacies of analysis. Expanding earth next then a touch of cladistic biogeography.

JOANNE DALY AND PETE CRANSTON  
Regional Councillors

## **NEW SOUTH WALES SYDNEY METROPOLITAN AREA**

### **Macquarie University - Biological Sciences**

Steve Handel spent early April on fieldwork in Victoria. Apart from the weather, the trip was highly successful. He saw male thynnids copulating with orchids, male ants copulating with orchids, and herds of emus and koalas ... I did ask - not copulating with orchids.

Andy Beattie departed in April (see last Myrmecia) in time not to take part in the 20 AGM, which has been a full-time occupation for Di Hales in recent weeks (or is it months?). Dinah is looking forward to June, for more reasons than one: she is taking up a month's grant from the Deutscher Akademischer Austauschdienst (DAAD) to continue work on aphid population genetics with Prof Klaus Wohrmann, University of Tübingen. Klaus spent summer 1987-88 working at Macquarie with Dinah. Aphid work continues at Macquarie in the capable hands of Eren Turak, Dianne Morris and new PhD student Lilian Blanco, who has started dealing with the problems of aphid saliva.

Hall Cushman (University of Northern Arizona) will be taking up a Macquarie University Research Fellowship on September 1 with Andy Beattie, for work on ant demography.

Rose Cowen has produced a baby daughter, Anita, and



has moved to Melbourne where her husband Neil is now working.

#### **Sydney University - Dept. of Plant Path. and Agric. Ent.**

Andrew Kotze has been awarded his PhD on glutathione S-transferases in the sheep blowfly and now has a fellowship with the Australian Wool Corporation. He is working on the mode of action of cyromazine (vetrazin) on the sheep blowfly and is currently at the University of Bath.

Mark Stevens has submitted his PhD thesis and has commenced employment with NSW Department of Agriculture and Fisheries.

New graduate students are Roger de Keyzer and Richard Faulder (both part-time) working on the taxonomy of cerambycids and spiders, respectively, and Junxiong Zhang who is working on digestive enzymes of native cockroaches.

#### **Sydney University - Macleay Museum**

The Macleay Museum has received donations of Coleoptera from Richard Bejsak. Woody has been transcribing the correspondence of Gerard Krefft, the colourful director of the Australian Museum in the late 19th Century, to find out more about his involvement in the early entomological societies of Australia.

#### **Sydney University - Medical Entomology Unit**

Richard Russell went to Victoria in February for a meeting with the Victorian Arbovirus Task Force in Gippsland, where there had been a major outbreak of Ross River Virus. In April Richard went to Perth for a symposium on dog heartworm as an invited speaker at the Australian Veterinary Association's annual conference; in addition, he and Marilyn Geary have been comparing the efficiency of various mosquitoes as vectors of dog heartworm.

Marilyn has now completed her survey for the Asian arbovirus vector *Aedes albopictus* for the season. This mosquito was discovered imported to Brisbane in late 1988, but despite Marilyn's search through tyre yards in the Sydney Region none have been found to date in Sydney.

The NSW annual mosquito/arbovirus surveillance programme which began early this year is in full swing, keeping Danielle Heilpern busy sorting the collections, storing the data on computer and writing reports. Danielle hosted a visit to the Medical Entomology Unit by Health Inspectors from Indonesia who were interested in the

surveillance programme. She is also monitoring the susceptibility of *Culex annulirostris* from Griffith populations to the organophosphate temephos. Richard has been doing some PR work visiting mosquito monitors and their mosquito collection sites on the north and south coast.

Peter Wells is processing the mosquito samples for virus isolation through cell culture, and has successfully isolated Ross River Virus from field caught mosquitoes.

The funds for Margaret Debenham and Megan Hicks to complete their monograph "The Culicidae of the Australasian Region" have been exhausted, however the final unpublished volumes are almost ready for printing. It is expected they will be published later this year.

#### **University of New South Wales**

Bernie Crespi, visitor in Ross Crozier's lab, has just been awarded the prestigious Dobzhansky Prize from The Society for the Study of Evolution. Bernie works on thrips life cycles and sex determination. His work was recently featured (without credit) on "Stay in Touch".

#### **Forestry Commission of NSW**

Kay Khoo has recently arrived to fill the position vacated by Ted Taylor. Various other programmes are continuing, especially the biological control of *Sirex*.

#### **Australian Museum, Sydney**

Gerry Cassis has been at the Museum for three months working on his Australian Tingidae project. He also helped organize a successful "Coopers and Cladistics" group for the Sydney area, to ponder serious and weighty problems in phylogenetic theory. Geoff Holloway will be attending a Parasitic Hymenoptera workshop in Honolulu this May. David McAlpine is continuing his studies of Coeloptidae. Dan Bickel spent three weeks collecting in Tasmania in January-February, both in the western World Heritage areas and elsewhere on the island. The jars of samples from malaise traps, yellow pans and litter-sample berlesates are being sorted. Geoff Williams has obtained some rare and little known Coleoptera from his collecting in littoral rainforest near Harrington. He also had visits from Gordon and Joy Burns and the Howdens. Gunther Theischinger will leave for the Smithsonian in May for eight-weeks work on tipulids and megalopterans.

Visitors included: Pjotr Oosterbroek (Amsterdam) on

tipulids at the start of a collecting trip to Australian alpine areas, Henry and Ann Howden on their way back to Ottawa, Neal Evenhuis (Bishop Museum) on Bombyliidae at the start of a long rain-soaked trip to South Australia, and James McIver (Oregon State) on ant mimics.

#### **Biological and Chemical Research Institute, Rydalmere**

Chaos continues to reign during the renovations at BCRI. Vic Edge was reappointed to the Cotton Research Council. Murray Fletcher paid a visit to Canberra to visit the ANIC and to consult concerning quarantine inspection techniques. Julia Humphries has left BCRI (she was Eberhard Schica's assistant), and Diane Brown has left Paul Hughes' blowfly lab. Peter Gillespie and Tamar Robinson have been working part-time at BCRI.

Visitors: Grahame Baker received a visit from George Pointer (Univ. Cal., Berkeley) concerning nematodes; Gerry Cassis to look at mirids and tingids; Mr J.M. Wangi from the Pyrethrum Board, Kenya and C. Woody to discuss problems associated with the recent drought in Kenya which affected the pyrethrum harvest.

DAN BICKEL AND DINAH HALES  
Regional Councillors

## **NSW COUNTRY NEWS**

### **Agricultural Research and Veterinary Centre, Orange**

Col Bower and Graham Thwaite helped educate metropolitan and rural media representatives on entomological matters when the RAS-Shell Media Tour visited Orange in February.

Carl Willott, who for 20 years assisted Graham and Col with their deciduous fruit entomology research, retired on March 30. He has escaped the cold Tablelands winters by moving to North Queensland.

Graham Thwaite, with help from Margaret Williams (Tasmania), Frank Page (Queensland) and others, confirmed resistance in several European Red Mite strains to the ovicides Apollo and Calibre. The fearless prediction is that control of the mite in many orchards next season will be extremely difficult.

### **Yanco Agricultural Institute**

Mark Stevens, formerly at Sydney University completing his PhD on leafhopper taxonomy, was appointed entomologist at Yanco and commenced duties in February. He has swapped leafhoppers for aquatic snail and midge pests of rice, at least professionally. Mark fills the large shoes left by Ed Jones and brings entomology at Yanco back to full strength.

The fruit fly outbreak in the MIA appears to have been contained, with no new outbreak areas reported since January. Alan Bateman formerly of CSIRO was employed as a consultant to the Department to help devise an eradication strategy. He held discussions with David James and Ed Jones in late January.

Manfred Ebert from Wellcome (Australia) Ltd visited in February to discuss soft scale and ant control using the IGR fenoxycarb with David James. David has now established a field trial against soft brown scale in citrus with this compound.

John Hamilton and John Macdonald from BCRI Rydalmere visited the Griffith area in early March to continue their work on control of lepidopterous pests of stored garlic. They were assisted by Mark Stevens who didn't find any leafhoppers.

Andrew Beattie (BCRI) and David James conducted two citrus growers' meetings on scale control in late February at Leeton and Griffith. Andrew presented a new video demonstrating the success of biological control in managing red scale at Narromine. This production features growers rather than "Experts", extolling the virtues of using parasitic wasps to control red scale, and hopefully will encourage greater use of the system.

The Bayer Chemical Company held a re-launch of their product, Le Mat, for control of earth mites, at Yanco in early April. Jim Watt provided up to date information on earth mite control. David James reported that hatchings of reg-legged earth mites commenced in the Riverina on or around 1st April. The early and effective autumn break stimulated well-synchronised hatchings throughout the region. Providing the mites don't get washed out to sea in the current flooding being experienced in southern New South Wales, major populations should develop during winter.

### Tamworth, Agriculture and Fisheries

Robyn Gunning departed in mid-April to take up her Churchill Fellowship at Rothamsted in the UK. Robyn will spend three months studying techniques of biochemical toxicology which will greatly assist her research into mechanisms of insecticide resistance in *Heliothis*.

Robyn, Margie Balfe and Nerida Coleman escaped from the country music festival aftermath and visited southern New South Wales in early February. They collected *Heliothis* samples from the Hay and Griffith areas, and also paid a visit to Yanco Agricultural Institute.

DAVID JAMES  
Regional Councillor

## SOUTH AUSTRALIA

### Department of Agriculture

Peter Allen presented an invited paper on insect pests of pasture at a Symposium on 'Pasture Establishment, Management and Utilisation' held at the Waite Institute in February. He will be presenting a review paper with Malcolm Campbell and Gordon Stovold, NSW Department of Agriculture, on the integrated control of weed, invertebrate and disease pests of pasture at the Australian Wool Corporation Conference on pests of Australian sheep pastures to be held at Ballarat in May 1989.

Peter Tavenner has joined the Entomology Unit as a technical officer for 12 months; he was previously an expert grain inspector with the Department. He is working mainly with Dennis Hopkins on biological control of Salvation Jane and with Greg Baker on pea weevil.

Tony Smith left the Northfield labs in early April to take up a position with CSIRO (Fisheries Research) in Hobart. Tony has been at Northfield for the last three years, firstly working in the Entomology Unit on the pea weevil project and then working on a fertilizer-application model in the Plant Nutrition Unit. Steve McKillip has also moved from Northfield to take on the position of Senior Apiary Officer in the department and is now based in head office; he will have regulatory responsibilities and will be involved in research on the management of bees.

### University of Adelaide

Arturs Neboiss visited the Zoology Department briefly in February to discuss work on Trichoptera with Alice Wells. Alice spent 2 weeks at Jabiru in April collecting, and endeavouring to rear caddis flies from the Alligator Rivers region. This was part of a project to produce a working guide to the caddis fauna of the region, for use by biologists of the Office of the Supervising Scientist who are engaged in monitoring the effects of Ranger's mining activities.

### Waite Institute - Dept of Entomology

The department has been fortunate in having several overseas visitors during recent months. Profs Don Dahlsten (Univ. of California, Berkeley) and Wayne Berisford (Univ. of Georgia) spent 3 weeks in South Australia evaluating biocontrol agents against *Ips*. Dr Oliver Sutherland (DSIR, Auckland) had discussions with members of the department concerning leafcutter bees and sheep blowfly. Dr Phil Ward (Univ. of California at Davis) made a brief visit in March and gave a seminar on ant speciation.

March and April saw Derek Maelzer jetsetting the globe, attending conferences at Riverside and Texas, visiting the UK and returning home via Malaysia. Virgilio Cacula is nearing completion of his study on scelionids and is returning to Italy following the Sydney conference and some sightseeing. Simon Lawson has submitted his masters thesis on biological control of *Ips* and has left for Japan where he is to continue his studies on forest entomology at Tokyo University, being supported by a fellowship from the Japanese government. Two other losses to the department are Kevin Samuels, who has joined Incitec in Brisbane, and Rachel Short who has entered the world of computing. Lindy Scott has rejoined the department, working with Robin Coles in the Insect Pathology lab and Jenny Fewster has begun work with Roger Laughlin.

### South Australian Museum

Bob Fisher, our expert (Honorary Associate) on butterflies, is off to the northern hemisphere. He is giving a talk on "Butterfly Photography" to the Entomological Society of Victoria on the way out, and will be staying with lepidopterists Dr and Mrs Alton Alderman in Arizona, USA, and visiting George Locket, of "British Spiders" fame in Somerset, England. He will also be contacting Noel McFarland, who was our Assistant Curator of Entomology

(1965-1969) and now lives in Arizona. Noel has recently sent us a substantial book he has just published on South Australian geometrid moths.

We have had visits from Neal Evenhuis (Bishop Museum) to examine our bee flies, and from Christine Brew (Monash University) to talk about mites, some fossil, associated with the leaves of forest trees.

ALICE WELLS AND DUNCAN MACKAY  
Regional Councillors

## WESTERN AUSTRALIA

### Department of Agriculture

Dr Fancis De Lima began work with the Department's fruit disinfestation laboratory at the end of February. Francis emigrated from Kenya with his wife and family in July last year. He has extensive experience in African agricultural entomology and has worked with FAO, the German Agency for Technical Co-operation (GTZ) and ICIPE. He has begun work on the disinfestation of melons, grapes and squash for Mediterranean fruit fly.

Departmental Chief Nic Monzu began 3 months long service leave in March to settle in to his new mansion. We are expecting a housewarming soon.

The blowfly group are busy 'wading' through data for collaborative work with Keith Wardaugh (CSIRO) on the use of a forecasting system to predict impending flystrike. Congratulations to David Cook who received notification that his PhD thesis entitled 'Sexual selection in the dung beetle *Onthophagus binodis* (Coleoptera : Scarabaeidae)' was passed. David's supervisors Win Bailey (UWA) and James Ridsdill Smith (CSIRO) are to be suitably congratulated.

Anne Hill must have found the mountains of paper preferable to sheep blowfly as she has made a permanent transfer to the Public Service Board of WA. We wish her well - entomology in the State will miss her input.

Congratulations to Rob Emery, former Technical Officer with the Entomology Branch, who has recently been appointed to the position of Entomologist, Stored Grain. This position has been left vacant since the resignation of John Moulden in 1986, and Rob has been acting in the position since then.

New data from the release of the Patersons Curse leaf miner, *Dialectica scalarisella* (Lepidoptera : Tortricidae)

reveals a spread of more than 1500 metres from the prime release site, Jane Brook. Recent surveys of other release sites in the south west of WA indicate that the moth is doing well despite early misgivings.

David Yeates has been busy determining the extent of the recently discovered Queensland fruit fly infestation in Perth. This is the first time that Qfly has been found in the state. Trap catches and larval rearing indicate that the fly has not reached production areas and is restricted to a 12 square km area of the western suburbs. Departmental staff think that it is fitting that one recent Queensland import should receive attention from the other. David will be visiting his counterparts in South Australia for three days from the 25th of April to see how Qfly is eradicated from Adelaide. Immediately after that he will be spending 2 weeks in the Kimberley on a Northern Australian Quarantine Strategy (NAQS) survey of plant and animal pests. Main ports of call will be Kununurra, Kalumburu, Broome and One Arm Point.

### Agriculture Protection Board

Jetsetting Peter Davis left for England and America on April 2nd. He will be attending a conference entitled 'Slugs and snails in World Agriculture' at the University of Surrey, England after which he will fly to the USA. There he will attend the "Annual Imported Fire Ant Research Conference" in Mississippi. From Mississippi Peter will travel to California to meet with researchers at UC Riverside and UC Davis who are working on Argentine ants. He will also examine the Green snail (*Helix aperta*) infestation in California, a similar climate to south-western WA. Peter will be back at the end of May with new ideas on what WA should do with its Argentine ants and Green snails. John Van Schagen left Curtin University late in March and is now filling Peter's shoes in the Department. John and the rest of the Argentine ant team have been busy with trails on organophosphates, pyrethroids and the diatomaceous earth Dryacide.

### Department of Conservation and Land Management

The Manjimup research centre recently lost Technical Officer Bill Frost. He has moved to take up a professional post at the Plant Research Institute, Burnley and we wish him well. The vacant technical position will be advertised later this year.

### Curtin University

There have been more departures than arrivals this quarter. John van Schagen has virtually completed his Masters thesis and has started with the WA Agriculture Protection Board (see above). Tony Postle is sighing with relief now that he has seen the temporary binder put on his PhD thesis. Tony has recently started some contract work with CALM as part of its investigation on the impact of fire on invertebrates and vertebrates in wheatbelt nature reserves.

### Health Department

Since December 1988 Tony Wright has been setting up a 4-pronged \$0.5 million State government campaign against Ross River virus (RRV) vector mosquitoes in the southwest of WA. To date efforts have concentrated on the application of larvicide (Lemephos) using a helicopter and organising a two person research and monitoring team (M. Lindsay and J. Letchford). The anticipated seasonal decline of RRV activity during winter should allow planning of the other two parts of the campaign. These comprise a drainage program to prevent mosquito breeding in environmentally degraded areas of saltmarsh and a publicity campaign to minimise human exposure to RRV vectors.

### CSIRO Laboratory for Rural Research

Congratulations to Zan Mazanec who has had his PhD thesis on the wasp parasitoids of jarrah leaf miner accepted. Honours student Bronwyn Houlding is looking at the effect of avermectin on dung beetles supervised by Win Baily and James Ridsdill-Smith. James is setting up a new project looking at the basis of resistance in pasture legumes to red legged earth mites.

### Western Australian Museum

Mark Harvey took up his new appointment as Curator of Arachnology on 13 March. In his research time, Mark will be chiefly concerned with the systematics of araneomorph spiders.

In March and April, Harry Baker visited the ANIC and the Museum of Victoria in order to identify some more Western Australian weevils.

Dr Michael von Tschirnhaus of the University of Bielefeld, West Germany, visited the Entomology Section in February prior to embarking on a tour and collecting trip around the south-west with his family. Michael was especially

interested in Agromyzidae and Chloropidae. Fleeting visitors to the Entomology Section on 10 April were Jo Cardale, John Lawrence and John Balderson, all of the ANIC, who made a stop over in Perth in transit to Christmas Island.

Val Davies, Honorary Associate at the Queensland Museum will be in Perth for 6 months from Mid March. During that time she will spend a few days each week at the WA museum as a visiting researcher, continuing her work on araneomorphs.

### University of Western Australia

The early part of the year has seen a number of visitors enjoying the research benefits of Western Australia. Darryl Gwynne returned to Toronto after completing some more work on the mating system of the bushcricket *Requena verticalis* only to be replaced by Dr Klaus Gerhard Heller from the University of Erlangen, West Germany who has initiated some field studies on the same insect. Dr Marianne Volleth combined a visit to work on bat taxonomy in Canberra with assisting Klaus-Gerhard. As if this were not sufficient, a postgraduate student from Erlangen, Ms Susan Dobbler, acted as a full time assistant on the project. Dr Thomas Mier was able to increase the German contingent further by giving a lecture tracing the development of the locust auditory system in the egg.

### Murdoch University

Jenny Davis, Fiona Whittles and Faye Christidis are working on a new wetlands classification project for the next 3 years funded by AWRAC, the EPA and WAWA. The classification will be based on invertebrates and water quality.

Susan Harrington and Adrian Pinder are involved in ongoing research into the midge problem in Perth wetlands. This year they have been doing lab trials of various pesticides.

PhD research - Shirley Balla is working on the effect of altering lake water levels on the fauna, particularly Odonata. Ivor Grown is examining the effect of logging on the invertebrate fauna of the Karri forest. Mark Lund is looking at top-down control of invertebrate community structure in lakes.

PETER DAVIS  
Regional Councillor (per David Yeates)

## TASMANIA

### Agriculture Department

Margaret Williams has completed field work for the first season of an Integrated Mite Control research project on hops. Margaret has also been investigating the effects of various fungicides on predatory mites in orchards. She attended a Horticultural Research and Development Corporation workshop on mites in Shepparton in January.

While north west Tasmania has received its winter rainfall early, low rainfalls in the south appear to have favoured *Chrysodeixis* looper caterpillars.

Lionel Hill, with Peter Brown from the Wildlife Service, greatly extended the known range of the endemic alpine butterfly *Oreixenica ptunnara* from central to north west Tasmania. Unfortunately good habitat stands of the host *Poa* snow grass may be destined to become eucalypt plantations. Lionel also found very large populations of common cutworm or bogong moth adults on scree slopes of Mt Barrow in February suggesting that summer alpine aestivation may occur in Tasmania as it does in the southeast Australian high country. Lionel has found that a cheap commercially available Canadian pheromone trap (HARA) developed for cutworm moths gave good results for *Heliothis punctigera* in comparisons with custom built dry funnel and Texas trap designs.

### Forestry Commission

Humphrey Elliott has refurbished research effort into eucalypt defoliating chrysomelid beetles with two people being appointed for two years.

A Tasmanian Forest Research Council funded project is examining the effects of defoliation and disbudding on tree growth increments so as to develop a predictive model for forest managers. The other program on the use of *Bacillus thuringiensis* and synthetic pyrethroids against chrysomelids has been mentioned previously.

### Museums

Bob Green at Queen Victoria Museum continues to amass fauna from eucalypt and pitfall traps at Maggs Mountain. The collection will provide reliable benchmark data for any future student of forestry operations.

Alison Green at Tasmanian Museum was visited by Mr Michael Chinery, a British naturalist author and BBC

program writer, in April. He donated a copy of his book "Collins guide to the insects of Britain and Western Europe". He may prepare a program on Tasmanian insects for the BBC.

LIONEL HILL  
Regional Councillor

## VICTORIA

### Plant Research Institute, Burnley

We have two new entomologists: Andrew Henderson, previously from the Department of Agriculture and Forestry, Melbourne University, has replaced Michael Braby to work on stored product entomology. Bill Frost has moved from CALM, in Manjimup, WA to begin a project on redlegged earth mite and endophytes in ryegrass. Three of our entomologists were married in March, Paul Home and Janet Comery married each other and Garry McDonald also was married (not to an entomologist!). Gordon Berg and Peter Stahle are busily looking for field trial sites for redheaded and blackheaded cockchafers respectively. Gordon is continuing his biocontrol work using nematodes, while Peter is testing insecticides for alternatives to lindane.

Marc Tracey from the Garden Advisory Service recently detected Elm Leaf Beetle, *Pyrrhalta luteola*, infesting elms near Melbourne. Quarantine entomologist Mohammed Mekhammer, has been busy plotting the distribution of the pest.

Ben Oldroyd has taken leave without pay from the Apicultural Research Unit to work as a Visiting Scientist at the USDA Honey Bee Breeding and Physiology Research Laboratory in Baton Rouge, Louisiana. Ben will be investigating the interactions of subfamilies within beehives, as well as experimenting with Africanised "killer" bees in South America. In Ben's absence Russel Goodman will maintain bee disease diagnostic services and Peter Hunt has been appointed to the Unit to continue research projects.

### Museum of Victoria

Mark Harvey left in mid-March to take up the position of Curator of Arachnids at the WA Museum. In addition, Richard Marchant has a permanent appointment as the assistant curator in the Department of Environmental

## Records.

Dr Ross Bell and his wife Joyce from the University of Vermont, Burlington, USA, visited to look at rhyssid beetles and found some interesting specimens. They had spent two weeks collecting in Tasmania and were on their way to Canberra before continuing north to Queensland. Dr George Poinar from the Department of Entomology, University of California, Berkeley, visited to examine and borrow some specimens of Gordian worms.

## Keith Turnbull Research Institute

Environmental weed control received a boost with news that host specificity testing of the geometrid moth *Comostolopsis germana* (Lepidoptera : Geometridae) for biological control of Boneseed and Bitu-bush has been completed. Permission to release this moth was granted during February 1989 and Rose Field and Robin Adair were able to make the first release in northern NSW. Robin is now conducting host specificity tests on *Chrysolina progressa* (Coleoptera : Chrysomelidae) as an additional insect for controlling Boneseed. The parasite *Sphaegophaga vesparum* (Hymenoptera : Ichneumonidae) has been introduced for biological control of European wasp and is currently undergoing host specificity testing to ensure that it does not attack any native insects. Sue Darby has been appointed as a technical assistant to help in the operation of this project. Frank Gigliotti and Dale Stephenson have been recently appointed as technical officers to work on the biological control of Sirex wasp and thistles respectively.

## LaTrobe University

Findings of the expeditions led by Ian Thornton to the Krakatau Islands of Indonesia have appeared as a special issue of the Phil. Trans. R. Soc. London 322 (1211): 273-526, with 11 of the papers covering invertebrates. The focus of the group has now shifted to the youngest island, Anak (child of) Krakatau and expeditions are planned for 1990 and 1991.

Chutamas Satasook has been passed for her PhD on insects of stored wheat and has returned to her post at Chiang Mai University in Thailand. Another recently passed PhD is Peter Ridland (VPRI) for his work on root aphids.

While entomological research at LaTrobe is in what Ian Thornton describes as a consolidation phase of analysis and

publication, Zoology has a good crop of Honours projects coming along. Roger Lowe is working with Seamus Ward on reproduction in the Pea Weevil, *Bruchus pisorum*, Jennifer Ludeke is working with our President Tim New and the Museum of Victoria on the invertebrate fauna of *Triodia* tussocks in the Mallee of North-West Victoria, Martin Read, a graduate of the University of Tasmania is working with Brian Malone on the exploitation of benthic macroinvertebrates by Galaxids, shortfinned eels and brown trout and, Paul Shallard is working with Allan Marshall on x-ray microanalysis of ion transporting epithelia of ephyrid fly larvae.

## Monash University

Dennis O'Dowd, (not a member, but well known through his work with the Ecological Society) reports considerable success in his studies of mites utilising domatia on leaves of rainforest trees. Mutualism now appears certain, and given that the structures occur on 82 families of plants, it may be that mite/plant mutualism is quite widespread. Look for a paper in the *Biol. J. Linn. Soc.* shortly. Dennis will be following his other speciality when he attends a conference on ant/plant relationships at Oxford on July 5-8.

JANET HORNE AND DON EWART  
Regional Councillors

## NORTHERN TERRITORY

### Office of the Supervising Scientist, Alligator Rivers Region

Peter Dostine reports that bimonthly water sampling downstream from the proposed Coronation Hill mining development will commence during the Dry season and that three consultants visited during March. Phil Suter (State Water Laboratories, Adelaide), Alice Wells (Adelaide University) and Peter Cranston (CSIRO Div. Entomology, Canberra) surveyed for their respective Ephemeroptera, Trichoptera and Chironomidae for two weeks throughout the region.

### CSIRO - Tropical Ecosystems Research Centre

Alan Anderson has commenced teaching a course in entomology to students studying for their Diploma of Environmental Science at the newly amalgamated Northern

Territory University/Darwin Institute of Technology. Alan recently identified specimens of the genus of our new publication as *Myrmecia desertorum* group. They were found in Kakadu by Tony Press of the Australian National Parks and Wildlife Service. This is the first record of the genus from the Top End although it is widespread in arid and semi-arid South Australia, Central Australia and in the Kimberleys.

#### DPIF, Entomology Section

Allan Allwood visited Malaysia in April as one of the team members, along with Drs Dick Drew (QDPI, Indooroopilly) and S. Vijaysegaran (Malaysian Agricultural Research and Development Institute) in an end of project review. The review panel consisted of Gordon Hooper (Director, Aust. Plague Locust Commission) and Dr Hashim (Deputy Director General, MARDI).

During early February, a swarm of grasshoppers invaded the township area of Tennant Creek. The local press expressed much concern but the 'plague' passed after about a week with no apparent feeding on any plant in town. The hoppers were subsequently identified as *Macrotona* sp. which normally does not enter a swarming phase.

Geoff Strickland and Steve Collins visited Ti Tree and Alice Springs during March to evaluate a trial on slow-release insecticides for the control of termites in grape vines. Some phytotoxicity and even death of small vine replants was recorded with one of the chemicals used.

#### DPIF, Weeds Section

The recently released biocontrol agent (the moth *Neurostrata gunniella*) against Mimosa has entered a second generation in the field and prospects for its establishment appear very promising. This release has also stirred much media interest with Colin Wilson and Grant Flanagan again starring for the local ABC and an interstate Channel 7 TV crew.

#### DPIF, Agricultural Quarantine Section

Ted Fenner was one of three Quarantine officers who made a low altitude survey by Cessna of the coasts of Melville and Bathurst Islands in February. This will be followed by ground surveys from a helicopter before mid-year as part of the NAQS program.

#### NT Health - Medical Entomology Branch

Paul Barker-Hudson has been with the Branch for three months now and has been introduced to the mud and slush of most of the Darwin swamps as well as many other 'scenic waterways' in the NT. He has had plenty of opportunity to get to know the local swamps since the above average wet season has produced prolonged and intense mosquito breeding. So far, the Branch has managed to retain control and keep mosquito numbers down to 'reasonable' levels.

Peter Whelan and Graeme Dobson visited Alice Springs to advise on mosquito control following good rains in March while Paul and Graeme sallied forth to Nhulunbuy for the same reasons.

Paul and Wendy Kelton have been making regular trips to Katherine to collect mosquitoes for viral studies in connection with a recent high incidence of epidemic polyarthritis cases in the area. Some viruses have been isolated from the initial collection and processing is continuing. Collections for virus studies are also being made at Jabiru and Darwin.

#### Museum of the Northern Territory

Wayne Houston has begun a study of the cashew fauna on trees in the Wildman River Plantation and is busy light-trapping, sweep netting, bush beating, malaise trapping and generally collecting any arthropod which moves.

STUART SMITH  
Regional Councillor



## Overseas News

### NEW ZEALAND

Dr David Manson retired recently. David, who has been with the New Zealand Ministry of Agriculture and Fisheries since 1955 has spent much of his working life specialising in mite taxonomy. He was closely involved almost from the very beginning of formal plant quarantine in New Zealand - when there were no microscopes or other specialised equipment and no reference collection, library or resource material. He has seen many changes in his 34 years with the department. Dave is New Zealand's specialist in eriophyid mite taxonomy and has published a great deal, including two major revisions. He hopes to continue some work on this economically important family of plant pests after retirement. His expertise in the field of intercepted insects pests will be sorely missed at the Entomology lab at Auckland, where he has been based for a number of years.

JOHN TENQUIST  
New Zealand Correspondent

## Directory of Australian Acarology

The CSIRO is compiling a directory of all people in Australia and New Zealand who are engaged in the scientific study of mites. Areas to be covered include taxonomy, general biology, chemical and biological control of pests, biology of ticks, environmental surveys of mite faunas, and applications of acarology in agriculture, medicine and parasitology.

Anyone wishing to be included in this survey should obtain a copy of the relevant questionnaire, from R.B. Halliday, CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601.

The questionnaire will automatically be sent to all members of the Australian Entomological Society, The New Zealand Entomological Society, and the Australasian Arachnology Society.

The closing date for responses will be September 1, 1989, and I expect the Directory to appear early in 1990.  
Bruce Halliday May, 1989

## News from Affiliated Societies

### ENTOMOLOGICAL SOCIETY OF VICTORIA

The Society seeks nominations for the annual 'Zoo' Le Souef Memorial Award. This award was instituted in 1983 to reward contributions to entomology in Australia by amateurs. Such contributions may comprise published papers and notes, broadcasts, newspaper articles, talks to Societies and other groups, or may be less tangible, such as a substantial record of help to others or public relations involving entomology. The nomination of a candidate may be made by any individual or group of people and should be submitted to the Secretary of the Society by the end of October 1989. Further details of award procedures and eligibility are available from the Secretary as follows:

Dr T.R. New  
Honorary Secretary, Ent. Soc. Vic.  
Department of Zoology  
La Trobe University  
BUNDOORA VIC 3083

### ENTOMOLOGICAL SOCIETY OF QUEENSLAND

At the Annual General Meeting on March 13 Hugh Paterson gave his out-going Presidential Address on Malaria Entomology and "Species Sanitation" to an audience of 53. At the same meeting the new Office Bearers for 1989 were elected as follows:

President	Dr N. Gough
Senior Vice-President	Dr W. Forno
Junior Vice-President	Prof H. Paterson
Honorary Secretary	Dr R. Wylie
Honorary Treasurer	Mr K. Houston
Publication Committee	
Convenor	Ms G. Sarnes
Councillors	Mr G. Daniels
	Dr G. Monteith
	Dr R. Raven

On April 10 Lionel Lukin spoke to the Society on "Human Cutaneous Myiasis in Brisbane: a Prospective Study" and on May 8 a "Notes and Exhibits" evening was held with contributions from Tom McRae, Judy Grimshaw, Geoff Monteith and Hugh Paterson. Our speaker at the next meeting on June 13 will be British visitor and world aphid authority, Victor Eastop, on "Doubts about aphids in Australia".

A Society camp in idyllic weather was held at Upper Tallebudgera Creek on the weekend of March 10-12 and was attended by an enthusiastic group of 13 adults and 11 children. Hopefully a second camp for 1989 will be held in October, perhaps to the Stanthorpe district.

GREG DANIELS  
Representative Councillor

## THE ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES INC.

The AGM held on the 8 March 1988 has resulted in a couple of changes on the council of the Society, Mark Stevens (recently appointed as Entomologist at Yanco) and Doug Rugg have stood down as councillors, and Graham Brown and Bob Lormer were elected to these positions. 1988 has been a good year for the Society and all concerned look forward to a productive year in '89.

The Society Emblem for this year is *Phoracantha tricuspidis* Newman (Coleoptera: Cerambycidae), a common borer of eucalypts in Eastern Australia. The illustration by Eren Turak was the winner of the 1988 AES Scientific Illustration Competition, and looks great on the circular which recently had a face lift due to improvements in Laser Printer availability.

In recent months the Society has been "on the road" due to the introduction of fees for the facilities at the Australian Museum. Following the AES AGM, forthcoming meetings will be held at CERIT and the Army Malaria Unit and are certain to be of great interest to the membership.

JOHN MACDONALD  
Representative Councillor

## Hymenopterists' Corner

From the lack of response from Australian Hymenopterists, it appears that there is little going on.

Woody Horning received one shipment of sawflies from the US National Museum from Dr David Smith. He has had the Macleay Museum sawfly collection for some years and it is now being returned, identified, in small lots. There were 25 species included in the shipment.

### New Workers

Chris Burwell, Department of Entomology, University of Queensland, has started a PhD on.

M.W.J. Crosland, School of Biological Sciences, University of New South Wales, has started working on field biology and control of *Vespula germanica* on a PhD fellowship.

### Field Work

Jo Cardale is currently at Christmas Island, assisting with an entomological survey of the island. It will be most interesting to see what Hymenoptera she has collected.

Ian Naumann was scheduled to undertake a five week collecting trip to the McIlwraith Range, Cape York Peninsula, in May. But it is still raining and the trip has been delayed.

Geoff Holloway, Australian Museum, will be at a parasitic Hymenoptera conference in Honolulu, Hawaii, 19-31 May. Naturally he plans to collect Ichneumonidae and other Hymenoptera. He should return with a good collection (if it is not raining like it has been in Australia for so long).

### Visitors

Phil Ward, University of California, Davis, recently spent some time in Australia. Amongst other places, he worked at the Australian National Insect Collection with Bob Taylor on ants.

### Contributions

Hymenopterists - this is your venue for informing fellow colleagues about what is happening in your field. Contributions are needed and please send them to Dr Woody Horning, Macleay Museum, University of Sydney, NSW 2006.



**AUSTRALIAN  
BIOLOGICAL  
RESOURCES  
STUDY**

The federal Bureau of Flora and Fauna has announced major staff changes. The former Director, Dr Peter Bridgewater, is leaving to take up a position as Chief Scientist to the UK Nature Conservancy Council. The ABRS will now be jointly headed by Dr R. Hnautiuk (Botany) and Dr B. Richardson (other aspects).

For the first time ABRS's annual allocation for participating grants has reached \$1,000,000 and the lucky recipients of grants for 1989 have been announced. Those with entomological content are as follows:

**CSIRO**

*Dr J.F. Lawrence.* Taxonomic studies on the ant genus *Myrmecia* (\$18,700).

*Dr I.D. Naumann.* Entomological Survey of McIlwraith Range, north Queensland (\$5,614).

*Mr K.L. Taylor.* Taxonomy and biology (particularly host associations) of Psyllidae on *Eucalyptus* and other Myrtaceae (\$1,300).

**Australian Museum**

*Dr D.J. Bickel.* Revision of Australian Sympycninae (Diptera : Dolichopodidae) (\$36,546).

*Dr G.S. Hunt.* Australian Triaenonychidae and Megalopsalidae (Opiliones) (\$8,984).

**South Australian Museum**

*Mr D.B. Hirst.* Revision of Australian Sparassidae, excluding Heteropoda (Araneae) (\$14,125).

*Dr D.C. Lee.* Systematics of advanced oribatid mites, mainly from South Australian soils (Acari) (\$14,674).

**Waite Institute**

*Dr A.D. Austin.* Taxonomic studies on Australian Braconidae (Hymenoptera) (\$14,847).

**Tiroler Landesmuseum Ferdinandeum**

*Dr G.H. Tarmann.* Zygaenidae (Lepidoptera) of Australia (\$12,500).

**Unattached**

*Dr G. Cassis.* Taxonomic revision of earwigs of Australia (Dermaptera) (\$24,904).

*Ms P. Greenslade.* A taxonomic study of Australian Collembola genera (\$16,500).

*Mr C.A.M. Reid.* Taxonomic revision of Australian genera of Eumolpinae (Coleoptera : Chrysomelidae) (\$18,600).

*Dr L.M. Roth.* Taxonomic revision of Australian cockroach genera and species (\$2,000).

## Journal Manuscripts

Manuscripts on any aspect of entomology are invited for publication in the *Journal of the Australian Entomological Society*. At present reasonably rapid publication can be assured for trouble-free manuscripts. Please consult a recent "Guide to Authors" before sending manuscripts to:

Dr N.W. Heather  
Chief Editor  
c/-DPI Entomology Branch  
Meiers Road  
INDOOROOPILLY.Q.4068

# Aphids Wanted, not Dead but Alive

Even though the majority of aphids known from Australia were introduced on their host plants, there are still problems concerning the identity of a number of them, and there are some surprising absentees, which might be expected to have been introduced and thrived.

Aphids, on the aerial parts of plants at least, are more evident in spring and autumn, but many of the problems concern the more cryptic species. We would be glad to see living aphids on a small portion of their host plant; a plastic bag lined with tissue to absorb condensation and honeydew makes a good temporary cage in cool conditions. For posting, a simple way is to inflate the plastic bag with a little air, seal, then send by air mail in a Jifty Bag. Associated ants, parasites and predators are also of interest, but please do not leave a large predator with only a few aphids in a small cage! Any root feeding species, particularly white, cream, pale yellow, green or pink aphids with short appendages - looking somewhat like mealybugs - are also of interest. If you really find mealybugs then they will be found a good home! We would also like to see aphids from other cryptic habitats such as the etiolated parts of plants under logs, stones, in caves, etc.

We would be glad to see specimens from the following plants:

**Cactaceae:** roots of *Opuntia* or other genera (*Aphis armoraciae*).

**Caprifoliaceae:** waxy aphids from named or flowering (please enclose flower) honeysuckles (*Lonicera* for *Hyadaphis* and relatives).

**Caryophyllaceae:** any aphids from carnations, pinks, and related plants, *Dianthus*, *Lychnis*, *Silene*, *Stellaria* and *Myzus*, *Macrosiphum*.

**Compositae (Asteraceae to the 'with it'):** waxy aphids at the base of the stem of *Cynareae* - globe artichokes, thistles, etc., for *Dysaphis*.

**Coniferae:** woolly aphids from named conifers.

**Convolvulaceae,** large white 'convolvulus' - *Calystegia sepium* for a dark 'form' of *Aulacorthum solani*.

**Crassulaceae:** stone crops, sempervivum, small dark

green aphids, resembling *Aphis gossypii* - for *A. sedi*.

**Cruciferae (Brassicaceae):** green aphids on stocks and under the rosette leaves of other genera, for *Lipaphis*.

**Cucurbitaceae:** cucumbers, melons, squashes, etc. - *Aphis gossypii*-like aphids.

**Cyperaceae:** sedges - any aphids, particularly slender species living on the upper surfaces of the bases of the leaves, and which may jump, *Saltusaphidini*.

**Ferns:** any aphids.

**Geraniaceae:** aphids from named *Erodium*, *Geranium* and *Pelargonium* spp.

**Gramineae (Poaceae):** any aphids from tussock grasses at high altitude, probably living in the tussock - *Pentamyzus?*

**Leguminosae (Papilionaceae and Fabaceae, to knowalls)** Broom - large green aphids from *Cytisus* or other shrubs.

**Malvaceae:** Hibiscus, mallow, cotton for *Aphis gossypii* group.

**Onagraceae:** any aphids from willow herb (*Epilobium*) or Evening Primrose (*Oenothera*).

**Palmae:** from any palms, any aphids, particularly black, flat scale-insect-like species with a fringe of white wax.

**Pinaceae:** any aphids from pines, particularly elongate green active species living on the needles, for *Eulachnus*.

**Polygonaceae:** Wire-weed, knot-weed, water pepper; some aphid species are subterranean, others live under the bracts sheathing the nodes, *Akkaia*, *Brachycaudus*, *Capitophorus*.

**Rosaceae:** strawberries - any aphids. raspberries - aphids from any *Rubus*. hawthorn - any aphids, particularly from roots! sheeps burr, bidgee widgee, any aphids from *Acaena* especially species living at the base of the stem with ants. pears, any aphids, particularly from the roots!

**Salicaceae:** any aphids from willows or poplars, particularly petiole galls from poplars in late spring or early summer.

**Scrophulariaceae:** *Antirrhinum*, *Buddleia* (if this is not a scroph why do *Myzus antirrhinii* and *Aphis verbasci* live on it?)

**Ulmaceae:** crumpled leaves or closed galls containing aphids in the spring and free-living aphids with banded or maculate wings.

**Umbelliferae (= Apiceae):** including carrots, hemlock, etc., from the flower head (for *Cavariella*, *Hyadaphis*, *Semiaphis*) or in the axils of the lower leaves with ants (*Dysaphis*).

Finally: any aphids from native plants, as there is little information as to how the native aphid species overwinter. Autumnal *Daviesia*- and *Acaena*-feeding aphids would be of particular interest.

MARY CARVER AND VICTOR EASTOP  
CSIRO Entomology  
GPO Box 1700  
Canberra ACT 2601

## An Australian Survey 1989 Listing of Postgraduate Projects in Entomology

This listing takes place amidst preparations for 20th AGM and I have to confess I have had less enthusiasm for chasing up missing lists of projects, and haven't asked anyone more than four times to supply their lists. As usual, thanks to those who only had to be asked once and got their information in by the date requested. Their names are recorded beside the institutions for which they gathered projects in the list following.

The purpose of the list is to let people know what research topics are being investigated by postgraduate students in Australia. Both students and supervisors can benefit by making contact with other institutions or individuals with similar interests, by sharing information and ideas and by avoiding duplication of effort.

On the statistical side, these remarks are made on the assumption that the list still not available will be similar to last year's. A slight decline in total numbers is indicated, from 256 last year to 241 this year. Does this reflect a rush to finish, or a disinclination to start, brought about by the HECS (Higher Education Contribution Scheme)? Or is it indicative of a dissatisfaction with career prospects in entomology or in science generally? I am sure the Editor would welcome comment on these or related matters.

We are pleased to welcome two institutions new to this annual event: the Northern Territory University and the

University of Western Sydney (students of the latter have previously appeared under the heading of Hawkesbury Agricultural College).

Once again, congratulations to all those who have graduated since this time last year. The Society wishes you success in your careers and invites your membership. And again, please forward any additions or corrections to me as soon as possible.

DINAH HALES  
Macquarie University

### UNIVERSITY OF QUEENSLAND (Prof H.E. Paterson)

#### Department of Entomology

- Aloalii, I. Survival of *Danaus plexippus* L. first instars in relation to cardiac glycoside concentration (MAgrSt).  
Ambatali, Fe. Behaviour, parasitism and development of *Euploea core corinna* (MAgrSt).  
Ballard, J.W.O. Simuliids: possible cryptic species (PhD).  
Burwell, C. A systematic study of some Entedoninae (Hymenoptera : Eulophidae) (PhD).  
Clarke, A.R. Population biology of *Nezara viridula* in south east Queensland (MAgrSc).  
Cribb, B.W. The distribution, structure and innervation of the antennal sensilla of female *Forcipomyia (Lasiohelea) townsvillensis* (Taylor) (Diptera : Ceratopogonidae) (PhD).  
Daglish, G.J. Influences of host plant and temperature on the development of *Heliothis* species (PhD).  
Elson-Harris, M. The systematics of Tephritidae (Diptera) based on comparative morphology of immature stages (PhD).  
Evans, D. The impact of predators on Lepidoptera in the cotton ecosystem (MAgrSc).  
Fernando, P. Aspects of the ecology of *Aphytis lingnanensis* Compere and *A. melinus* DeBach (Hymenoptera : Aphelinidae) females, parasitoids of *Aonidiella aurantii* (Maskell) (MAgrSc).  
Forrester, N. Management of insecticide resistance in *Heliothis armigera* (PhD).  
Freebairn, C. The systematics, biology and laboratory evaluation of a mermithid nematode from *Anopheles*

- annulipes larvae (PhD)
- Gibson, L. Some aspects of the life history and biology of *Zygotogramma bicolorata* - a biological control agent for annual ragweed (MAGRSc).
- Grimshaw, J. The family Oxyopidae (Araneae : Arachnida) in Australasia (MSc).
- Hayward, C. An investigation of the courtship behaviour of 3 closely related fruit fly species (MSc).
- Heard, T. Aspects of the pollination biology of macadamia and cashew (PhD).
- James, C. Investigations into the causes of female polymorphism in the orchard butterfly, *Papilio aegaeus* (Papilionidae) (Hons).
- Jones, R. *Heliothis punctigera* Wallengren: Species or species complex - an investigation using oviposition trials (Hons).
- King, J. Systematics of some Australian Megachilidae (MSc).
- Maynard, G. Studies on Australian bees of the genus *Leioproctus* Smith (PhD).
- Meurant, K. Effects of azadirachtin on the corpus allata/ cardiacum ring complex in the larval blowfly *Lucilia cuprina* (Diptera : Calliphoridae) (Hons).
- Montgomery, B. The elucidation of the evolutionary status of Queensland coastal *L. cuprina* (MSc).
- Murray, D. Population dynamics of *Heliothis* - factors influencing survival and development of the pupal stage (PhD).
- Njagi, P. Sensory biology of some labellar gustatory sensillae of male *Dacus tryoni* and their role in feeding on cue-lure (PhD).
- O'Neill, S. Cytoplasmic incompatibility: symbiont induced sterility in insects (PhD).
- Permkam, S. Taxonomic observations on the Australian Trypetinae (Diptera : Tephritidae) (MAGRSc).
- Rungrojwanich, K. Effect of neem on sheepouse (*Damalinea ovis*) (MAGSt).
- Titmarsh, I. Population dynamics of *Heliothis* - factors influencing survival of immature stages on various host plants (PhD).
- Velasco, L.R. Role of prior host plants in the population build-up of *Nezara viridula* in South East Queensland (PhD).
- Walker, P. Biology and ecology of the pink-spotted bollworm *Pectinophora scutigera* (PhD).
- Wallace, H. Insect pollination of Macadamia (PhD).
- Wilson, L. Management and Ecology of Spider Mites in Cotton (PhD).
- Yare, M. Comparative behavioural study of Embioptera species (Hons).
- Medical School Tropical Health Program**
- Tun Lin, W. Ecology and Population Dynamics in the Control of Urban and Rural Vectors (PhD).
- Microbiology Department**
- Lloyd, A. The bacteria associated with *Dacus* species and their host trees in Queensland (PhD).
- Murphy, K. Colourization of the alimentary tract of *Dacus tryoni* (Queensland fruit fly) by bacteria, including dinitrogen-fixing strains (MSc).
- Zoology Department**
- Brown, M. Use of copepods (*Mesocyclops* sp.) as biological control for mosquitoes (and hence mosquito borne diseases) (MSc).
- GRIFFITH UNIVERSITY (Dr J. Hughes)**
- School of Australian Environmental Studies**
- Bassett, Y. The temporal and spatial distribution of canopy arthropods associated with the rainforest tree *Argyrodendron actinophyllum* (Sterculiaceae) (PhD).
- Pillsworth, M. The dynamics of a sessile predator *Myrmeleon pictifrons* (ant-lion) (Neuroptera Myrmeleonidae) (PhD).
- Reinks, J. Visual display behaviour in jumping spiders (Araneae - Salticidae): Morphological and microhabitat correlates (PhD).
- School of Science**
- Lester L. Biochemical characteristics of alcohol dehydrogenase in *Drosophila melanogaster* (MSc).
- JAMES COOK UNIVERSITY (Prof R.E. Jones)**
- Zoology Department**
- Benson, L. Allochthonous input and processing in a rainforest stream (PhD).

- Braby, M. The ecology of tropical satyrine butterflies (PhD).  
 Charlton, L. Feeding mechanisms, diet, and growth of dragonfly larvae in rainforest streams (BSc Hons).  
 Downes, M. Biology of subsocial spiders (PhD).  
 Hudson, P. Population dynamics of medically important mosquitoes of the Ross River Dam (MSc).  
 Hurley, M. Herbivory on stinging-trees (MSc qual).  
 Kay, I. Development biology of *Eysarcoris trimaculatus* (Pentatomidae) (MSc).  
 Lokkers, C. Ecology of the green tree ant, *Oecophylla smaragdina* (PhD).  
 Rae, D. The ecology of sugarcane mealybugs (PhD).  
 Seymour, J. Geographic variation in parasitoids of Australian *Heliothis* species (PhD).  
 Wilkie, L. Taxonomy and prospects for biological control of the banana scab moth (PhD).  
 Yule, C. Life-history patterns of tropical stream insects on Bougainville (PhD)>

### QUEENSLAND AGRICULTURAL COLLEGE (Dr E. Hassan)

- Dunmall, T.A. The use of flowering plant hedges as a potential source of predators and parasites controlling Cabbage Moth (*Plutella xylostella*) in combination with biological insecticides such as *B. thuringiensis* (BAppScRurTech).  
 Kerlin, J.J. Testing the effects of chemicals used in citrus plant protection on the parasites of California Red Scale (*Aonidiella aurantii*) (BAppScRurTech).  
 Suadery, R.M. Integrated control of two-spotted mites in strawberries using a predatory mite and miticides (BAppScHorTech).  
 Hamilton, K. The effect of stem-injected tordon on foraging honey bees (*Apis mellifera*) (PostGradDip in Plant Protection).  
 Mercer, V. An investigation of the honey bee repellency/toxicity of fluralinate and efluthrin (BAppScRurTech).

### SOUTH AUSTRALIA UNIVERSITY OF ADELAIDE (Dr David Cooper)

#### Department of Entomology

- Allen, G.R. Biology and ecology of the parasites of *Uraba lugens* (PhD).  
 Annells, A. Effect of temperature on the uptake and transmission of barley yellow dwarf virus by cereal aphids (BAGSci Hons)  
 DeBarro, J. The assessment of resistance of medics to the bluegreen aphid (BAGSci Hons).  
 DeBarro, P. Ecology of cereal aphids in the low rainfall wheat growing regions of South Australia and their importance in the epidemiology of barley yellow dwarf virus (PhD).  
 FitzGibbon, F. Integrated management of woolly apple aphids (MAGRSc).  
 Lardner, R. Colonisation and development of the parasitoid complex of the cabbage leafminer, *Liriomyza brassicae* (Diptera: Agromyzidae) (PhD).  
 Lawson, S. Biological control of *Ips grandicollis* Eich. (MAGRSc).  
 Madden, C. The effect of pesticides on chironomid larvae (MEnvS).  
 Morris, B. Taxonomy and physiology of blowfly larvae (MAGRSc).  
 Peng, Z. Allelochemic responses of rose tissue to attack by rose aphids (PhD).  
 Weinstein, P. Bionomics of host-parasite interaction in trigonalid wasps (PhD).

#### Department of Plant Pathology

- Chen, B. Cucumovirus transmission by *Myzus persicae* is determined solely by its coat protein (PhD).  
 Geering, A.D.W. A study of the epidemiology of cucumber mosaic virus in lupins (PhD).  
 Ligat, J.S. A comparison of Australian pea seed borne mosaic virus isolates (MAGRSc).  
 Zhang, Q. A study of the molecular biology of lettuce necrotic yellow virus as it infects the aphid vector, *Hyperomyzus lactucae* (MAGRSc).

## FLINDERS UNIVERSITY (Dr D.A. Mackay)

### School of Biological Sciences

- Belan, I. Host selection by reptile ticks (PhD).  
 Chilton, N. Ecological interactions among reptile ticks at a parapatric boundary (PhD).  
 Cross, C. Ecological implications of differences in flowering phenology in a mallee woodland community (PhD).  
 O'Carroll, D. Optics of spider vision (PhD).

## NEW SOUTH WALES THE UNIVERSITY OF SYDNEY (Dr H.A. Rose)

### Department of Agricultural Chemistry

- Kozlowski, B. Esterases in the sawtoothed grain beetle, *Oryzaephilus surinamensis* (MScAgr).

### Department of Animal Husbandry

- Sherwood, N. Evaluation of a scoring system for lice distribution in sheep (MScAgr).  
 Torkamanzehi, A. The role of transposable elements in the generation of quantitative genetic variation in *Drosophila melanogaster* (PhD).

### Department of Biochemistry

- Chappell, D. Nitrogen metabolism in termites (Isoptera) (PhD).

### School of Biological Sciences

- Gibbons, D.S. Visual and tactile signals in Fabaceae (MSc).

### School of Crop Sciences

- Gwynn, C. Mapping genes responsible for inheritance of scutellar bristle number in *Drosophila melanogaster* (MScAgr).

### Department of Plant Pathology and Agricultural Entomology

- de Keyzer, R. Systematics of the Oribini (Coleoptera : Cerambycidae) of Australia with notes on oriental species (MScAgr).  
 Faulder, R.J. Systematics and biogeography of the spider genus *Missulena* (MScAgr)  
 Macdonald, J.A. Biology of the Pergidae (Hymenoptera :

Symphyla) (MScAgr).

- Sinclair, D.P. Taxonomic revision of the Tessaratomidae (Hemiptera : Heteroptera) (PhD).  
 Visetson, S. Biochemical insecticide resistance mechanisms in the rust-red flour beetle, *Tribolium castaneum* (PhD).  
 Zhang, J. Cellulose and starch metabolism in two cockroaches (MScAgr).

## MACQUARIE UNIVERSITY (A/Professor D. Hales)

### School of Biological Sciences

- Blanco, L. Interactions between aphid saliva and plants (PhD).  
 Claxton, S.K. The biology of terrestrial tardigrades (MSc).  
 Horwood, M.A. Comparison of effects of juvenile hormone deficiency and parasitisation in the Australian plague locust (MSc).  
 Hughes, L. Dispersal of seeds by ants (PhD).  
 Hunt, S.M.N. Molecular bases of position - effect variegation in *Drosophila melanogaster*.  
 Kennedy, C.M.A. Biology of Australian Pseudoscorpionida (PhD).  
 Le Febvre, M. Influence of molecular electromagnetic radiation on honeybees (PhD).  
 Rodgerson, L. Comparison of ant seed dispersal on infertile and fertile soils (PhD).  
 Sales, N. The potential for resistance to synthetic pyrethroids in the sheep blowfly, *Lucilia cuprina* (MSc).  
 Shuter, E. Arthropods on bracken (MSc).  
 Stone, C. Pinus inner-bark community associated with *Ips grandicollis* in NSW (PhD).  
 Turak, E. *Sitobion* species on grasses and cereals in Australia (MSc).

## UNIVERSITY OF NEW SOUTH WALES (A/Prof. R.H. Crozier)

### School of Zoology

- Barracough, D. Revision of Australasian Dexiini (Diptera : Tachinidae) (PhD).  
 Brown, G. A revision of the Australian Thynninae (Hymenoptera : Tiphidae) with special reference to



the genus *Rhagigaster Guerin* (PhD).

Cohen, K. Sex allocation in fig wasps (BSc Hons).

Goletsos, C. Defensive behaviour of aphids (BSc Hons).

Kusmierski, R. Genetic analysis of population structure in the social wasp *Ropalidia plebeiana* (Hons).

McLeone, L.J. Overwintering strategies of *Lucilia cuprina* in the arid zone (MSc).

York, A.K. Recolonization of native forests after fire [ants] (PhD).

## UNIVERSITY OF NEW ENGLAND (Dr P. Gregg)

### Department of Agronomy and Soil Science

Del Socorro, A. Ecology of armyworms in the New England area (MRurSc).

Gardner, J. Light trapping as a means of sampling for the fig longicorn beetle *Dihammus vastator* (BRurScHons).

Phelps, D. Effect of rainfall on suitability of Mitchell grass as a host for armyworms and plague locusts (BRurScHons).

Sanderson, A. Suitability of weeds and pasture plants for *Heliothis* spp. (DipScAg).

Spessa, A. Simulation modelling of *Heliothis* within a multi-cropping situation (MRurSc).

### Department of Animal Science

Armstrong, T. Genetic analysis of olfaction in *Drosophila buzzatii* (PhD).

Muldano, A. Selection in strain crosses of *Drosophila melanogaster* (MScAg).

Norr, R. Maintenance of genetic variation in strain crosses of *Drosophila melanogaster* (MScAg).

Pangesto, R.B. Genetic and morphological variation in *Drosophila* in stress environments (MRurSc).I

Schafer, D. Development and molecular studies of ADH in *Drosophila buzzatii* (MSc)

### Department of Zoology

Asante, S. Biological and ecological studies of the woolly apple aphid, *Eriosoma lanigerum* with reference to control (PhD).

Coombs, M. Flight behaviour of *Heliothis* spp. in relation to the physical environment (PhD).

Gu, H. Flight behaviour of light brown apple moth *Epiphyas postvittana* in relation to environmental and genetic variables (PhD).

King, K. The role of microarthropods in decomposition and nutrient cycling in temperate grasslands (PhD).

### Department of Ecosystem Management and Zoology

Nadolny, C. Insect impact on seed set in rainforest trees (PhD).

### Department of Ecosystem Management

Jenkins, B. Dynamics of food webs in water-filled treeholes (PhD).

Clark, C. Fauna in *Nepenthes* pitcher plants (PhD).

## UNIVERSITY OF WOLLONGONG ( P.M. Tap)

### Department of Biology

Tap, P.M. Insects and the role of refuges in post-fire succession in Heathland (PhD).

## UNIVERSITY OF TECHNOLOGY, SYDNEY (Dr K.R. Brown)

### Department of Applied Biology

Clancy, J. Terrestrial fauna of mangroves (MApplSc).

Napier, G. The application of laboratory data to natural ecosystems (PhD).

Slyter, D. Changes in urban garden invertebrate populations following treatment against Argentine Ant infestations (MApplSc).

Thurn, M. Isolation and characterisation of the toxin of the tick, *Ixodes holocyclus* (Hons).

## UNIVERSITY OF NEWCASTLE (Dr B. Conroy)

### Department of Biological Sciences

Collie, T. Seasonal dimorphism in the evening brown butterfly, *Melanitis leda* (PhD).

## UNIVERSITY OF WESTERN SYDNEY (R. Spooner-Hart)

### Faculty of Agriculture

Johnson, M.L. Integrated mite control in stone fruit orchards (GradDip).

## VICTORIA LA TROBE UNIVERSITY (Dr T. New)

### Department of Zoology

- Barrass, I.C. Population biology of mealy bug on pears (MSc).
- Berg, G.N. Use of nematodes for control of pasture pests (PhD).
- Britton, D.R. Studies of Lepidoptera on native and introduced trees (MSc).
- Buchanan, G.A. Insect population ecology: Phylloxera on grapes in Victoria (PhD).
- Fell, J.M. An ecological study of three species of scorpions in Victoria (MSc).
- Hawkins, J. Distribution and ecology of Odonata in the Kiewa River System (MSc).
- Hochuli, D.F. Feeding biology of the armyworm (MSc).
- Kobelt, A.J. Population dynamics of native budworm in field peas (MSc).
- Mconald, G. Dispersal and phenology of armyworms (PhD).
- Poiani, A. Avian ecology and mating systems (PhD).
- Schmidt, E.R. The systematics and biogeography of the Psocoptera of Tasmania (MSc).
- Smith, A.M. Biology and control of the pea weevil (PhD).
- Walker, K.L. Taxonomic revision of *Lasioglossum* (PhD).
- Weiss, J. Possibilities of using a non-included virus as a biological control of black field crickets (*Teleogryllus commodus*) (MSc).

### Department of Genetics and Human Variation

- Blows, M. *Drosophila* ecogenetics (MSc).
- Tomasov, J. The ecological genetics of *Chrysolina quadrigemina* (Coleoptera) (PhD).

## MONASH UNIVERSITY (Dr B. Roberts)

### Department of Botany and Zoology

- Barry, M. Predator-prey interactions between *Daphnia* sp. and Notonectidae (PhD).
- Basuki, E. Analysis of developmental hormones in *Lucilia* (MSc).
- Brown, E. Analysis of polytene chromosomes of *Sarcophaga* sp. (PhD).
- Clissold, F. Identification of ecdysteroids involved in oocyte development of fleshflies (MSc).
- Closs, G. Predator/prey relationships in a stream environment (PhD).
- Collier, M.A. Analysis of reproductive hormones in *Lucilia* sp. (PhD).
- Coy, R. Nematodes and arthropods in soil and litter of *Eucalyptus regnans* forest (PhD).
- Ferdinands, K. Predator-prey interactions of *Stenoperla australis* (Hons).
- Cawne, B. Ecology of *Agapatus* sp. in Taggerty River (PhD).
- Green, P. The role of terrestrial crabs in structuring rainforest on Christmas Island, Indian Ocean (PhD).
- Kulkarni, S. Analysis of development and developmental hormones in the light brown apple moth *E. postvittana* (MSc).
- O'Connor, N. Ecology of lowland streams in northern Victoria (PhD).
- O'Leary, P. Grazing interaction of aquatic invertebrates on rocky shores (Hons).
- Wallace, D. The pattern and consequence of mite association with leaf domatia of *Cissus* (Vitaceae) and *Coprosma* (Rubiaceae) (PhD).

### Genetics Department

- Agrostis, A. DNA restriction map variation using four base-cutter endonucleases at an enzyme locus in natural populations of *Drosophila melanogaster* (PhD).
- Matthew, P. Molecular and population genetics of a naturally occurring 37-base-insert variant of the alcohol dehydrogenase gene of *Drosophila melanogaster* (PhD).
- Ross, J. Gene expression and DNA haplotype variation in the glycerol-3-phosphate oxidase locus of *Drosophila melanogaster* (PhD).

## UNIVERSITY OF MELBOURNE (Dr J. Martin)

### Department of Genetics

- Adcock, G. Insecticide resistance in *Drosophila melanogaster* (MSc).
- Andrews, J.R. The function of the suppressor of stoned locus in *Drosophila melanogaster* (PhD).
- Bull, A. The molecular genetics of calmodulin binding proteins from *Drosophila melanogaster* (PhD).
- Chen, Z.Z. Molecular and cytological studies in dipteran insects (PhD).
- Davies, A. Genetic analysis of the scalloped wings locus in *Lucilia cuprina* (MSc).
- Fabb, S. Storage proteins in *Chironomus* (PhD).
- Hannan, F. Cloning neurological genes from the base of the *Drosophila X-chromosome* (PhD).
- Hardy, S.M. Expression of the lozenge gene complex in *Drosophila melanogaster* (PhD).
- Lentzoi, G. Cytogenetic studies of some chironomid species (MSc).
- Merakovsky, J. The molecular genetics of *Drosophila* stoned gene (MSc).
- Morgan, M. The molecular genetics of the shibire locus in *Drosophila melanogaster* (PhD).
- Nolch, G. Mutagenesis and selection for insecticide resistance in *Drosophila melanogaster* (BSc Hons).
- Pasquini, G.M.G. Molecular analysis of the lozenge locus in *Drosophila melanogaster* (MSc).
- Petrovich, T. Molecular and genetic studies of the suppressor of stoned locus in *Drosophila melanogaster* (PhD).
- Pettigrove, V. Taxonomy and ecology of several Chironomidae species (MSc).
- Smyth, K-A. Mutagenesis and selection for insecticide resistance in *Lucilia cuprina* (BSc Hons).
- Webb, P. The genetics of cAMP metabolism in *Drosophila* (BSc Hons).

### Department of Zoology

- Nikolakopoulos, N. Speciation and the evolution of reproductive isolation in field crickets (Gryllidae) (PhD).
- Thomas, C. Sound reception in male crickets (MSc).

## DEAKIN UNIVERSITY (D.J. Moloney)

### School of Biological Sciences

- Moloney, D.J. Vegetation regeneration and small mammal recolonization in fire-affected areas of the Airey's Inlet/Anglesea region, Victoria (includes insect pitfall trapping and scat analysis) (PhD).

## WESTERN AUSTRALIA CURTIN UNIVERSITY OF TECHNOLOGY (Dr J.D. Majer)

### School of Biology

- Little, S. The influence of fire on litter invertebrates in a wheatbelt nature reserve (BAppSc Hons).
- Van Schagen, J.J. The biology and ecological impact of bag shelter moths in the Western Australian wheatbelt (MAppSc).

## UNIVERSITY OF WESTERN AUSTRALIA (Dr W. Bailey)

### Department of Zoology

- Aromna, S.S. Host locating strategies in lepidopterous parasitoids (MSc).
- Dolsopon, S. Fecundity and sex ratio of mixed species of scale parasites, *Comperiella bifasciata* and *Aphytis melinus* (PhD).
- Label, L. Factors controlling the distribution of Trichoptera in freshwater streams (PhD).
- Lillywhite, J. Immunological studies of predation on dung pads (MSc).
- Murray, B. Insect communities in freshwater streams (PhD).
- Watanasit, S. The reproductive biology of Odonates (PhD).

## AUSTRALIAN CAPITAL TERRITORY AUSTRALIAN NATIONAL UNIVERSITY (Dr P.J. Gullan)

### Department of Botany, Faculty of Science

- Barry, S.C. Genetic variation and dispersal in populations of the Australian Onychophora (BSc Hons).

**Department of Zoology, Faculty of Science**

- Bhatti, S. The systematics of the Australasian tribe Monophlebulini (Homoptera : Coccoidea : Margarodidae) (PhD).
- Miller, L.R. Systematics of Nasutitermitinae (Isoptera) (PhD).
- Qin, T.K. The taxonomy and biology of Australian *Pulvinaria* species (Hemiptera : Coccidae) (MSc).
- Reid, C.A.M. The systematics of Australian Cryptocephalinae (Coleoptera : Chrysomelidae) (PhD).
- Trueman, J.W.H. Odonate taxonomy (PhD).

**Centre for Visual Sciences, RSBS**

- James, A.C. White noise analysis in the locust lamina (PhD).
- Jin, Z.L. Computer modelling of insect vision (PhD).
- Shi, J. Information processing in the optic lobe of the sheep blowfly (PhD).
- Sun, Q.-J. Motion perceptive units in the ventral cord of dragonflies and butterflies (PhD).
- Warrant, E.J. Visual acuity in insect superposition eyes (PhD).

**Molecular Neurobiology Group, RSBS**

- Cotsell, J.N. An investigation of the diversity of DNA sequences in the chromocentral region of *Drosophila melanogaster* chromosomes (BSc Hons).
- Hennig, M. The cellular basis for co-ordination of motor patterns in two closely related species of Australian crickets (PhD).
- Schuppler, U. Genetic and molecular characterization of a small segment of the *Drosophila melanogaster* genome containing a collagen-like gene: genes, transcripts and genetics (PhD).

**Ecosystem Dynamics Group, RSBS**

- Hodda, M. Interactions between harvester termites and vegetation in a tropical savanna at Kapalga, NT (PhD).

**Population Genetics Group, RSBS**

- Jiang, J. Restriction site maps in the vicinity of the ADH locus in *Drosophila melanogaster* (PhD).
- Symonds, J.E. The characterization of an alphaslycerophosphate dehydrogenase variant in *Drosophila melanogaster* (PhD).

**CSIRO Entomology, jointly with ANU**

- Campbell, P.H. Molecular and genetic characterization of juvenile hormone esterase in *Drosophila melanogaster* (PhD).
- Cooke, P.H. Molecular basis of Esterase 6 electrophoretic polymorphism in *Drosophila melanogaster* (PhD).
- Game, A.Y. Causes and effects of variation in Esterase 6 activity in *Drosophila melanogaster* (PhD).
- Karotam, J. Nucleotide differences and the molecular clock in *Drosophila* (PhD).
- Myers, M.A. Protein engineering in *Drosophila* (PhD).
- Odgers, W. Molecular basis of Esterase 6 activity variation in *Drosophila* (BSc Hons).
- Parker, A.G. Molecular analysis of insecticide resistance in the Australian sheep blowfly, *Lucilia cuprina* (PhD).
- Rozario, S.A. Population ecology of eurymelid leafhoppers (Hemiptera : Eurymelidae) on eucalypts and their associations with ants (MSc).
- Saad, M.A. Mating behaviour in *Drosophila* (PhD).
- van Papenrecht, E.A. Differences in the regulation of Esterase 6 among sibling *Drosophila* species (PhD).
- Vickers, R. The influence of codling moth female sex pheromone on mating behaviour and its potential as a mating disruptant (PhD).

**TASMANIA**  
**UNIVERSITY OF TASMANIA**  
**(Dr J.L. Madden)**

**Department of Agricultural Science**

- Candy, Steve Life table analysis of the developmental biology of *Platypus subgranosus* and an investigation of the pattern of attack on the host tree *Nothofagus cunninghami* (MAgrSc).
- Cao Yong Biological control of two-spotted mite infesting hops (MAgrSc).
- Haifeng, Li Leaf chemicals and host tree selection by the eucalypt-defoliating beetle, *Chrysophtharta*

*bimaculata* (Olivier) (Coleoptera : Chrysomelidae) (MAgrSc).

Ireson, John Studies on lucerne flea and other Collembolla in the Tasmanian cultural steppe (PhD).

McQuillan, Peter The taxonomy, ecology and host plant relationships of some Tasmanian root-feeding cockchafers (PhD).

Mensah, Robert Biology and integrated control of the psyllid, *Ctenarytaina thysanura* infesting boronia (PhD).

Pearn, Susy The development of on-farm production of entomogenous fungi for use in controlling soil inhabiting pasture pests (MAgrScQual).

Rath, Andrew *Metarrhizium anisopliae* as a control agent for the Red-Headed Cockchaler, *Adoryphorus couloni* (PhD).

Srithongchai, Wanphen Dynamics of aphid-borne plant virus disease (PhD).

Suwanbutr, Sutohn Biology, ecology and control of lucerne aphids (PhD).

#### Department of Zoology

Chilcott, S Life histories of mayflies (MSc).

Jackson, Jean Taxonomy and functional morphology of three families of Trichoptera (PhD).

Krasnicki, Tom Studies on the evolutionary and population genetics of Tasmanian Odonata (BSc Hons).

Moore, M. Dispersal ecology of terrestrial amphipods (BSc Hons).

### NORTHERN TERRITORY NORTHERN TERRITORY UNIVERSITY (Dr C.J. Webb)

#### Faculty of Science

Foti, F. The possible nutritional/medicinal value of some termite mounds used by Aboriginal communities of the Northern Territory (MSc).

### SOCIETY LETTERCARDS FOR SALE



The Society has produced two, quality lettercards based on prize-winning drawings from the annual illustration competition. They are obtainable from the Business Manager: ten for \$4.00 or two for \$1.00.

Postage for ten is \$0.95 within Qld and \$1.05 for other states.

Postage for two is \$0.37.

# Report of the Conservation Committee

We have continued our programme of preparing submissions to various land management inquiries with one written by Eric Matthews on the Innamincka Regional Park Management Plan in South Australia. Our earlier submission to the Tasmanian Forestry Commission on the Forestry Practices Code is being considered and we have been asked to have some discussions on it by the Commission.

I have spent two of the last three months travelling by sea with an Australian Antarctic Division expedition to continental Antarctica. My project was to advise on preventing exotic invertebrates being introduced to the stations. Because of the vast distances involved most of the two months was spent at sea but we were able to spend a few days at a both Mawson and Davis stations. The other passengers included several members of the House of Representatives Standing Committee on Environment, Recreation and the Arts currently occupied with an inquiry into tourism in the Antarctic and to which we prepared a submission from the society. In case anyone else is interested in contributing, I am attaching the terms of reference as well as those of another on soil degradation in Australia. We are planning also to make a submission to this second inquiry stressing the contribution the soil fauna makes to the fertility and structure of soils and again would welcome contributions from other members of the society.

It is noticeable since last time I was living in Tasmania four years ago, how much conservation issues now dominate the local media, in particular recently of course the Wesley Vale Mill. On the surface, it seems the Federal Government's decision not to give approval to the development was based on the scientific evidence. This is most encouraging since the previous major land management decision made in the State by the Federal Government, that of the Lemnathyme and Southern Forests, was made against the scientific evidence. Perhaps we are beginning to make ourselves heard!

**PENELOPE GREENSLADE**  
Convener, Conservation Committee

c/- CSIRO Entomology  
GPO Box 1700  
Canberra ACT 2601

## LAND DEGRADATION ENQUIRY

### Terms of Reference

That the Committee inquire into and report on land degradation with particular reference to:

- a. on-going causes of land degradation;
- b. effectiveness of policies, programs and practices designed to alleviate land degradation; and
- c. measures required to protect the environmental and productive values of land.

### Inquiries and submissions to:

The Secretary  
House of Representatives Standing Committee on  
Environment, Recreation and the Arts  
Parliament House  
Canberra ACT 2600  
Tel. (062) 77 4592  
Fax (062) 77 2067

## ENQUIRY INTO TOURISM IN THE ANTARCTIC

### Terms of Reference

That the Committee inquire into and report on tourism in the Antarctic with particular reference to:

- nature and scale of tourism activity;
- role of the government and private sectors in tourism activities, developments and the provision of infrastructure;
- impact on the environment;
- impact on scientific programs;
- financial costs to the Commonwealth;
- planning and regulatory requirements, and
- Australia's international obligations.

### Inquiries and submissions to:

The Secretary  
House of Representatives Standing Committee on  
Environment, Recreation and the Arts  
Parliament House  
Canberra ACT 2600  
Tel. (062) 77 4580

# Coming Events

## Ecological Society of Australia Open Forum

To be held at University of Wollongong on September 24-27, 1989. Contact: Dr Ros Muston, Zoology Department, University of Wollongong, NSW 2500.

## 59th ANZAAS Congress

To be held in Hobart on February 14-16, 1990. Theme is "Global Change and the Southwest Pacific". Contact: Dr Peter E. Doe, Department of Civil and Mechanical Engineering, University of Tasmania, Hobart, TAS 7000.

## 11th International Congress of Arachnology

To be held in Turku, Finland on August 7-12, 1989. Contact: The Secretary, Arachnology Congress, Zoological Museum, University of Turku, SF-20500 Turku, Finland.

## 21st International Congress of Ethology

To be held in Leiden, The Netherlands, on August 9-17, 1989. Contact: Dr J. van dem Assem, Department of Zoology, University of Leiden, PO Box 9516, 2300 Ra, Leiden, The Netherlands.

## Population Dynamics of Forest Insects

To be held in Edinburgh UK, on September 4-7, 1989. Contact: Dr A. Watt, ITE, Bush Estate, Penicuik, Midlothian, EH26 0QB, United Kingdom.

## 5th International Congress of Ecology

To be held in Yokohama Japan, on August 23-30, 1990. Contact: Prof Yuiti Ono, c/- Prof Akira Miyawaki, Institute of Environmental Science and Technology, Yokohama National University, Yokohama 240, Japan.

## Conservation of Insects and their Habitats

This is the 15th symposium of the Royal Entomological Society of London and will be held at Imperial College, London on September 14-15, 1989. Enquiries to: The Registrar, RESL, 41 Queens Gate, London SW7 5HU, England.

## First Asia-Pacific Conference of Entomology



The first of this major new series of entomology conferences will be held in Chiangmai, Thailand, on November 8-13, 1989. Enrolment documents are available from: The Secretariat, First Asia-Pacific Conference of Entomology, PO Box 1078, Bangkok 10903. (Telephone: 662-579-2350, Fax: 662-579-8781.

## International Congress of Coleopterology

Hosted by the European Association of Coleopterology, this meeting will be held at the University of Barcelona, Spain, on September 18-23, 1989. Enquiries to: Secretary, International Congress of Coleopterology, Department de Biologia Animal, Universidad Barcelona, 08028 Barcelona, Spain.

## Systematics and Biogeography of the Austral Biota

### Ninth Meeting of the Willi Hennig Society Canberra, 24-27 August 1990

The first announcement for this meeting will be available shortly. It provides a tentative list of speakers in the sessions which include: (1) Molecular biology and systematics. (2) The use of phylogenetic information in ecological and evolutionary studies. (3) Austral flora and fauna: systematics and evolution. (4) Austral biogeography. (5) Coevolution of plant and animal groups. (6) Phylogenetic computing software. (7) Poster session.

For more information write to Dr Ebbe S. Nielsen, Division of Entomology, CSIRO, GPO Box 1700, Canberra, ACT 2601, Australia.

## New Books

**Associations Between Insects and Plants** by T.R. New, 113 pp., undated. Published by New South Wales University Press in association with the Australian Institute of Biology as part of the Australian Studies in Biological Sciences Series. This soft-covered book gives a concise review of the topic, drawing upon Australian examples wherever possible, and would make an ideal introductory textbook.

**Zoological Catalogue of Australia. Vol. 6.** Ephemeroptera, Megaloptera, Odonata, Plecoptera, Trichoptera by W.W.K. Houston et al. 316 pp., 1988. Published by AGPS and priced at \$29.95. This is the latest insect volume in the ABRS series of volumes progressively cataloguing the Australian fauna.

**Australasian Chalcidoidea (Hymenoptera).** A Biosystematic Revision of Genera of Fourteen Families, with a Reclassification of Species by Zdenek Boucek. 832 pp., 1988. Published by CAB International, London. Price 99.95 sterling (including postage). This astonishing work of scholarship is heavily illustrated and includes keys and descriptions of more than 500 genera of the region plus an annotated catalogue of almost 2400 species. All host records are summarized.

**The Scale Insects of the Tropical South Pacific Region. Part 1. The Armoured Scale Insects (Diaspididae). Part 2. The Mealy bugs (Pseudococcidae)** by D.J. Williams and G.W. Watson. Published by CAB International. Part 1, 290 pp., price 29.95 sterling. Part 2, 262 pp., price 25.25 sterling. These are the first two of a projected 3-part series which will deal with all the scale insects of the region from New Guinea to Easter Island. They provide keys to genera and species, including host records and are aimed at the needs of agricultural and quarantine personnel.

**Biological Control of Weeds: A World Catalogue of Agents and their Target Weeds** Edited by M.H. Julien and published by CAB International. 144 pp., price 13.50 sterling. This is a reference source to all attempts at biocontrol worldwide up to 1985. It lists target weeds,

biocontrol organisms, years of first release, status and degree of control, research unit involved, and relevant references.

**A Guide to Breeding Habits and Immature Stages of Diptera Cyclorrhapha** by Paul Ferrar. 2 volumes, 907 pp., 1987. Published as Entomograph No. 8 by E.J. Brill, Scandinavian Science Press. Price US\$180. This "monster maggot monograph" brings together a giant and disparate literature (2300 references cited) on a greatly neglected but highly important group, the immature stages (eggs, larvae and puparia) of the cyclorrhaphous flies. It includes more than 5400 illustrations.

**Strawberry Pests** by Roger Broadly, Geoff Waite, Jim Gage and Ray Greber. 72 pp, published by Queensland Department of Primary Industries. The book is illustrated in colour and black and white and contains comprehensive Australian information on insects, mites, fungi, viruses, slugs and weeds associated with strawberries. Available at \$20 (plus \$2 postage) from DPI Information Centre, GPO Box 46, Brisbane, 4001.

**Backyard Beekeeping in Australia and New Zealand** by C.N. Smithers. 118 pp., 1987. Angus and Robertson. Price \$15.00. A practical, illustrated guide to the techniques and equipment required to keep bees on a small scale.

**Australian Termites and Other Common Timber Pests** by P. Hadlington. 126 pp., 1987. University of New South Wales Press. Price \$20. An illustrated guide to the insects attacking timber in Australia, their biology and control. Has easy-to-use illustrated, dichotomous identification keys to the insect pest (including household ants).

**Butterflies of Australia** by G. Lewis. 32 pp. Lamont Books. Price \$5.00. A glossy booklet produced to augment the butterfly house at the Melbourne Zoo.



# AUSTRALIAN ENTOMOLOGICAL SOCIETY RESEARCH GRANTS



## CALL FOR APPLICANTS



The Executive is pleased to announce that the research/travel grant proposal considered at the 37th Council Meeting gained unanimous approval and will commence operation this year.

The scheme is intended to encourage the advancement and dissemination of entomological knowledge, particularly in relation to the Australian fauna.

The grants are primarily for small, short-term projects and will be available only to members of the Society of 12 months standing. Groups will be eligible provided that the primary researcher is a member. Total funds available will be in the order of \$4000.

A report to the Executive in a form suitable for publication in *Myrmecia* will normally be required within 12 months following the year of the award. In the case of the first grants, a report will be required by the end of May 1991.

The application should state clearly:

- the aim of the project
- the expected duration of the project
- a detailed budget, and
- your contact address and telephone number.

You may also supply the names of one or two referees if you wish.

The President will appoint a selection panel to allocate and administer the grants. Applications may be for any amount up to \$4000 but remember that small, short-term projects which enable a diverse range of work to be funded will be favoured. Successful applicants for 1989 will be notified in October/November.

Five copies of your application should reach the Secretary at the following address no later than August 1, 1989.

Mr J.D. Sandow  
Western Australian Department of Agriculture  
Baron-Hay Court  
SOUTH PERTH WA 6151

**REGIONAL  
COUNCELLORS**

**Queensland**

Mr D.H. Foley  
Entomology Department  
University of Queensland  
St Lucia Qld 4067  
(07) 3773650

Dr P.H. Twine  
DPI Entomology Branch  
GPO Box 102  
Toowoomba QLD 4350  
(076) 314292  
Fax (076) 347421

Mr R.I. Storey  
DPI Entomology  
Branch  
GPO Box 1054  
Mareeba Qld 4880  
(070) 921555  
Fax (070) 9233593

**South Australia**

Mrs A. Wells  
Zoology Department  
University of Adelaide  
Adelaide SA 5000  
(08) 2285691

Dr D.A. Mackay  
School of Biol. Sciences  
Flinders University  
Bedford Park SA 5042  
(08) 2752627/2752035

**Australian Capital Territory**

Dr P. Cranston  
CSIRO Entomology  
GPO Box 1700  
Canberra ACT 2601  
(062) 465290  
Fax (062) 470217

Dr E.J. Wright  
CSIRO Entomology  
GPO Box 1700  
Canberra ACT 2601  
(062) 465285  
Fax (062) 470217

**Western Australia**

Mr P.R. Davis  
31 Cotton Crescent  
Bull Creek WA 6155  
(09) 3683232

**Tasmania**

Mr L. Hill  
Agriculture Department  
Box 303  
Devonport Tas 7310  
(004) 240236  
Fax (004) 242173

**New South Wales**

Dr D.G. James  
Yanco Agricultural Inst.  
NSW Agriculture  
Yanco NSW 2703  
(069) 530244

Ms D. Heilpern  
1/103 Carrington Rd  
Randwick NSW 2031

Dr D.J. Bickel  
Australian Museum  
(Entomology)  
Box A285  
Sydney South NSW 2000  
(02) 3398221  
Fax (02) 3604350

**Victoria**

Mrs J.A. Horne  
Plant Research Inst  
Swan Street  
Burnley Vic 3121  
(03) 8101511  
Fax (03) 8195653

Mr P. Vaughan  
GPO Box 248  
Hurstbridge VIC 3099

**Northern Territory**

Mr E.S.C. Smith  
DPP Entomology Section  
GPO Box 4160  
Darwin NT 5794  
(089) 221256  
Fax (089) 470749

**REPRESENTATIVE  
COUNCELLORS**

**Entomological Society of  
Queensland**

Mr G. Daniels  
Entomology Department  
University of Queensland  
St Lucia Qld 4067  
(07) 3773656

**Entomological Society  
of New South Wales**

Mr J.A. Macdonald  
Biol. and Chem. Research Inst.  
PMB No 10  
Rydalmere NSW 2116  
(02) 6839777  
Fax (02) 6839714

**Entomological Society of  
Victoria**

Mr K.L. Walker  
Museum of Victoria  
71 Victoria Crescent  
Abbotsford Vic 3067  
(03) 4195200  
Fax (03) 6631490

**OVERSEAS  
CORRESPONDENT**

**New Zealand**

Mr J Tenquist  
Wallaceville Animal  
Res. Centre  
Private Bag  
Upper Hutt  
New Zealand

**HONORARY MEMBERS**

Dr P.B. Carne  
Dr I.F.B. Common  
Dr J.W. Evans  
Dr E.N. Marks  
Dr K.R. Norris  
Dr C.N. Smithers

**MACKERRAS MEDALLISTS**

1984 Dr J.A.L. Watson  
1986 Dr R.W. Sutherst  
1988 Dr T.R. New

**SUSTAINING ASSOCIATES**

Australian Entomological  
Supplies  
Bayer Australia Ltd  
Ciba-Geigy Ltd  
Cyanamid Australia Pty Ltd  
Dow Chemical (Aust) Ltd  
F. & B. Chemicals Pty Ltd  
ICI Australia Ltd  
Shell Chemical (Aust) Pty Ltd