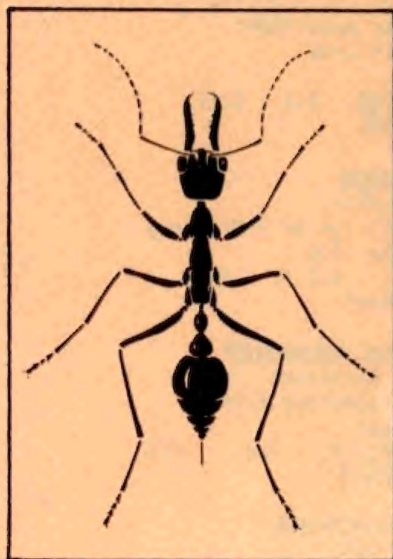


**Australian
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Society**



NEWS BULLETIN

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(Office bearers continued on rear cover)

AUSTRALIAN ENTOMOLOGICAL SOCIETY NEWS BULLETIN

EDITORIAL

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NOTICE

MATERIAL IN THIS BULLETIN DOES NOT NECESSARILY REPRESENT THE VIEWS OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY, AND SHOULD NOT BE REFERRED TO OR REPRODUCED WITHOUT PERMISSION OF THE AUTHOR OF THE MATERIAL.

The final stages of production of this issue are being undertaken during the Queensland power strikes. It may end up being a little late for which I apologize.

A list of names and addresses of current Society members is included as a centre supplement which can be removed and restapled if you wish. The printout was generated from the computer list which provides address labels for your publications. Please check your own entry and inform the Secretary promptly if any corrections are required.

The membership is growing which means this News Bulletin is reaching an ever-increasing entomological readership. Please use it to disseminate your research requests, advertising, conferences, etc. Small items can be communicated through your local Regional Councillor (listed on the back cover); longer articles can be sent directly to me.

Copy deadline for the next issue of the Bulletin (May 1985) will be Friday, April 19.

Geoff Monteith
News Bulletin Editor

1985 SUBSCRIPTIONS

Society subscriptions became due and payable on January 1st. A subscription notice was included with the last News Bulletin (November 1984). Note that concession rates apply to subscriptions paid before March 1. Current rates are:

	Normal Rate	If paid before March 1, 1985
Ordinary members	\$30.00	\$25.00
Student members	\$15.00	\$12.50
Retired members	\$15.00	\$12.50
Joint members	\$35.00	\$30.00

If you have not paid yet then send yours at your earliest convenience to the Treasurer:

Mr T.A. Weir
CSIRO Division of Entomology
G.P.O. B0x 1700
CANBERRA ACT 2601

EXECUTIVE REPORT

Meetings

The Executive met on 9 November, 11 December 1984, and 15 January, 1985.

Membership

Since the last Executive Report, 13 applications for membership were received, 9 new members were elected, 9 members resigned and 17 were struck off under Clause 21(c) of the Constitution. Total membership is now 648, the geographical distribution being:

QLD 152	VIC 74	TAS	25
NSW 142	SA 65	NT	15
ACT 102	WA 27	OVERSEAS	46

We extend a warm welcome to the following new members:

Elected 9 November

Mr P. Allingham, CSIRO Division of Tropical Animal Science, Long Pocket Laboratories, Meiers Road, Indooroopilly, Qld 4068. Peter is a final year B.Sc. student, interested in medical and veterinary entomology and parasitology.

Dr R.G. Pearson, Zoology Department, James Cook University of N.Q., Qld 4811. Richard is a Senior Tutor in Zoology, and has special interests in freshwater communities.

Mr L.J. Wilson, CSIRO Division of Tropical Animal Science, P.O. Box 5545, Rockhampton Mail Centre, Qld 4701. Lewis has interests in biological control and plant/insect interactions.

Elected 11 December

Mr M.G. Collett, Agrisearch Services Pty Ltd, 50 Leewood Drive, Orange, N.S.W. 2800. Martin is the Director of his business, dealing with both industrial pest control and crop protection.

Mr C.B. Hale, Dept. of Genetics & Human Variation, La Trobe University, Bundoora, Vic. 3083. Clinton is studying biological control agents for *Tyria jacobaeae* and *Dactylopius opuntiae*, and has interests in photography.

Mr J.F. Tomasov, Dept. of Genetics & Human Variation, La Trobe University, Bundoora, Vic. 3083 (Student member). John is a postgraduate student studying insects utilized as biological control agents, particularly *Cactoblastis cactorum*, and has interests in macrophotography.

Elected 15 January

Mr C.A.M. Reid, Department of Zoology, A.N.U., G.P.O. Box 4, Canberra, ACT, 2601. Christopher is a Ph.D. student studying the taxonomy of Cryptocephalinae, and is also interested in the ecology of Staphylinidae and other Coleoptera. (Student member).

Mr D. Runciman, R.M.B. 2140, Downer Road, Tatura, VIC, 3616. David is a year 11 student and is an amateur collector, especially of Hemiptera. (Student member).

Dr D.D. Shaw, Department of Population Biology, Research School of Biological Sciences, A.N.U., G.P.O. Box 475, Canberra, ACT 2601. David is a Fellow and his interests include speciation, insect cytogenetics, insect ecology and evolution.

Resignations

The Executive accepted with regret the resignations of:

Mrs J. Carter (TAS)
 Dr F.J. Drummond (VIC)
 Ms D.S. Kent (NSW)
 Mrs R.P. Kleinschmidt (QLD)
 Dr P.S. Lake (VIC)
 Mr M.J. Macquillan (Hong Kong)
 Mr A. McKenzie (NSW)
 Mr L.W. Miller (QLD)
 Dr A. Sibatani (NSW)

Terminations Under Clause 21(c)

Mr M.C. Aubrey (NSW)
 Dr J.D. Charlwood (Papua New Guinea)
 Mr K.C. Davis (NSW)
 Mr N.H. De Jong (NSW)
 Dr R. Fachrudin (Indonesia)
 Mr P. Lovejoy (VIC)
 Dr M.W. Mansell (RSA)
 Dr J.H. McDonald (UK)
 Mr P.C. Nigam (Canada)
 Mr J.C.J. Pitt (QLD)

Mr R. Ramachandran (SA)
 Dr P. Ramesh (SA)
 Mr E.M. Reed (ACT)
 Mr P.W. Savage (VIC)
 Dr M.J. Smart (address unknown)
 Mrs J. Tan Choo Haw (Singapore)
 Mr C.T.F. Virgona (NSW)

CHANGES OF ADDRESS OR TITLE

Please help us to address your Society publications correctly by promptly forwarding to the Secretary any changes or corrections to your title, name or address as it appears on your envelope address label.

- DR P.G. ALLEN (previously Mr Allen).
- MR I.C. BARRASS, Irrigation Research Institute, Private Bag, Tatura, VIC, 3616 (VIC).
- DR M.J. BEECH, Base Hospital, Eyre Street, North Ward, Townsville, QLD, 4810 (QLD).
- MR R.H. BROADLEY, c/- Department of Primary Industries, P.O. Box 5083, Sunshine Coast Mail Centre, Nambour, QLD, 4560 (QLD).
- MR C.E. CHADWICK, 9-2 Francis Street, Artarmon, NSW, 2064 (NSW).
- DR P.J. COLLINS (previously Mr Collins).
- MISS S.A. CONSTABLE, Genetics Department, University of Melbourne, Parkville, VIC, 3052 (VIC).
- MR A.L. DYCE, c/- CSIRO Entomology Field Station, 55 Hastings Road, Warrawee, NSW, 2074 (NSW).
- DR R.P. FIELD (previously Mr Field).
- MR M.P. FLETCHER, 5 Coorang Place, Legana, TAS, 7251 (TAS).
- MS K. GIBB, 23 Avonmore Avenue, Trinity Gardens, SA, 5068 (SA).
- MR R.B. GRUND, 9 Parkers Road, Torrens Park, SA, 5062 (SA).
- MR B.E. HITCHCOCK, B.S.E.S., P.O. Box

5503, Mackay Mail Centre, QLD, 4741, (QLD).

- ASST. PROF M.R. HOQUE, Entomology Department, Bangladesh Agric. Univ., Mymensingh, Dacca, Bangladesh (QLD).
- MR A.A. KIRK, 7 Cleveland Court, Bathwick Hill, Bath, BA2 6JY England (France).
- MR B. POVEY, 14 Old Gympie Road, Kallangur, QLD, 4503 (QLD).
- DR R.J. RAVEN, Queensland Museum, Gregory Terrace, Fortitude Valley, QLD, 4006 (ACT).
- MR G.D. RIPPON, Entomology Department, Waite Institute, PMB 1, Glen Osmond, SA, 5064 (SA).
- DR J.K. SCOTT, CSIRO Division of Entomology, Private Bag, P.O. Wembley, WA, 6014 (previously Mr Scott, overseas).
- MR J.A. SUTHERLAND, Bubia A.R.C., P.O. Box 73, Lae, Papua New Guinea (PNG).
- MR G.K. WAITE, DPI Entomology, P.O. Box 5083, Sunshine Coast Mail Centre, Nambour, QLD, 4560 (QLD).
- MR G.H. WALTER, Department of Zoology, University of the Witwatersrand, 1 Jan Smuts Avenue, Johannesburg, 2001, RSA (RSA).
- DR CLYDE H. WILD, Alan Fletcher Research Station, P.O. Box 36, Sherwood, QLD, 4075 (previously Mr Wild).
- MR G.A. WILLIAMS, "Lorien", Newbys Lane, c/- P.O. Lansdowne via Taree, NSW, 2430 (change of postcode).
- ## MISSING MEMBERS
- The current addresses of the following members are unknown. It would be appreciated if anyone knowing their present addresses could advise the Secretary at his address inside the front cover.
- Mr G.R.J. Forbes, previously of Mt Gravatt, Qld.
- Dr D.J. Campbell, previously of Wollongong, NSW.

OTHER EXECUTIVE BUSINESS

Quote for printing of Journal in 1985

The Business Manager proposed a budget for this year's issues of the Journal, and this was endorsed by the Executive. Although a higher grade of paper will be used there will be no increase of printing costs over those in 1984.

Membership of the Conservation Committee

The Executive endorsed proposals by the Convenor of the Conservation Committee and appointed the following members to it: Dr J. Anderson, Ms P. Greenslade, Dr J.L. Madden, Dr B.Y. Main, Dr M. Malipatil, Mr P.B. McQuillan, Dr D.P.A. Sands and Dr R.W. Taylor.

Resignation of Dr R. Domrow as Taxonomic Editor

As noted elsewhere in this News Bulletin, Bob Domrow recently gave notice of his wish to retire from this office at the 16 Annual General Meeting, after serving for 10 consecutive annual terms.

Proceedings of the 16 Annual General Meeting Scientific Conference

The "Summary of Proceedings" of the Society's scientific meetings are often sought by members who were unable to attend. This year additional copies will be produced to meet this demand (at cost). For reasons of copyright, sales will be restricted to members of the Society and its Affiliated Societies.

Income Tax

We have been advised that certain kinds of income received by the Society are liable to income tax. This excludes membership fees but includes interest on investments if that exceeds \$416 p.a. On the basis of our 1984 accounts, our Auditor estimates that the Society is liable to tax of about \$1500. The Executive considers that the Society should be eligible for tax relief under Paragraph 23(g) of the Income Tax Assessment Act, in that many of its activities are designed to encourage research in entomology. The success or otherwise of our representations on the matter will be announced at the 16 Annual General Meeting.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INCORPORATED

CALL FOR NOMINATIONS OF OFFICE BEARERS

The following offices will fall vacant at the Society's 16th Annual General Meeting on 29 May, 1985, and nominations for election should be made on the form provided and reach the Secretary not later than 10 March 1985.

<u>Vacant Offices</u>	<u>Present incumbent</u>
President	Dr E.M. Exley*
Taxonomic Editor	Dr R. Domrow**
Regional Councillors	
Queensland (1)	Mr A.P. Walford-Huggins*
(2)	Dr I.D. Galloway*
NSW (1)	Dr M.J. Fletcher***
(2)	Dr R.V. Gunning***
ACT (1)	Dr P.J. Gullan*
(2)	Dr B.C. Longstaff*
Victoria	Mr G.N. Berg***
Tasmania	Mr P.B. McQuillan*
SA	Dr D.J. Cooper*
WA	Dr T.F. Houston*
NT	Mr T.L. Fenner*

- * Eligible to serve a further annual term
 ** Resignation accepted by Executive
 *** Not eligible for re-election as Regional Councillor.

NOTICE OF 16TH ANNUAL GENERAL MEETING

The Society's 16th Annual General Meeting will be held at the University of Tasmania at 4.00 p.m. on Wednesday 29th May 1985.

AGENDA

1. Opening
- *2. Announcement of Proxies and apologies.
3. Deaths recorded since 15th AGM.
4. General Announcements.
- *5. Minutes of 15th AGM and business arising therefrom.

6. Executive Annual Report.
7. News Bulletin Editor's Report.
8. Business arising from items 6 and 7.
9. Matters arising from 29th Council Meeting.
10. Subscriptions for 1986.
11. Appointment of Auditor.
12. Announcement of Office-bearers and Councillors for 1985-86.
13. Report of Organizing Committee for 16th AGM.
- ***14. Other business as arranged.
15. Location and dates for 17th AGM.
16. Closure.

* Nominations of proxies, on the proforma provided, should reach the Secretary prior to the opening of the meeting.

** Published in News Bulletin for August 1984; some spare copies available at meeting.

*** Members wishing to propose additional items for discussion should advise the Secretary not later than 29 April.

STUDENT TRAVEL GRANTS - A REMINDER

Students who wish to attend and present a paper at the Australian Entomological Society's 16th Annual General Meeting and Conference in Hobart in May this year may apply to the Society for a Travel Support Grant. Full details were given in the last issue of the News Bulletin (Vol. 20, Part 4).

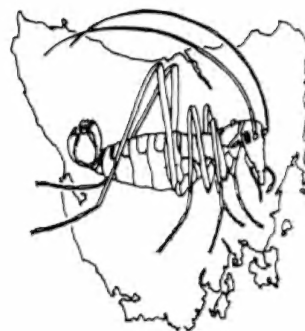
The offer is open to bona fide full-time students who are financial members of the Society as at 11th March, 1985. Grants, of an economy return airfare to Hobart may be made for papers reporting original entomological research carried out by the applicant before or within two years of gaining his first degree. Papers will be judged by a panel of referees appointed by the Executive. Applications should reach the Secretary by March 11, 1985.

Full details and application forms may be obtained from the Secretary (Dr P.B. Carne, CSIRO Entomology, GPO Box 1700, Canberra, ACT 2601).

16TH A.G.M. AND CONFERENCE

Final Announcement

AUSTRALIAN ENTOMOLOGICAL SOCIETY
16th A G M & CONFERENCE



HOBART 1985

University of Tasmania
Hobart
25-30 May 1985.

We would like to remind all intending delegates that the closing date for enrolments is the 28th February, 1985. A late fee must apply for enrolments after that date, so please register as soon as possible.

Enrolment forms were included in the November 1984 Newsletter but additional forms may be obtained from Mrs Margaret Williams, Tasmanian Department of Agriculture, G.P.O. Box 192B, Hobart, Tas 7001. Telephone 002-284851.

An encouraging number of registrations has been received already and some interesting abstracts are in hand. A summary of the programme is as follows:

SAT 25TH MAY: 4.30 pm.
Registration commences at
Christ College,

7.00 pm. Welcoming drinks
followed by a buffet meal at
Christ College,

9.00 pm. Council Meeting at Christ College.

SUN 26TH MAY: Faunistics - taxonomy, biogeography, phenetics and phylogeny.

MON 27TH MAY: Insects and their Hosts - animal and plant - includes host selection and resistance and vector biology.

TUE 28TH MAY: Full day excursion - will include a barbeque lunch at Tahune Forest Reserve on the banks of the Huon River, 30 km W. of Geeveston and a visit to Hartz Mtns. National Park.

WED 29TH MAY: Entomology and Technology - use of applied technology in Biological Sciences generally.

4.00 pm. Annual General Meeting.

7.00 pm. Annual Dinner at University Club.

THU 30TH MAY: 9.00 am. Council Meeting. Depature of Delegates.

A programme of events is also being arranged for the benefit of persons accompanying delegates. In addition, they are welcome to join the mid-conference tour on Tuesday 28th May.

Arrival details: For those arriving by air, a Society representative will be stationed in the TAA arrival lounge in the domestic terminal on Saturday 25th May. Delegates will receive advice regarding transport to the College. TAA are providing a special bus to meet Flight 407 (ex Melbourne) which arrives in Hobart at approximately 4.40 pm.

For those people arriving at Hobart Airport on days other than the 25th, the cheapest transport is by the Redline bus which meets all flights by TAA and Ansett. This bus eventually makes its way to the Casino via the city (\$3 and 25 minutes; pay the driver). From the Casino, a short taxi ride (approx. 1.5 km) will take you to Christ College. Taxis regularly queue outside the Casino where the bus stops.

Members of the Organising Committee would be pleased to assist any delegates requiring information or guidance in relation to collection trips or visits to institutions of interest within Tasmania, around the time of the Conference.

P.B. McQuillan
for the Organising
Committee

COMING EVENTS

Fourth Australasian Conference on Grassland Invertebrate Ecology

To be held at Lincoln College, Christchurch, New Zealand, 13-17 May 1985. Details from Dr W.D. Pearson, DSIR Entomology Division, Private Bag, Christchurch, New Zealand.

Aphid Workshop, Warrawee, NSW.

An aphid workshop will be held on 29-30 May, 1985. The workshop is open to anyone doing research on (or interested in) aphid biology, ecology or natural enemies, including pathogens. Further information from:

Dr Wendy Milne,
CSIR, Entomology Research Station
55 Hastings Road
WARRAWEE NSW 2075
Ph: (02) 487 1756

55th ANZAAS Congress, Melbourne

To be held 26-30 August, 1985. Details from Executive Secretary, 55th ANZAAS Congress, Monash University, Clayton, VIC, 3168.

6th International Congress on Pesticides

To be held in London, Ontario, Canada, August, 10-17, 1986. Details from Dr H.V. Morley, Station de Recherche Agricole de l'Universite, Sousbureau Postale Universitaire, London, Ontario, Canada.

A BIOGRAPHY OF ARTHUR M. LEA (1868-1932)

Arthur Mills Lea was born in Surry Hills, Sydney, on 10 August 1868, one of four surviving children of Thomas Lea, a carrier born in Bristol, England, and his wife Cornelia, nee Dumbrell, of Sydney.

Arthur evinced a fascination for insects while still a child and was soon visiting the Australian Museum, where he was encouraged in his interests by W.J. Macleay, J.J. Fletcher and especially George Masters. He knew that if he were to become an entomologist he would need a knowledge of Latin so he took a night school course in that language - all that the family could afford, and the only formal supplementary education that he was ever to receive. Later he was to acquire a working knowledge of French and German through his own efforts.

At the age of 15 he began work with the chartered accountants' firm of Starkey and Taylor, Sydney, with whom he stayed for six years, all the while pursuing his entomological interests in his own time. It was perhaps during this period that he perfected the distinctive copperplate writing which characterises all his insect labels. Before he even began his professional career in entomology he had amassed an insect collection which won first prize at a Sydney exhibition, and acquired a talent for drawing insects which won another prize.

In 1891 he received his first professional opportunity when he became assistant to A. Sidney Olliff, Entomologist in the Department of Agriculture, Sydney. Within a few years Lea had scored his first outstanding success in the field of biological control, when with a visiting American entomologist, Dr A. Koebele, he selected a lady-bird beetle, Rodolia cardinalis, for introduction to California, where in two years it was able to save the citrus industry from damage by scale. By 1895 economy measures forced retrenchment in the state public service and Lea resigned - voluntarily, according to A.J. Coates (SMH, 1932) in order to preserve the position of his older colleague. Lea had in any case accepted the position of Government Entomologist in the Western Australian Department of Agriculture, which he occupied from 1895 to 1898. As always in the various posts which he was to hold he devoted most of his leisure time to amassing a large collection of local beetles. In

Western Australia duplicates eventually ended up in the Department of Agriculture collection (for which he later received an award at the Coolgardie Exhibition of 1899), and the Western Australian Museum, eliciting a draft in appreciation from J.W. Hackett, Chairman of the Museum Committee.

While in Perth Arthur wrote to Nellie Blackmore, whom he had known in New South Wales, daughter of Joseph Blackmore and his wife Elizabeth, nee Nicholls, well-to-do property owners of Millthorpe, N.S.W. asking Nellie to marry him. She accepted and the marriage ceremony took place in Perth on 13 May 1896, in the presence of the Blackmores and Arthur's mother Cornelia, who had come over by ship. Arthur was so elated that he threw some (then traditional) silver coins to people outside the Anglican church. This he could ill afford, and he and his new wife were to use packing cases for furniture in their first rented home. His father-in-law offered to pay the entrance fees to enable Arthur to obtain an advanced degree at the University of Sydney, but this proved impossible as the University did not offer a correspondence course. However, Joseph Blackmore's generosity did help to improve the Lea's living conditions at various times in the future.

The time in Western Australia was not a happy one for Arthur and Nellie Lea. A son was born to them but his mother was unable to feed him, a suitable wet-nurse could not be obtained (there were no formulas in those days), and the baby died of diarrhoea. The Anglican pastor refused to bury the child, because he had not been baptised, and this unhappy experience was to leave Arthur disillusioned with the church for the rest of his life, although he did later allow the confirmation of his daughters.

In 1899 he began a new appointment as Government Entomologist in Tasmania, and it was during this part of his career that he began to establish his world reputation as both an economic entomologist, and a coleopterist. His predecessor in Tasmania had been dismissed under pressure from the influential farmer groups because he could not control the codling moth. Lea was able to work out the full life history of the moth fairly quickly, not only through his own work, but also by making full use of a talent which was to

contribute materially to his success throughout his career: his ability to instill enthusiasm in others and so enlist their willing cooperation. The life histories of the codling moth and another serious pest, the hepialid Oncopera intricata were elucidated with the valuable help of several Tasmanian farmers thus enlisted (P. McQuillan, personal communication). Lea travelled extensively throughout the state, talking to regional farmer groups. He succeeded in eradicating two outbreaks of Mediterranean fruit fly and continued to send live insects overseas for biological control of pests. He prepared a handbook on pests of orchards and farms which went through three editions. He was a foundation member of the Field Naturalists' Club of Tasmania, which during his tenure increased in membership from 12 to about 200 members. There was scarcely a meeting of the club at which Lea did not exhibit specimens and take an active part. He was the first editor of the Tasmanian Naturalist.

Three daughters were born to the Leas while they were in Tasmania: Nell ("Tib") in 1899, Amy in 1906 and Audrey in 1909.

While in Tasmania Lea was able to amass what is still the largest collection of Tasmanian beetles, most of which is now housed in the South Australian Museum, and to continue a major taxonomic project - a revision of the Australian weevils - which he had begun in Western Australia and was to continue on and off throughout the rest of his life. By the time he applied for the position of entomologist at the South Australian Museum, in 1911, Lea already had a world-wide reputation. His letter of application lists 212 published papers and articles to his credit (comprising 3163 pages and 931 figures), including the description of 1853 new beetle species (more than any other entomologist except the Reverend Canon Thomas Blackburn "who had many years start on me"). Thousands of beetle specimens were being sent for



The Leas family around 1904. Arthur with wife Nellie and eldest daughter Nell ("Tib").

identification to Lea each year from European museums, as well as Australian institutions. He could list membership in nine learned societies worldwide.

In another letter to Prof E.C. Stirling, Director of the South Australian Museum, dated 31 April 1911, Lea mentions that he had received a higher salary offer from Western Australia, but that neither he nor his wife wished to go back there (no doubt because of the unhappy memories associated with their stay) and, indeed, it does not appear that he ever returned to that State, even on a collecting trip. Lea asks for a salary of £300 a year, noting that in Tasmania he was receiving £250, but justifying the extra £50 on the basis of his artistic ability, which would preclude the hiring of professional illustrators.

He duly accepted the position of Entomologist at the South Australian Museum on 11 July on the retirement of his predecessor, J.G.O. Tepper. Within a very short time he lodged a strong objection with the General Secretary, J.R.G. Adams, against having his correspondence opened in the museum office - a standard practise in those days. He went so far as to consult a firm of solicitors on this point.

In his position of Entomologist at the Museum Lea, for the first time in his career was able to devote most of his working time, as well as his leisure hours, to the study of beetles. Whereas up to this time only about one fifth of his papers were taxonomic in nature, afterwards nearly all of them were. When not away on his frequent trips, he would spend much of the day at the microscope taking notes, sometimes in the form of labelling and annotating a mimeographed outline drawing of a hypothetical beetle. In the evening, at home, he would write formal descriptions based on these notes. These descriptions accumulated in a pile on his desk and a given quantity would be thumbed off whenever publishing space became available in the journals to which he contributed. In this way he was able to publish an average of six papers a year, about 50 pages, and by the time of his death had described and named 5432 species of beetles, far surpassing the previous Australian record of 3069 achieved by Canon Blackburn.

The Archives of the South Australian Museum contain many of Lea's papers and these, together with his working collections of specimens on cork sheets remaining in the Coleoptera collection, reveal something of his

working methods. He would work on several different groups of beetles at the same time, arranging pinned specimens in related clusters on cork sheets with brief notes on key characters pinned under each cluster. This provided a sort of working key. At the same time, voluminous and apparently disorganised notes would be made on any paper that was to hand, the notes on each group of beetles being kept separately in brown paper folders. There were usually no written keys, so that correlations needed to organise this multiplicity of data, enabling new specimens to be correctly assigned, must have all been kept in his head. This would have required a phenomenal memory.

The archives also reveal that Lea copied out by hand the original descriptions of thousands of Australian beetle species. His manuscript catalogues of these descriptions run into about a dozen volumes of several hundred pages each. Voluminous correspondence and exchanges of specimens were undertaken with entomologists all over the world.

A note pad in the possession of his grandson contains 33 pages of notes on collecting methods, including seven pages on floods. There are shorter sections on fires, freshly felled trees, beating, blackboys, fence tops, frogs and toads (squeezing out the stomach contents), birds nests, fungi, carrion, lights, sticky paper, and many others. Lea collected many hundreds of thousands of specimens - many more than any other collector before or since. His collecting was by no means confined to South Australia. Within his first year he had already undertaken a trip to New South Wales and Queensland, to which he was to return several times, and he subsequently went to Victoria, Tasmania and King, Lord Howe and Norfolk Islands. He engaged in extensive exchanges with other institutions and had numerous correspondents who collected for him. To these he would send or give a corked bottle of methylated spirits together with instructions. When the bottles were returned filled he would send the collector a letter of thanks and another bottle (N.B. Tindale, personal communication). The combined Museum and Lea collections, when added to Thomas Blackburn's material, are thus historically the most important national collection of beetles in Australia, although no longer the largest.

He developed special interests as a coleopterist, among which were the inquilines of ants' nests, beetles of mosses and leaf litter, beetles washed up in flood debris, and insects of islands. Collections thus acquired

still provide a rich lode of material for current workers, and include species which have not been collected since.

Whilst his most lasting achievements during his years in South Australia were in the field of taxonomy, he continued to put his knowledge and experience of economic entomology to good use. He was Consulting Entomologist to the Department of Agriculture, and Lecturer in Forest Entomology at the University of Adelaide. He was instrumental in devising protection for the vast stockpiles of bagged wheat which accumulated in Australia during the war.

He also examined the contents of over a thousand stomachs of insectivorous birds, thus shedding much light on their feeding habits and pioneering a field of study which has only recently been taken up again.

In 1924 he was invited by the colonial government in Fiji to join the staff of their Department of Agriculture, and also at about this time he was offered a lucrative position in the United States. He declined both, not wishing to leave the collections on which he had expended so much effort, and not wanting to give up his Australian citizenship. He did, however, accept a 12 month appointment beginning on 1 February 1924 with the "Levuana Committee", a group set up by the Fijian Government to study methods of controlling a moth, *Levuana iridescens*, which was threatening the coconut industry. The committee members, which besides Lea included T. McNamara and H. Hardcastle, spent a year looking for natural enemies of the moth in Queensland, Thursday Island, Java, Malaya, and Borneo, and located a likely prospect in Malaya, a tachinid fly (*Ptychomyia remota*). Lea hoped to organise air transport to Fiji for the fly, but this was somewhat risky in those days and his wife, who had accompanied him on this trip, would not give permission for him to travel by aeroplane (Audrey Lea, personal communication). In any case, it appears that the Superintendent of Agriculture, Fiji, was reluctant to arrange seaplane transport even from Queensland, and cabled Lea to cancel his arrangements and take a direct steamer to Fiji. Lea did not agree as this would not fit in with the flies' expected emergence dates. As it happened the flies emerged sooner than expected anyway and most did not make it to Queensland, much less Fiji.

The disagreements between Lea and the Superintendent of Agriculture had unfortunate consequences. In spite of the fact the

tachinid fly chosen proved eventually to be very effective in controlling *Levuana*, Lea did not receive the credit due him. More importantly, he did not receive the £5,000 reward which the Fijian Government had initially offered to whoever would solve the problem. Lea had taken Nellie along on the extensive jounries through South East Asia, at his own expense, on the understanding that he would receive the reward. As it turned out, the travelling allowance he received did not fully cover even his own expenses, as correspondence shows, and the Lea family suffered heavily, having to sell their furniture and piano (a gift from Joseph Blackmore) (Audrey Lea, personal communication).

In Adelaide Lea was active in the Field Naturalists' Society, the Royal Society of South Australia, attending and addressing every meeting he could, was a member of the Council of the Society for nine years, a member of the Flora and Fauna Protection Committee, and an assistant editor of the 'Transactions' for seven years. According to Hale (1932), he spent many evenings personally typing the handwritten manuscripts which had been submitted. He was a regular contributor to the local newspapers and to a popular magazine, proving to be an inexhaustible source of insect lore. He imbued everyone with whom he came into contact with his own unbounded enthusiasm, and was especially popular with the younger set. A newspaper article describes how he organised a "gang of sleuths", aged 14 on the average, to collect insects for the museum. "The boys almost worshipped him" (more than 20 names are mentioned) and they used to swap specimens among themselves.

Contemporary photographs show Arthur Lea as a large man with full moustache, always a complete head of hair, and a genial expression. He was invariably fully dressed, with waistcoat and tie, and usually a jacket, even in the tropics. For field work he would simply don a pith helmet and carry either a large insect net or a green and white umbrella which would be opened under bushes and trees to catch insects from branches vigorously struck with a stick. In Australia collecting trips were usually carried out by train, and on one trip across the Nullarbor when Lea would dash out at every stop to bash the bushes, passengers urged the guard to telegraph ahead that there was a madman on board (Audrey Lea and N.B. Tindale, personal communications). People who had known him described him as bluff, hearty, whimsical, good natured, a delightful fellow in camp,

frank, big-hearted, intensely sympathetic, generous, and self-sacrificing.

He once said to a friend "I am one of the most fortunate of men - I am doing work which I would be carrying out as a hobby if I had some other job". Even with his nearly full-time devotion to entomology, he was able to find some energy to pursue other interests: he was a keen stamp collector, a member of the Philatelic Society of South Australia, and something of an amateur poet.

The Lea family was very close. Arthur was keenly interested in the welfare and progress of his daughters and made many touching entries in the baby books which he started for each and which they maintained when old enough ("Amy's book" and "Tibby's Book", generously loaned by their sister Audrey and nephew Christopher Gellie, were extensively consulted for this biography). Nellie accompanied Arthur, at his request, on two of his trips - one to Lord Howe and Norfolk Islands in 1915 and one to Java, Malaya, and Borneo in 1924 as mentioned previously. Arthur missed Nellie on long trips and on one occasion wrote a poem entitled "The Absent Wife" which began:

"When you left my love
I knew how badly I would miss you.
To me now, nothing seems worthwhile,
And Oh, I miss your loving smile,
'Tis dreary, dreary waiting".

Arthur Lea died suddenly on 29 February 1932, on the first day of annual leave, at the home of a friend to whom he was taking some magazines to be sent to someone else. He was vomiting repeatedly for an hour before death and there is some doubt that the immediate cause of death, a cerebral haemorrhage, is the ultimate one. No autopsy was performed, in order to spare his wife's feelings. A likely possibility is that he died of complications from diabetes, as his daughter Audrey, a registered nurse, believes that he showed signs of diabetes during his life, in the form of a strong sweet tooth and prodigious thirst. His eyesight deteriorated beginning around 1925 and he had to rely increasingly on his assistant to check details of specimens and make drawings for him (N.B. Tindale, personal communication). He lost a lot of weight during his last years as shown especially by the last photograph taken of him on 26 February 1932, but never visited a doctor or optometrist.

He was survived by Nellie and their three daughters.

Arthur Lea was buried on 1 March 1932 in West Terrace Cemetery, Eyre Section, Part 25, Grave 10E, not far from the last resting place of Thomas Blackburn. He was joined there in 1965 by Nellie, aged 92.

Acknowledgement

I am indebted to Arthur Lea's youngest daughter, Audrey Masters Lea and his grandson, Christopher Lea Gellie, for much of the personal information recorded above, and to his former assistant, Norman B. Tindale, for details relating to his work.

Eric Matthews
The South Australian Museum
February, 1984.

Appendix 1: The Works of A.M. Lea.

The Entomology Section, South Australian Museum, contains a complete collection of at least one copy of all of Lea's printed works, including newspaper clippings, either as separates or in bound volumes. A duplicate set of reprints is kept in the British Museum (Natural History) Library. Notes and manuscripts on beetles, diaries, and most correspondence are kept in the strong-room of the Museum, and some official correspondence is in the State Archives indexed under the Public Library, Museum and Art Gallery, Series List GRG 19. Important family papers, including collecting notes and drawings, photographs, etc. are held by Christopher Lea Gellie of Adelaide.

Appendix 2. Society Memberships and Fellowships.

Linnean Society of New South Wales (1892), Royal Society of South Australia (1897), Entomological Society of London (1899), Societe Royale Entomologique de Belgique (1906), American Association of Economic Entomology (1907), Royal Society of Victoria (1909), Royal Society of Tasmania (1910), Field Naturalists Club of Tasmania, Tasmanian Horticultural Society, Field Naturalists Society of South Australia, Philatelic Society of South Australia, Zoological Society of New South Wales (1932).

Appendix 3. Publications about A.M. Lea

3.1 Bibliographies

Hale, H.M., 1932. Obituary and Bibliography of Arthur Mills Lea. Records S.A. Museum 4, 411-432.

Musgrave, A., 1932. Bibliography of Australian Entomology 1775-1930. R. Zool. Soc. N.S.W., Sydney.

Musgrave, A., 1959. Supplement to above, 1931-1958. MS bound copies in various museum libraries.

3.2. Obituaries

Hale, H.M. 1932. Records S.A. Museum, 4, 411-432.

Musgrave, A., 1932. Aust. Mus. Mag. 4, 342.

Wilson, F.E., 1932. Vict. Nat., Melbourne 49, 15-18.

Advertiser (Adelaide), 1 March, 1932.

Herald (Melbourne), 1 March, 1932.

Sydney Morning Herald, 2 April, 1932.

Advertiser (Adelaide), 14 January, 1933.

3.3. Newspaper stories about A.M. Lea

Daily Post (Hobart), 21 July, 1908.

Mercury (Hobart), 16 June, 1911.

Daily Post (Hobart), 16 June, 1911.

Register (Adelaide), 29 April, 1912.

Malay Mail (Kuala Lumpur), 1924.

News (Adelaide), 4 November, 1925.

Herald (Melbourne), 15 October, 1926.

Sydney Morning Herald, 5 April (letter from A.J. Coates).

Numerous small clippings, undated, copies gathered in Entomology Section, South Australian Museum.

1984 KRAKATAU EXPEDITION

ZOOLOGICAL EXPEDITION

BY LATROBE UNIVERSITY

Ten entomologists, including 2 from Indonesia, Alan Yen from the Museum of Victoria, Mark Harvey from CSIRO, and 6 from La Trobe University took part in the 1984 Zoological Expedition to the Krakataus organised by Professor I.W.B. Thornton. The

expedition was in the field for about 4 weeks in August/September. Insects were collected in the Ujung Kulon Peninsula, the westernmost part of Java, which is a reserve for the Javan Rhinoceros, the Barisan Selatan National Park in southern Sumatra, and on all 4 islands of the Krakatau group. Methods used were beating, sweeping, netting, pitfall, water and light trapping, extraction from litter using Winkler apparatus, and examination of wood. Papers on the butterflies, Neuroptera, Psocoptera and chalcidoid Hymenoptera are in preparation. Other groups will be examined by specialists when sorting is complete.

We are seeking specialists who would be interested in working up insect material collected on the expedition. We would anticipate that anyone receiving material would provide us with a preliminary report within a year of receipt, and a final report within two years. We also request acknowledgement of the expedition and its sponsors, both in the appropriate place in publications and also by stating at the outset 'This is publication number _____ arising out of the 1984 Zoological Expedition to the Krakatau Islands'. We would also like six reprints of all papers arising out of expedition material.

An agreement with LIPI, our counterpart organisation in Indonesia, requires that the collections be divided into three. One set (specimens 1, 4, 7 etc. of any species) will become the property of the Indonesian Government, and they will have first choice of the three - e.g. where there are no duplicates the specimens will be returned to them. One set (specimens 2, 5, 8, etc.) will be lodged in an Australian institution and one (specimens 3, 6, 9, etc.) with the investigator, if he wishes. All holotypes of new species are also the property of the Indonesian Government and must be returned except where they agree that the types be held elsewhere.

A preliminary report on the expedition is being prepared and a copy will be forwarded to the Society and to all collaborating specialists when it is completed.

Anyone interested in studying any insect group collected by the expedition should contact Professor Thornton (Zoology Department, La Trobe University, Bundoora, Vic, 3083).

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

CSIRO Division of Entomology

In November, Jonathan Banks made a return to duty whilst on a private trip overseas. He visited the Slough laboratories of MAAF, where he got an update on the work going on there. He then visited Bordeaux where he was apprised of French work on grain storage. He was particularly impressed by the quality of the seafood he encountered. From Bordeaux he went on to Kuala Lumpur, where he visited several sealed storages and was told of the existence of a resistant strain of *Xylocoris* spp. a well-known predator of certain grain storage pests.

In addition to attending the International Congress in Hamburg, Roger Farrow visited Rothamsted in Britain, to discuss the use of radar in the study of insect migration. In a similar vein, he then went on to the College Station of Texas A and M, the USDA in Columbia (Missouri) and Tifton (Georgia), the University of Illinois at Champagne and the University of British Columbia where various aspects of insect migration were discussed. He also visited Bozeman in Montana, Fort Collins (Colorado) and the Agriculture Canada Station in Lethbridge, Alberta, to discuss the work being carried out on grasshoppers.

Another staff member to attend the Congress and then travel widely was Peter Barrer. His visits were concerned with trapping and insect behaviour in general, and pheromone research in particular. He visited the Max Planck Institute in Seeviesen, near Munich, the MAAF and TDRI laboratories in Slough (UK), Simon Fraser University in Vancouver, Canada, and various USDA and university laboratories in Savannah (Georgia), Manhattan (Kansas), Riverside (California) and Madison (Wisconsin). Peter also visited the Philippines, where he is involved in an ACIAR project dealing with the fumigation of PVC covered bag stacks of rice with CO₂. Peter's specific interest is with trapping of insects in and around the stacks.

The Stored Grain Research Laboratory was visited by John Mills and Noel White of the

Agriculture Canada Research Station in Winnipeg (Manitoba), which specialises in research on grain storage problems. Theirs was essentially a fact-finding trip to familiarize themselves with the situation in Australia.

Another visitor to the Division was Chen Yong Liu of the Academia Sinica, who presented an overview of entomological research in China. He was here to learn about research work of particular interest to his group and to assess the potential for future collaborative work, particularly on grasshopper ecology.

Professor Rudi Rabbinge, of Wageningen, visited the Division and gave a talk on "The development of a supervised control system for pests and diseases in winter wheat". Professor Rabbinge has been working at the Plant Protection Institute at Burnley.

Finally, we were very sorry to learn of Tony Watson's second heart attack, which occurred whilst he was on leave in Britain. He is recovering well and hopes to return to Canberra by mid- to late February.

Before Christmas, some of the ANIC taxonomists indulged in their favourite outdoor activity, but all have been bench-bound since the beginning of the new year. In late October and early November, John Lawrence spent three weeks south of Perth looking for larvae and adults of a beetle, in the small, recently described family Boganiidae, which feeds in the male cones of cycads. Beetle collecting was good generally and, in particular, John succeeded in obtaining many larvae and some adults of the boganiid species. In early November, Dave Rentz and Andrew Calder also returned from a field trip in Western Australia. They collected a lot of weevils and also katydids of the subfamilies Zaprochilinae, Phasmodinae and Saginae. The katydids will be useful for volume 2 of Dave's series on the Tettigoniidae of Australia. Volume 1 on the shield back katydids, Tettigoniinae, is completed and publication is imminent. Dave also has completed taxonomic work on two new species of Cooloolidae: the 'sugar cane monster' and the 'dingo monster'. Lionel Hill, from Australian National Parks and Wildlife Service, Ian Naumann and Tom Weir spent a successful three weeks collecting on Norfolk and Philip Islands in November and early December. They recorded families and

genera of wasps and beetles new to the islands and brought back a few specimens of the recently described, gaint centipede, Cormocephalus coynei Koch. Tom is sorting the berlesates and flight intercept trap catches. Janet James has sorted the pan, malaise and sweep net specimens to order.

In addition to Janet, the ANIC has had technical assistance from several other young people. Peter McGowan from the Canberra College of Advanced Education Field Naturalist Club has worked with Andrew Calder as a volunteer over the summer months. Peter has been mounting specimens, mostly weevils, from berlesates. Three people from the Commonwealth Employment Program started work in the ANIC in early January to gain experience in the curation of insects.

The ANIC inmates farwelled Robert Raven on 17th December prior to his return to the Queensland Museum. Alan Webb returned to Townsville on 22nd December after spending many months identifying insects.

Gerry Cassis has joined the ANIC taxonomists. He spent five weeks from late October to late November working with Mary Carver curating the mirids and pentatomids. Now he is working in the Coleoptera section cataloguing the Scarabaeoidea on an ABRIS grant.

There have been very few visitors to the ANIC in the past three months. John Ismay, from DPI, Konedobu, Papua New Guinea, visited the Diptera section briefly in late October to inspect types and other northern Australian specimens of Chloropidae. Daniel Bickel, who has recently moved from Melbourne to Sydney, spent a few days examining dolichopodid flies.

Tom Campbell, from Turner in the ACT, visited the Hemiptera section several times in November to look for host records of a rare tessaratomid bug. Peter Gregg, from the University of New England, Armidale, examined and photographed specimens in the Lepidoptera section for a week in mid January.

Frances Michaelis recently moved from Tasmania to Canberra to take up a position in Australian National Parks and Wildlife working on the conservation of freshwater habitats. Part of her job will concern the conservation status of threatened species of aquatic insects. Frances visited the ANIC several times in December 1984 and will be a regular visitor in the future. She is donating her Tasmanian

collection of aquatic insects to the ANIC and also is compiling a checklist and bibliography of Australian Plecoptera.

CSIRO Division of Forest Research

Cliff Ohmart and Jeanette Thomas spent a week with Meg Lowman in the New England area in January to work out a statistically valid sampling technique for estimating eucalypt defoliation.

Australian National University - Zoology Department

Chris Reid arrived from England in late November 1984 to commence study for a Ph.D. on the systematics of Australian Cryptocephalinae (Coleoptera : Chrysomelidae). Chris completed an Honours degree with Brian Selman at the University of Newcastle-upon-Tyne studying the systematics of first instar larvae of Australian paropsine beetles.

Congratulations to John Vranjic and Paul Jupp on the successful completion of their Honours year. John's thesis dealt with the taxonomy and biology of two species of gum tree scale, Eriococcus coriaceus and E. confusus, while Paul worked on the selection and evaluation of strains of entomophthoran fungi for use against the aphid Myzus persicae.

Penny Gullan and Barry Longstaff
Regional Councillors

NEW SOUTH WALES

Biological and Chemical Research Institute

John Donaldson from Department of Primary Industries, Indooroopilly made a fleeting visit to Rydalmere in January while on his way to holidays in the Kosciusko region.

Professor Chen Yong-Lin, Institute of Zoology, Academia Sinica, Beijing, visited the Institute on 14-15th November to discuss plague dynamics of the tropical migratory locust with Graeme Baker and insecticide techniques with Vic Edge.

Professor Fan Fulai, Vice-Chief, Office of Locust and Mouse Control, Xin Jiang, People's Republic of China visited on 10th December to

discuss locust control with Max Casimir and Graeme Baker.

Marnie Holmes has been appointed to a Technical Officer position with Graeme Baker and will be working on population dynamics of grasshoppers and locusts.

Australian Museum

The new Insect Gallery, to be opened on January 31st, has filled the minds and time of all Entomology staff over the past few months and field excursions, visitors and other more varied activities have been postponed.

The Gallery, which was detailed in News Bulletin 20 (4) will provide Sydney with a valuable source of entomological information.

CSIRO Warrawee

Visitors to the laboratories included Rudi Rabbinge, Professor of Theoretical Biology and Production Ecology, Wageningen, The Netherlands, to discuss aphids with Paul Wellings and Hugh Comins from A.N.U. who is developing computer simulations of fruit fly populations with Brian Fletcher.

Four members of staff lunched with Sir Richard (Dick) Southwood and his wife during their recent visit to Sydney.

Hugh Sweatman, who is completing a Ph.D. at Macquarie University on reef fish is working part-time at Warrawee on fruit fly behaviour. Neville Sharples, also a student at Macquarie University is helping Brian with his computer simulations.

We also have the assistance of Kim Finney and Angela Kumonovska for six months under the C.E.P. Scheme.

Sydney University

Fred McDonald is at Baton Rouge USA for another two months working on Pentatomidae.

Harley Rose, Doug Rugg and Laurie Sanchez chased the sun and burrowing cockroaches again in early December in Queensland and returned with collecting bags and notebooks bulging.

Mark Stevens has commenced a Ph.D. project on Taxonomy of Cicadellidae, Thymbrini.

Macquarie University

Dinah Hales returned in December after 4 months valuable work on aphid chromosomes in Britain.

Forestry Commission of N.S.W.

Christine Stone has been appointed as a research officer working on forest insects.

N.S.W. Institute of Technology

Ken Brown has left Sydney University to take up a position as Lecturer in Applied Biology to replace Peter Miller who has moved up to Lecturer in Charge of Biology for Nurses. Peter will be continuing a research interest in domestic cockroaches.

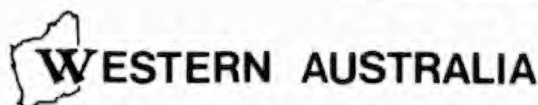
Murray Fletcher
Regional Councillor

N.S.W. COUNTRY

Dr Harold Mason, an entomologist with Canada Agriculture until his retirement at the end of 1984, visited Graham Thwaite and Colin Bower at Orange in January. Harold, on holiday with his wife Vivienne, renewed acquaintances with many people he met here while on a 10 month exchange of work programme in 1980/81. They also travelled to Victoria to visit Fellow retiree Dave Morris.

Around Armidale there has recently been an Earthwatch Expedition led by Meg Lowman of the Biology Department at University of New England. The expedition investigated the interactions between insects and gum trees. Tom White, formerly of Wagga has just taken up an appointment at the University of New England.

Robin Gunning
Regional Councillor



CSIRO Division of Entomology

John Scott leaves Perth at the end of January. He will spend a month in Montpellier checking on some aspects of the biological control of Dock before proceeding to Grahamstown, South Africa, to pursue studies on the biological control of Emex australis.

W.A. Department of Agriculture

On November 23rd, Darryl Hardy (an Honours student from Murdoch University) delivered a seminar on blowflies at the Department. The seminar was followed by a barbecue lunch and an informal get-together of local entomologists in the congenial surroundings of the blowfly research facility.

The scolytid beetle *Ips grandicollis*, a pest of pine trees and originating from the USA, is set for harder times in the plantations north of Perth following the release last September of three biological control agents there; they were a Torymid and a braconid parasite and a clerid predator.

Apparently the Department's eradication programme for Mediterranean Fruit Fly in the Carnarvon district has been successful as no flies have been reported since September. The programme which combined release of sterile flies with other control measures during the last two years is now being wound down.

In January, the pea aphid (*Acyrtosiphon pisum*) was confirmed as occurring in Western Australia. Meanwhile, a braconid parasite of the sowthistle aphid (*Hyperomyzus lactucea*) has been established locally and it is hoped it will control its host which transmits a virus disease of lettuce.

W.A. Institute of Technology

Jonathan Majer has commenced writing a book on the role of fauna (including insects) in reclamation of disturbed lands (e.g. mine sites, road sides, drained land). To do this he has received financial support from mining companies and state government departments and he will soon be visiting Europe, the UK and the USA to consult with entomologists and other zoologists working on reclaimed land.

University of Western Australia

Dr Hiner Rümer of the University of Bochum in West Germany has spent three months since November with Win Bailey in the Department of Zoology correlating his electrophysiological experiments on the hearing of tettigoniids with behavioural studies.

Western Australian Museum

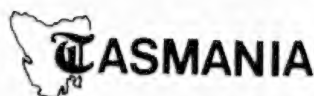
Three members of the Australian National Insect Collection staff from Canberra, Andrew Calder, Dave Rentz and John Lawrence, paid

brief visits to the Museum in October and November. The tettigoniid collection benefited considerably from Dave's fast sorting efforts. Shelley Barker also visited fleetingly in January to check recent buprestid accessions.

Peter McMillan has lately become interested in the insect fauna of post-flowering *Banksia* confluences (he says boring insects are very interesting). He has also been analysing gut contents of catfish (which have included belostomatid bugs) and small passerine birds.

Terry Houston holidayed in Adelaide over Christmas and used the opportunity to track down the source of fossil bee brood cells described (but not identified) from Eyre Peninsula in 1976. His recent studies of extant bees in W.A. permit the fossils to be reliably identified as those of stenotritid bees. He collected further samples near Fowlers Bay where hundreds of the old cells are weathering out of coastal cliffs.

Terry Houston
Regional Councillor.

CSIRO

George Bornemissza and his family spent several weeks on Lord Howe Island in January, collecting beetles and generally relaxing. George visited ANIC in February before returning to Hobart. Robin Bedding has had two recent trips to China on behalf of ACIAR. Negotiations were had concerning collaborative projects involving the exploitation of insect parasitic nematodes with the Guang Dong Entomological Institute and the Biological Control Laboratory of the Chinese Academy of Agricultural Science, Beijing. Robin also attended the 1st International Congress of Nematology in Guelph where he chaired a session.

Forestry

Humphrey Elliott (Forestry Commission) and David de Little (Associated Forest Holdings) have authored an excellent handbook to the forest and timber pests of Tasmania. It was recently launched by the Premier in his capacity as Minister for Forests, and is selling well.

Department of Agriculture

Recent visitors were a delegation of Chinese officials including Mr Fan Fulai of the Office of Locusts and Mouse Control of the Xni Jiang Uygur Autonomous Regions who discussed locust problems and other pests of grasslands with local staff. Aleks Terauds recently returned from several weeks in Kashmir where he is involved in giving entomological advice to apple orchardists involved in the Indo-Australian Apple Project. He is due to return to Kashmir in March. Paul Rapley recently left the Entomology Section to join Bob Hardy's Fruit and Ornamental Branch where he will be researching small fruits. His entomological background will be invaluable and we wish him well in his new pursuit. Rod Brieze-Stegeman has successfully added a B.Sc. in Information Science to his credentials and picked up the IBM Prize for data base studies into the bargain. His new skills will find wide application in the entire Department.

Anne Hastings of CSIRO paid us a visit in mid January to view the workings of the Section.

Peter McQuillan
Regional Councillor

**NORTHERN TERRITORY**CSIRO Division of Entomology

The ecology of the noxious tropical American weed Mimosa pigra is now under close scrutiny from Mark Lonsdale and Cathy Beurle. So far, they have been investigating seed and seeding ecology, but should begin experiments on the effects of simulated herbivory soon. Ken Harley visited them in November to discuss progress so far. Mark Lonsdale, with Colin Wilson from the D.P.P., travelled to Brisbane in November to meet colleagues in biological control and study techniques of rearing the bio-control agents from Mexico. The seed-eating bruchid beetles released in 1983 are still too scarce to achieve significant levels of seed predation, and further releases will be made shortly. A newly-introduced stem-feeding beetle, Chlamisus, will also be ready for release soon.

Northern Territory Museum

In November, Mali Malipatil spent 12 days in the Victoria River Downs-Wave Hill area. Conditions generally were very dry and hot, but some rain fell while he was there and general collecting of material for the Museum was very productive.

D.P.P. Entomology Section

There was a flurry of activity following the discovery of mango seed weevil, Cryptorhynchus mangiferae, in a Darwin suburban garden in October. This insect has long been known on the east coast but had not previously been recorded in the N.T. despite surveys during the previous two fruiting seasons. Some overseas markets for Australian mangoes, such as the USA, are closed to fruit from mango seed weevil areas. Geoff Strickland co-ordinated a house-to-house search of properties in the Darwin area including rural environs, and searches were also carried out in Katherine and other Top End centres. At the conclusion of this exercise in December over 18,000 properties had been checked and infestations had only been found in a number of Darwin suburbs. The next move is to be decided at a meeting of interested parties scheduled for late January.

Last wet season Ian Cook's rice plots at Tortilla Flats were devastated by Magpie Geese apparently attempting to nest in them. Their cavortings trampled some varieties to the extent that planned trials had to be abandoned. In an effort to prevent a similar catastrophe this season, the plots are being guarded by dawn and dusk shooting patrols supplemented by an 'electronic emission device' (no further details available) operating through the day. Perhaps the cleverest trick, though, is the planting of two large areas of rice outside the trial area to serve as goose fodder and whatever else the birds fancy. The theory is that if they're not disturbed on these areas the plots may be left alone ...

D.P.P. Agricultural Quarantine Service

Having had to eradicate two outbreaks of Medfly in Alice Springs in recent years, the N.T. has implemented legislation requiring certification of imported fruits and vegetables which are susceptible to this pest, Queensland fruit fly, cucumber fly and several other species. Allan Allwood and Ted Fenner have been finding that decisions on the acceptability

of potential treatments are often impossible to make with confidence because of scarcity of experimental data on widely traded commodities (e.g. grapes, kiwi fruit, custard apples, egg fruit, litchis and loquats) or because variations on experimentally substantiated treatments have been accepted by some markets. Roll on ionising energy disinfestation!

Ted Fenner
Regional Councillor



Department of Primary Industries

A USDA study group is currently visiting Dick Drew at the Indooroopilly laboratories seeking the latest information on microbiological research in fruit flies. The group, consisting of Mr A.J. Martinez (microbiologist, USDA (APHIS), Texas), Dr John Miller (bacteriologist, Florida Division of Plant Industry) and Dr Roger Vargas (entomologist, USDA (ARS), Honolulu), is particularly interested in the bacteria associated with fruit flies and their role in fruit fly monitoring and control.

During late November 1984, Mr Rahim Muda from the Malaysian Agricultural Research and Development Institute, Malaysia, and Mrs Philipinas Calibosa from the National Post-Harvest Institute for Research and Extension, Philippines, visited the Indooroopilly laboratories and exchanged information with Peter Samson and Merv Bengston. Their visit was connected with the ACIAR project on grain storage in the humid tropics. In February, Peter Samson leaves for the Philippines and Malaysia to continue this interchange of information.

In January, Graham White and Eric Sinclair flew to Sydney and met with officers of the New South Wales Department of Agriculture to discuss their joint project on the farm storage of grain.

Also during January, Dr Noel White, a stored products entomologist with Agriculture Canada, briefly visited the Indooroopilly laboratories as part of a tour of Australian institutions involved in stored grain research.

After 8 years with Entomology Branch, Eric Sinclair will resign on February 8. Eric

will be returning to student life as he is undertaking a 2 year Diploma course in Electrical Engineering (Electronics) at the Queensland Institute of Technology.

Alan Fletcher Research Station

Marie Ablin was appointed as an entomologist in January and will take up her duties at the Tropical Weeds Research Centre at Charters Towers in February.

The glasshouse facilities at the Alan Fletcher Station suffered considerable damage from the devastating hail storm which swept Brisbane on 18th January.

CSIRO Long Pocket Laboratories

Rob Floyd visited east and central Africa in December and January as part of the ACIAR funded project on the ecology and epidemiology of the cattle tick.

John Gillett formerly of the Northern Territory and now working with CSIRO in Mexico, visited Brisbane for a week in January. John is involved in the selection and evaluation of biocontrol agents for Mimosa pigra, Hyptis sp. and Sida sp.

In late November (1984), Dr Mark Lonsdale of the CSIRO Mimosa pigra programme, and Mr Colin Wilson of the Department of Primary Production visited CSIRO Long Pocket and the Alan Fletcher Research Station Sherwood where both gave seminars on the ecology of M. pigra.

Forestry Department

Joanne Nicholson, a science graduate from Queensland University will take over the West Indian drywood termite programme in Queensland. Brenton Peters who was previously in charge of this project will move to Forest Products research.

University of Queensland

Gordon Hooper has returned to the University after 2 years working with the International Atomic Energy Agency in Vienna. Gordon has been responsible for establishing the sterile release programme of Mediterranean fruit fly for Egypt.

Gerrit van de Klashorst has left the Entomology Department to take up a lecturer's position in Crop Protection (Entomology) in the University of South Pacific, Western Samoa.

Wayne Jorgensen has now submitted his Ph.D. thesis dealing with the sensory physiology and behaviour of the larval and nymphal cattle tick (Boophilus microplus).

David Holdom will be leaving shortly to take up a post-doctoral fellowship at Cornell University, Ithaca, New York. David will be continuing his work with insect pathogens.

Queensland Museum

Life goes on at the Queensland Museum, despite loosing 360 glass windows during the destructive hailstorm which hit Brisbane in January. Other more persistent signs of disaster throughout the building are in fact just various manifestations of preparations for the move to our new building, which now looks like taking place in early 1986. The Birdwing Butterfly, Ornithoptera priamus, has been chosen as the symbol of our coming metamorphosis into a new building and appears on bumper stickers and brochures being distributed to publicise the event (see photographs). Tony Hiller, of the Mt Glorious Biological Centre, prepared a special life-like specimen for the publicity shots.

Robert Raven is back in the Arachnology Section after two years absence on a CSIRO Postdoctoral Fellowship. His return displaced Julie Gallon who had warmed his seat and has

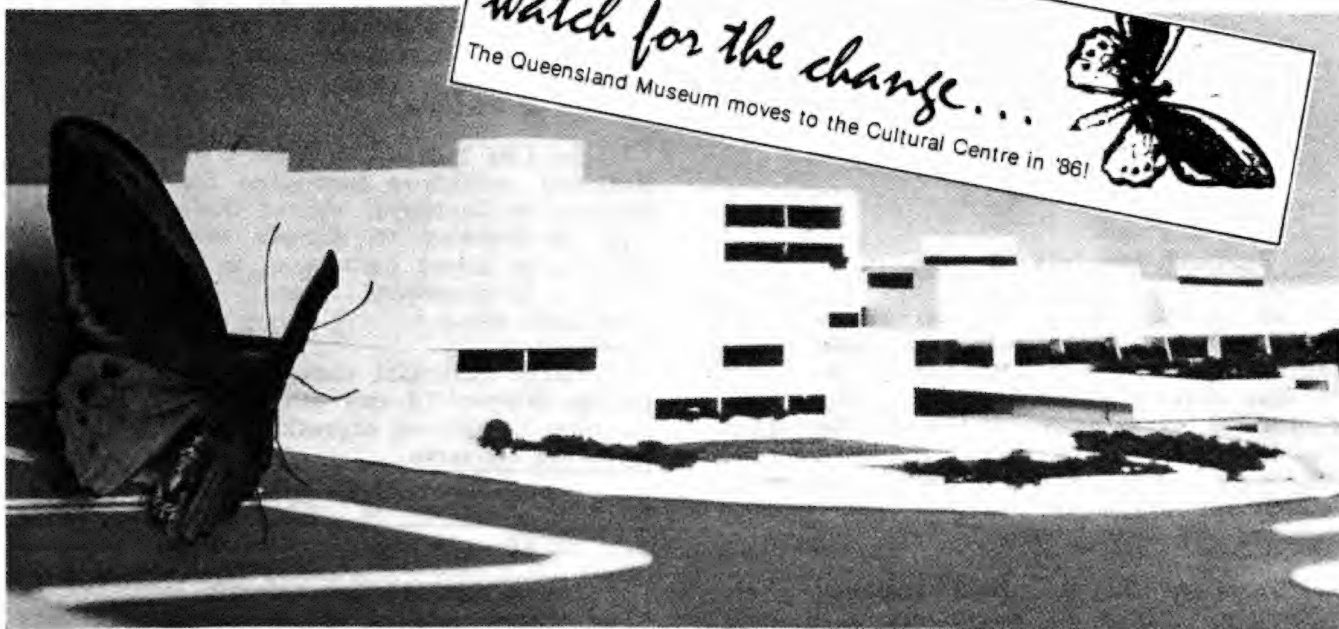
now moved on to a position in the DPI Entomology Branch.

Max Moulds visited for a day in January to work with the cicada collection. While in Brisbane he also visited other collections and shared ideas on cicadas with fellow-enthusiast, Tony Ewart.

Ted Dahms has recently taken delivery of a Sirius Computer and a Scientific word processing package called Vuwriter, which allows production of italics, bold face, european accents and a range of other characters on screen and then directly to a printer. This allows production of galley proofs at the Queensland Museum. The information is fed via a modem to a phototypesetting firm who then return fully made up page proofs. The Museum intends using this streamlined production procedure for its Memoirs. Ted would welcome any enquiries regarding this new equipment.

Queensland Institute of Medical Research

Wayne Jorgensen has been appointed for 3 months to assist Brian Kay with the assessment of the aerial treatment of the many islands which breed the salt marsh mosquito, Aedes vigilax. The contiguous shires of Gold Coast, Albert, Logan and Redlands contributed \$100,000 for 6 applications of primarily Abate 5G but other insecticides will also be tested.



Brian Kay visited Vector Control personnel Richard Piper (Cairns) and Paul Barker-Hudson (Townsville) to review medical entomology projects on rice field mosquitoes and on the Ross and Burdekin Dams. He considered this January visit more satisfying than one to Cairns, Townsville, Mackay, Rockhampton and Gladstone during December when he opened the 1984/85 dengue campaign and subsisted on a diet of official functions, TV, radio and newspaper interviews for 10 days!

Ian Galloway
Regional Councillor

NORTH QUEENSLAND

Greg Daniels, University of Queensland, and his wife Alice spent the Christmas and New Year period in North Queensland collecting flies in the area north of Cooktown.

Visitors to the Department of Primary Industries in Mareeba were Professor Chen Yong Lin of the Academia Sinica, Peking, who was in company with Roger Farrow of CSIRO Canberra, Tom Passlow, the Director of DPI Entomology Branch in Brisbane and Stuart Smith from Kununurra whose interest is tropical crop entomology.

Therry Lander and his wife from Geneva spent a few days around Mareeba, Kuranda and Mt. Carbine collecting Buprestidae with Anthony Dutton from Perth whose interest is breeding beetles.

Alan Walford-Huggins
Regional Councillor

VICTORIA

Plant Research Institute, Burnley

Dr Rudi Rabbinge has returned to Wageningen after a successful period as visiting scientist at Burnley. As with previous visiting scientists Rudi found his stay at Burnley very busy, visiting entomological establishments throughout Australia and presenting many seminars, talks and short courses on his work on pest and disease modelling and management.

Dr Dean Haynes from Michigan State University began a six month term as visiting

scientist in January, and plans to make contributions in the fields of economic damage assessment and the analysis of computerised survey information.

Dr Maria Scurrah, a plant breeder from the International Potato Centre, Peru, is spending 12 months at Burnley selecting cultivars for resistance to potato moth.

The Apicultural Research Unit, previously located at the Horticultural Research Institute, Knoxfield, has now been relocated to the Plant Research Institute. Two new appointees have joined the unit. Ben Oldroyd, from Hawkesbury Agricultural College is the new officer in charge, and David McLaren, from La Trobe University will be working on the effect of microencapsulated insecticides on bees.

Dr John Mills and Dr Noel White from the Stored Products Section, Canada Agriculture, Winnipeg, visited Peter Williams and Mike Wegecsanyi at Burnley and Dr N. Tran at Deakin University in November to discuss stored products research, including microwave disinfestation of grain.

Dr Alan Journet, Associate Professor, Department of Biology, Southeast Missouri State University, visited Burnley in January and presented an interesting seminar entitled "Nitrogen quality and the population dynamics of pecan aphids".

Professor Cheng Yong-lin, from the Institute of Zoology, Academia Sinica, Beijing, China visited Garry McDonald, Mark Smith and others to discuss aspects of insect ecology and migration in December. He also inspected armyworm field research in the Western District of Victoria.

Dr Lou Falcon, University of California, Berkeley, whilst in Melbourne for 2 days on his way to Canberra, visited Dave Morris and staff at Burnley to discuss work of mutual interest on insect pathogens, in particular the latest developments with codling moth granulosis virus.

Garry McDonald visited Roger Farrow and George Rothschild and others in Canberra in January to discuss migration of the armyworm Mythimna convecta.

CSIRO Division of Chemical and Wood Technology

Laurie Cookson has recently submitted an M.Sc. thesis relating to termite nutrition and

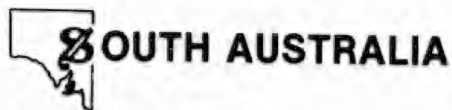
the fate of lignin to the Zoology Department at Monash University. John French and George Ettershank are his joint Supervisors.

John Holt, from CSIRO Division of Soils, Canberra visited recently to discuss work on grass-feeding termites. Whilst in Victoria he took the opportunity to inspect field sites with John French at the Boola-Boola State Forest in Gippsland.

Other visitors in January were Dr Alan Journet (see PRI, Burnley report) and Dr M. Takahashi from the Wood Sciences Laboratories, Kyoto who discussed wood preservation and termites.

In February Dr Rei Rasmussen, from the Department of Environmental Science, Oregon Graduate Centre will visit the group to spend some weeks working with John French on methane emission by termites.

Gordon Berg
Regional Councillor



South Australian Museum

A recent visitor to the Museum was Professor J. Pendergrast, from New Zealand, who spent some time looking at types of Aradidae.

The entomology section of the Museum is soon to be relocated in a new building (formerly the D.F.E. building). Unlike the old building, the new location is expected to be free of floods and noise from pneumatic drills! The moving process will start in mid-May and will take about ten weeks - during that time no visitors or loans of specimens can be accommodated.

The third beetle guide (Keys to S.A. Genera, by Eric Matthews, published by the S.A. Museum) is now available, price \$7.50. Copies can be obtained by writing to the Publicity Officer, S.A. Museum, North Terrace, Adelaide, 5000 and recipients will then be invoiced with the cost of the book plus postage. This guide deals with the Scarabaeoidea and related groups - a fourth guide is in preparation and will be available soon.

Penny Greenslade is to spend three

months in Tasmania, working for the Tasmanian National Parks on a project to investigate the "Conservation Status of Terrestrial Invertebrates". Penny requests that anyone with relevant information on any invertebrate species in Tasmania (terrestrial or aquatic) - e.g. habitat destruction - please contact her.

University of Adelaide - Zoology Department

Alice Wells attended a conference on Trichoptera at Tarra Valley, Gippsland, in December.

S.A. Department of Agriculture

Peter Allen visited, as a lecturer, the Australian National Vector Control Course, held at Mildura in November.

Leslie Hurley has joined the Department and is working on the ecology and control of the Portuguese millipede in urban Adelaide.

Waite Agricultural Research Institute - Department of Entomology

Mr M.B. Rani, one of the first intake of students for the Master of Agriculture in Pest Management degree, has returned home to Malaysia. Another of the students, Kaye Hergstrom has recently submitted her thesis entitled: "Towards the integrated control of the Blue Green Aphid".

The Department was recently visited by the Field Crops Review Committee. This Committee is appointed by farmer groups, and advises the Minister of Agriculture on research allocations.

Dudley Pinnock accompanied the Agricultural Science students on their recent South East Tour.

Dr William Kirk (Cambridge University) arrived at the Waite in early January. He will spend a year working on the ecology of thrips in flowers.

The T.O. Browning medal, an award for academic achievement in Fourth Year Entomology, was awarded in December to Paul de Barro. Professor Browning presented the medal.

Robin Coles is now working on the Megachile project. Lynette Tilley, after a term of high school teaching at Kadina, is now back at the Waite, also working on the Megachile

project.

Professor Andrewartha's book "The ecological web: more about the distribution and abundance of animals" is now available. The book was co-authored by Professor Charles Birch.

On December 12 about 30 members enjoyed a Christmas luncheon at the British Hotel, North Adelaide.

David Cooper
Regional Councillor



NEW ZEALAND

Charles Watt of the DSIR, Auckland has been the driving force behind the establishment of a reserve at Cromwell, Otago to protect the rare Cromwell Cockchafter (*Prodontria lewisi*) which is confined to about 200 hectares of flats near the township. It is expected that legislation to designate this area as a scientific reserve will go through parliament very shortly. However a cloud looms on the horizon - A mining company is fighting for permission to prospect the area and is presenting a case for mining under the reserve. The New Zealand Entomological Society considers this would be a retrograde step and will oppose the proposal. Protection, by law for an arthropod colony is fairly rare. Is there such a thing in Australia?

John Tenquist
NZ Correspondent



NEWS FROM AFFILIATED SOCIETIES



ENTOMOLOGICAL SOCIETY OF QUEENSLAND

The final gathering of Members for 1984 was at the CSIRO Long Pocket Laboratories on 10th December for the Annual Society Barbeque followed by a Notes and Exhibits meeting at which 10 members presented short talks or exhibits on a wide variety of topics.

Total membership of the Society remained fairly stable during the year with the number of members at the end of 1984 being 313. The next meeting of the Society will be the Annual General Meeting at 7.30 pm on 11th March at the University of Queensland. At this meeting the Council for 1985 will be elected and the Annual Reports presented. This will be followed by the Presidential Address of the retiring President, Miss Margaret Schneider. Nominations for all Council positions, except Junior Vice President, may be sent to the Secretary, Ms Marlene Elson-Harris prior to the meeting.

Margaret Schneider
Representative Councillor



ROY. ZOOL. SOC. OF N.S.W. ENTOMOLOGY SECTION

The June meeting was addressed by Bert Brunet who spoke on the Araluen Valley which he had visited recently for field work in insect photography. He dealt with the area in brief and illustrated the talk with numbers of his excellent colour slides.

Allen Sundholm spoke at the Annual General Meeting in August, dealing with some of the entomological trips he had taken to Western Australia. The election of officers resulted as follows: Chairman: C.E. Chadwick; Honorary Secretary: R.H. Mulder; Honorary Treasurer: W.J. Wilson; Councillor: B.L. Brunet.

The October meeting was devoted to a discussion and exhibition of rare entomological

books, ranging from 1660 to present day foreign books normally not available in Australia.

Arthur Woods spoke to the December meeting on "The Historic Insect", dealing with the impact of insects on human history, especially the medical aspects.

In 1984 we nominated one of our members, Geoff Williams, for the Le Souef Award, which is given annually by the Entomology Society of Victoria for noteworthy work by an amateur entomologist. It gave us great pleasure to learn recently that the award committee had voted unanimously to give the award to our nominee. For many years Geoff has been interested in the families Scarabaeidae, Buprestidae and Cerambycidae. His published entomological work is of professional standard. He has also been involved in general biological conservation, especially in the Taree district.

C.E. Chadwick
Representative Councillor

RESEARCH REQUESTS

SURVEY OF CATERPILLAR OUTBREAKS

As an adjunct to a research project on forecasting armyworm outbreaks in Victoria, I am interested in collecting information on the overwintering habits of Mythimna convecta (Noctuidae), the common armyworm. It is thought that the source areas for spring infestations of crops over eastern Australia are in north eastern Australia where temperatures favour continued development over winter.

From time to time, caterpillar "plagues" are known to occur on native grasses and bushes, as well as improved pastures and crops, during winter and early spring. These may consist of a species complex of which armyworms and other noctuids feature strongly. Invariably, large migrations of moths result.

I would be glad to receive any reports of such caterpillar plagues that you may observe, and, where possible, a representative selection of live or preserved specimens. Accurate identification of armyworms, especially Mythimna spp., depends upon breeding through to adults. A description of date, location and host plant is essential. Similarly,

historic accounts would also be most useful. This project will continue for the next 3-4 years, so any reports over that period would be gratefully received. Local observations will assist appreciably in this major exercise.

Garry McDonald
Plant Research Institute
Swan Street
BURNLEY VIC 3121
Ph: (03) 810 1511

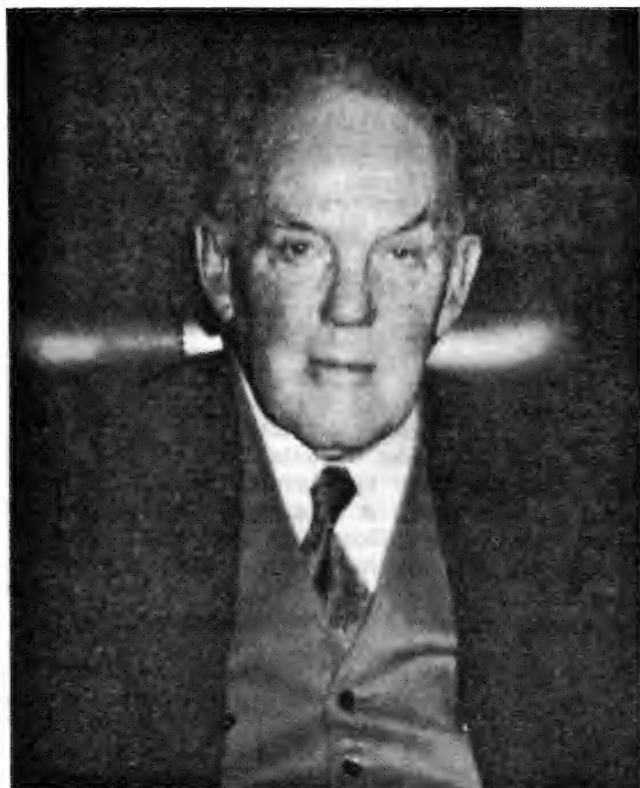
AERIAL SAMPLES OF MICRO-INSECTS FOR STUDY

Since 1979, I have been accumulating samples of migrating insects collected by tow net from a range of sites in south east Australia and from various times of the year. Samples are from two levels: at 3 m altitude and at 150 - 300 m altitude. The sites vary from the Darling Downs in the north to York Peninsula SA in the south: most come from central western New South Wales where sampling occurred all year round in '83/'84. Over 150,000 individual insects have been recorded from all major Orders, as well as spiders. The Orders Diptera, Hemiptera and Hymenoptera are particularly well represented and few of the latter have been identified because of their huge diversity. All individual catches have been sorted to Order and the specimens are preserved in 70% alcohol and are kept in labelled racks of tubes in my laboratory.

A few scientists from overseas as well as Australia have already studied particular taxa from both an ecological perspective as well as a purely taxonomic interest. I would like to draw the attention of entomologists to the existence of this collection and to the availability of material for study.

Roger Farrow
CSIRO Division of Entomology
G.P.O. Box 1700
CANNBERRA CITY ACT 2601
Ph: (062) 465 701

OBITUARY



VERNON VICTOR HICKMAN
August 28, 1894 - November 20, 1984

The death of the eminent invertebrate zoologist, Emeritus Professor V.V. Hickman O.B.E., occurred in Hobart on November 20, 1984 at the age of 90. He was born in Hobart and was educated there at the Friend's School and the University of Tasmania. After graduating B.Sc. in 1915 he served in France with the A.I.F. during the First World War. On his return he took charge of the chemistry laboratory at the Launceston Technical College in 1920 and was later lecturer in chemistry and mineralogy at the Zeehan School of Mines in western Tasmania. In 1932 he returned to the University of Tasmania as Ralston Lecturer in Biology and was awarded his D.Sc. in Zoology in 1937 for his work on the embryology of the relict crustacean, *Anaspides tasmaniae*. In 1943 he became Ralston Professor of Biology (later Zoology), a post he held until his retirement in 1959 when the University awarded him the title of Professor Emeritus. In 1979, at the age of 85, he was awarded an O.B.E. for his services to science and education. At the time his gentle self-effacing humor showed through when he wrote to a colleague .. 'I hope I shall be pardoned, if in

my case I think the letters O.B.E. may stand for "Only Because Elderly"'.

Professor Hickman was a major contributor to Australian spider taxonomy since his first publication in 1926, and was undoubtedly Australia's foremost araneologist. He is best known for his studies on minute litter spiders, establishing three new families, Symphytognathidae, Tetricellidae and Micropholcommatidae; he also erected the Toxopidae. He also wrote on the biology of spiders and insects, the latter especially where they interacted in some way with spiders. He enthusiastically promoted the study of Tasmanian invertebrates and collected many specimens on behalf of other taxonomists. His name is recalled in the scientific epithets of numerous species, prominent among which is the fascinating Tasmanian cave spider, *Hickmania troglodytes* (Hickmaniidae).

He was actively studying spiders and publishing throughout his retirement. Shortly after his 90th birthday he was moved to write, "some time ago Bristowe published a list of about 20 naturalists, who had reached an advanced age and had studied spiders. I have wondered why the Press has not published headlines "Medical break-through: Araneology promotes longevity"'. This kindly, generous and gifted man was deeply committed to his family and leaves a daughter and two sons, one of whom also lectures in Zoology at the University of Tasmania.

(Peter McQuillan, et al)
(Photograph taken in 1980 by
Robert Raven)

NEW BOOKS

Proceedings of the Fourth Australian Applied Entomological Research Conference, September 1984. (Eds) P. Bailey and D.E. Swincer, 520 pp. soft cover. S.A. Govt. Printer, Adelaide.

This volume provides a cross section of present research on applied entomology in Australia. Seventy-five research and review papers report on the following topics:- Pest Management Research; Application of pest management programmes in Australian Agriculture; Economic thresholds of arthropod damage to crops; Host resistance to insect attack; Chemical insecticides: their role in crop protection; Biological control by beneficial animals; Biological control by pathogens; Identification of pests and beneficial

arthropods; Insects as pollinators; Arthropods as vectors of plant disease; Post harvest and Stored Products pests.

Price \$35.00, including postage, payable to 4th Australian Applied Entomological Research Conference. Send orders and payment to: Mr D.C. Hopkins, S.A. Department of Agriculture, G.P.O. Box 1671, Adelaide, SA 5000.

Portraits of South Australian Geometrid Moths
by Noel McFarland (in preparation).

This book will comprise about 300 pages and include more than 1300 black and white photographs of life histories of a great variety of Geometridae from South Australia. The rearing and photography were carried out during 6 years residence by the author at Blackwood in the Adelaide Hills during his period as Assistant Curator of Insects at the South Australian Museum. The book will be produced as a limited edition at a cost of around \$50.00 and should issue later this year. Orders received before June 1, 1985, will be eligible for a 20% discount. A detailed explanatory leaflet and order form is obtainable from the author:

Mr Noel McFarland
P.O. Box 1404
Sierra Vista
ARIZONA USA 85636



**AUSTRALIAN
BIOLOGICAL
RESOURCES
STUDY**

ABRS has announced grants awarded for 1985. Those of entomological relevance are as follows:-

Museum of Victoria

A. Neboiss - Identification and diagnoses of families of water-mites in Australia. (\$30,100).

Queensland Institute of Medical Research

R. Domrow - Checklist of dermanyssid mites of vertebrates. (\$16,750).

Queensland Museum

V.E. Davies - Development of an illustrated guide to the identification of Australian araneomorph spiders. (\$9,175).

University of Western Australia

B.Y. Main - Taxonomy of mygalomorph spiders: Ctenizidae and Dipluridae. (\$19,189).

CSIRO Division of Entomology

J. Cardale - Zoological Catalogue of Australia - Hymenoptera: Apoidea. (\$11,150).

J.F. Lawrence - Zoological Catalogue of Australia - Coleoptera: Scarabaeoidea. (\$14,850).

K.L. Taylor - Taxonomy and biology (particularly host associations) of Psyllidae on Eucalyptus and other Myrtaceae. (\$1,650).

Harvard University

L.M. Roth - Taxonomic revision of Australian cockroach genera and species. (\$250).

University of Oxford

J. Kathirithamby - The description and classification of Australian Strepsiptera. (\$21,030).

Unattached

R.V. Southcott - Taxonomy of parasitic mites (Acarina), and taxonomy of scorpions. (\$3,186).

A REVISED COMMON NAMES LIST

The 4th (1980) edition of the CSIRO publication "Scientific and Common Names of Insects and Allied Forms Occurring in Australia" is to be revised and the 5th edition published during 1985. Notices have been sent to appropriate Commonwealth and State Departments, Museums and Universities inviting advice on errors in the current edition and proposals for additional entries.

Society members who do not belong to these organisations are welcome to make proposals. Suggestions should be sent to local members of the Committee appointed to carry out the revision:

Queensland: Dr I.D. Galloway, Department of Primary Industries, Meiers Road, Indooroopilly, 4068.

New South Wales: Dr M.J. Fletcher, Biological & Chemical Research Institute, P.B. No. 10, Rydalmere 2116

Victoria: Dr L.D. Crawford, Plant Research Institute, Swan Street, Burnley 3121.

Western Australia: Mr K.T. Richards, Department of Agriculture, Jarrah Road, South Perth 6151.

Tasmania: Mr A. Terauds, Agriculture Department, St Johns Avenue, New Town, Tas 7008.

South Australia and Northern Territory: Dr P.B. Carne, CSIRO Division of Entomology, G.P.O. Box 1700, Canberra ACT 2001.

Proposals for additions should be in the form:

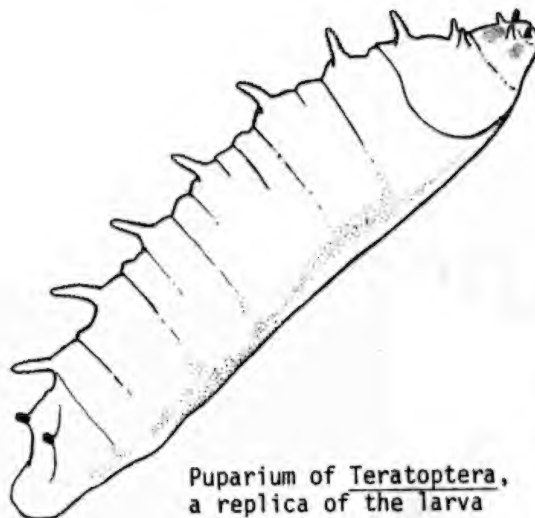
Genus, species, author, family, order, accepted common name, and be accompanied by a brief justification for inclusion in the list.

P.B. Carne
CSIRO Entomology
Canberra

FIRST LARVAE OF TERATOMYZIDAE (DIPTERA)

The Teratomyzidae are a little-studied family of wide but discontinuous distribution. Three species are described, but this number includes none of the 10 or so Australian species so far sorted by Debbie Kent (see *The Insects of Australia*, p. 729).

During recent study of insects associated with bracken fern (*Pteridium aquilinum* var. *esculentum*) near Sydney, numbers of a strange fly larva were found on the surface of mature fronds. They occurred throughout the year under dry sclerophyll forest as well as in an open field, and were present on about 20% of the fronds examined. The number of larvae per frond ranged from 1-263 (median = 7). Three were reared to the adult stage and proved to be a species of the teratomyzid genus Teratoptera.



Puparium of Teratoptera,
a replica of the larva

Apart from the unexpected frond-surface habitat, the 3 mm long larvae (see figure) are peculiar in having a row of seven large, scabrous, median dorsal spines, in the strong similarity between the short black anterior and posterior respiratory horns, and in that the larval cuticle is unchanged in appearance in forming the puparium (as in the Braulidae).

Elaine Shuter
Macquarie University.
David K. McAlpine
The Australian Museum.

LETTERS TO THE EDITOR

EDITOR'S NOTE

The butterfly books by Bernard D'Abrera have caused controversy around the world. His "Field Companion to the Butterflies of Australia and New Zealand" was published in 1984 by Five Mile Press and was reviewed by D.M. Reeves in the May 1984 issue of this News Bulletin.

The following "Letter to the Editor" regarding this book was received from Dr. S.A. Crossley and Mrs B. Miller. Dr Crossley has agreed that since it takes issue with Mr Reeves' original review then he should have right of reply. His reply follows.

Mr Reeves is a Brisbane pharmacist with a lifetime private interest in insects, particularly butterflies and dragonflies. Dr Crossley is a Senior Lecturer at Monash University working in the field of insect behavioural genetics. She has a private interest in moths and Five Mile Press inform me that they are preparing a pictorial guide to caterpillars by Dr Crossley for publication as a companion to D'Abrera's book.

Readers may obtain a copy of the detailed 32-page list of errors in Bernard D'Abrera's "Field Companion" mentioned by Mr Reeves by writing or telephoning me. I would welcome further discussion on this issue (500 words maximum) for the May issue of the Bulletin - after which the matter will be closed.

Geoff Monteith
News Bulletin Editor

IN DEFENCE OF D'ABRERA

Dear Sir,

D.M. Reeve's (sic, Ed.) review of "A Field Companion to the Butterflies of Australia and New Zealand" by D'Abrera (News Bulletin 20 2 1984 p. 40, lists numerous errors. While not wishing to dispute these criticisms we do not agree with the reviewer's conclusion that the book is not worth recommending to the beginner.

Our comment is based on the following evidence. In order to see whether beginners

could use the book to good advantage we devised a test. For comparison we used "Butterflies of Australia" by Common and Waterhouse.

Six people whose ages ranged from twenty to thirty-four took the test. All claimed that they knew nothing about butterflies. They were all staff members of the Department of Psychology at Monash and their training in biology varied considerably. Two had no training in biology, one had H.S.C. biology only and the rest had B.Sc. with biology at first year level. Three were used to handling insects in connection with research on insect behaviour genetics. All except one was educated in Australia. The writers of this letter did not take the test.

Each person was asked to identify the same eighteen pinned butterflies which were arranged in two sets of nine. Three people identified the first set using D'Abrera and the second set using Common and Waterhouse. The other three were asked to identify the first set using Common and Waterhouse and the second set using D'Abrera. Therefore each butterfly was identified three times using one book and three times using the other book by six different people. Each person wrote down the full name of the butterfly and the time taken to determine it.

We were particularly interested to see which book was the fastest to use and which resulted in most errors in identification; after all it is not much good being quick if the end result is wrong. To assess errors we allotted one error point if a subspecies or race was wrong, two if a species name was wrong and three if the whole name was wrong. If several subspecies were given in one book but not in the other we did not score an error if in using the more detailed book the subspecies was wrong. There were only a few cases where this could happen.

The results showed that for most specimens D'Abrera's book is quicker than that of Common and Waterhouse. As for errors, there was little difference; 15 error points for Common and Waterhouse as compared with 19 for D'Abrera. The whole name was wrong six times for D'Abrera, two people out of the three failing to name Jalmenus evagoras and one person out of three failing with Graphium macleayanum, Delius (sic, Ed.) harpalyce, Anapheais (sic, Ed.) java teutonia and Zizina

labradus labradus. Two people scored failures with Common and Waterhouse, one with Juonia (sic, Ed.) villida calybe and the other with Anaphaeis java teutonia. This number of mistaken identifications is very small when it is remembered that a total of 54 identifications were made with each book.

After the test was over each person was asked to comment on the two books with respect to the task just completed. Four preferred D'Abrera. Reasons given were that the pictures in D'Abrera really looked like the specimens that they were looking at, that it was so much easier and quicker having the descriptions and picture next to each other and it was easier to match butterflies and pictures which are of comparable size. The writing style of D'Abrera's book was liked for its short statements about the butterflies, which were interesting and to the point. Two people preferred Common and Waterhouse, one because the undersides of all specimens were shown and the other because of the depth of detail in this book.

Comments received were interesting in that they revealed deficiencies in both books. The two non-biologists were puzzled by the detached wings in the Plates in Common and Waterhouse. Both decided that they denoted sexual differences. After coming across a male, the female of which had been identified earlier in the test, they realised that this could not be the explanation and deduced that they were undersides. Similarly, the two people who failed to identify J. evagoras using D'Abrera did not work out that V meant ventral. Had they understood this, they would have been able to identify this specimen. Both books are at fault therefore in not explaining their own particular convention in illustrating undersides.

From this we conclude that D'Abrera's book on Australian Butterflies is of value and this is especially true when its price is also taken into account, (\$14.95 hard back).

D'Abrera is the author of "Moths of Australia", Lansdowne Press, 1974. When published this book was also reviewed harshly because of spelling mistakes and because it disobeys the various conventions of nomenclature. Nevertheless this book has stood the test of time. It is the only book of any use for identifying Australian moths and this is because it is the only book illustrated in colour.

We do not know Bernard D'Abrera. Our

comments are based entirely on his books and the few other books available on Australian lepidoptera.

Yours sincerely,

Stella A. Crossley, M.A., D.Phil.
(Oxon).
Acting Professor of Psychology
Dept. of Psychology,
Monash University.

Mrs Brenda Miller
School Librarian.

REPLY FROM D.M. REEVES

Dear Sir,

In replying to the foregoing letter from Dr Stella A. Crossley and Mrs Brenda Miller, it is useful first to re-examine Bernard D'Abrera's "A Field Companion to the Butterflies of Australia and New Zealand". A quantification of its enormous number of errors, omissions and inconsistencies runs to 32 pages of typescript and may be summarized as follows:- 4 species are completely omitted; 11 species are not illustrated; 23 illustrations show wrongly identified specimens; 63 illustrations show subspecies which do not occur in the region covered in the book; there are 111 mis-spellings (91 of them in scientific names); 223 names contravene Article 51 (d) of the International Code of Zoological Nomenclature; 147 species have substantially incorrect distribution data; 110 species have no field data table, though this is claimed for all species; 170 other errors and omissions occur. These total 862, an average of approximately 5 per page. Bear in mind that this is the book which the author and the publishers, Five Mile Press, claim to be "an up-to-date reference book" which "presents a coloured photographic illustration of each species" and, further, "provides a quick and easy means of identification of all the known species".

And this is the book that Crossley and Miller find "of value", completely overlooking the fact that its widespread use could serve only to cripple a generation of potential lepidopterists. This apparent lack of concern for accuracy is all the more astounding when one considers that Crossley and Miller are themselves engaged in the field of education. Incidentally, in their letter, they misspell 3 of

the 7 butterfly names mentioned, as well as my own name.

D'Abrera's "Field Companion" is a slim 171 page book of colour photographs and minimal text. I have ascertained that, in their test, Crossley and Miller have compared it with the large, 730 page, 1981 second edition of Common and Waterhouse's "Butterflies of Australia". Although this book is the benchmark of Australian butterfly books, it is not designed, nor intended to be used, as a field guide, or for rapid identification. Had they used Common and Waterhouse's abridged 1982 field edition, the comparison would have been fairer, and D'Abrera's book would have been shown to be less satisfactory than their test suggested. In the 1982 field edition, the plates are grouped together for easy reference, as also are the distribution maps which play an important role in identification, particularly of subspecies. One wonders why other more comparable books such as Common's 1964 Jacaranda pocket guide, or Burns and Rotherham's "Australian Butterflies in Colour" were not also used in their test.

With regard to Crossley's and Miller's claim that D'Abrera's "Field Companion" is good value for money ("... and this is especially true when its price is also taken into account ..."), a little simple arithmetic shows conclusively that this is far from correct. Common and Waterhouse's field edition, of 532 pages of text and illustrations, costs as little as \$9.94 or 1.87¢ per page. At the full recommended retail price of \$17.95 it costs 3.37¢ per page. Even the unabridged 1981 second edition of 731 pages costs only 5.47¢ per page at the full recommended retail price of \$39.95 ... and what does D'Abrera's "Field Companion" cost?? ... with only 171 pages of text and illustrations and a recommended retail price of \$14.95? ... a huge 8.74¢ per page!!! Value for money, indeed!!! D'Abrera's little book has a relative cost in excess of 460% of Common and Waterhouse's field edition and cannot seriously be considered to be value for money by comparison. In arriving at these page costs, title and foreword pages were disregarded in all three books.

Crossley and Miller's reference to D'Abrera's earlier "Moths of Australia" is completely irrelevant to the matter under consideration. This work was also found to be seriously inadequate and inaccurate, in that it contained numerous errors (see review in Aust. ent. Mag. 2(4), June, 1975 pp. 87-88). With the introduction of this purely subjective

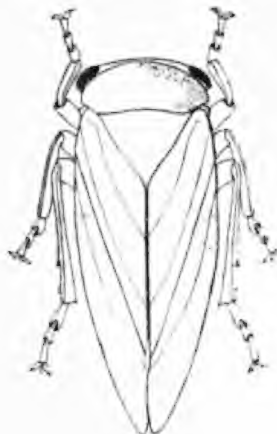
opinion, Crossley and Miller's "defence of D'Abrera" loses much of its credibility as a completely objective exercise. To suggest that D'Abrera's "Moths of Australia" is the "only book of any use for identifying Australian moths" is absurd. It illustrates 328 species (118 of them erroneously named), or about 1.5% of Australia's estimated 21,000 moths, and it gives no means of placing a non-illustrated species in a family. Common's "Australian Moths" illustrates 270 species, all correctly named. CSIRO's "Insects of Australia" illustrates 121 species and gives keys to place all 21,000 species to families.

I would point out to Crossley and Miller that D'Abrera's "V" is an abbreviation of "verso", not "ventral", and that his "R" (which they do not attempt to explain) represents "recto", these terms referring respectively to the under- and uppersides of the wings. The terminology is not universally employed.

All things considered, D'Abrera's "Field Companion" most emphatically does not represent good value for money, nor does it represent a reliable scientifically accurate and up-to-date means of identifying "all the known species" of Australia's butterfly fauna, the latter of which conclusions at least, has also been reached independently by other reviewers, e.g. D.J. Scambler, (Circ. ent. Soc. NSW No.343), and C.N. Smithers, (Aust. ent. Mag. in press).

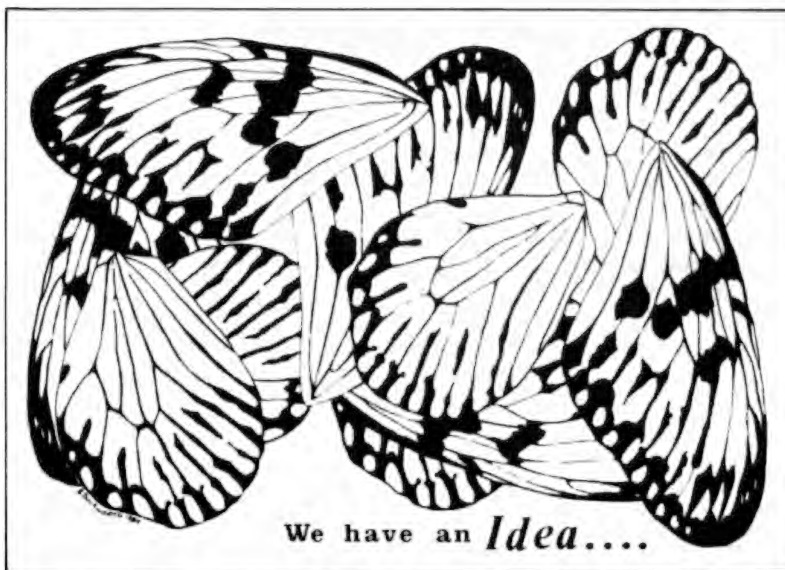
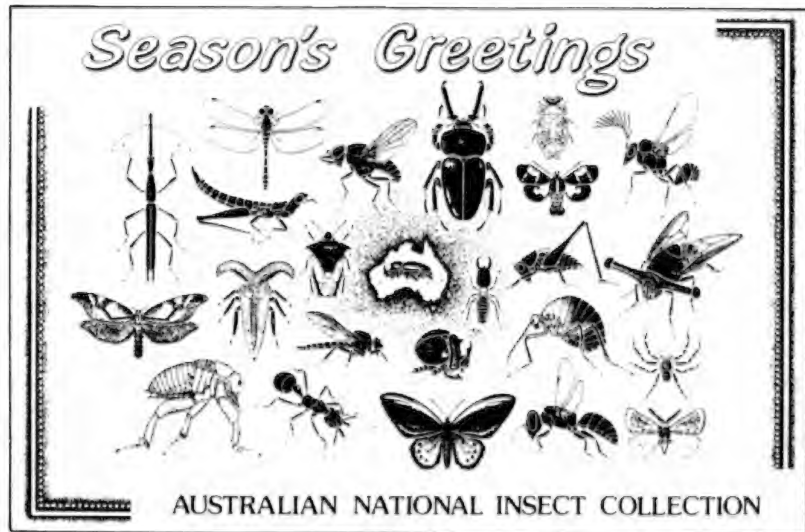
Yours sincerely

Deniss M. Reeves
G.P.O. Box 1220
BRISBANE QLD 4001



ENTOMOLOGICAL GREETINGS

In the mailbag this Christmas were the two attractive greeting cards reproduced here. They were prepared by the talented staff artists of the ANIC in Canberra and the Australian Museum in Sydney. A pleasant change from holly and snowmen!



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Date

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Date

* The nominee is requested to attach a typed statement, not exceeding 300 words, which includes the following: his/her professional qualifications, address, institution, position held, fields of entomological interest, previous offices or appointments held in the Society; any other information which may be of assistance to members.

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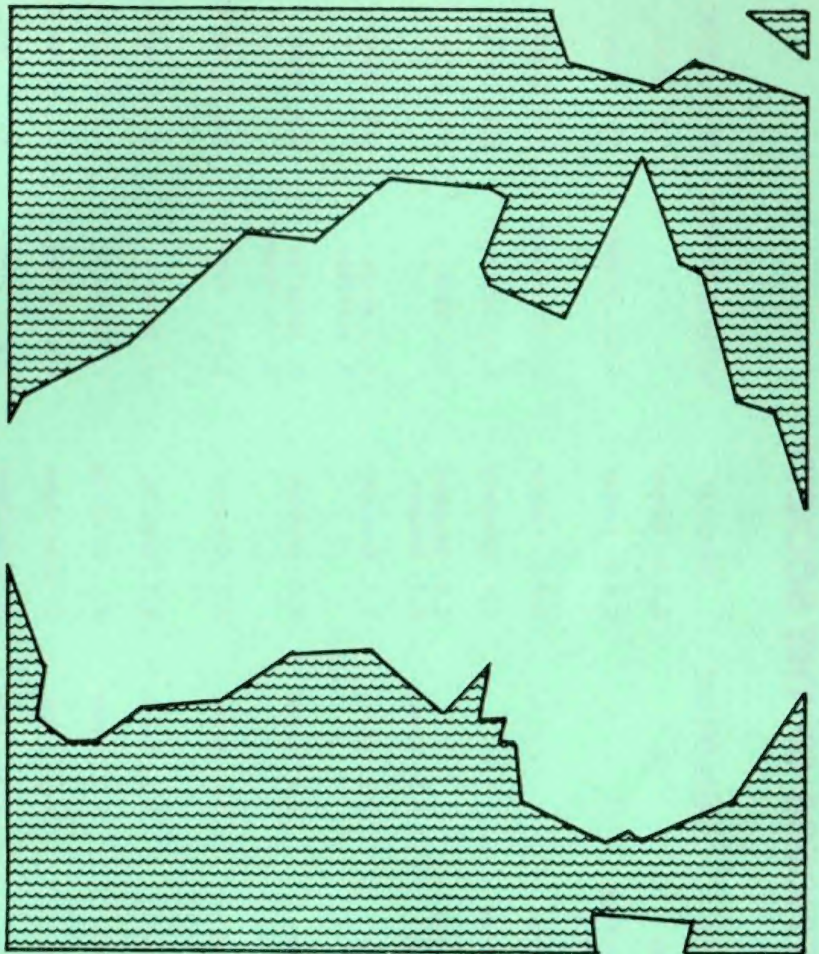
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1967	I.M. Mackerras	E.N. Marks	R.H. Wharton	-	G.H.S. Hooper	G.H.S. Hooper	B.R. Champ
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YEAR	QLD	NSW	VIC	ACT	TAS	SA	WA	PNG/ NT	O'SEAS	TOTAL
1965	69	66	42	45	15	25	14	9	-	285
1967	74	71	55	50	19	24	15	23	9	340
1968	81	71	57	53	19	26	15	15	13	350
1969	81	81	57	57	18	27	14	18	19	372
1971	89	82	52	67	14	27	20	23	31	405
1972	96	86	53	72	21	25	18	22	36	419
1973	99	99	62	79	20	30	20	26	35	470
1975	112	109	68	85	24	37	25	25	37	522
1977	118	120	83	87	21	42	22	27	30	550
1979	125	126	83	90	23	44	24	27	32	574
1980	135	112	85	86	22	44	28	24	44	580
1981	145	119	85	88	22	53	30	24	46	612
1982	147	138	84	98	26	53	33	10*	61	650
1983	141	140	78	105	25	62	31	12*	55	649
1984	144	145	74	95	26	65	26	13*	52	640
1985	151	143	73	104	25	66	27	15*	47	651

* NT only, PNG members
transferred to Overseas.

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