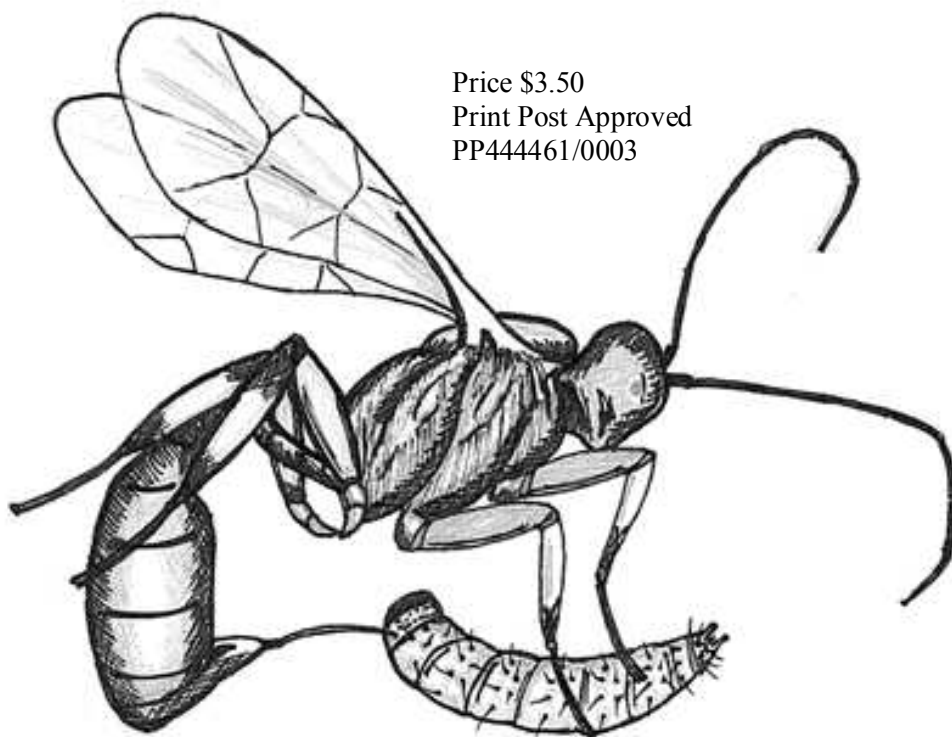


ENTOMOLOGICAL SOCIETY OF QUEENSLAND INC NEWS BULLETIN

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The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND INC.**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. Membership is open to anyone interested in Entomology. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News Bulletin* to members. Meetings are announced in the *News Bulletin*, and are normally held on the second Monday of each month (March to June, August to December), or on Tuesday if Monday is a public holiday. Visitors and members are welcome. Membership information can be obtained from the Honorary Secretary, or other office bearers of the Society.

Contributions to the *News Bulletin* such as items of news, trip reports, announcements, etc are welcome and should be sent to the News Bulletin Editor.

The Society publishes **THE AUSTRALIAN ENTOMOLOGIST**. This is a refereed, illustrated journal devoted to Entomology in the Australian region, including New Zealand, Papua New Guinea and the islands of the South Western Pacific. The journal is published in four parts annually.

EMBLEM: The Society's emblem, chosen in 1973 on the 50th anniversary of the Society, is the king stag beetle, *Phalacrognathus muelleri* (Macleay), family Lucanidae. Its magnificent purple and green colouration makes it one of the most attractive of all Australia Coleoptera. It is restricted to the rainforests of northern Queensland.

COVER: *Diadegma semiclausum* ovipositing into a larva of the diamondback moth, *Plutella xylostella*. Drawn by Sandra Dennien.



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The issue of this document does **NOT** constitute a formal publication for the purposes of the "International Code of Zoological Nomenclature 4th edition, 1999". Authors alone are responsible for the views expressed.

Presidential Report for 2008

In 2008 the Society once again held a full program of general meetings and members were treated to excellent presentations from a wide range of disciplines. In recent years the dwindling attendance at general meetings has been a concern. In an attempt to boost attendance in 2008, Council decided to trial lunchtime meetings (12:00-1:00pm at CSIRO's Long Pocket Laboratories) in place of traditional evening meetings. While recognising that the move from an evening meeting might not suit all members of the Society, the trial has been a real success and average attendance for general meetings increased from 16 in 2007 to over 30 in 2008. Hopefully we can sustain this success in 2009 and continue to attract new and younger members to the Society.

We are all aware of the declining capacity of Australian universities to offer courses in entomology. In 2007 Dr Dave Merritt led an application by a consortium of universities (University of Queensland, Charles Sturt University, University of Adelaide and University of Western Australia) to the Carrick Foundation to fund the development of an Entomology National Curriculum. In support of the application, the Society and the Australian Entomologist each generously agreed to contribute \$1000 per annum to the project over its two year duration. The application was successful and third year undergraduate courses in Insect Physiology, Insect Ecology, Integrated Pest Management and Identification and Taxonomy have been developed. Delivery methods for each of these subjects have been created and plans to deliver the courses at each of the co-operating universities in 2010 are well underway. The project team has also launched a central website (www.entomology.edu.au) which provides further information regarding the project (including a listing of all entomology courses currently offered in Australia, information on current research activities, educational links for schools, and links to Australian entomological societies). The site also features a link called "Ask an Entomologist" which is proving very popular with the general public.

Chris Lambkin and Geoff Monteith continued their dedicated work of organizing the Society's Bug-Catch trips, which were again very well attended. In order to capture the interest of second- year University of Queensland students enrolled in the Insect Science course, Chris and Geoff organized an early Bug Catch near Beerwah in August. They were rewarded by a turn-out of 18 students from the course and 19 other participants.

The 2008 student award was presented to Jason Callander for his University of Queensland Honours thesis "The Australian sheep blowfly: habitat, way of life and subspecies status". Jason's work was supervised by Gimme Walter whose students have made rather a habit of winning this award in recent years.

The Australian Entomologist has had another successful year under editorship of David Hancock and with Geoff Monteith acting as business manager. The journal is in a sound financial position and has a healthy number of manuscripts awaiting publication.

In recognition of his contribution the Society and to entomology in Australia and overseas, Dr Don Sands was elected an Honorary Life Member of the Society in 2008. Don has been member of the Society for many years, has twice served as President and maintains an active interest in the Society and all things entomological!

I thank all members of Council for their contributions to meetings and the work that they have done on behalf of the Society this year. After four years as the Society's Treasurer Matt Purcell will step down in March, I take this opportunity to thank Matt for all his hard work, which this year included the compilation of the new member data base and the organizing of the end of year barbeque in December. Similarly, Anna Marcora will end her tenure as News Bulletin Editor next month. Anna has done a fantastic job of not only editing but also revamping the News Bulletin over the last two years and has set a very high standard for her successor to follow. Very generously Anna has agreed to help ease the new News Bulletin editor into the job over the coming months.

Finally I offer my best wishes to the incoming Council and hope to see the Society continue to grow and prosper in the coming years.

Dr Mike Furlong, President

2008 Annual Report of the Honorary Secretary

Council Meeting Attendance

Outgoing Council members were Sassan Asgari (President), Gunter Maywald (Hon. Secretary), Dr Margaret Schneider (Councillor) and Dr Don Sands (Councillor) who retired from their positions at the closing of the AGM on 10 March 2008.

2008 Council positions were as follows and the number of meetings attended to the 2009 AGM shown in parentheses:

President:	Dr Mike Furlong (8)
Senior Vice President:	Dr Christine Lambkin (7)
Honorary Secretary:	Richard Bull (8)
Treasurer:	Matthew Purcell (7)
News Bulletin Editor:	Anna Marcora (7)
Councillor:	Noel Starick (7)
Councillor:	Geoff Thompson (9)
Councillor:	Dr Peter Allsopp (5)

General Meeting Addresses

The Society was host to an impressive list of guest speakers at General Meetings throughout the year covering a wide range of entomological subjects detailing highly informative and entertaining subjects. Speakers and topic of their addresses were as follows:

- March: Dr Sassan Asgari, Presidential Address - Evolutionary adaptations of parasitoids to circumvent host defenses: can we take advantage of those?
- April: Dr Paul De Barro - *Bemisia tabaci*, a global invader.
- May: Dr Lyn Cook - Biology and evolution of Australian gall-inducing scale insects.
- June: Notes & Exhibits:
- Jason Callander, Student Award Winner - The Australian sheep blowfly: habitat, way of life and subspecies status.
 - Geoff Thompson - Recently discovered papers of Henry Tryon.
 - Brendan Murphy - The Paropsine threat to *Eucalyptus* (& *Accacia*) in New Zealand.
 - Geoff Monteith - A grave story of the butterfly man of Kuranda.
 - Geoff Monteith - More beetles than you can poke a stick at...?
- August: Dr Peter James - Sheep lice: An entomological perspective on a veterinary problem.

- September: Dr Shaun Winterton - Phylogeny of the mantid lacewings (Neuroptera: Mantispidae): evidence from multiple molecular markers.
- October: Stacey McLean - Filling Biodiversity Information Gaps in Brisbane City: bugs, birds & bracket fungi.
- November: Dr Felix Bianchi - The landscape context of the ecosystem service of pest control.
- December: Notes & Exhibits:
- Geoff Thompson - A piece of entomological sporting memorabilia.
 - Matthew Purcell - Video of the release site of *Neomusotima conspurcatalis* (Lepidoptera: Pyralidae) for the control of *Lygodium microphyllum*.
 - Christine Lambkin & Noel Starick - 'Raining' Trees.
 - Geoff Monteith - The mystery of the arctiid moth, *Cyana meyricki* Rothschild - An Insect Houdini.
 - Desley Tree - Diet & feeding method of *Mecynothrips hardyi*, a spore feeding thrips (Thysanoptera).

General Meeting Attendances

Attendance of members and guests at General Meetings in 2008 increased significantly from previous years and was undoubtedly due to the change in time and venue from Queensland University to CSIRO Longpocket complex to midday. Attendance details were as follows:

Meeting	Nº Members	Nº Visitors
AGM March	31	11
April	32	4
May	21	8
June/July	24	7
August	28	4
September	28	6
October	18	7
November	16	8
December	23	5
Average	24.6	6.7

Student Award

The Annual Student Award was won by Jason Callander for his thesis "The Australian sheep blowfly: habit, way of life and subspecies status". The award was presented to him at the June General meeting when he addressed members and guests on his topic.

Richard Bull, Hon. Secretary

Treasurer's Annual Report for the year ended **31 December 2008**

Despite a modest increase in membership of the Society in 2008, the cash assets were reduced significantly during 2008, mainly as a result of increased charges for bulletin preparation, printing and postage. The Society also contributed substantial funds to the Carrick Grant (\$2000 over two years). To address shortfalls, I believe that membership subscriptions will need to be reviewed during 2009 with new rates implemented in 2010.

A net loss of \$1,992.03 is reported for 2008. Once again, it should be noted that there are significant unpaid costs for bulletin printing, postage and preparation (\$2682.90) which could not be invoiced until 2009. However, these costs should be offset by an expected income of \$2,002 through unpaid subscriptions and cheques yet to be presented as well charges incurred in 2008 carried over from the 2007 calendar year.

The membership database was modified during 2008. It has been redesigned to include among other things information on the interests and background of new members. To gather this information, the Secretary modified the online nomination form found on the Society's web site (<http://www.esq.org.au/>). It is hoped that this information will be obtained from all members during 2009 via a questionnaire.

A small percentage of members are consistently one year behind in their payments. Thanks to those members who promptly paid their dues at the beginning of the year.

I would like to take this opportunity to thank my fellow members of Council for their support over the last four years during my tenure as Treasurer. I hope that in some small way I have been able to improve and streamline the duties of this important position.

Matthew Purcell, Treasurer

Entomological Society of Queensland Inc.
Trading Account and Income and Expenditure Statement
For the year ended 31 December, 2007

Trading Income

Subscriptions 2008	6,555.99
Subscriptions in Arrears 2007	681.00
Total Trading Income	<u>7,236.99</u>

Cost of Sales

Add:

Bulletin Printing 2008	1,294.80
Bulletin Printing 2007 Carryover	2,899.00
Bulletin Preparation 2007 Carryover	700.00
Bulletin Postage 2008	1,540.90
Bulletin Postage 2007 Carryover	149.30
	<u>6,584.00</u>

Cost of Sales	<u>6,584.00</u>
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Gross Trading Profit	<u>652.99</u>
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Income

Trading Profit	652.99
Interest Received	63.53
Sustaining Associates	250.00

Total Income	<u>966.52</u>
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Expenses

Merchant Fees	182.50
Supper Purchases	23.00
Aust Entomological Society Membership	57.75
Student Prize	250.00
Stationary	8.45
Web Page Registration and Hosting	198.00
Carrick Grant	2,200.00
General Postage	38.85
	<u>2,958.55</u>

Profit from Ordinary Activities before income tax	<u>-1,992.03</u>
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Entomological Society of Queensland Inc.
Statement of Financial Position as at 31 December, 2008

Current Assets

Cash Assets

Cash at Bank	7,969.92
Cash on hand	42.35
Total	<u>8,012.27</u>

Receivables

Carrick Grant Refund (Australian Entomologist)	1,000.00
Trade Debtors (2008 not yet paid)	1,002.00
Total	<u>2,002.00</u>

Total Current Assets	<u>10,014.27</u>
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Non-Current Assets

Property, Plant and Equipment

Computer - Software	191.71
Less:- Accumulated Depreciation	47.93
Total	<u>143.78</u>

Total Non-Current Assets	<u>143.78</u>
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Total Assets	<u>10,158.05</u>
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Current Liabilities

Payables

Bulletin Printing (not paid)	1,682.00
Bulletin Preparation (not paid)	1,000.00
Subscriptions Paid in Advance	60.00

Total Current Liabilities	<u>2,742.00</u>
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Total Liabilities	<u>2,742.00</u>
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Net Assets	<u>7,416.05</u>
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Equity

Retained profits/(accumulated losses)	<u>7,416.05</u>
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Total Equity	<u>7,416.05</u>
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Independent Auditor's Report

To the members of the Entomological Society of Queensland

Scope

I have audited the accounts of The Members of the Entomological Society of Queensland, being the Balance Sheet of Income and Expenditure for the year ended 31 December 2008. The committee of the society is responsible for the preparation and presentation of the accounts and the information they contain and have determined that the accounting policies used are appropriate to meet the needs of members. I have conducted an independent audit of these accounts in order to express an opinion to the members of the society on its presentation and preparation. No opinion is expressed as to whether the basis of accounting used is appropriate to the needs of members.

Auditor Opinion

Subject to the effects of the above the financial reports present fairly the activities of the Society for the year ended 31st December 2008.

Marjorie Gunasekara
Independent and Honorary Finance Officer

4 February 2009



News Bulletin Editor's Report for 2008

We hope that everyone has enjoyed reading the News Bulletin throughout 2008. Thanks to the efforts of many contributors, we were able to put together another bumper 2008 News Bulletin with a total of 284 pages printed.

Once again this year the Bulletin has had not only an Editor, but also a Format Editor (Lynita Howie). This partnership was put in place to help improve the appearance and content of the Bulletin. So a big THANK YOU goes out to Lynita for spending a lot of her time putting the Bulletin together and getting it ready for the printers.

Also for the second year, the Bulletin has continued with the addition of colour pages to the centre of two Bulletin issues per year. As mentioned last year, this feature does add a little extra to the printing costs, but we think that most people would agree that it is money well spent. It definitely brings the Bulletin to life and it may hopefully encourage more people to submit articles with photos for future special colour issues.

Thank you to all the speakers who provided timely transcripts. This year was a huge improvement to last year as all transcripts from presentations were submitted in time to go to print. This of course is of great benefit for members who are unable to attend the meetings. So thank you to all the presenters from the past year for not only great presentations but for also taking the time to include something on their talk for the Bulletin.

Many, many thanks to all the contributors of the **People and Projects** section who have taken the time to send news, goss, photos and share their stories with ESQ members. Some of the contributions have come from afar such as **John Goolsby** (USDA-ARS, Beneficial Insects Research Unit, Texas, USA) and **Kathy Hill & David Marshall** (University of Connecticut). Closer to home we had **Robert Mesibov** (School of Zoology, University of Tasmania) and the **Hasenpusch family** (Australian Insect Farm). Not forgetting our reliable local contributors: **Murdoch de Baar**; **Ross Kendall** (Butterfly Encounters); **Matthew Purcell** (USDA-ARS, Australian Biological Control Lab, Indooroopilly); **Lynita Howie** (Spatial Ecology, CSIRO Entomology, Long Pocket); **Lyn Cook** and **Mike Furlong** (School of Integrated Biology, University of Queensland); and the gang at the QLD Museum - **Susan Wright**, **Owen Seeman**, **Geoff Monteith**, **Christine Lambkin**, **Noel Starick**, **Geoff Thompson**, and **Robert Raven**.

Special thanks to **Geoff Monteith**, **Christine Lambkin** and **Noel Starick** for providing BugCatch news and photos and (again) **Christine Lambkin**, **Geoff Thompson** and **Geoff Monteith** for book reviews.

The **People and Projects** section of the Bulletin is there for you - so please don't forget to send in your requests, suggestions, questions, goss and stories for inclusion in future issues of the News Bulletin.

Last but not least, a very big thank you goes to **Bradley Brown**, **Matthew Purcell**, **Andy Hulthen** and **Lynita Howie** for helping out in the mad scramble with proof reading, labelling and stuffing hundreds of envelopes.

Once again, thank you to everyone who has helped in the production of the News Bulletin. We would also like to wish the new Editor of the News Bulletin all the very best in the coming year.

Anna Marcora, Editor

As Format Editor, in addition to those Anna has thanked above, I would like to take this opportunity recognise the work of **Anna Marcora** (CSIRO Entomology, Long Pocket) as Editor of this News Bulletin. Over the past two years Anna has done an incredible job of searching, sourcing and receiving permission to print articles that may be of interest to Society Members as well as chasing up news and stories from Presenters and Society Members. Her dedication and commitment to providing Society Members a quality publication has brought new life to the Bulletin and I would like thank her for all her time and work in this role.

Lynita Howie, Format Editor



Society Collecting Permits - 2008 Report

2008 was a busy year with all permits expiring in August and then being renewed in October. This proved to be a laborious process, although Jacqui Brock and Ian Bryant, QPWS have been extremely helpful and thanks should go to them for all their hard work getting us through the unexpected red tape. There are a few changes such that we no longer have a permit to cover all parks in Queensland but only select parks. A list of these parks is now up on our website. I have already put in two amendment applications, the second of which is being assessed. The protected species permit has also been handed over to Don Sands (with the help of Richard Bull) with a more stringent process being applied to applications. Applications are still to be forwarded to me and I will forward all protected species applications on to Don.

As mentioned above I have revamped the permit section of the Society's website with permit application forms, return forms, return guidelines plus information about the permits and how they operate. There are also links to a few websites which may be of use.

The reporting went well this year although there are still a number of members who are tardy in their responses. We had a slight decrease in the number of records this year but there was still a wide range of taxa covered. Issues with our returns have been identified and are now in the process of being addressed. A large proportion of our data is unable to be included in Wildnet (EPA/QPWS natural resource database) in the usual format as the taxonomy for many groups is yet to be loaded into the database. Also many fields are not complete including datum for lats and longs, precision, codes for the reliability of the identification and where the specimen is being held. During the year we had discussions with the people who run Wildnet, Noelene Kunst (Manager) and Dot Lim (QPWS). Part of the problem is due to misunderstanding of the meaning behind some of the terms. I'm hoping some of the confusion will disappear with the information now up on the web. Our main aim for this coming return (Aug 2009), is to ensure that we fill in all required fields. Solving these issues partly falls to permit holders themselves as complete data records must be submitted rather than leaving a number of fields empty. We are also working on making some minor changes to the reporting form including adding 'order' and 'family' as two new fields in Wildnet (insects require these fields for ease of use). We also are looking to load more taxonomy for groups, other than butterflies and spiders, into Wildnet so that more groups are easily accessible by the public. I will be approaching some members for assistance with this task.

A reminder to all members: to hold an endorsed copy of the Society's permit I must receive a permit application irrespective of whether you held a permit previously or not.

Thanks to all those members who have held the permits over this last year and for their patience during the renewing process. Happy Collecting.

Susan Wright, Permit Info Officer



Nominations for 2009 Office Bearers

The Secretary has received nominations for the following Council positions:

President	Christine Lambkin
Senior Vice President	Matthew Purcell
Secretary	Richard Bull
Treasurer	Desley Tree
News Bulletin Editor	Justin Bartlett
The Aust. Entomologist Business Manager	Geoff Monteith
Councillor	Noel Starick
Councillor	Geoff Thompson
Councillor	Anna Marcora

Nominations are to go to the AGM for election.

AUSTRALIAN ENTOMOLOGIST

Editor's Report for 2008

Four parts of Volume 35 were published during the year, totaling 172 pages with 22 in colour. Twenty-six papers were received during 2008, with only one, so far, considered unsuitable (several are still under review or assessment). Twenty-seven papers appeared in Volume 35, leaving 21 papers on hand for 2009. Ten of these will appear in the first part of Volume 36, so additional papers are still required if larger issues are to be maintained.

I again take pleasure in thanking all those involved, including authors, referees and printers, for their contribution to the journal.

D.L. Hancock, Editor
Australian Entomologist

Business Manager's Report for 2008

Dealing with the problem of the large stock of back issues was a major activity during the year. The 2007 stocktake, undertaken in Jan 2008 and as reported in the financial statement for year 2007, was as follows:

4880 issues for 1974-2000 period @ \$1 each	\$4,880.00
1621 issues for 2001-2007 period @ \$6 each	\$9,726.00
TOTAL	\$14,606.00

This large amount of back issue stock has largely accumulated from excessive over-printing in the past. There has been very little sale of back issues in recent times, less than 100 copies sold in last 5 years. Storage of this quantity of stock has also become a major problem, it being spread over three locations. In practical terms the maintenance of this fairly unsaleable stock has become unrealistic, as has its high value as a financial asset on the Magazine's books.

In view of this, the Magazine Committee resolved to take the following steps:

1. To reduce print runs so that an over-run of only about 25 copies per issue is printed.
2. To dispose of, and write-off, excess stock of individual issues, to aim at a maximum stored holding of about 50 copies per issue.
3. To revalue for audit purposes all back issue stock at 75c per copy.
4. To run a discount sales campaign to existing subscribers (in the first instance) during 2009 to attempt to reduce existing stock.

All these actions have been taken and the stocktake as at the end of 2008 was as follows:

3700 copies valued at \$0.75 each	\$2,775.00
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All stock is now located at 22 Raglan St, St Lucia.

The subscriber base of the magazine has remained stable with a slight increase to 271 of which 213 are in Australia and 58 overseas.

Postage increased significantly with the 2008 general increase in postal rates. Overseas postal charges, in particular, are no longer in accord with subscription rates and a subscription increase may be warranted for 2010.

Our financial statement shows a small net loss of \$336.54 but this arises because \$1080 of page charges for Part 4, issued at the end of December, were still outstanding at close of books on 31 December. These had all been paid at time of writing on 2 February.



G.B. Monteith, Business Manager
Australian Entomologist

Annual Report 2008
Financial Statement for *The Australian Entomologist*
1 January to 31 December, 2008

ASSETS	\$	LIABILITIES	\$
CBA chq A/c closing balance	3264.82	Subs in advance (2009)	280.00
Less unpresented cheques		Printing costs Vol 35(4)	2680.70
Carrick Fund contribution	-1000.00		
Editor's expenses	-129.15		
Uni Credit Union term accounts- Closing balance: 3 Months	6600.01	Carrick Fund contribution	1000.00
4 Months	11187.41	Editor's expenses	129.15
Subscriptions owing 2008	180.00		
Page charges owing	1080.00		
Stationery (printed envelopes)	350.00		
Unsold past issues Aust. Entomol. 3700 @ \$0.75 ea *	2775.00		
TOTAL	24308.09	TOTAL	4089.85

EXCESS ASSETS OVER LIABILITIES: **\$20218.24**

INCOME	\$	EXPENDITURE	\$
Subscriptions	7510.00	Printing costs (35/1,2,3)	8666.87
Page charges	2360.00	Postage Vol 34 (1, 2, 3&4)	1889.28
Interest (cheque a/c)	19.38	Stationery	265.90
Interest (term 3 month a/c)	218.80	Monthly merchant card fee	253.55
Interest (term 12 month a/c)	764.83	PO Box rental	70.00
Back issue sales	9.00	Credit card dishonours	65.00
Postage recouped	0.00	Sundry minor expense reimb.	7.95
TOTAL	10,882.01	TOTAL	11,218.55

NET TRADING PROFIT/LOSS: **\$336.54**

2008 SUBSCRIPTIONS at Dec 31:

AUSTRALIAN SUBSCRIPTIONS	213	(3 complimentary)
OVERSEAS SUBSCRIPTIONS	58	(5 complimentary)
TOTAL SUBSCRIBERS	271	
NEW SUBSCRIPTIONS (AUST)	10	
NEW SUBSCRIPTIONS (OVERSEAS)	0	
COMPLIMENTARY/EXCHANGED	8	
RESIGNATIONS	6	

*See Business Manager's Annual Report

Value as at 31/12/07	14606
Less written off/revalued	<u>11831</u>
Balance back issues	<u>2775</u>

I certify this is a true and accurate financial statement of the Australian Entomologist for the period January 2008 to December 2008.

Marjorie Gunasekara, Independent and Honorary Finance Officer





Notice of Next Meeting

Entomological Society of Queensland

Monday 9 March, 2009 12pm

**Annual General Meeting
&
Presidential Address
by Dr Mike Furlong (UQ)**

**CSIRO Long Pocket Laboratories
Large Conference Room
120 Meiers Rd, Indooroopilly**



Bull Crickets in Malanda

My wife and I are collecting millipedes on the Atherton Tableland this year. We started at the end of the Dry, mainly to familiarise ourselves with places and habitats in comfortable conditions before the millipede season (otherwise known as The Wet!) got under way.

About an hour after sunset on 13 December 2008, we donned headlamps for some bug-spotlighting on the nature trail in Malanda Conservation Park, which is the nice rainforest remnant on the South Johnstone River close to the town centre. The evening was dry, as was the forest. The only millipedes we saw were big arboreal Spirobolida - black and cylindrical, ca. 100 mm long, with red legs. Far more interesting were big crickets we later tentatively ID'ed as *Gryllotaurus bicornis*. They probably averaged one per five metres of nature trail. We found them standing on dry leaf litter, off which they would leap at our approach in metre-long bounds. Very handsome and impressive!

Synotypes of *G. bicornis* were collected by Eric Mjoberg in Malanda in 1913. Most of the named millipedes from the Wet Tropics are also Mjoberg discoveries.

Dr Robert Mesibov
Honorary Research Associate
Queen Victoria Museum and Art Gallery
and School of Zoology, University of Tasmania

A predatory katydid that is an aggressive mimic of cicadas

Kathy Hill and David Marshall (University of Connecticut)

In field trips throughout Australia in the summers of 2002-2008, we hunted cicadas by day by listening for their songs. Each different species of cicada has a different song, which is sung by the male using his tymbals. In general, in the big, loud cicadas [such as *Thopha* ("Double Drummers"), *Psaltoda* (e.g., "Black Prince") and *Macrotristria* (e.g., "Cherry Nose")], males call and females fly to the males for mating. In the small cicadas in the Tribe Cicadettini, however, female cicadas actually answer males by flicking their wings at a particular place in the male's song. In these species, males fly from place to place, listening for a female to flick back to them at the correct time. If a male hears a female reply, he then locates her and they mate.

This duetting system is extremely useful when collecting cicadettine cicadas, because you can click to males and attract them to you - if you can click at the right time in the male's song! In 2005, we found that a predaceous katydid had also discovered this trick. This type of system is called "aggressive mimicry" - where a predator or parasite mimics the signal of another species in order to exploit that species - and it is relatively rare. This is the first discovery of an acoustic aggressive mimic!

The duplicitous species is the "Spotted Predatory Katydid", *Chlorobalius leucoviridis*, a large, green-and-white katydid found throughout arid/semiarid Australia including much of Queensland. We have found them to be relatively common in forest and scrub areas around Cunnamulla and Mitchell, where they sit in various trees and shrubs such as *Eremophila*, *Dodonaea* and *Acacia*. At night the males call with a loud "chreechreechreechreechree". Additionally, both sexes can make clicking sounds by slight movements of their wings. They are not attracted to lights, so following the songs of the males at night is the easiest way to collect them. Over three field seasons we collected several of these katydids both by hearing them click back to cicadas, and by finding singing males. We kept them with us in the field in little cages, where they survived for weeks on a diet of cicadas, small katydids and water, and were quite happy being caged together.

Through interactions with singing cicadas, and by playing back recordings of cicada songs through a computer, we were able to show that *C. leucoviridis* katydids are remarkably versatile in their ability to respond correctly to cicada songs. The song of a cicadettine cicada often contains several different elements, only one of which will be the actual cue to which a female responds. Often, cicadettine cicada songs begin with an “introductory” sequence of notes, followed by one or more “cue” notes. For example, one phrase sung by the cicada *Kobonga oxleyi*, begins with the introduction section “clangclangclangclangclang” followed by the cueing section “uuuur-chip uuuur-chip uuuur-chip” - the female cicada flicks her wings quickly (approx 50ms) after each “chip” cue, and this attracts the male to her. We were initially extremely surprised that *C. leucoviridis* could respond correctly to almost all cicadettine cicada songs that we played it - even ones that had fooled us for years! However, when we looked more closely at the cicada songs we noticed similarities in the cueing notes that the katydid is apparently keying in on.



Above: *Chlorobalius leucoviridis*

If you can catch one, these katydids are quite fun to keep for a while. Once they have been caged for a few hours they generally are ready to respond. You can get them to click back to you by clicking two coins together - in general they respond to any sharp sound that ends abruptly. One thing we do not yet understand is that some individuals are far more responsive than others, so if your katydid doesn't respond keep trying!

The results from our observations have just been published in PLoS ONE, which is an open-access (i.e., "free-to-access") online journal.

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0004185>

The supplementary material includes sound files of the katydids clicking to cicadas, and movies of the katydids catching and eating cicadas that they have attracted.



Above: *Chlorobalius leucoviridis*

Book Review

PHANTASTIC NEW PHASMID BOOK

The Complete Field Guide to Stick and Leaf Insects of Australia.

by Paul D. Brock and Jack W. Hasenpusch.

CSIRO Publishing, PO Box 1139, Collingwood, VIC 3066.

204+xii pp, 396 colour photos. \$39.75 plus \$9 postage

(Available online at <http://www.publish.csiro.au/nid/18/pid/6012.htm>)

Hot from the press in January is this long-awaited guide to all our phasmids, be they of the stick or leafy kind. The first author is Paul Brock, England's "Mr. Phasmid", who has popularised the keeping and study of phasmids around the world, and who has had several trips to Australia in recent years preparing the foundations for this definitive guide. The second author is our own green-fingered Jack Hasenpusch, ESQ member and founder of the Australian Insect Farm outside Innisfail, where he and his family collect and breed insects for research, education and media purposes (<http://www.insectfarm.com.au/index.htm>). The combination of Paul's world-wide taxonomic expertise and Jack's local knowledge of habitats, behaviour and life histories have merged in this book to produce a wealth of integrated information on all Australian species. The book follows closely on more formal taxonomic papers the same authors have produced in recent years, particularly the 84-page monograph (Brock & Hasenpusch, 2007), in which they have described many new species and stabilised much of the overall nomenclature so that this semi-popular guide has a reasonably stable taxonomic foundation.

The book recognises 101 Australian species and every one is illustrated in colour, many as live specimens and the remainder as museum specimens. There are almost 400 colour photographs in the book, many of them by Jack Hasenpusch who has had the opportunity to work with livestock of so many species. So action shots are a feature. We don't just see rigid posed adults, we see them feeding on food plants, mating, laying eggs, being eaten by hawks, being fed upon by midges and mites, and there are many shots of adults exhibiting spectacular defence displays. The eggs of phasmids are strange, beautiful and often species diagnostic. Clear close-up are given of eggs of a good proportion of the species.

The higher classification of phasmids is a matter of considerable contention and this book gives a good discussions of the competing systems. It gives synoptic characters for all the Australian genera and species together with simplified tabular keys that will enable the non-specialist reader to run most of the species out. A fully referenced checklist is given of all species and this includes synonyms. Common names are proposed for all species. Distribution maps are given for all species, but, as the authors admit, these should be regarded as preliminary indications because many species are known from fragmentary records. Hopefully this book will provide the impetus for collectors to fill in those empty spaces! Known food plants are listed and the only errors I've noticed are a few typos in the plant names.

Throughout the book runs an enthusiasm for these wonderful creatures that is catching. Buy it and find out!

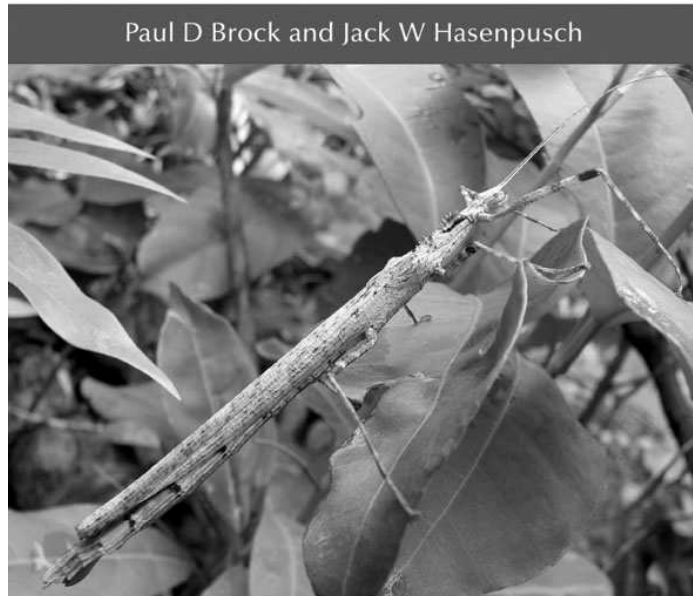
Geoff Monteith
Queensland
Museum

Brock, P. &
Hasenpusch, J. W.
2007.
Studies on the
Australian stick
insects (Phasmida)
including a
checklist of
species and
bibliography.
Zootaxa
1570: 1-84.



THE COMPLETE FIELD GUIDE TO STICK AND LEAF INSECTS OF AUSTRALIA

Paul D Brock and Jack W Hasenpusch

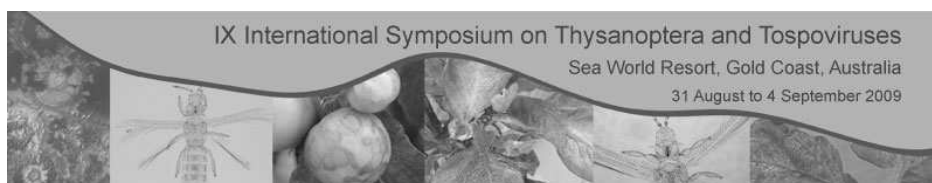




Help Celebrate Darwin in Darwin

Welcome to The Combined Australian Entomological Society's 40th AGM & Scientific Conference / Society of Australian Systematic Biologists / 9th Invertebrate Biodiversity & Conservation / Australian Coral Reefs Society Conference 25-28 September, 2009. Read more about the proposed program and symposia by visiting the website <http://www.evolutionbiodiversity2009.org/>

This meeting has been arranged to follow on from a Special Charles Darwin Symposium being held 22-24 September 2009. The year 2009 marks the 200th anniversary of the birth of Charles Darwin and the 150th anniversary of his work *The Origin of Species*. For Dawinites it is also the 170th anniversary of the naming of the Port of Darwin during the third voyage of the *Beagle*. The Symposium will provide an opportunity to celebrate, debate, and even challenge Darwin's contribution to science, society and the future, and will bring together an exciting range of acknowledged experts from Australia and around the globe (www.darwin200.org.au/).



The IX International Symposium On Thysanoptera and Tospoviruses will be held at Sea World Resort, Gold Coast, Queensland, Australia from Monday August 31 to Friday September 4 2009.

We invite you to attend this Symposium and participate in a stimulating program enhanced by a magnificent venue. This, the ninth Symposium, will again provide an unequalled opportunity for those interested in thrips, tospoviruses and their interactions to meet and foster further discussion and research in this highly relevant and exciting area of biological science. For further information please visit the website <http://www.istt09.org/>

Entomological Society of Queensland 2009

\$250 Student Award

This is an award by the Society to encourage entomological research. Entries are judged by a panel of 3 entomologists appointed by the President of the Society. The winner will be announced at the May General Meeting and is then invited to present a summary of their research at the June Notes and Exhibits meeting of the Society.

Honours, Diploma and 4th year Degree students who received their qualification from any Queensland tertiary education institution in 2008 or 2009 may submit their entomology based thesis or report for consideration.

Entrants need not be Society members.

These reports can be directed to the Society's Senior Vice President at the address listed on the entry form. However, please note that a hard copy of your thesis/report does not need to be submitted, and the submission of a PDF version is encouraged. This should be emailed together with a signed copy of the completed entry form to Christine Lambkin at christine.lambkin@qm.qld.gov.au

Closing date for submissions is Friday 17th April 2009.

Student Award Sponsors:

Tropical Fruit Fly Research Group, Griffith University



Entomological Society of Queensland
2009 Student Award Entry Form

Name

Title of thesis or report

Degree

Supervisor

Date of Examiners report or grading

Return address for thesis/report (if applicable)

Signature_____

Date_____

Send in thesis/report with a signed and completed entry form to:
Christine Lambkin
Senior Vice President of the Entomological Society of Queensland
Queensland Museum
PO Box 3300,
South Brisbane, QLD 4101
Fax: 07 38461226



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DIARY DATES 2009

*Meetings held 2nd Monday of the month
(or Tuesday if Monday is a public holiday)*

Monday March 9th	Dr Mike Furlong (UQ)	AGM & Presidential Address
Tuesday April 14th	Nate Hardy (QDPI)	
Monday May 11th	Mary Whitehouse (CSIRO Narrabri)	
Tuesday June 9th	Student Award and Notes & Exhibits	
Monday August 10th	Perkins Memorial Lecture: Professor Gerry Cassis (UNSW) and BBQ	
Monday September 14th	Trevor Lambkin (QDPI)	
Monday October 12th	Chris Burwell (QM)	
Monday November 9th	Myron Zalucki (UQ)	
Monday December 14th	Notes & Exhibits and BBQ	

IMPORTANT NOTICE

The official address for the Entomological Society of Queensland and *Australian Entomologist* and to which all communications should be addressed is: **PO Box 537, Indooroopilly QLD 4068.**

Sustaining associate of the News Bulletin:

TROPICAL FRUIT FLY RESEARCH GROUP, GRIFFITH UNIVERSITY

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GENERAL:	Person who has full membership privileges	\$30pa
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STUDENT:	Students and others at the discretion of the Society Council	\$18pa

Student membership conveys full membership privileges at a reduced rate.
See subscription form on opposite page for details.

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	Institutions	A\$30pa
ELSEWHERE:	Individuals	A\$35pa
	Institutions	A\$40pa

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NOTICE OF NEXT MEETING

The next meeting of the Society will be held at **12:00 pm on Monday, 9th March 2009** in the **Large Conference Room, CSIRO Long Pocket Laboratories**, 120 Meiers Rd Indooroopilly. The main business will be the **Annual General Meeting & Presidential Address by Dr Mike Furlong.**

VISITORS ARE WELCOME

(Please sign in at CSIRO reception before attending the meeting)

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