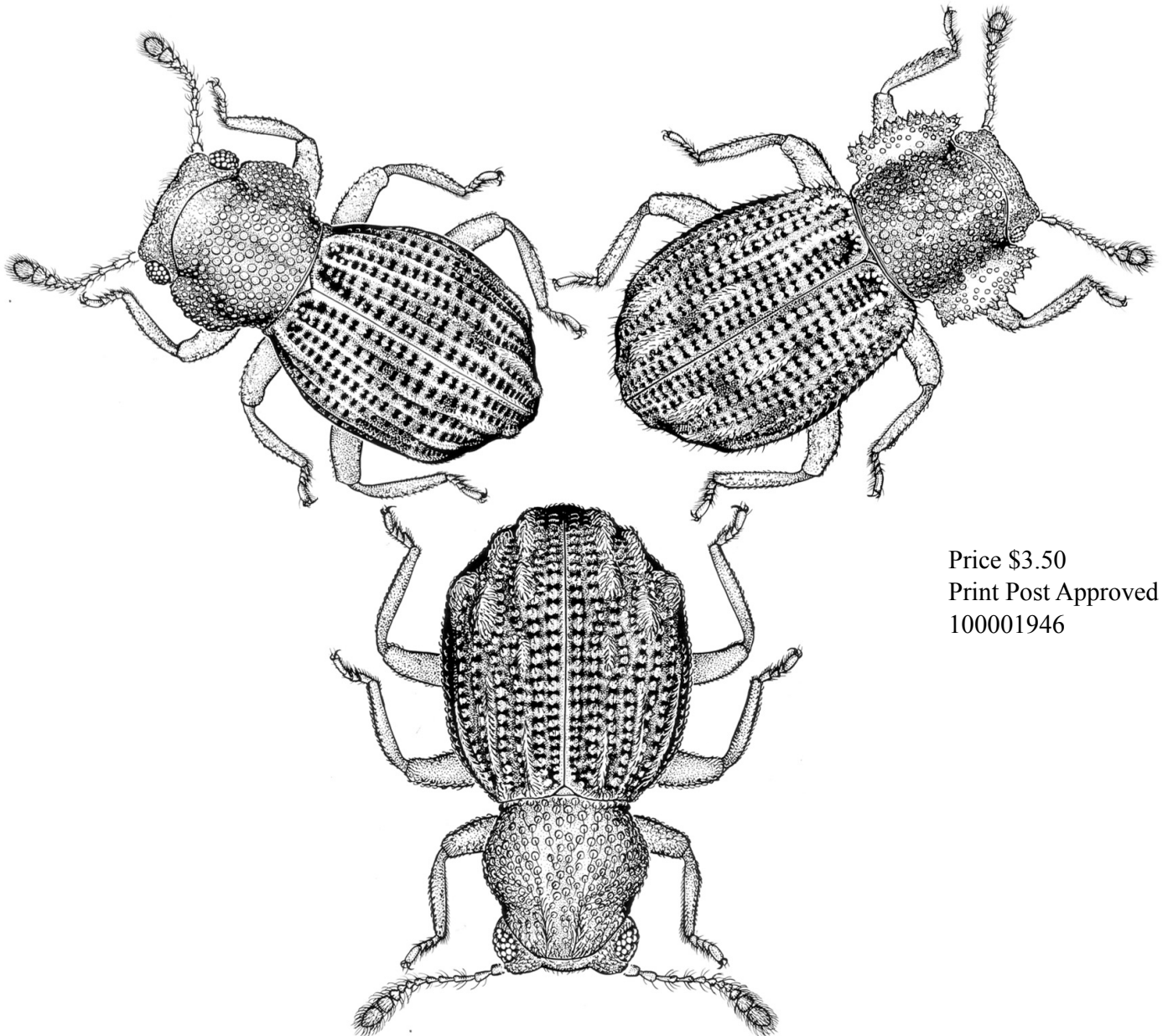


Entomological Society of Queensland

NEWS BULLETIN



Price \$3.50
Print Post Approved
100001946

Volume 43, Issue 8, November 2015

Entomological Society of Queensland

Website: www.esq.org.au

Address: PO Box 537, Indooroopilly QLD 4068

President

Dr Federica Turco
Ph: (07) 3840 7690
Fax: (07) 3846 1226
Email: federica.turco@qm.qld.gov.au

Vice President

Bradley Brown
Ph: (07) 3833 5695
Email: bradley.brown@csiro.au

Past President

Dr Bill Palmer
Ph: (07) 3255 4469
Email: bill.palmer@daf.qld.gov.au

Secretary

Dr Mark Schutze
Email: m.schutze@qut.edu.au

Treasurer

Dr Brenton Peters
Ph: (07) 3376 4342
Email: petersbc@tpg.com.au

Councillors

Dr Nancy Schellhorn
Ph: (07) 3833 5710
Email: Nancy.Schellhorn@csiro.au

Dr Cate Paull
Email: cate.paull@csiro.au

Penny Mills
Ph: (07) 3365 1864
Email: penelope.mills@uqconnect.edu.au

News Bulletin Editor/Web Manager

Kathy Ebert
Email: k.ebert@uq.edu.au

Assistant News Bulletin Editor

Penny Mills
Email: penelope.mills@uqconnect.edu.au

Permit Information Officer

Dr Christine Lambkin
Ph: (07) 3840 7699
Fax: (07) 3846 1226
Email: christine.lambkin@qm.qld.gov.au

Honorary Life Members

R.A.I. Drew
D.L. Hancock
R.P. Kleinschmidt
C. Lambkin
G. B. Monteith
M. S. Moulds
D.P.A. Sands

THE AUSTRALIAN ENTOMOLOGIST Editor

Dr David Hancock
Ph: (07) 4053 1574
Email: davidhancock50@bigpond.com

Assistant Editor

Mr Greg Daniels
Email: greg.daniels@qm.qld.gov.au

Business Manager/Assist. Editor

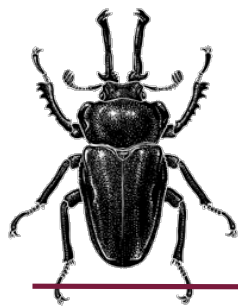
Dr Geoff Monteith
Ph: (07) 3371 2621
Email: geoff.monteith@bigpond.com

Assist. Editor/Manuscript Coordinator

Dr Lindsay Popple
Email: Lindsay.Popple@uqconnect.edu.au

Front Cover Illustration: Three species of recently revised *Enhypon* beetles (Zopheridae). Clockwise from top left: *E. cordicollis* Turco & Ślipiński, *E. costatum* (Carter) and *E. laticeps* Carter. The genus is an Australian endemic with a hotspot of diversity in Tasmanian forests. These are small cryptic beetles inhabiting forest leaf litter and moss, where they conceal themselves by encrusting a thin layer of dirt over their bodies. The beautiful illustrations are by Sybil Curtis when she was employed as an artist by CSIRO.

ISSN 1037-2989



Entomological Society of Queensland

Table of Contents

Minutes from the General Meeting.....	134
Next meeting's notes and exhibits with a special note from the President.....	135
Main Business: Resolving insect evolutionary relationships using very large phylogenomic datasets.....	136
The History Corner.....	139
Queensland Entomology News	
Researchers study possible effects of Yellow Crazy Ants on World Heritage areas of Far North Queensland.....	140
New virus discovered in mosquitoes.....	141
Detecting mosquito borne diseases using a smart phone.....	141
New article on molecular phylogenetics of Australian weevils.....	141
Crohamhurst BugCatch.....	142
Upcoming BugCatch at Stockyard Creek.....	144
The Australian Entomologist special issue.....	145
Student Award 2016.....	146
Nominations for Council 2016.....	147
Notices and Announcements.....	148

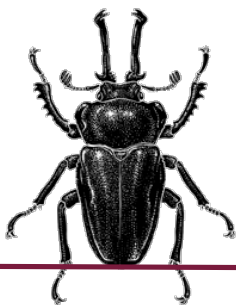
The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News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

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 (Coleoptera). Its magnificent purple and green colouration makes it one of the most attractive beetle species in Australia. Other common names include Rainbow, Golden and Magnificent Stag Beetle. It is restricted to the rainforests of northern Queensland.

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.



Entomological Society of Queensland

Minutes for General Meeting

Tuesday, November 10th, 2015

Held in the Seminar Room, Ecosciences Precinct,
Boggo Rd, Dutton Park

Meeting opened: 4:10pm

Chair: Federica Turco

Attendance (37): Bradley Brown, Chris Burwell, Nadine Baldwin, Stephen Cameron, Lyn Cook, Li Xin Eow, Kathy Ebert, Gary Fitt, Des Foley, Brodie Foster, Gordon Grigg, Jan Grigg, Tim Heard, Susan House, Michael Jeffries, Chris Lambkin, John Lawrence, Lui Lawrence-Rangger, Simon Lawson, Andrew Manners, Andrew Maynard, Gunter Maywald, David Merritt, Penny Mills, Geoff Monteith, Bill Palmer, Brenton Peters, Matt Purcell, Don Sands, Nancy Schellhorn, Claudia Schipp, Geoff Thompson, Desley Tree, Federica Turco, Susan Wright, David Yeates, Richard Zietek.

Visitors (10): Elysia Andrews, Dean Beasley, Terri Cameron, Tony Clarke, Gary Hopewell, John Ness, Matt Rees, Andrew Ridley, Laura Ross, Yasmin Holden

Apologies (12): Mike Muller, Tony Postle, Morris C McKee, Fenton Walsh, Ross Kendall, Mark Schutze, Cate Paull, Gary Cochrane, Mark Hopkinson, Pauline Wyatt, Lara Senior, Noel Starick.

Minutes: The minutes of the last meeting were circulated in News Bulletin 43[7] October 2015. Moved the minutes be accepted as a true record:
Christine Lambkin
Seconded: Geoff Monteith
Carried: All

Nominations for membership:

The following two new members were approved by council:

1. Scott Bourne (General), Kewarra Beach, Qld.
Nominated by Mark Hopkinson,
Seconded by David Lane.
2. Tara Wheatland (General), Woolloongabba, Qld.
Nominated by: Federica Turco,
Seconded by: Susan Wright

General Business:

Fede mentioned that nomination forms for next year's Council positions and student award will be available through the Society's website and the News Bulletin. Special mention was made about this coming weekend's BugCatch and also next year's first BugCatch on the 8-10 January. For further details, directions and other information regarding the events, please contact Kathy Ebert.

Main Business:

Before the Main business today, Geoff Monteith gave us a brief background about Frederick Athol Perkins, including some interesting photos of staff from the Department of Entomology at UQ during Perkins' years.

Our guest speaker, David Yeates, presented the Perkins Memorial Lecture on "New phylogenomic perspectives on insect evolution from transcriptome sequencing."

A vote of thanks was presented by Tim Heard sharing memories and giving some insight into David's early days in Entomology.

Meeting closed: 5:20pm

At our next meeting...

Notes and exhibits!!!!

Come along and share your ento-stories. We would just love to see and hear what *you* have found in your backyard or bushwalks! Anyone is welcome to share. Come and see the "Three Glimpses of a Green Beetle", the latest on native bees, a bit of biocontrol, a window into the world of *Cephalodesmus*, and more! Please contact Federica if you have something to share so we can add you to the agenda.

Please join us! You are welcome to bring a plate to share!

December 8th at 4pm
Seminar Room at EcoSciences
Afternoon tea following. Visitors welcome!



Christmas beetle (*Anoplognathus* sp.) at Crohamhurst BugCatch 2015. Photo: K. Ebert.

A message from the President....

Dear Fellow Members,

This wonderful Bulletin sees the end of 2015, with our next issue due early next year.

It is therefore my pleasure to write a few lines to thank you all for the exciting year that is ending and for the support and enthusiasm we keep receiving in meetings, BugCatches and messages.

I hope you are enjoying as much as I do the interesting and well-attended meetings at the EcoSciences Precinct. I would also like to take this opportunity to praise our tireless Kathy and the amazing job she is doing with our cherished News Bulletin that reaches each and everyone of you!

We hope to see as many of you as possible at our next meeting on the 8th of December, our Christmas Meeting. It will be held as usual at Boggo Road (Dutton Park) and it will be another afternoon event with the General Meeting starting at 4pm, followed by nibbles and drinks. Please remember to RSVP to Mark Schutze (m.schutze@qut.edu.au) by the 1st December for catering purposes and if you want to bring a plate to share you are more than welcome to do so!

Please also remember that December meetings always feature our Notes & Exhibits. So, come along and share some ento-stories. We would just love to see and hear what you have found in your backyard or bushwalks! All very much welcome... from 2 to 90 years old!

Finally, I wish all of you a very peaceful Festive Season with your loved ones and a brilliant 2016!

You all take care,

Federica



Resolving insect evolutionary relationships using very large phylogenomic datasets

presented by David Yeates

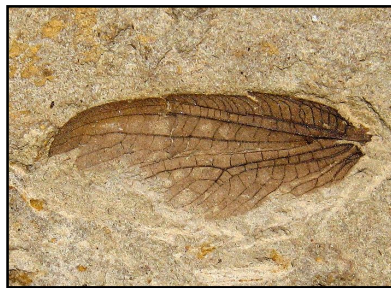
Director, Australian National Insect Collection
CSIRO National Research Collections Australia
Canberra, ACT*

The relationships of the insect orders have been difficult to establish because of the vast diversity of insects, their great antiquity, high levels of morphological differentiation and high rates of molecular evolution. Some progress has been made by studying insect anatomy over the past 200 years, and more recent analyses of a handful of genes. However, our understanding of the phylogenetic relationships of insects has been revolutionised in the last 5-10 years by the proliferation of High-throughput Sequencing Technologies (HST). HST have allowed insect systematists to assemble very large molecular datasets that include both model and non-model organisms. Such datasets often include a large proportion of the total number of protein coding sequences available for phylogenetic comparison. Early entomological phylogenomic studies employed a range of different data sampling protocols and analysis strategies, illustrating a fundamental renaissance in our understanding of insect evolution all driven by the genomic revolution. These confirmed many of the results from morphological and traditional molecular

studies that provided good resolution among the holometabolous orders, but had not been as successful among the hemimetabolous orders (Trautwein *et al.* 2012, *Advances in insect phylogeny at the dawn of the postgenomic era. Annual Review of Entomology* **57**: 449-468).

The 1000 insect transcriptomes consortium (www.1kite.org) aims to study the evolution of insects using data from 1000 or more insect transcriptomes. The project has recently released its first result – the analysis of data from more than 100 insect transcriptomes to establish a new view of the relationships of insect orders (Misof *et al.* 2014, *Phylogenomics resolves the timing and pattern of insect evolution. Science* **346**: 763-767, Fig. 1).

This analysis was based on by far the largest dataset brought to bear on the challenge of insect phylogeny,



Fossil Neuropteran wing from *Allorapisma chuorum*, 48.5MYA
Photo: Wikimedia.org

including over 1.2 million base pairs from almost 1,500 orthologous protein coding genes for almost 150 arthropods representing all insect orders and their close relatives. Divergence time estimates were calibrated using 37 well-dated fossils. The analysis showed that hexapods evolved from Crustacea almost 500 million years ago, and joined early land plants in creating the first terrestrial ecosystems. While most insect orders were found to be monophyletic, the bark lice

***About the Australian National Insect collection:**

The Australian National Insect Collection is used by Australian and international researchers, industry, government and university students. It is growing by more than 100,000 specimens each year. It provides web-based tools and online insect identification resources including the Anatomical Atlas of Flies, Australian Moths Online, and 'What Bug is That', a dichotomous key to identify insect orders with some Lucid keys to family level. (<http://anic.ento.csiro.au/insectfamilies/>)

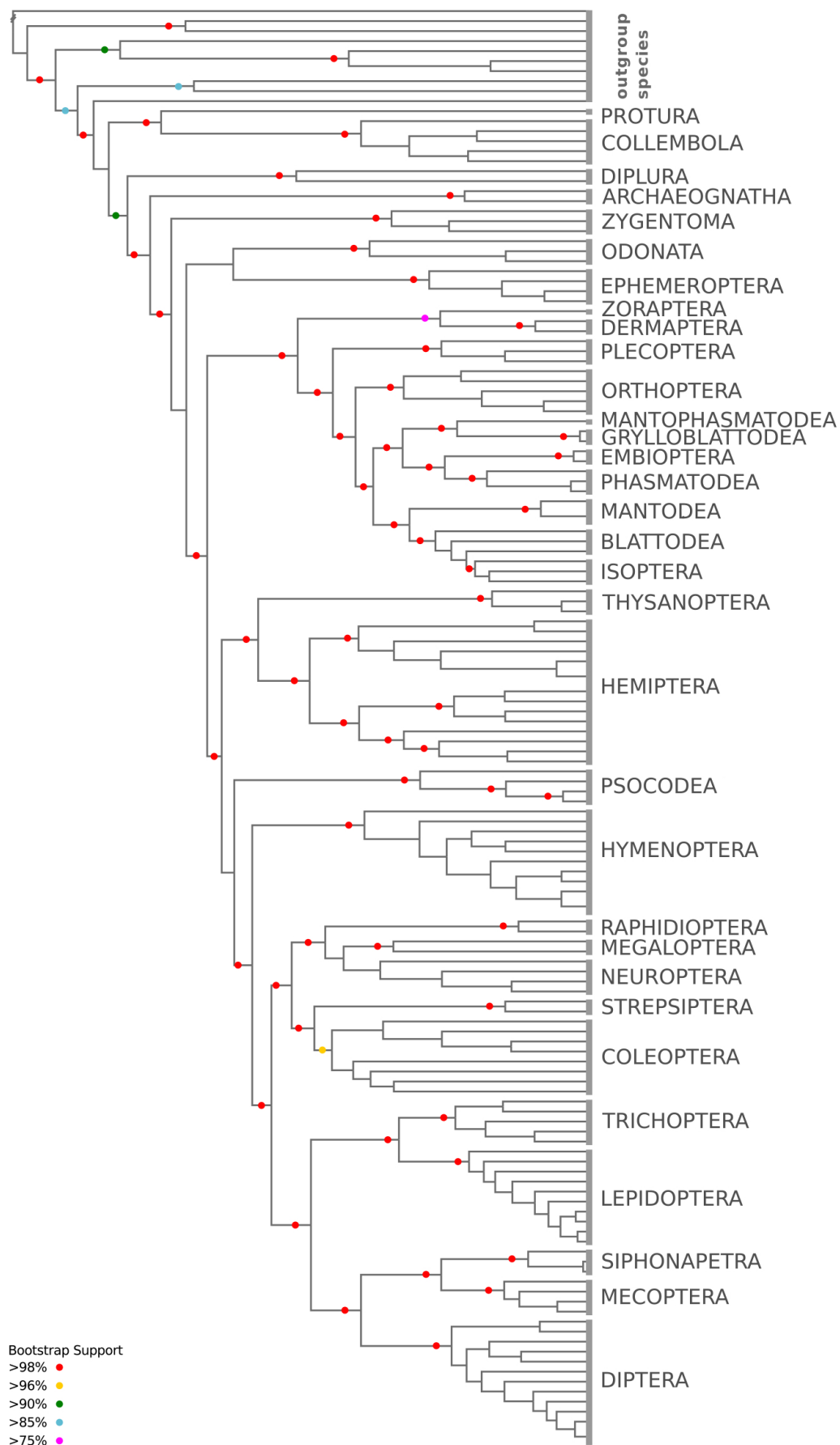


Fig. 1. The analysis of data from more than 100 insect transcriptomes to establish a new view of the relationships of insect orders.

(Psocoptera) were made paraphyletic by the parasitic lice (Phthiraptera), and the cockroaches (Blattodea) were made paraphyletic by the termites (Isoptera). Both these results confirm recent studies using a handful of protein coding genes.

The exuberant diversification of insects is undoubtedly related to the evolution of flight, and Misof *et al* (2014) found that winged insects originated about 400 million years ago, consistent with available fossil evidence. While most groupings in their analysis had very high statistical support, the monophyly of mayflies, dragonflies and damselflies was low. The analysis found strong support for a monophyletic Polyneoptera, the group containing stoneflies, earwigs, grasshoppers, stick insects, cockroaches, termites and their relatives, originating about 300 million years ago. The enigmatic order Zoraptera (angel insects, Fig. 2) have been traditionally difficult to place, but they were found



Fig. 2. Zorapteran: *Zorotypus hubbardi* Photo credit: David R. Maddison, Tree of Life Website.

to be sister to the earwigs.

The analysis showed that the bark and parasitic lice are sister to the Holometabola, with both groups diversifying around 350 million years ago. Many stem lineages of the holometabolous orders evolved around 300 million years ago, the spectacular



Fig. 3. *Halictophagus schwarzi*, from: D. Pierce. 1911. Strepsiptera. Genera Insectorum diriges par P. Wytsman 121. Tree of Life Website.

diversification of the wasps, flies, moths and beetles occurred in the early Cretaceous, 150-120 million years ago, contemporary with the radiation of flowering plants.

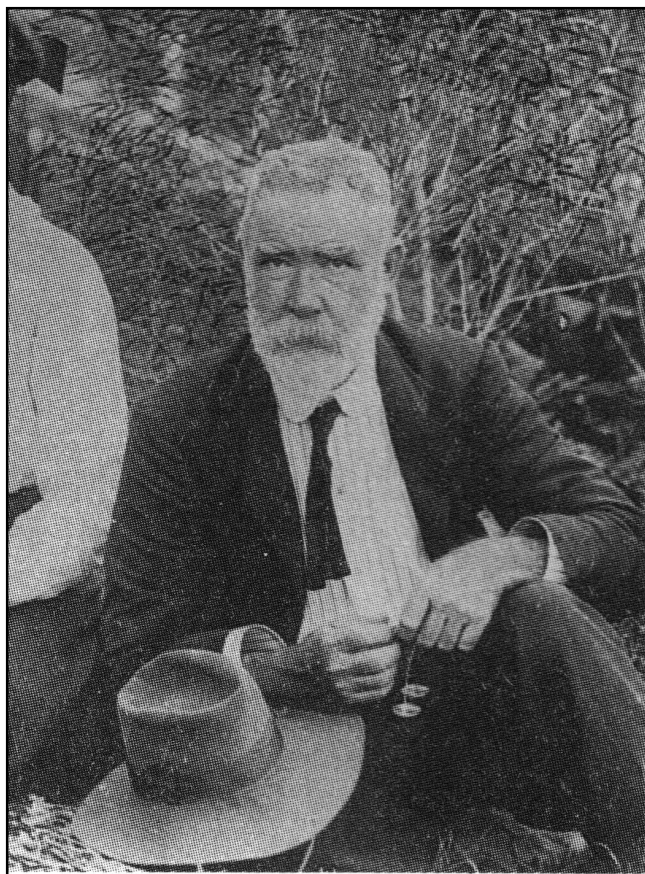
The relationships of Strepsiptera (twisted wing insects, Fig.3) have been a controversial subject in insect phylogenetic studies, largely due to their highly modified parasitic morphology and high rate of molecular evolution. Some early molecular phylogenetic studies using a few genes placed them close to the Diptera, but more recent studies using a large number of single copy nuclear genes had placed them close to Coleoptera. Misof *et al.* (2014) resolved Strepsiptera as sister to Coleoptera, confirming the results of a recent study using over 4,000 genes from entire genomes of the holometabolous insect orders (Niehuis *et al.* 2012, Genomic and morphological evidence converge to resolve the enigma of Strepsiptera. *Current Biology* **22**: 1309-1313).

The analysis of phylogenomic datasets is challenging because of their size and complexity, and it is obvious that the increasing size alone does not ensure that phylogenetic signal overcomes systematic biases in the data. Biases can be due to various factors such as the method of data generation and assembly, or intrinsic biological feature of the data *per se*, such as sequence similarities due to saturation or compositional heterogeneity. Such biases often cause violations in the underlying assumptions of phylogenetic models. A number of bioinformatics tools are available and being developed to detect and minimise these systematic biases. We also need to develop new

models of molecular evolution that assume more properties of empirical sequence data. Coupled with functional genomic studies, phylogenomic datasets will illuminate the relationship between the vast range of insect phenotypic diversity and underlying genetic diversity. In combination with rapidly developing methods to estimate divergence times, these analyses will also provide a compelling view of the rates and patterns of diversification over the half billion years of insect evolution.



The History Corner...



Thomas Lane BANCROFT (1860-1933)

Thomas Bancroft was born in Nottingham, UK, son of Joseph Bancroft who migrated to Brisbane 1864. He schooled in Brisbane at the Normal School and Brisbane Grammar. Studied medicine at Edinburgh University, graduating in 1883. Was Govt. Medical Officer in charge of hospitals at Geraldton (now Innsifail) (1885-6), Stannary Hills (1908-9), Eidsvold (1910-30) and Palm Island (1930-32). Had a private practice at Brisbane and Deception Bay (1895-1904). He lived at Wallaville (1932-3) at the time of his death. Sent innumerable natural history, geological and anthropological items to Queensland Museum from his postings and was deeply interested in scientific investigation. Continued father's scientific work at family farm at Deception Bay. Made pioneering investigations of mosquito transmission of filariasis, dengue and animal parasites. Reared pest fruit flies from native fruits. Reared 25 species of mosquitos and published a catalogue. Studied breeding of the Queensland lungfish and pharmacology of native plants. His daughter, Mabel Josephine Mackerras (née Bancroft), became a prominent entomologist.

Biography: Pearn, J. & Powell, L. (eds) 1991. *The Bancroft Tradition*. Amphion Press, University of Qld, Brisbane, 268 pp; Mackerras, I.M. & Marks, E.N. 1973. The Bancrofts: a century of scientific endeavour. *Proceedings of the Royal Society of Queensland* **84**:1-34.



Queensland Entomology News



Researchers study possible effects of Yellow Crazy Ant on World Heritage areas of Far North Queensland.

According to CSIRO, “*The Yellow Crazy ant (Anoplolepis gracilipes) is recognised by the Global Invasive Species Programme as one of the world's worst invaders. It has infested more than 350 hectares over a 25,000 km² area in remote north-east Arnhem Land, and represents a major environmental and economic threat to northern Australia. Believed to have been accidentally introduced to the area during the Second World War, the ant has so far been found in 70 locations around human settlements, along creeks and in disturbed areas in eastern Arnhem Land. Yellow Crazy ants form multi-queened 'supercolonies' in which ants occur at extremely high densities over large areas – around 1000 per square metre or 79 million per hectare of bush.*” (<http://www.scienceimage.csiro.au/image/3513>)

Dr Lori Lach, and a team from James Cook University at Cairns, is aiming to raise public awareness of the Yellow Crazy ant and its effects on rainforest ecology. Together with help from the Australian Butterfly Sanctuary in Kuranda, they have done a project comparing the Yellow Crazy ants' behaviour to that of the native green tree ants. They found that the yellow crazy ants were much more likely than the Green Tree ant (*Oecophylla smaragdina*) to attack Cruiser butterfly caterpillars (*Vindula arsinoe*). The evidence illustrates the serious threat that Yellow Crazy ants are likely to be to pollinating insects which in turn will lead to serious consequences for the rainforest ecosystem.



Yellow Crazy ant (*Anoplolepis gracilipes*) attacking a Cruiser butterfly caterpillar . Photo: <http://www.cairnspost.com.au/ants-cause-harmful-butterfly-effect-to-rainforest/story-fnnjfp-1227611457626>

Supercolonies of the ant have already invaded areas of the Far North, part of which is the Wet Tropics World Heritage Area, home to nearly 60% of Australia's butterflies.

Through increasing public awareness, researchers and the Wet Tropics Management Authority are hoping to lobby local, state and federal governments for funding to continue with the ant control program and prevent their spread.

To read more about it see:

<http://www.cairnspost.com.au/yellow-crazy-ant-threat-to-far-north-queensland-butterflies/story-fnnjfp-1227613023718>

<http://www.cairnspost.com.au/ants-cause-harmful-butterfly-effect-to-rainforest/story-fnnjfp-1227611457626>

<https://www.facebook.com/groups/ycawettropics>
<https://research.jcu.edu.au/portfolio/lori.lach/>

New virus discovered in mosquitoes that could help combat human disease-causing viruses.

Scientists from the University of Queensland's Australian Infectious Diseases Research Centre together with researchers from UQ's School of Chemistry and Molecular Biosciences, School of Biological Sciences, Queensland Health, the University of Western Australia and the University of Glasgow, have found a new virus in mosquitoes (*Aedes vigilax*) called the Parramatta River virus. They believe that a mosquito which carries this virus can't be infected with other similar viruses such as Ross River virus. Parramatta River virus is related to the Dengue fever virus, but does not affect people or animals. Mosquitoes could potentially be "vaccinated" with the Parramatta virus to prevent it carrying disease causing viruses. It is likely that there are other viruses yet to be discovered that could be used to prevent other mosquito-borne diseases.

To read more:

<https://www.uq.edu.au/news/article/2015/11/good-mozzie-virus-might-hold-key-fighting-human-disease>

<http://www.sciencedirect.com/science/article/pii/S0042682215003402>

Reference:

Breeanna J. McLean, Jody Hobson-Peters, Cameron E. Webb, Daniel Watterson, Natalie A. Prow, Hong Duyen Nguyen, Sonja Hall-Mendelin, David Warrilow, Cheryl A. Johansen, Cassie C. Jansen, Andrew F. van den Hurk, Nigel W. Beebe, Esther Schnettler, Ross T. Barnard, Roy A. Hall. 2015. A novel insect-specific flavivirus replicates only in *Aedes*-derived cells and persists at high prevalence in wild *Aedes vigilax* populations in Sydney, Australia. *Virology* 486, pp. 272–283.

Detecting mosquito borne diseases with a smart phone

Dr Joanne Macdonald, a researcher in molecular engineering at the University of the Sunshine Coast is planning to develop rapid diagnostics to identify mosquitoes infected with pathogens. Currently, these diagnostics must be done in a properly equipped lab. Dr. Macdonald is working on a handheld test kit which can be used in the field to detect pathogens in mosquitoes and a smart phone app can interpret the kit results and indicate which pathogens are present. Dr. Macdonald has procured a Grand Challenges Exploration Grant funded by the Bill and Melinda Gates Foundation to pursue this project.

Paul Young and Matt Cooper from the University of Queensland have also received a Grand Challenges Grant - they will pursue a related diagnostics project using quantum dot nanoparticles for field-based surveillance of *Wolbachia* and arboviral infections in wild mosquitoes. Being able to test for these pathogens in the field will give an early warning surveillance system.

Read more from:

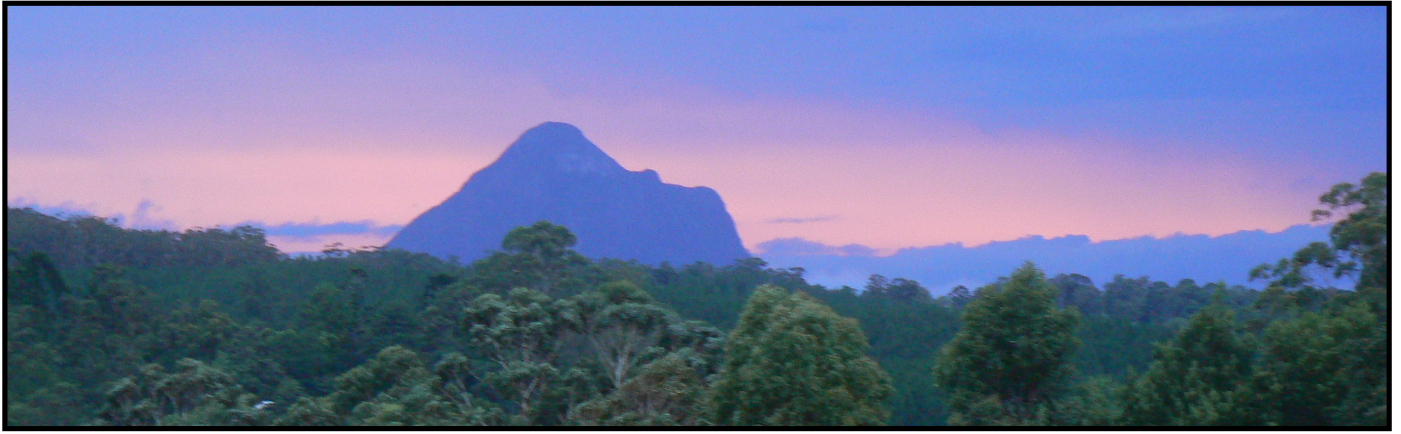
<http://gcgh.grandchallenges.org/grant/rapid-field-test-detecting-infected-mosquitoes>

<http://www.imb.uq.edu.au/uq-receives-grand-challenges-explorations-grant-for-groundbreaking-research-in-global-health-and-development>

New article on molecular phylogenetics of Australian weevils

Nicole Gunter, at the Cleveland Museum of Natural History, working with Rolf Oberprieler (CSIRO) and Stephen Cameron (QUT), has recently published a paper on Australian weevil phylogeny in the latest issue of *Austral Entomology* entitled *Molecular phylogenetics of Australian weevils (Coleoptera: Curculionoidea): exploring relationships in a hyperdiverse lineage through comparison of independent analyses*. For an early view see:

<http://onlinelibrary.wiley.com/doi/10.1111/aen.12173/abstract>



Mt. Beerwah seen from the verandah after the storm. Photo: K. Ebert

Crohamhurst BugCatch 2015

The Crohamhurst property was a beautiful location for a weekend of insect collecting. DEHP Ranger Brent Smith graciously provided us with comfortable accommodation in the house and surrounding outbuildings. Storms and heavy rains put a bit of a damper on collecting, but nevertheless, we managed to find some interesting insects and had an enjoyable weekend.

Eighteen enthusiastic people of all ages attended. Lyn Cook, from UQ, brought Dr. Laura Ross, a visiting scale insect specialist from the University of Edinburgh, Scotland, and several UQ students. Other visitors included Ava (9) and Peter Smith (7) with their dad, Tony, who drove all the way down from Maryborough and enthusiastically joined in with the collecting.



L to R standing: Lyn Cook, Don Sands, Paul Lin, Katherine Burgess, Perry Bennion, Laura Ross, Brent Smith, Susan Wright. **Kneeling L to R:** Peter Smith, Tony Smith, Ava Smith, Olivia Wright, Kathy Ebert, Geoff Wright

Absent: Penny Mills, Ethan Briggs, Helen Schwenke, James Fish



Penny's *Apiomorpha minor*. Photo: K. Ebert

In the open areas near the dams, Susan Wright netted several species of dragonflies and damselflies as well as robber flies and syrphids. Penny Mills located several species of galls including *Apiomorpha minor* and *Fergosonina* sp. and other assorted Coccoidea. The eucalyptus trees also harboured armoured scales (Diaspididae) and psyllids.



Dragonfly captured by Susan. Photo: K. Ebert



Collecting aquatic creatures. Photo: K. Ebert

The children enjoyed collecting the abundant Christmas beetles (*Anoplognathus* sp.) on the young eucalyptus saplings, and pursued countless water beetles and dragonfly nymphs (and hapless fish!) in the dams and ponds.

Brent Smith acted as 4WD taxi driver/guide and took us to the far corners of the property where there were pockets of riparian rainforest. Susan and Geoff were lucky enough to get a glimpse of a birdwing butterfly and Don found signs of larvae on the recently planted birdwing vines which are growing well.

Small baited pitfall traps were set out in a variety of habitats, and the rainforest traps yielded the native red-shouldered dung beetle (*Lepanus ustulatus*). The mushroom baits also attracted lots of Staphylinid beetles.



Lepanus ustulatus (Lansberge, 1874)
Photo: K. Ebert

Light trapping on Friday night was quite exciting with gum moths, goliath stick insects, mantispids and a variety of scarab beetles flying in. We were all very disappointed when the second night of light trapping came to an abrupt end with a heavy downpour which lasted a couple hours. The kids managed to catch a few beetles that came in to lights under the house after the rain which included the introduced dung beetles, *Onthophagus sagittarius* and *O. gazella*.



Susan pinning the light trap catch while Laura and Ethan examine the specimens. Photo: K. Ebert

While it rained, we all gathered around and listened to Brent tell us a bit about the history and plans for the Crohamhurst property. Since the Crohamhurst property was purchased by DEHP three years ago, over 14,000 trees have been planted. The trees are now well established and growing well with Brent and his team regularly mowing around them and keeping the weeds down. One hundred and twenty-five birdwing vines have also been planted in an attempt to add to the "stepping stone" habitats from Mary Cairncross NP to D'Aguilar NP. Brent also hopes to plant 500 figs to attract the rare Coxen's Fig parrot, and casuarinas to increase the habitat for glossy Black Cockatoo. He feels the area has the potential to become a

relevant conservation area. Unfortunately, these plans are all contingent upon continued funding.

Don Sands also gave us an update on insect conservation from some of the discussions at the recent Australian Entomological Society (AES) meeting. They are hoping to have an all day symposium devoted to insect conservation at next year's AES conference. Don stressed that while taxonomy is key to insect conservation, we must also consider behaviours, interactions with other species and habitat requirements to be able to effectively conserve threatened species. With so many exotic plants and weed invasions, habitats are being altered, and factors such as climate change will also affect species distributions. Many of the threatened species are intricately linked with their environment in tritrophic interactions. To effectively conserve these insects, we need to not only identify them but understand how they interact with their environment.

All in all, it was another enjoyable BugCatch weekend!



A lovely thank-you letter from 9 year old Ava Smith. Reproduced with permission.

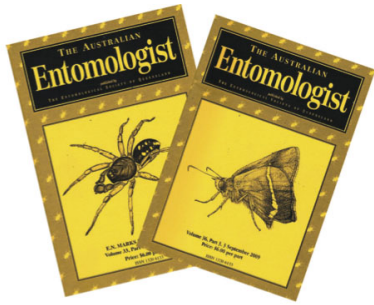
Stockyard Creek BugCatch Weekend 8-10 January 2016



ESQ is running a another Bugcatch survey weekend at the invitation of a group of landowners of a very interesting area around the drainage of Stockyard Creek, in the hills to the SW of Gatton. It's an area of sandstone with some basalt caps and supports a great variety of vegetation from ironbark woodlands to rainforest of several types. The area has been little collected in the past and initial surveys by Geoff Monteith and Kathy Ebert have shown a few rainforest species far beyond their previously known range. ESQ member Rod Hobson, who is a NP Ranger in Toowoomba, knows the area well and is helping to organise things.

The community group, Citizens of Lockyer Inc., have a small community hall which we can have the use of for the weekend. It has kitchen facilities, shower, toilets, power and plenty of trestle tables to work on inside. There are shady trees to pitch tents under and even some sleeping space inside the hall. The group is planning to run a BBQ for us on the Saturday night. We already have traps set in about a dozen localities and are hoping that members with special expertise will come along and help build a species list. The hall will be available from the Friday afternoon and possible for the Sunday night as well so the trip can be for up to three nights.

Please contact Kathy Ebert (k.ebert@uq.edu.au) to register your interest or if you have any questions. More information will become available as the date gets closer.



The Australian Entomologist AN INVITATION TO SUBSCRIBE

This journal was commenced in Sydney in 1974 by Max Moulds and is now published by the Entomological Society of Queensland. It is one of the leading outlets for research on native insects in Australia and adjacent areas. It publishes much new information on Australian butterflies with more than 200 papers since inception. It is printed in full colour on quality paper, while

the cover features work by Australia's top insect artists.

Annual subscription for individuals is \$33 in Australia, \$40 in Asia/Pacific and \$45 elsewhere.

Electronic (pdf) version available for \$25 (Institutions: \$30). To subscribe, send name and address with cheque or money order (payable to *Australian Entomologist*), to Business Manager, Box 537, Indooroopilly, Qld. 4068. To pay by credit card, send email to geoff.monteith@bigpond.com and an email invoice will be sent to you, or use the subscription form at http://www.esq.org.au/pdf/esq_subscription2014.pdf. Ask for a free inspection copy or enquire about our back issue sale at 75c/ copy for pre-2004 issues.

Our next issue is about to go to the printers and should be mailed out in the first week of December. It will be a bumper 108 page issue and contains the following papers.

MICHAEL F. BRABY

A further record of *Danaus chrysippus cratippus* (C. Felder, 1860) (Lepidoptera: Nymphalidae: Danainae) from the Northern Territory, Australia

R.B. LACHLAN

Polymorphic form *pallescens* females of *Hypolimnas bolina* (Linnaeus) (Lepidoptera: Nymphalidae) from Tonga.

TREVOR A. LAMBKIN

Telicota sp. nr *kezia kezia* Evans, 1949 (Lepidoptera: Hesperidae: Hesperinae) from Dauan Island, Torres Strait, Queensland.

D.P.A. SANDS

Review of Australian *Phyliris* Röber (Lepidoptera: Lycaenidae), with notes on variation and descriptions of two new subspecies from Cape York Peninsula.

D.P.A. SANDS and M.C. SANDS

Review of variation in *Acrodipsas cuprea* (Sands, 1965) and *A. aurata* Sands, 1997 (Lepidoptera: Lycaenidae), with descriptions of a new subspecies of *A. cuprea* and a new species of *Acrodipsas* Sands from inland southern Queensland.

A.M.P. STOLARSKI and C.E. MEYER

Variability in the adult colour forms of *Theclinesstes albocincta* (Waterhouse, 1903) (Lepidoptera: Lycaenidae: Polyommatainae) from coastal South Australia.

PETER S. VALENTINE

The contribution of Stephen James Johnson to the study of Australian butterflies.

Entomological Society of Queensland

\$500 Student Award 2016

This is an award by the Society to encourage entomological research. Honours, Diploma and 4th year Degree students who received their qualification from any Queensland tertiary education institution in 2015 or 2016 may submit their entomology-based thesis or report for consideration.

Entrants need not be Society members.

Entries are judged by a panel of three 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.

These reports can be directed to the society's Senior Vice President at the address listed on the entry form. However, please note, 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 Bradley Brown at Bradley.Brown@csiro.au

Closing date for submissions is Friday, April 8th, 2016.

2016 Student Award Entry Form

Also available at <http://www.esq.org.au/awards.html>

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: Bradley Brown, (email: bradley.brown@csiro.au, OR Senior Vice President, The Entomological Society of Queensland, PO Box 537, Indooroopilly Qld 4068 Australia

Nominations for Council 2016

Nominations are now open for the 2016 Council. Please consider volunteering your time to take on a council role next year. The Entomological Society of Queensland functions effectively because members play an active part in the Society. All members are encouraged to nominate for positions on the Council. Please contact the Secretary or one of the existing Council members listed on the cover of the News Bulletin or on the website if you have queries. Nomination forms are also available at <http://www.esq.org.au/pdf/nominationform2016.pdf>

Office Bearer Nomination Form 2016

I nominate: (name) _____

For the position of (tick one):

<input type="checkbox"/>	President
<input type="checkbox"/>	Senior Vice President
<input type="checkbox"/>	Secretary
<input type="checkbox"/>	Treasurer
<input type="checkbox"/>	News Bulletin Editor
<input type="checkbox"/>	Business Manager (Australian Entomologist Journal)
<input type="checkbox"/>	Councillor

on the council of the
Entomological Society of
Queensland.

Nominated by _____
(Signature)

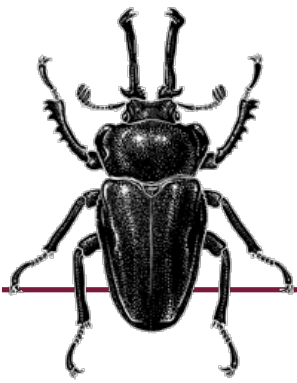
Seconded by _____
(Signature)

I accept the nomination _____
(Signature)

Return completed and signed form to: Honorary Secretary
Mark Schutze
PO Box 537
Indooroopilly, QLD 4068

or by email
m.schutze@qut.edu.au

Please return form by 30 Jan 2016



Announcements and Notices

\$500 Student award

Sponsored by the TREE Foundation in Sarasota, Florida, and conferred by the Ambrosia Symbiosis Research Group in the USA. "Appreciation for the Natural History of Insect Pests".

The award: US\$500 awarded annually to one recipient.

Who is eligible: University students regardless of their geographic location.

Due date: 31 December 2015

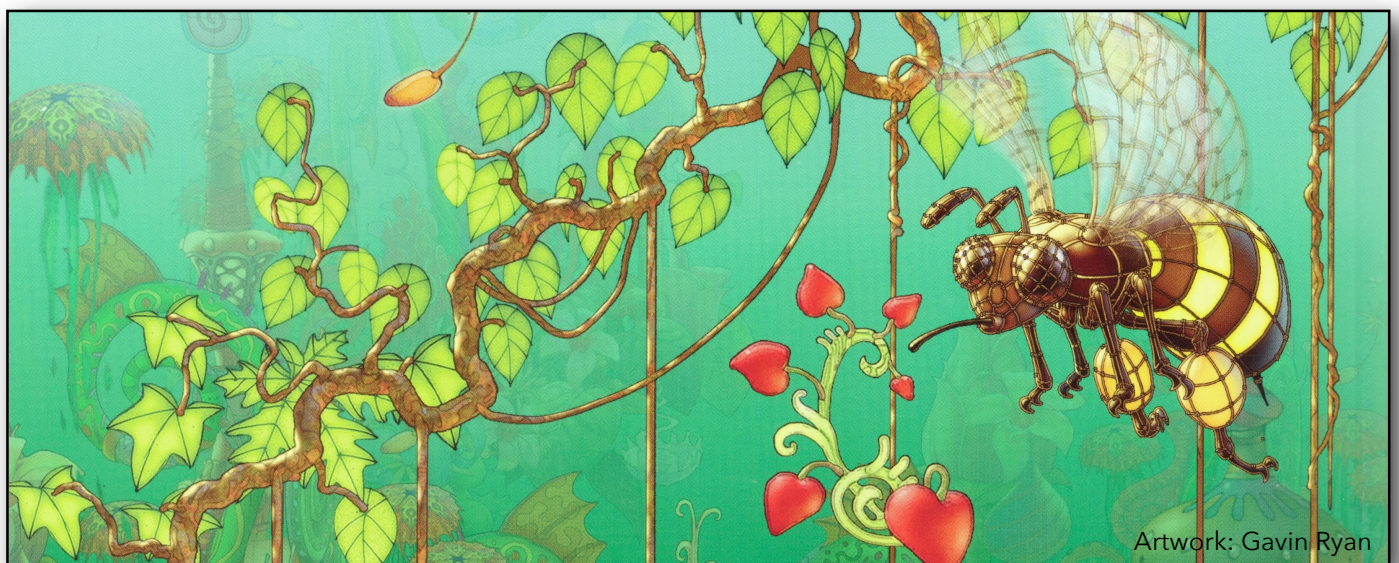
Selection criteria and conditions:

The committee will award \$500 to the student who in the given year has published the most interesting and inspiring research paper on insects which are usually regarded as pests. For details see <http://www.ambrosiasymbiosis.org/2015/01/award2015/>

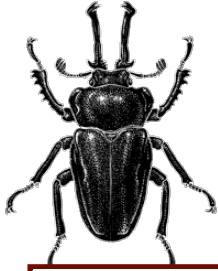
Entomology at the Woodford Folk Festival

Queensland's famous week-long music festival turns 30 this year and continues to attract record crowds in the hills behind Woodford between Christmas and New Year each year. This year's program has just been launched and full details are available at <https://woodfordfolkfestival.com/> We reproduce extracts from Gavin Ryan's fantasy art work on the program cover (see below).

The event is best known for street performers, alternative circus acts, music from around the world and its giant parade and fire ceremony on New Years Eve, but there are also many environmental talks, walks and workshops based at the arena they call the 'Greenhouse'. This year, three of our ESQ members are giving insect-themed items. Helen Schwencke is an old Woodford hand and over the years has developed an avenue of butterfly food plants that runs from the car parks to the performance areas. She will conduct butterfly walks around the site at 8 am on Monday to Thursday, and evening walks to see the insect nightlife at 7.15 pm on Monday to Wednesday. She will give a stage talk about caterpillars at the Greenhouse at 9am on the Wednesday. Native bee guru, Tim Heard, will give talk/demonstrations about propagating stingless bee colonies at the Greenhouse at 8 am on Sunday and Friday and conduct a bee-spotting walk at 8 am on Monday. Geoff Monteith will give a Greenhouse talk on why we need dung beetles at 9 am on the Monday.



Artwork: Gavin Ryan



Diary Dates for 2015

Meetings held on the second Tuesday
of the respective month

MARCH 10	Bill Palmer	AGM and Presidential Address: " <i>Weed Biological Control in Queensland - Down Memory Lane</i> "
APRIL 14	Geoff Monteith	" <i>Australian Native Dung Beetles</i> "
MAY 12	Penny Mills & Yen-Po (Paul) Lin	" <i>The Apicomorpha minor species group (Hemiptera: Coccoidea: Eriococcidae)</i> " AND " <i>Cryptic diversity in the parthenogenetic pest, Parasaissetia nigra (Nietner, 1861) (Hemiptera: Coccidae) and its implications for biosecurity</i> "
JUNE 9	Notes and Exhibits	Student Award Presentation/ Notes & Exhibits
AUGUST 11	Valerie Debuse	" <i>Investigating the drivers of longicorn and cossid wood borers in subtropical plantations in Queensland and New South Wales</i> "
SEPTEMBER 8	Max Moulds	" <i>Museum dungeons to mountain tops: 50 years of entomological adventures</i> "
OCTOBER 13	Mark Schutze	" <i>Tephritid taxonomy: new solutions for old problems</i> "
NOVEMBER 10	David Yeates	Perkins Memorial Lecture: " <i>A phylogenomic perspective on insect evolution: big data illuminates old questions.</i> "
DECEMBER 8	Notes & Exhibits	Notes and Exhibits/Christmas Afternoon Tea

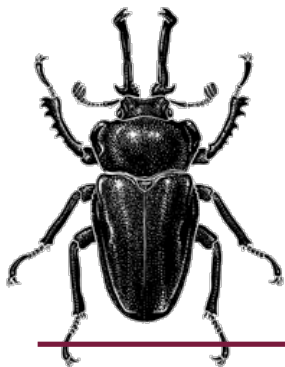
SOCIETY SUBSCRIPTION RATES

GENERAL	Person who has full membership privileges	\$30pa
JOINT	Residents in the same household who share a copy of the <i>News Bulletin</i> , but each otherwise have full membership privileges.	\$36pa
STUDENT	Student membership conveys full membership privileges at a reduced rate. Students and others at the discretion of the Society Council.	\$18pa

THE AUSTRALIAN ENTOMOLOGIST SUBSCRIPTION RATES

AUSTRALIA	Individuals/Institutions	AU\$33pa/AU\$37pa
ASIA/PACIFIC	Individuals/Institutions	AU\$40pa/AU\$45pa
ELSEWHERE	Individuals/Institutions	AU\$45pa/AU\$50pa
ELECTRONIC	Individuals/Institutions	AU\$25pa/AU\$30pa

Subscriptions should be sent to the Business Manager,
The Australian Entomologist PO Box 537, Indooroopilly QLD 4068
http://www.esq.org.au/pdf/esq_subscription2014.pdf



Entomological Society of Queensland



Notice of next meeting:

Tuesday, December 8th, 2015, 4:00 pm



Notes and Exhibits Meeting followed by our end of year Christmas party

(catering by Café Eco but you may bring a plate to share!).

Program includes a variety of short presentations and exhibits:

Come and see the "Three Glimpses of a Green Beetle", the latest on native bees, a bit of biocontrol, a window into the world of *Cephalodesmius* and more!

Anyone is welcome to be a part of this "show and tell" meeting. We would just love to see and hear what *you* have found or learned in your backyard or bushwalks or workplace!

Please contact Federica (federica.turco@qm.qld.gov.au) if you have something to share so we can add your name to the agenda.

Seminar Room
Ground Floor, Ecosciences Precinct Boggo Road, DUTTON PARK

More venue details available at <http://www.esq.org.au/events.html>

ALL WELCOME!

Next News Bulletin:

Volume 43, Issue 9 (Jan 2016)

CONTRIBUTIONS WELCOME
DEADLINE - Wednesday, February 3rd, 2016.

Send your news/stories/notices to the editor at: k.ebert@uq.edu.au