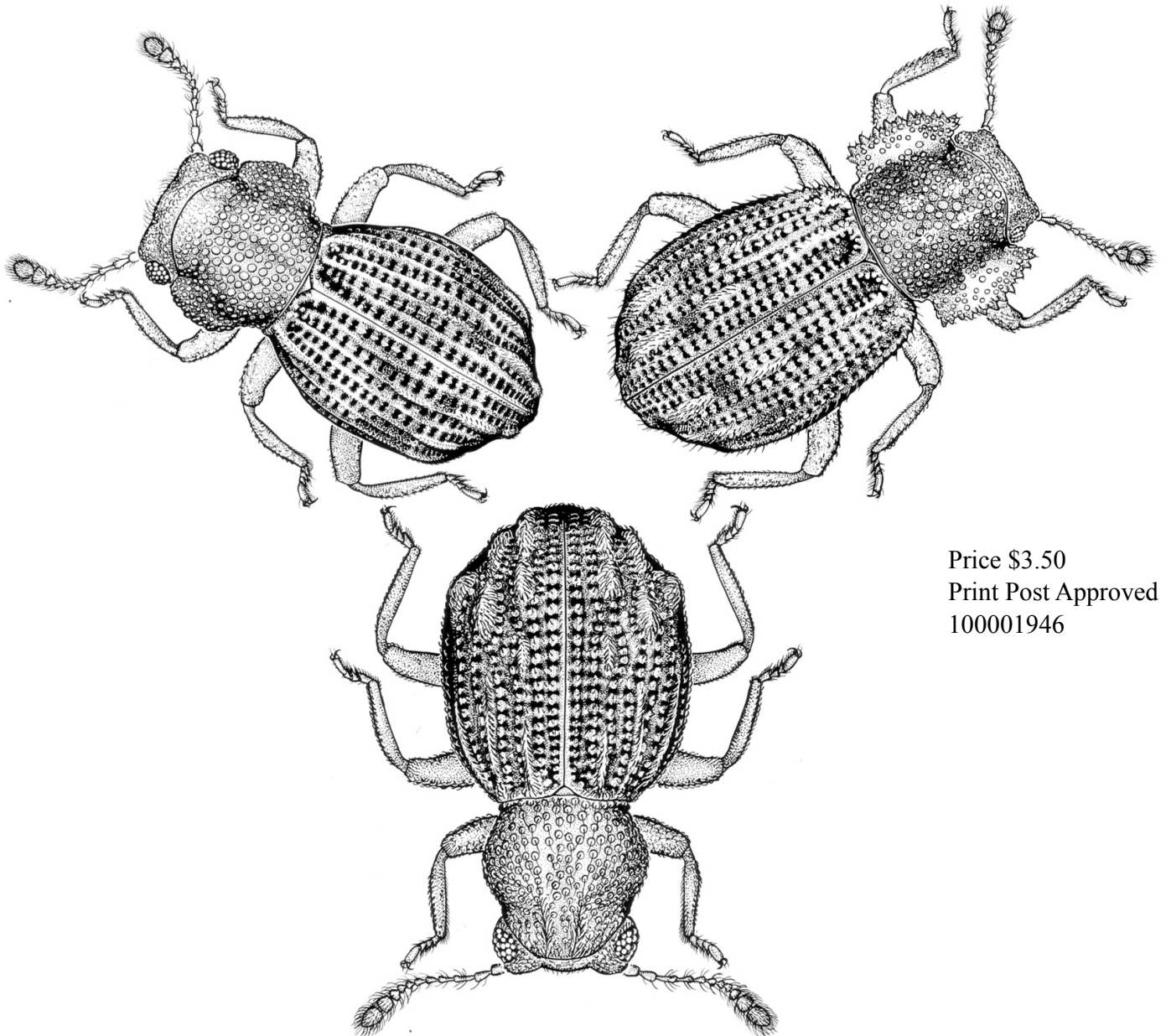


Entomological Society of Queensland

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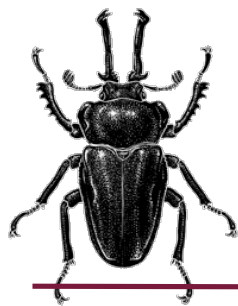
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Front Cover Illustration: Three species of recently revised *Enhyphron* beetles (Zopheridae). Clockwise from top left: *E. cordicollis* Turco & Ślipiński, *E. costatum* (Carter) and *E. laticeps* Carter. The genus is an Australian endemic with a hotspot 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.

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Entomological Society of Queensland

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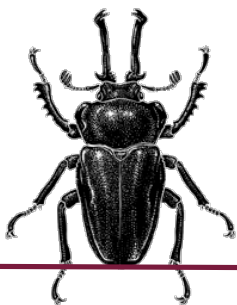
The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News 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, June 9th, 2015

Held in the Seminar Room, Ecosciences
Precinct, Boggo Rd, Dutton Park at 1pm

Attendance (21): Brogan Amos, Gurion Ang,
Nadine Baldwin, Lyn Cook, Gary Cochrane,
Kathy Ebert, Gio Fichera, Julianne Farrell,
Andrew Hayes, Chris Lambkin, Diana Leemon,
Geoff Monteith, Mona Moradi, Penny Mills,
Brenton Peters, Don Sands, Tom Semple,
Federica Turco, Desley Tree, Kathy Thomson,
Pauline Wyatt

Visitors (3): Christine Goosem, Lui
Lawrence-Ranger, Claudia Schipp

Apologies: Mark Schutze, Nancy Schellhorn,
Cate Paull, Noel Starick, Bill Palmer

Minutes: The minutes of the last meeting were
circulated in News Bulletin 43[3] May 2015.

*Moved the minutes be accepted as a true
record:* Penny Mills

Seconded: Bradley Brown. *Carried:* all

Nominations for membership:

The following membership applications,
approved by Council, were presented to the
members:

1. Dr Ross Wylie, 115 Akuna St., Kenmore QLD
4069 (General Membership). *Nominated by*
Brenton Peters, *Seconded:* Kathy Ebert

2. Mr Justin Cappadonna, 4/15 Grove St.,
Toowong QLD 4066 (Student Membership).
Nominated by Penny Mills, *Seconded:* Gurion
Ang

3. Mr Rod Hobson, 33 Webb St., Toowoomba QLD
4350 (General Membership). *Nominated by* Geoff
Monteith, *Seconded:* Christine Lambkin

General Business:

Federica welcomed Ross Wylie back to the society
and mentioned his past contributions to ESQ. Ross
first joined the society in 1974 when he returned to
Brisbane after 7 years as a Forest Entomologist
working in Papua New Guinea. He remained a
member until he retired from the Queensland Public
Service as a Forest Entomologist in 2006. During
that time, he served on ESQ Council for 6 years: as
President (1979), Treasurer and Secretary. Ross now
works on Red Imported Fire Ants as Manager
Scientific Services, at the Biosecurity Queensland
Control Centre, Moggill. Welcome back, Ross!

Main Business:

Tom Semple, the successful recipient of this year's
student ESQ award,

presented a summary of
his honours thesis
research entitled
"Systematics and ecology
of the Australian gall-
inducing insect genus
Cystococcus (Hemiptera:
Coccoidea: Eriococcidae),
including a description of
a new species" (see pp.
60-61.)



President Federica Turco
presenting the ESQ Student
Award 2015 to Tom Semple.

Notes and Exhibits:

Gurion Ang presented an
update on work done in
Samoa on a potential
biological control agent
(*Trichogramma chilonis*)
for cabbage pests.

He also presented an entertaining insight into the
upcoming Linnean Games at the AGM & Scientific
Conference of The Australian Entomological
Society, inviting members to encourage any students
going to the conference to participate.

Geoff Monteith introduced the new web Archive of Past Queensland Entomologists.

Geoff also presented a short memoir to members about Life Member, Morwenna Jean Harslett (6th Sept 1925–22 May 2015), and her family's great contributions to the community and entomology. Geoff also mentioned that there was a large attendance at Jean's memorial function in Stanthorpe on the 5th of June.

Next meeting: Tuesday 11th August 2015

Speaker: Valerie Debuse speaking on "Investigating the drivers of longicorn and cossid wood borers in subtropical plantations in Queensland and New South Wales."

Meeting closed: 2:04 pm

At our next meeting...

Investigating the drivers of longicorn and cossid wood borers in subtropical plantations in Queensland and New South Wales

presented by Valerie Debuse
Department of Agriculture and Fisheries

The predominant borers of subtropical plantations are longicorn beetles (*Phoracantha* spp.) and the cossid moths *Endoxyla cinereus* and *Culama australis*. Despite reported declines of sawlog values associated with borers, borer prevalence and environmental causes of damage have not been determined. This study assessed the prevalence of borer attack in spotted gum (*Corymbia citriodora* subsp. *variegata*; CCV) and flooded gum plantations (*Eucalyptus grandis*) and highlighted potential environmental drivers of borer attack incidence. Longicorn attack prevalence from *Phoracantha solida* was closely associated with the secondary cossid borer, *C. australis*. *P. solida* preferred larger than average diameter trees, which was related to the variation in tree diameters present. In contrast, the cossid, *E. cinereus* attacked trees with smaller than



Valerie is a forest ecologist who has worked at the Department of Agriculture and Fisheries since 2001. Over this time, Valerie's research interests have focused on risk management in the areas of insect tree pests (defoliators and borers), weeds and fire regimes.

average diameters. In both cases, the diameter ratio of attacked trees to the average tree diameter per plot accounted for the greatest variation in borer incidence in the model. Other important associates of longicorn attack were rainfall and foliar nutrition (K, Na, Fe, C, N). The modelling suggested that sites located to the eastern and southern regions of our NSW study area are more prone to *E. cinereus* attack. Sites with lower overall tree DBH (diameter at breast height), higher stocking and cleared understorey vegetation also showed greater damage from *E. cinereus*. We suggest that many potential borer attack drivers can be managed through thinning and tree nutrition or changes to site selection.

August 11th at 1pm
in the Seminar Room at EcoSciences
Precinct

All welcome!



Systematics and ecology of the Australian gall-inducing insect genus *Cystococcus*

presented by **Tom Semple**

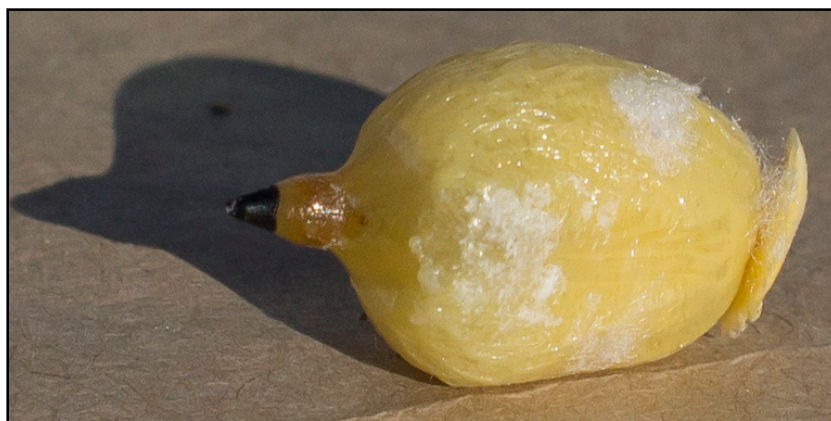
School of Biological Sciences
The University of Queensland

Australia is full of bizarre and beautiful insects, some of which definitely fall closer to the bizarre end of the scale. With no discernible head or appendages, *Cystococcus* (Hemiptera: Coccoidea: Eriococcidae) provides the perfect example, and is a fascinating study organism.

Commonly known as "bloodwood apples" or "bush coconuts", the galls and insects of *Cystococcus* are well-known as "bush tucker" by indigenous Australians, particularly in central Australia (Gullan *et al.* 2005). The white, fleshy lining of the gall appears and even tastes like coconut. The larvae and adult female can also be eaten, and from personal experience, are quite sweet and palatable.

Cystococcus comprises gall-inducing scale insects that feed and live almost exclusively on red bloodwoods (Myrtaceae: *Corymbia*: section *Rufaria*) (Gullan & Cockburn 1986). Females spend their entire adult lives inside the galls they induce, and appear to have lost the ability to move, along with legs and most other recognisable features. Given their sessile lifestyle, mating must occur within the galls induced by these females. The unusually long abdomens of the winged adult males allow them to mate with females from the gall entrance (Gullan *et al.* 2005).

After mating, sexual dichronism is observed in *Cystococcus*, whereby females give birth to males first, then females, once those males have developed to the pupal stage inside the gall (Gullan & Cockburn 1986). Although juvenile females are



Adult female *Cystococcus pomiformis*

equipped with legs, they have no wings and would appear to be incapable of dispersing to new host trees. However, in an unusual display of intersexual phoresy, immature females grasp the elongate abdomens of their much larger, winged brothers, thereby achieving airborne dispersal (Grant 1965; Gullan & Cockburn 1986). As the males search for a mature female to mate with, their sisters are able to disembark from "*Cystococcus Airlines*" at their leisure, hopefully finding a suitable host plant.

Two species of *Cystococcus* have been described: *C. echiniformis* Fuller and *C. pomiformis* (Froggatt). These two species are widespread across northern Australia, and occur on numerous species of red

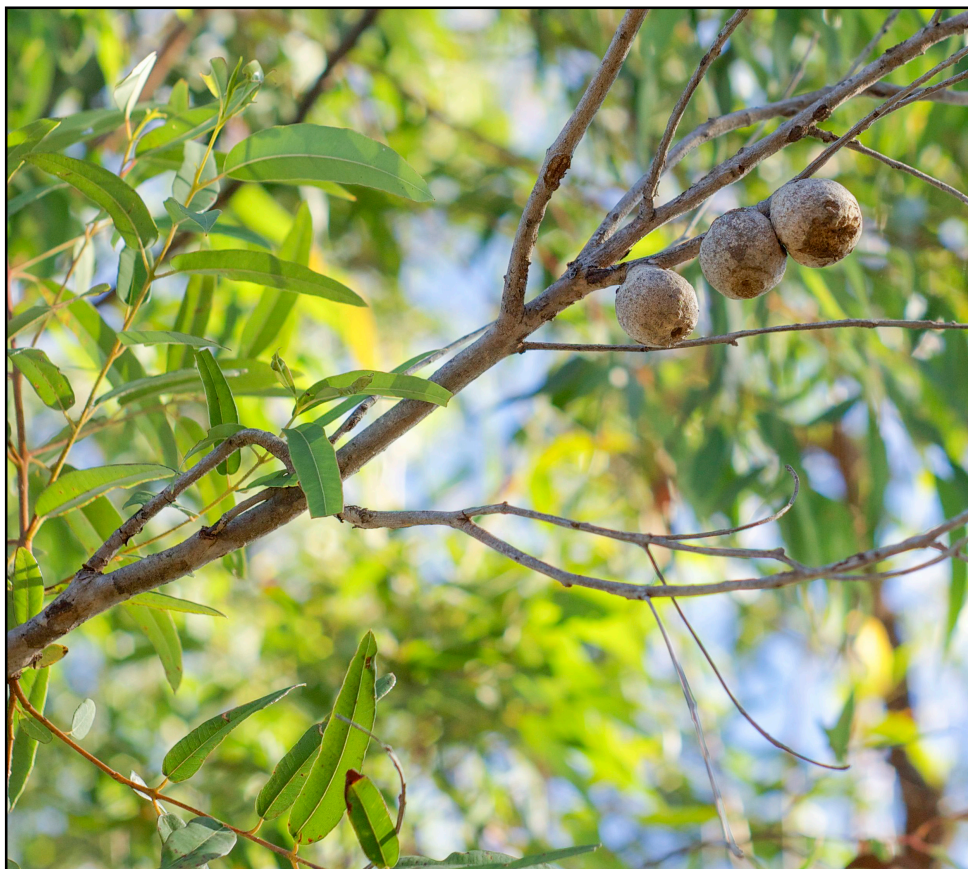


Adult male *Cystococcus echiniformis* - note the long abdomen!

bloodwood. In 2008, a few individuals were collected from Queensland and noted as being different from the two existing species. The primary goal of my Honours project was to confirm whether or not these specimens did constitute a new species. This was done using molecular data from two gene regions, morphology and host-use. In addition, I aimed to investigate the possibility of cryptic species within the group, and to look at how the phoretic dispersal of females might affect the spatial distribution of galls.

In an attempt to better understand the effects of the unusual dispersal mechanism of *Cystococcus*, I recorded locations and abundances of host trees and galls in 100 x 100 m plots. Gullan and Cockburn (1986) proposed that the intersexual phoresy seen in *Cystococcus* might result in a more even distribution than other gall-inducing eriococcids such as *Apiomorpha*, which are primarily wind-dispersed. I found a difference in the proportion of trees occupied by *Cystococcus* than *Apiomorpha*, but no significant difference in the spatial arrangement of galls at the scale surveyed. Unfortunately, these results might have been affected by a small sample size of only three plots per group.

This work aims to provide further insight into the distribution and diversity of a genus that intimately coexists with the characteristically Australian trees they inhabit.



Galls induced by female *Cystococcus* sp. on *Corymbia trachyphloia*

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THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

LINNAEAN GAMES

27 – 30 SEPTEMBER 2015, CAIRNS

<http://www.aesconferences.com.au/2015-2/linnaean-games/>



Trichogramma chilonis: a potential biological control agent for *Crocidolomia pavonana* in Samoa*

presented by **Gurion Ang**
School of Biological Sciences
The University of Queensland

Crocidolomia pavonana Fabricius, 1794, (Lepidoptera: Crambidae), the large cabbage moth (or cabbage cluster caterpillar), is a major pest of crucifers with a cosmopolitan distribution. In Samoa, *C. pavonana* co-occurs with another infamous pest of crucifers – the diamondback moth, *Plutella xylostella* (Lepidoptera: Plutellidae). While natural enemies for *P. xylostella* are well documented and understood, there is a lack of evidence in the literature for effective natural enemies of *C. pavonana*. Recently, an arrhenotokous population of the generalist egg parasitoid *Trichogramma chilonis* Ishii (Hymenoptera: Trichogrammatidae) was recorded to frequently attack *C. pavonana* in Samoa. *Crocidolomia* egg mass mortality in the field can be up to 87% (particularly in the drier months) and up to 47% of these deaths are due to parasitism by *T. chilonis*. As such, there is much interest to enhance the efficacy of *T. chilonis* as a biological control agent of *C. pavonana*.

Recently, more extensive host range studies were conducted for *T. chilonis*, and it was found that it also attacked eggs laid by *P. xylostella*, the monarch *Danaus plexippus* (Lepidoptera: Nymphalidae), common egg-fly *Hypolimnys alimena* (Lepidoptera: Nymphalidae), and an endemic day-flying moth

Nyctemera baulus alba (Lepidoptera: Arctiidae). Sex ratios and body size of emerging wasps from parasitised eggs were compared. Single wasps emerged from *C. pavonana* eggs, while up to 11 individuals would emerge from larger *H. alimena* and *N. baulus* eggs. In *C. pavonana*, egg clutches produced a female:male ratio of 6:1, while sex ratios in the larger *H. alimena* and *N. baulus* eggs were more balanced (i.e. 1:1). Male wasps emerging from parasitised eggs did not differ in body size, regardless of host egg. However, female wasps emerging from *H. alimena* and *N. baulus* eggs were significantly larger than the ones that emerged from *C. pavonana* eggs.

We hypothesise an ecological tradeoff in the responses of female *T. chilonis* when presented with different host eggs. In situations where host egg size is larger and can accommodate multiple wasp offspring (= *H. alimena* and *N. baulus*), female progeny were larger (size is often associated with fitness and lifetime fecundity) in as many numbers as males. However, when host egg size is small (= *C. pavonana*) and the resulting female progeny is



Gurion Ang (foreground) with a technical assistant (Pati Niko) at the Nu'u Crop Research Station on the main island Upolo, Samoa. Gurion recently received a Crawford Organisation Student Scholarship to boost his research activities in Samoa.

***This research is part of an ACIAR (Australian Centre for International Agricultural Research) project led by Associate Professor Mike Furlong**



Trichogramma chilonis females attacking a *Crocidolomia pavonana* egg clutch.

size-limited by host egg size, more females are produced in relation to males in compensation. We argue that larger eggs (= *H. alimena* and *N. baulus*) are optimal and more profitable host eggs for *T. chilonis* in the field. As such, the host plant of *N. baulus*, a wide-spread wide *Crassocephalum crepidioides*, is being grown amidst cabbage plots in

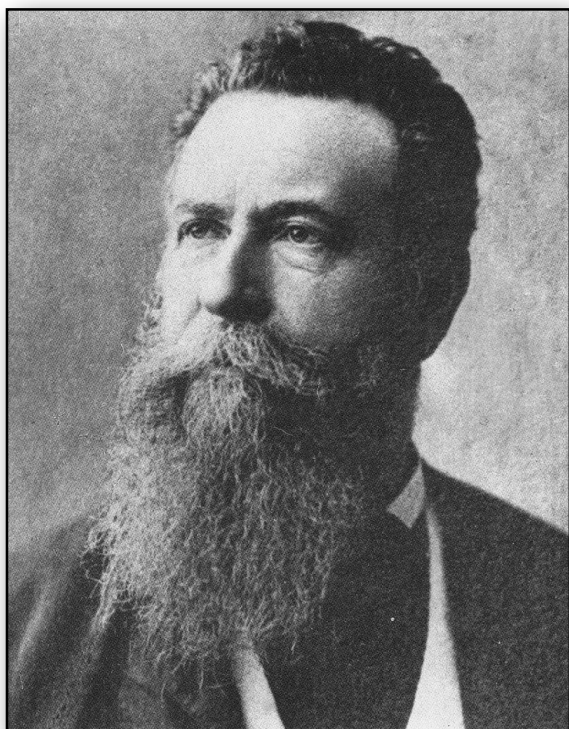
field trials to see if a constant influx of larger (fitter) *T. chilonis* females from parasitized *N. baulus* eggs can be conferred to neighbouring cabbage plants bearing *C. pavonana* eggs. In this way, we are hopeful that the environment can be manipulated to improve pest control of *C. pavonana* using an already established population of natural enemy.

The reference that accompanies this excerpt includes the historical problems surrounding the identity and species status of *T. chilonis*, and discusses its host range and distribution in the Asia-Pacific region briefly. The potential of *T. chilonis* for development as a biological control agent against *C. pavonana* is also considered.

Reference:

Aleni Uelese, Peter M. Ridland, Richard Stouthamer, Yu Rong He, Gurion Ang, Myron P. Zalucki & Michael J. Furlong (2014) *Trichogramma chilonis* Ishii: a potential biological control agent of *Crocidolomia pavonana* in Samoa. *Biological Control*, 73, 31-38.

The History Corner...



Joseph BANCROFT (1836-1894)

Born Manchester, England. Studied medicine at Manchester and St Andrews, graduating with awards. Early interest in geology and natural history. Migrated to Brisbane in 1865 settling on a small farm on Enoggera Creek he named "Kelvin Grove". Practised medicine and carried out experiments on disease, crops and plant pharmacology. In 1866 and 1884 published on ticks and tick blindness and paralysis; in 1869 on coccids. In 1886 discovered the adult human parasite, *Wucheraria bancrofti*, agent of elephantiasis, named in his honour. Experimented unsuccessfully with the mosquito, *Aedes vigilax*, as its possible vector. In 1877 reported on insect pests of newly established sugar plantations. A prominent scientific leader in early Brisbane and served on many government committees including the first Board of the Queensland Museum. Father of Thomas Bancroft and grandfather of Josephine Mackerras (née Bancroft).



Biography: Pearn, J. & Powell, L. (eds) 1991. *The Bancroft Tradition*. Amphion Press, University of Qld, Brisbane, 268 pp.

ESQ Archive of Past Queensland Entomologists now active on-line

We're delighted to announce the commencement of a new project by the ESQ to document the history of entomology in Queensland and to celebrate the achievements of the hundreds of entomologists who have worked in the state since our first entomologist, Silvester Diggles, arrived in the young Brisbane colony in 1854.

Queensland has always had more entomologists than any other state. This is because its large size, rich vegetation and warm climate have given it not only the most diverse native insect fauna but also the worst rural and household pest problems. Queensland also has the greatest insect vector threats to human health and the most challenging weed biocontrol problems of any Australian state. This means that there has always been much for entomologists to do in Queensland. To meet this demand our universities have, since 1911, been major centres for the training of entomologists in Australia.

To preserve information on this rich heritage of entomology, the ESQ has set up a website archive of brief biographies of deceased entomologists who have been active in Queensland. Coordinators are Geoff Monteith who will compile, edit and commission biographies, and Kathy Ebert who will control the website structure and enter information.

The nucleus for the project are 46 captioned portraits of early Queensland entomologists collected by the late Dr. Pat Marks in the old UQ Entomology Department. These have now been scanned, their captions are being expanded, and they are progressively being loaded into the website. Please peruse them at <http://www.esq.org.au/archive-intro.html> We welcome corrections.

This is a long term project and we need your help! Members are invited to assist by compiling biographies on past entomologists about whom they may have special knowledge. To prepare an entry go to the <http://www.esq.org.au/guidelines.html> for criteria for inclusion in the Archive and guidelines on preparing an entry. This link also has a list of people for whom entries are already being prepared, but not yet entered on the website. If you decide to write a biography then let Geoff or Kathy know and it will be added to the list of biographies "in progress".

There will be regular updates about the Archive in the News Bulletin with lists of new biographies being entered. Please make use of the Archive and tell others about it. It is completely open access.

*Geoff Monteith & Kathy Ebert
Archive Coordinators*



The triptych of asexuality, chastity and cryptic diversity in *Parasaissetia nigra* (Nietner, 1861)

presented by Yen-Po Lin^{1,2}

¹College of Life Science, Shanxi University,
Taiyuan, Shanxi, China

²School of Biological Sciences, The University of
Queensland, Brisbane, Qld, Australia

Sexual reproduction, specifically the exchange of hereditary material between two parental genomes by undergoing regular meiosis and fertilization (Rice, 2002), is a dominant reproductive strategy and is found in all eukaryotic lineages, despite its extreme cost including disease, death and slower reproduction (Schurko *et al.*, 2009). Revealing why sex is so common and the mechanisms that maintain it has been the “queen of questions in evolutionary biology” (Bell, 1982) since the 1980s (Schurko & Logsdon, 2008). It is generally accepted that sexual reproduction is important for individual fitness by rapidly combining or unlinking beneficial and deleterious mutations respectively (Gary & Goddard, 2012), thereby improving the long-term survival of lineages (Maynard Smith, 1978; Nunney, 1989).

Asexuality on the other hand is rare (Bengtsson, 2009), and believed to be an evolutionary dead-end for eukaryotes (Maynard Smith, 1978; Bell, 1982; Beck *et al.*, 2011). Very few lineages have persisted over long time scales without sexual reproduction (Maynard Smith,

1992; Rice, 2002; Simon *et al.*, 2002).

A common cause of asexuality is “living on the edge” (Gostinčar *et al.*, 2010), where removing the energy expenditure of sex appears to be beneficial in extreme environments. Even the “older” asexual lineages are phylogenetically placed in terminal branches, with younger ages compared to their sexually-reproductive sister groups (Neiman *et al.*, 2009). In principle, ancient asexuality – organisms that have reproduced asexually for millions of years (Normark *et al.*, 2003), or at a cautious estimate, one million generations (Schwander *et al.*, 2011) – is rare in nature. They often occur in extreme but stable habitats, and their geographic distributions are restricted because asexual lineages are more vulnerable when environmental conditions do change (Hurst & Peck, 1996). Although some asexual pests of agriculture might be widespread, they only appear in the stable, artificial environments created by humans, and are also considered examples of “extremotolerance” (Hoffmann *et al.*, 2008).

If asexuality was indeed the so-called evolutionary dead-end, it seems reasonable that these lineages would rapidly go extinct (Law & Crespi, 2002).

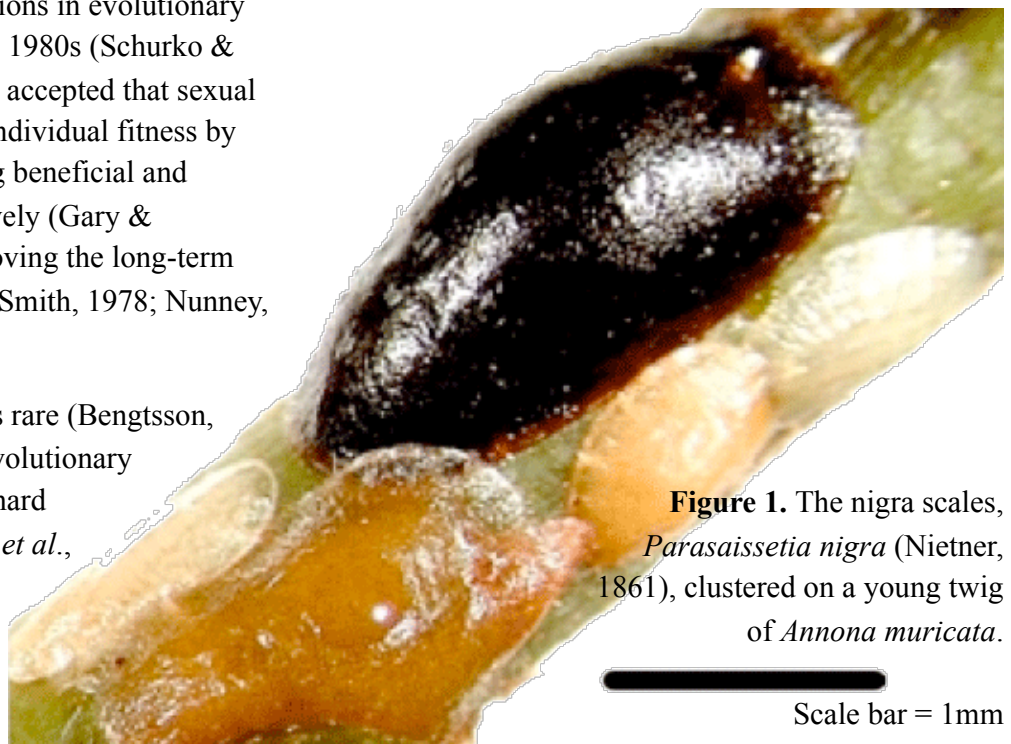


Figure 1. The nigra scales, *Parasaissetia nigra* (Nietner, 1861), clustered on a young twig of *Annona muricata*.

Scale bar = 1mm

However, Normark *et al.* (2003), Neiman *et al.* (2009) and Schurko *et al.* (2009) reviewed the well-studied asexual lineages, and showed that more than half of them were estimated to be at least 500,000 year old. The existence of these ancient asexual lineages contradicts the common assumption that asexual reproduction cannot persist long-term, and challenged the traditional theories on the evolution of sex (Normark *et al.*, 2003).

Some soft scales (Hemiptera: Coccidae) reproduce asexually and are among the worst invasive pests worldwide (Miller & Miller, 2003). *Parasaissetia nigra* (Nietner) (Figure 1), the “nigra scale” (Ben-Dov, 1978), is one of the examples. The species is extremely polyphagous and can feed on more than 90 plant families. In addition, previous morphological studies (Ben-Dov, 1978; Hodgson, 1994) on this species have suggested that it might be a species complex.

Different approaches were implemented to assess the species status of *P. nigra* using multiple gene regions and analyses. I also attempted to confirm whether this scale insect has been chaste for a long evolutionary time period, in contrast to some commonly recognised parthenogenetic organisms that have been shown to have infrequent sex. The preliminary results suggest that the sampled specimens of *P. nigra* might consist of several distinct species. The distinct lineages of *P. nigra* might differ in biology and have different natural enemies, and thus need different management strategies. The detection of cryptic species in this presumably widespread pest has serious implications on how these species are treated and controlled.

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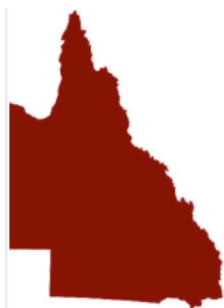
\$50,000 in travel funding to support global participation in International Congress of Entomology (ICE) 2016 by non-U.S. students and scientists

The Entomological Society of America (ESA) is pleased to announce a travel funding competition to support global participation in ICE 2016 by non-U.S. students and scientists transitioning into the early years of their careers.

Sponsored by ESA's Student Transition and Early Professionals Committee (STEP), the competition will award a total of \$50,000 to 25-30 participants to support their travel to ICE 2016, along with complimentary registration for the Congress. Awards will be based on criteria such as the scope and importance of the applicant's research to be presented at the Congress, how the applicant's attendance and participation at the Congress will benefit his or her professional development and the science of entomology, and how the applicant's attendance will contribute to the diversity of attendees at ICE 2016.

Eligibility requirements and further details may be found at <http://ice2016orlando.org/esas-student-transition-and-early-professionals-committee-step-travel-funding-competition-for-ice-2016/>

Deadline for submissions is midnight (U.S. Eastern Time), September 1, 2015.



Queensland Entomology News



Research news

Estimating populations of terrestrial arthropods

Nigel Stork and James McBroom from the Environmental Futures Research Institute at Griffith University recently published a paper together with Clair Gely and Andrew Hamilton entitled: *“New approaches narrow global species estimates for beetles, insects, and terrestrial arthropods”* in which they discuss new estimates of species richness. The significance statement from the paper reads:

“Many suggest we are approaching a sixth mass extinction event, and yet estimates of how many species exist, and thus how many might become extinct, vary by as much as an order of magnitude. There are few statistically robust methods to estimate global species richness, and here we introduce several new methods, including one that builds on the observation that larger species are often described before smaller species. We combine these, giving equal weight to each, to provide mean global species estimates for the most speciose order, class, and phylum on Earth, beetles, insects, and arthropods (terrestrial). We attempt to aid conservation planning by broadening the range of methods used and bringing greater stability to global estimates for these taxa.”

The paper is published in the PNAS Early edition available online through the PNAS open access option: <http://www.pnas.org/content/early/2015/05/27/1502408112.full.pdf>



Venom structure may have evolved from a regulatory hormone

Researchers at the University of Queensland's Institute for Molecular Bioscience have recently published a paper with colleagues from Lewis & Clark College in Portland, Oregon in the journal, *STRUCTURE*. Toxins found in the venom of an agelenid spider (*Tegenaria agrestis*) were similar in structure to those found in the centipede, *Scolopendra*. Looking at the structures helped them to determine that the venom may have evolved from an insulin-like hormone. This evolutionary convergent structure is more stable and water soluble than other spider venoms which may be helpful in developing more effective insecticides.

Read the full article online at: [http://www.cell.com/structure/fulltext/S0969-2126\(15\)00181-1](http://www.cell.com/structure/fulltext/S0969-2126(15)00181-1)

Weaponization of a Hormone: Convergent Recruitment of Hyperglycemic Hormone into the Venom of Arthropod Predators, Eivind A.B. Undheim, Lena L. Grimm, Chek-Fong Low, David Morgenstern, Volker Herzig, Pamela Zobel-Thropp, Sandy Steffany Pineda, Rosaline Habib, Slawomir Dziemborowicz, Bryan G. Fry, Graham M. Nicholson, Greta J. Binford, Mehdi Mobli, Glenn F. King. *STRUCTURE* Volume 23, Issue 6.

Related information:

<http://news.sciencemag.org/evolution/2015/06/spiders-and-centipedes-spew-some-same-venom>
<http://www.medicalnewstoday.com/releases/295257.php>

Woodwasp ovipositors can detect chemicals

Richard Hayes, Manon Griffiths and Helen Nahrung from the University of Sunshine Coast and Department of Agriculture and Fisheries, recently published a paper together on the capabilities of the *Sirex* woodwasp ovipositor. Exploratory drilling with the ovipositor enables the wasp to detect chemical components which may help with egg laying site selection. To read more see:

Electrophysiological activity of the *Sirex noctilio* ovipositor: You know the drill?

R.A. Hayes, M.W. Griffiths, H.F. Nahrung.
Journal of Asia-Pacific Entomology 06/2015; 18(2): 165-168.

University of Sunshine Coast Butterfly Garden successful!

Forty-five different species of butterfly attracting plants were planted at the University of the Sunshine Coast - Sippy Downs last November as part of the conservation initiatives for the campus. Now that the plants are well established, butterfly sightings are increasing. Common Grass Blues and Large Grass Yellows are among some of the species sighted recently. The Butterfly Garden was officially opened at the World Environment Day Festival on June 7th.

From USC News:

<http://www.usc.edu.au/explore/usc-news-exchange/news-archive/2015/june/butterfly-garden-starts-to-bloom-for-festival>



Large Grass-Yellow
Photo: John Tann,
Wikimedia Commons

Queen's Birthday Award to Steve Simpson AC

Congratulations to UQ Entomology alumnus, Steve Simpson, who received the very high honour of Companion of the Order of Australia (AC) in the Queen's Birthday awards list. Steve has had a stellar career. He graduated with First Class Honours and the



F.A. Perkins Prize in entomology at UQ in 1978 then went off to University of London for a PhD on locust feeding supervised by R.F. Chapman and Elizabeth Bernays (herself a 1962 UQ entomology graduate). He then moved to Oxford University for 22 years during which he continued cutting edge research on feeding and nutrition in both locusts and other animals, while rising to be Professor and Associate Head of the Zoology Department.

Steve returned to Australia in 2005 to take up a Professorship at University of Sydney where he is currently Academic Director of the Charles Perkins Centre and an Australian Research Council Laureate Fellow in the School of Biological Sciences. The Charles Perkins Centre is a new \$385 million institute where Steve's background in animal feeding and nutrition will inform its cross-disciplinary approaches to alleviating the individual and societal burden of obesity, diabetes and cardiovascular disease. He has also written and presented many TV documentaries including the 2012 ABC series entitled *Great Southern Land*.

Find out more about Steve at <http://sydney.edu.au/science/people/stephen.simpson.php>

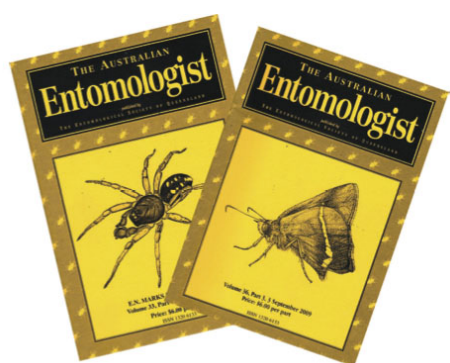
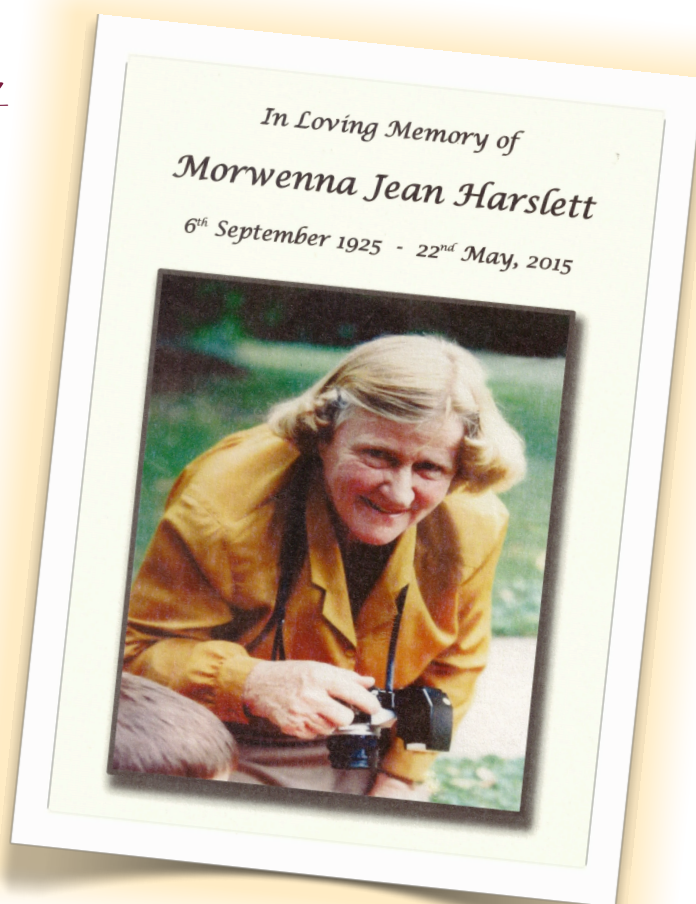


Jean Harslett

ESQ Honorary Life Member passes away

Jean Harslett, a prominent field naturalist from the Stanthorpe District, who became an authority on the butterflies and jewel beetles of that rich area, passed away on May 22nd. In recognition of her vast contribution to entomology, she was made an Honorary Life Member of the Society in 2002. A moving memorial service was held in her wildflower garden on the family property "Mountain View", near Amiens, on June 5 and was attended by hundreds of her family and friends. The memorial card is shown.

In February, 2014, Jean donated the insect collection which had been formed by her father, Alec Gemmell, and herself over almost a century of collecting to the Queensland Museum. An illustrated article on Jean and the collection appeared in the News Bulletin at that time (Vol 42(2):31-32). An obituary for Jean will be presented in a coming issue of the News Bulletin.



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.

A NEW PUBLICATION: *Our Friends the Termites*

By Pat Lowe, published by Back Room Press, Broome, WA.
ISBN 0780977561575, 145 pp, 27 photos, paperback. Price
\$26.95 plus postage.

Available from [http://www.backroompress.com.au/
book_termites.html](http://www.backroompress.com.au/book_termites.html)

The biographical note on the author tells us immediately that this is no ordinary book on termites: *“Pat Lowe is a writer and psychologist who grew up in England. She taught at secondary schools in France and East Africa and has spent more than half her life in Western Australia. She met Western Desert Walmajarri man Jimmy Pike when*

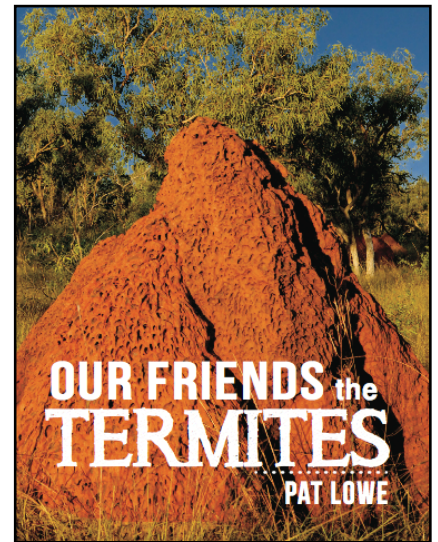


she was working as a psychologist at Broome Prison, and later joined him at his desert camp, where the pair stayed for three years, before moving to Broome. There Jimmy became an artist of international repute and died in 2002. Pat has written a dozen books, many of them in collaboration with Jimmy.”

The publisher, Back Room Press, claims to be the smallest publishing house in Australia and is run by a group of women, one of them the author, headquartered in suburban Broome. They publish books on the Kimberley region, often with an indigenous flavour, and mostly aimed at educating visitors to the region.

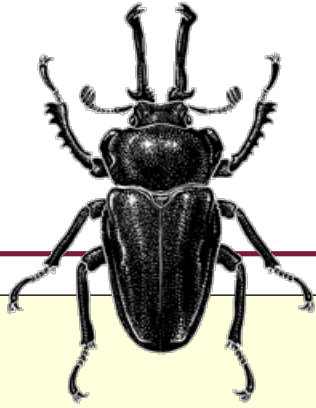
While in Africa, Pat had read Eugene Marais' classic 1973 book, *The Soul of the White Ant*, and it triggered a life long interest in termites. In the Kimberley she found herself surrounded by the spectacular termite mounds for which the region is famous, and Jimmy Pike taught her many of the

traditional uses of termites by the desert people. These included harvesting the swarming alates for food, using mounds as cooking ovens, crushing them to make a slurry for model making and even as a place to bury the dead.



The title of her new book, *Our Friends the Termites*, quickly indicates that her main aim is to dispel the widespread belief that all termites are house-eating pests, and she explains at the outset that the multitudinous giant mounds seen across the tropics of Australia are simply dry grass feeders and an essential part of the nutrient recycling process of the dry tropics. She has also read widely from Wilson's sociobiology theories and Kistner's ideas about termitophiles right through to the modern discoveries about long-distance communication among termites by Hager and Kirchner. She has talked to modern rangeland termite ecologists and has spent long days in the bush herself watching termites, especially during the wet season when mound building activity peaks. She has woven all of this into a quirky little book which stands as a masterly amalgam of fact, culture, biology and history with a bit of philosophy thrown in. She's got it a little wrong in one or two places and the production of photographs could have been better, but there are few authors who could have described from personal experience digging out a litter of feral cats from a hollow termite mound for bush food. It's a book which will tell all of us something we didn't know about Australian termites and I heartily endorse environmentalist Bob Brown's view that: *“this book on termites turns those interminable mounds into pillars of fascination!”*

--Geoff Monteith
Queensland Museum



Announcements and Notices

Seminar Double Header at EcoSciences MONDAY, 13 July starting at 2PM

EcoSciences Seminar Room
EcoSciences Precinct, Boggo Rd

Farming with nature: biodiversity at work for an ecologically intensive agriculture

with Dr Felix Bianchi

Agriculture is facing the challenge to feed a growing world population while reducing the negative effects on the environment and biodiversity. Agroecology offers knowledge-intensive management systems that may improve food security and incomes in the South, and reduce the dependence on external inputs in the North. In this presentation I will discuss the design of agroecosystems that create opportunities for synergies between food production and ecosystem services.

Bio sketch

Felix Bianchi is Assistant Professor at Wageningen University at the Farming Systems Ecology Group. His work focuses on the ecology, conservation and management of arthropods in agricultural landscapes, with special emphasis on pest-natural enemy interactions, spatial ecology, and design of sustainable landscapes that promote ecosystem services. More recently his work has expanded to the design of diversified agroecosystems at the field, farm and landscape scale that capitalize on ecosystem services and are less dependent on external inputs.

Schedule:

2pm Felix Bianchi Seminar

3pm Tea Break

3:15pm Riccardo Bommarco Seminar

4:15pm onwards, nibbles, drinks and socializing

Harvesting fruits of the insects - managing and exploiting beneficial organisms in agriculture

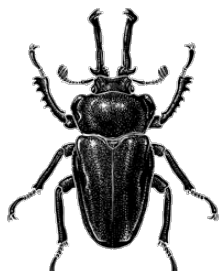
with Dr Riccardo Bommarco

A means for agriculture to better balance productivity with minimising negative impacts on the environment and biodiversity, is by replacing external inputs of agro-chemicals with production-supporting ecosystem services generated within the agroecosystem. I will present long-term trends and drivers for communities of beneficial insects that provide the services crop pollination and biological control of pests, examples of bolstering populations and reversing negative trends, and estimates of their benefits for crop yield under varying conditions.

Bio sketch

Riccardo Bommarco is Professor in ecology and plant protection at the Swedish University of Agricultural Sciences in Uppsala, Sweden. He explores the ecology of biodiversity in agricultural landscapes, with focus on how land use drives the distribution and dynamics of beneficial insects. He assesses how this affects the flow and stability of ecosystem services they provide as pollination, biological control of pests, and crop yield. The information is used to support policies and suggest land management and agronomy that bolster biodiversity, ecosystem services and environmentally friendly productive agriculture.

<http://www.slu.se/ecology/riccardobommarco>



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 Apiomorpha 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>Boring into borer ecology: patterns of damage and potential drivers in eucalypt plantations</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>New phylogenomic perspectives on insect evolution from transcriptome sequencing</i> "
DECEMBER 8	Notes & Exhibits	Notes and Exhibits/Christmas BBQ

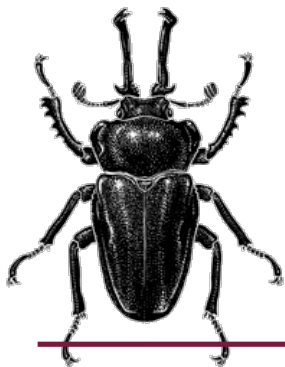
SOCIETY SUBSCRIPTION RATES

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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

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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, August 11th, 2015, 1:00 pm



Guest Speaker:

Valerie Debus

from the

Qld Department of Agriculture and Forestry

will present

**Investigating the drivers of longicorn and
cossid wood borers in subtropical plantations
in Queensland and New South Wales**

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 5 (August 2015)

CONTRIBUTIONS WELCOME

DEADLINE - Wednesday, August 19th, 2015.

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