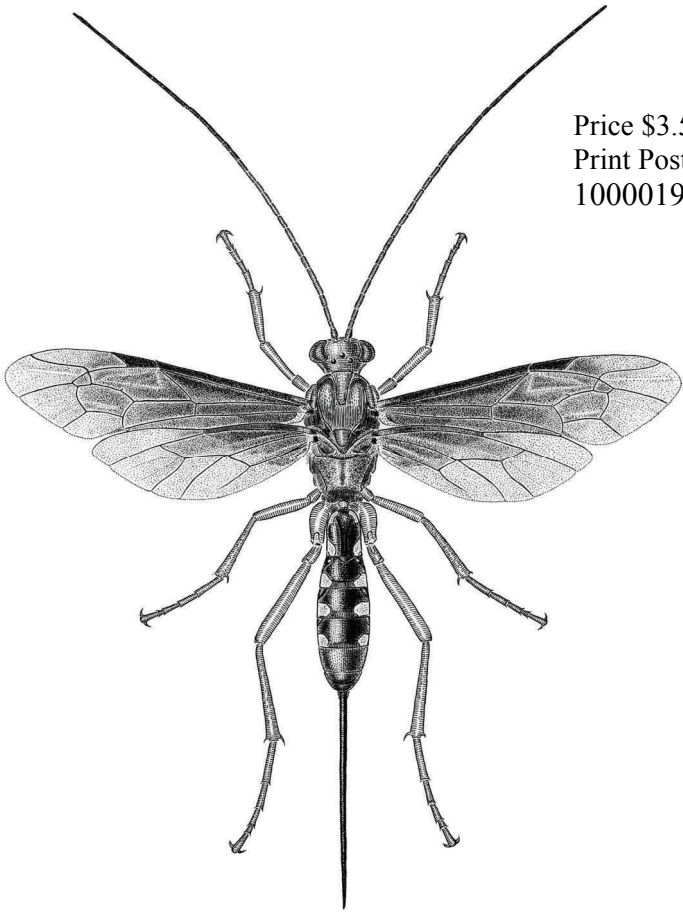
ENTOMOLOGICAL SOCIETY OF QUEENSLAND INC

NEWS BULLETIN



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THE ENTOMOLOGICAL SOCIETY OF QUEENSLAND

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Front Cover Illustration: Ink illustration by William Manley of a female *Lissopimpla excelsa* (Costa, 1864) (Hymenoptera: Ichneumonidae: Pimplinae), a parasitic wasp (image copyright Qld Department of Agriculture, Fisheries & Forestry).

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ENTOMOLOGICAL SOCIETY OF QUEENSLAND
NEWS BULLETIN

TABLE OF CONTENTS

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. 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. 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. It is restricted to the rainforests of northern Queensland.

The Entomological Society of Queensland

Minutes for November General Meeting

Held in the library, Ecosciences Precinct, Boggo Rd, Dutton Park, Tuesday November 12th at 1:00pm

Attendance: *Members:* Lyn Cook, Kathy Ebert, Desmond Foley, David Holdom, Andrew Hayes, Susan House, Christine Lambkin, Simon Lawson, Gunter Maywald, Penny Mills, John Moss, Bill Palmer, Brenton Peters, Don Sands, Helen Schwenke, Owen Seeman, Noel Starick, Kathy Thomson, Geoff Thompson, Desley Tree, Helen Wallace, Susan Wright, Richard Zietek. *Visitors:* Bjorn Fjellstad, Casey Hall, Sarah Maunsell, Hazel Parry, Witmot Senavatore, Tamara Taylor.

Apologies: Chris Burwell, Judy King, Ross Kendall, Morris McKee, Geoff Monteith, Federica Turco.

Minutes: The minutes of the October Meeting were circulated in News Bulletin Vol. 41 Issue 7, October 2013.
Moved the minutes be accepted as a true record: Simon Lawson.
Seconded: Geoff Thompson.
Carried: Unanimously.

Nominations for membership:
The following nominations for Membership were received and approved by Council to begin January 2014, and are put forward for election:

Iain Macaulay, Birchgrove, NSW; nominated by Robert Whyte, seconded by Greg Anderson.
Dr. Albert Orr, Caloundra, QLD; nominated by Geoff Monteith, seconded by Kathy Ebert.

Carried: Unanimously.

General Business:
Note to Permit holders: Permit renewals have been sent out. Please let Christine Lambkin know if you have not received yours. Please send your reports to Christine as soon as possible and no later than mid-December so that she has time to compile the report before the deadline.

Main Business:
Today's guest speaker was Professor Helen Wallace, Associate Dean (Research) and Professor in Agricultural Ecology at the University of the Sunshine Coast, Caloundra. The title of her talk was: Promiscuous plants and strange bee behaviour: reproduction in Australian plants.

Vote of thanks: Brenton Peters

Next meeting: Our next meeting will be on Tuesday, December 10th at 5pm. This will be a Notes and Exhibits meeting followed by a BBQ.

Meeting closed: 1:50pm

WANT TO JOIN THE SOCIETY ?

Visit our website at http://www.esq.org.au/ where you will find nomination forms and full details of fees and addresses. There are also forms for existing members to use to pay their subscriptions. Coming meetings and excursions are listed. Procedures for publishing in our journal, *Australian Entomologist,* are explained with a full Guide to Authors plus forms for taking out a subscription to the journal.

PROMISCUOUS PLANTS AND STRANGE BEE BEHAVIOUR: REPRODUCTION IN AUSTRALIAN PLANTS

Professor Helen M. Wallace
Professor in Agricultural Ecology
University of the Sunshine Coast

Plant Breeding And Pollination

Australian plants have many interesting and unusual ways to reproduce. I am a bit obsessed with Australian plants and it has been a great pleasure for me to study many species over the last 25 years and discover some of their unusual breeding habits.

Most flowers have both male (anthers and pollen) and female (stigma, style and ovary) reproductive organs close to each other. Self-pollination should be easy, but most plants will only breed with themselves as a last resort. Plants recognize any pollen from themselves as "self-pollen" even if it is from a different flower on the same plant. Many plants have complex mechanisms to prevent or reduce self-pollination. In eucalypts up to 70 % of the seedlings are generated by pollen from a different plant- quite an achievement when you consider how many flowers there are on a eucalypt tree that could easily self-pollinate!

Many species such as *Persoonia*, *Macadamia* and *Eucalyptus* are protandrous, i.e., the anther releases pollen before the stigmas are receptive. If they do accidentally self-pollinate most (but not all) self-pollen tubes will get stopped in the style by a chemical reaction and never make it to the ovary. One exception to this is *Boronia falcifolia* which is quite happy to self-pollinate and shows very high levels of self -pollination in the wild.

Pollinators have a critical job to do to move pollen between plants. Most Proteaceae and Myrtaceae are visited by a variety of birds, mammals and insects. There is no special relationship with a particular pollinator - unlike in some orchids where a particular species needs to visit the flower. Many flower visitors may simply be freeloaders and not very effective as pollinators for many of these species. We simply don't know which flower visitors are moving pollen between plants or just moving self-pollen around and getting a free meal of pollen and nectar at the same time.

Promiscuous Plants- Hybridization In The Eucalypts

Much of my research work has been about eucalypt breeding systems and hybrids. Eucalypts are surprisingly promiscuous and have little respect for our ideas of species. They easily form hybrids, sometimes even with distantly related species. Hybrid eucalypts have a lot of promise in horticulture and forestry to create new strains or fast growing trees.

There are many things that can prevent plants from forming hybrids in nature, such as different flowering times, different pollinators, different habitats that are far apart. Pollen from one species may not grow in the flower of another and may not be able to form a seed. If a seed is formed problems may emerge when the embryo or seedling develops and the hybrid seed may not germinate or grow very well. Our research

looked at hybrids between species that occur together in the wild and others that are widely separated and would not normally have the chance to form hybrids. I was surprised to find that we were able to create hybrid seed between Chinchilla white gum, *Eucalyptus argophloia*, and *E. moluccana*, *E. microcarpa*, *E. crebra*, and even more distant species such as *E. resinifera* and *E. pellita*. Some of the naturally occurring trees in our trial look suspicious and we suspect hybrids with *E. crebra* have formed on their own.

Corymbia torelliana is even more promiscuous and hybridises frequently with the spotted gums and (perhaps less frequently) with *C. tessellaris*. There are many recorded cases of hybrids naturally forming in the wild and many windbreak plantings of *C. torelliana* have the odd hybrid with spotted gum that towers over the rest of the trees (Fig. 1). Our research found that many of these natural hybrids produce their own seed. This seed is viable and these trees can be easily backcrossed onto *C. torelliana* or spotted gums (Dickinson et al 2012). We tried crossing even more widely and we got a small amount of seed from some very wide crosses with *C. torelliana* (*C. clarksoniana*, *C. erythrophloia*, *C. trachyphloia*).

Fig. 1. A windbreak planting of normal *Corymbia torelliana* (A) and a hybrid (B) .

Strange Bee Behaviour

C. torelliana also has some other very unusual characters including a very unique relationship with stingless bees. Stingless bees have become more popular as pets. *Tetragonula carbonaria* (formerly *Trigona carbonaria*) is often kept in suburban backyards. In Australia, there are about 10-12 species of stingless bees in 2 genera, *Tetragonula* and *Austroplebeia*.

Stingless bees are social and one of their unique features is their elaborate nest structures, built from a mixture of resin collected from plants and wax which they secrete (Fig. 2). Honeypots, pollen pots, and the batumen (the protective layer that surrounds the internal nest structure) are made mostly from plant resins. Stingless bees must collect large quantities of plant resin for these structures.

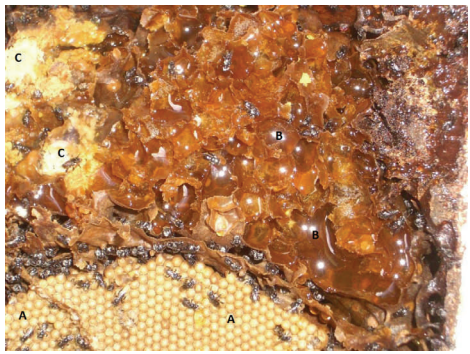


Fig. 2. Stingless bee nest showing brood cells (A), honey pots (B) and pollen pots (C) made from resin.

Many years ago I went into the backyard to check my hive of *T. carbonaria*. I found small red seeds stuck all over the outside of the hive, and especially around the hive entrance (Fig 3). I couldn't figure out how they got there and eventually saw the worker bees bringing in the seeds on their hind legs. This seemed like totally bizarre

Fig. 3. Worker bees and discarded seeds of *Corymbia torelliana* around the entrance of a stingless bee nest (Photo F.Turco).

behaviour for a bee. The seeds are from *Corymbia torelliana*. Bees crawl inside the hollow capsule to collect resin, and seeds sometimes become stuck on the bee. Bees may try to remove the seeds, but many fly back to the hive carrying both seeds and resin. Bees also fly away from the hive to throw away seeds once they have removed the resin.

These seeds are effectively dispersed by bees up to 1km from the parent tree. You will find a nice crop of *C. torelliana* under many wild stingless bee nests and you can often see the bees' flight path by lovely straight rows of *C. torelliana* coming up in the wild! This is the only record of eucalypts that are dispersed by animals- in most species they simply fall out of the capsule, or at best they may be wind dispersed. We described this as a new seed dispersal syndrome, and coined the term "mellitochory" (Wallace & Trueman 1995; Wallace & Lee 2010).

What about hybrids? Are they dispersed by bees? We have looked at hundreds of *C. torelliana* hybrids and most do not have the full suite of features that they need to be dispersed by bees. All have resin but very few have the right smell and dimensions to attract the bees and allow bees to carry the seeds.

Conclusion

I am constantly amazed by what we find in our research and I am still coming to terms with how easily and widely eucalypts hybridize. I have only scraped the surface of research on the breeding systems of Australian plants and their relationships with pollinators and seed dispersers and yet there are so many species that we know nothing about. I hope I have shown you that there is still much to discover about Australian plants.

References

DICKINSON, G. R., LEE, D. J. & WALLACE, H. M. 2012. The influence of pre- and post-zygotic barriers on interspecific *Corymbia* hybridization. *Annals of Botany* doi:10.1093/aob/mcs050 12pp.

WALLACE, H.M. & Lee, D.J. 2010 Resin-foraging by colonies of *Trigona sapiens* and *T. hockingsi* (Hymenoptera: Apidae, Meliponini) and consequent seed dispersal of *Corymbia torelliana* (Myrtaceae). *Apidologie* 41(4): 428-435.

WALLACE, H.M & TRUEMAN, S.J. 1995. Dispersal of *Eucalyptus torelliana* seeds by the resin-collecting stingless bee, *Trigona carbonaria*. *Oecologia* 104: 12-16.

REPORT OF FRANKE SCRUB BUGCATCH, OCTOBER 12, 2013

By Kathy Ebert & Christine Lambkin
BugCatch Coordinators.

The latest BugCatch event was held at Franke Scrub, on the outskirts of Highfields, 15 km north of Toowoomba and was organised in conjunction with Trish Gardiner (Friends of Franke Scrub, Friends of Peacehaven Botanic Park), Chris Lambkin (Queensland Museum), and Kathy Ebert (UQ School of Biological Sciences, University of Queensland). It was a field trip for the UQ Insect Science and Terrestrial Invertebrate university courses (Fig. 1), as well as a QM Backyard Explorer Community Event.

Franke Scrub is part of the road reserve, and has a remarkably high biodiversity level with 37 dry rainforest tree species, 18 types of shrub, 14 or more climbers, and a range of understorey plants all preserved in a relatively complete ecosystem. The area is a rare remnant of what was once one of the most common vegetation types where the City of Toowoomba now stands. It is an example of the endangered regional ecosystem 12.8.21 (Semi-evergreen vine thicket on Cainozoic igneous rock.). A nearby farm dam gave opportunity for some aquatic collecting (Fig 2).

Malaise traps, pitfall traps, and coloured pans were set up beforehand by Chris Lambkin and Noel Starick at two sites, one on an edge of Franke Scrub and the other within the Scrub at the base of the gully. Geoff Monteith set up a flight intercept trap and baited pitfalls on the day. Federica

Fig. 1. UQ staff Penny Mills (front left), David Merritt (third from left) and Kathy Ebert (at table) riding herd on a large student group at the BugCatch day. The margin of Franke Scrub is visible on right.

Turco demonstrated bark spraying of tree trunks and vines (Fig. 3). Chris Lambkin, Wes Jenkinson, and Geoff Monteith collaborated to run two light sheets after dark (Fig. 4). Sweep netting, beating, and hand searching were used.

Fourteen community members participated in 8 invertebrate collection methods and took comparative samples from the two sites as part of the Backyard Explorer program. Twenty-five UQ students and 8 ESQ members joined the Backyard Explorer community group at St. Anne's Anglican Church Hall, Highfields to identify and count their comparative samples to Order (Fig. 5), and the data was loaded into the Backyard Explorer Collation Tool by Chris Lambkin (results available at http://goo.gl/M8ASZ). 654 specimens were collected from the edge site, and 735 specimens from the gully site, within Franke Scrub, both samples included 15 Orders.

Helen Schwencke gave a presentation on her range of posters which promote

Fig. 2. ESQ members, Declan and Greg Leahy, catching dragonflies.

Fig. 3. Federica Turco (facing group) demonstrates bark-spraying to students inside Frank Scrub.

Fig. 4. UQ postgrads, Fan Liang and Xin Yang, catching insects at the light sheet.

Fig. 5. UQ students, Lixin Soh (centre) and Christopher Gaitu (right) help community members to identify and count specimens from the Franke Scrub survey.

growing food plants for butterflies (Fig. 6). Helen was the founder of the Butterfly and Other Invertebrates Club in 1992 and President until 2006. She actively promotes community interest in butterflies through her website at www.earthling.com.au/

Interesting catches of two genera of mantispid lacewings, four species of Carabidae, Chrysomelidae, a termite nest dwelling dynastine beetle *Cryptodus*, a beautiful scale covered *Leperina* beetle from the Family Trogossitidae, scale insects, and three species of stiletto flies were noted and lists of species collected will be supplied through the Backyard Explorer program to the Friends of Franke Scrub and Friends of Peacehaven Botanic Park.

~

Fig. 6. Helen Schwencke with two of her butterfly life history posters.

NOTICE FOR ESQ COLLECTING PERMIT HOLDERS

As of mid November 2013 I sent out an endorsed ESQ collecting permit (WITK10612112 and TWB/03B/2012) with an extended list of protected areas (180 reserves as of October 2013) to the 90 members with a current permit. If you have not received it please let me know.

Your reports are due mid December 2013 so that I can amalgamate them in order to submit the ESQ report in January. If you do not collect anything, you still need to send me an email/fax/letter saying - NULL report.

Please note that there are new conditions attached to these permits. In particular:
As of November 2013, prior to commencing work in protected areas in Queensland, the ESQ member endorsed on the Entomological Society of Queensland Collecting Permit MUST COMPLETE a SEPARATE on-line form for EACH park or reserve to be entered at http://www.nprsr.qld.gov.au/licences-permits/commercial/research-field-work-form.php at least 7 days (more is better) prior to entering the park, giving actual times and proposed locations on the reserve. You are to fill out the forms with 'Christine Lambkin' under the 'Authority Holder' and YOUR name, phone number, and email address in 'Contact Details'. You are also to request a notification email to be sent to you, which you then send to Christine Lambkin.

Christine Lambkin
ESQ Permit Officer
Queensland Museum
South Brisbane, Qld 4104
tel 07 3840 7699 | fax 07 3846 1226
Email christine.lambkin@qm.qld.gov.au

SHED A TEAR FOR THE CSIRO LONG POCKET LABORATORIES

A recent visit to the once beautiful site of the former CSIRO Long Pocket Labs shows the buildings have been completely demolished. The picture is taken through the old fence on the riverbank side of the main building. The palm trees remain where they grew in the old rear terrace area, where many a pleasant Xmas breakup of ESQ was held. The sign tells it all.

REPORT ON THE LEICHHARDT SYMPOSIUM, 23-24 OCT 2013

By Geoff Monteith, Queensland Museum

The Leichhardt Symposium, held at the University of Queensland on 23-24 October to commemorate the 200th anniversary of the birth of the German explorer/naturalist Ludwig Leichhardt, was a great success and featured a two day line up of Australian and German speakers on biodiversity topics. It was opened by UQ Vice-Chancellor Peter Hoj and then addressed by the German Ambassador Christoph Müller, with Queensland Governor Penelope Wensley in the front row. Queensland Museum Director, Susan Miller, launched three special volumes of the *Memoirs of the Queensland Museum* which have been published to commemorate the occasion. The first two are published in the Museum's Cultural series (Vol. 7, Parts 1 & 2) and cover unpublished diaries of Ludwig Leichhardt and interpretations of his contributions. The third volume (Vol. 58 in the Nature series) is a collection of taxonomic papers by authors around the world who dedicate their work to Leichhardt's memory. This volume was a heroic effort by QM Research Fellow Barbara Baehr (Fig. 1) who made it happen in a little over six months from first idea to volume in hand. It includes 18 separate papers describing 9 genera and 123 new species, of which 2 genera and 18 species are named after Ludwig Leichhardt himself. Groups and authors covered in the entomological papers are: beetles (M. Baehr, Bartlett, Monteith, Storey), millipedes (Mesibov), pseudoscorpions (Harms), mites (Seeman), spiders (B. Baehr, Lopardo, Michalik, Ott, Platnick, Harvey, Raven, Smith), thrips (Mound, Tree) and leaf-hoppers (Dai, Fletcher). Barbara delivered a coup by

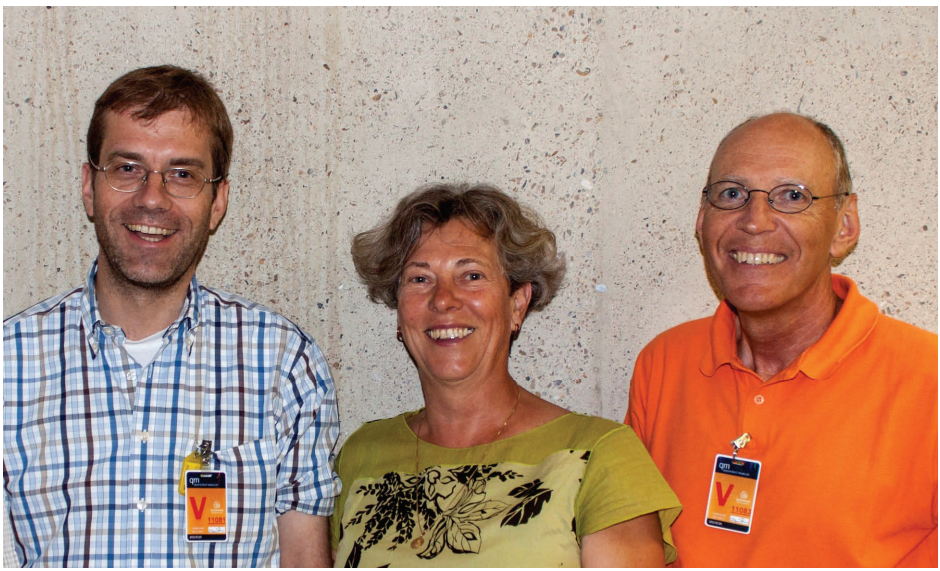


Fig. 1. (L-R). Alexander Riedel (Natural History Museum of Karlsrue), Barbara Baehr (Queensland Museum) and Roland Gerstmeier (Technical University of Munich).

meeting personally with Ludwig Leichhardt in Germany and arranging for him to write a special foreword for the volume, though this Ludwig was the great-great nephew of the original explorer! The two Culture volumes (7, part 1 & 2) are available for $65 and $25 respectively ($80 for both) but the Nature Vol. 58 ($80) has sold out. Check the QM website for news of possible reprinting at http://www.qm.qld.gov.au/About+Us/Publications

Two German coleopterists visited Brisbane for the Leichhardt Symposium (Fig. 1). Dr Roland Gerstmeier, from the Technical University of Munich, is a world authority on the Cleridae and he presented a paper on the status of their higher classification. He has recently co-authored a revision of the Australian/New Guinea genus *Eunatalis* which is famous because it contains the largest known members of the family (Gerstmeier & Seitner, 2013; Fig 2). Roland did a bit of field work and spent time with Justin Bartlett (DAFF) who also works with clerids. Alex Riedel, from Karlsrue University, works with the

Fig. 2. *Eunatalis titana* (L) and *E. villosa* (R) (from Gerstmeier & Seitner, 2013).

Fig. 3. *Trigonopterus viridescens* from New Guinea (from Riedel *et al,* 2013).

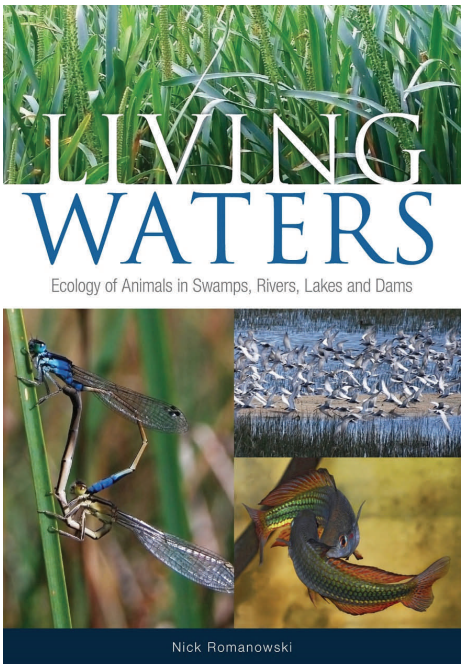
cryptorhynchine weevil genus *Trigonopterus* which is mega-diverse in New Guinea and Wallacea and he has done extensive field work in that region (Riedel et al. 2013; Fig 3). Australia has a few described species and he found many more when sorting the QM collection. Alex is planning a big Queensland field trip with a student for next March and got a lot of advice on conditions and localities from Geoff Monteith.

References

GERSTMEIER, R. & SEITNER, M. 2013. Revision of the checkered beetle genus *Eunatalis* Schenkling, 1909 (Coleoptera: Cleridae: Clerinae). *Zootaxa* 3698(1): 1-77.

RIEDEL, A., SAGATA, K., SURBAKTI, S., TÄNZLER, R. & BALKE, M. (2013) One hundred and one new species of *Trigonopterus* weevils from New Guinea. *ZooKeys* 280 : 1–150, doi: 10.3897/zookeys.280.3906

NEW BOOK



Living Waters: Ecology of Animals in Swamps, Rivers, Lakes and Dams

By Nick Romanowski, CSIRO Publishing, ISBN 9780643107564, October 2013, 304 pages, 245x170mm, colour illustrated. $ 39.95. Available at: http://www.publish.csiro.au/nid/20/pid/6961.htm

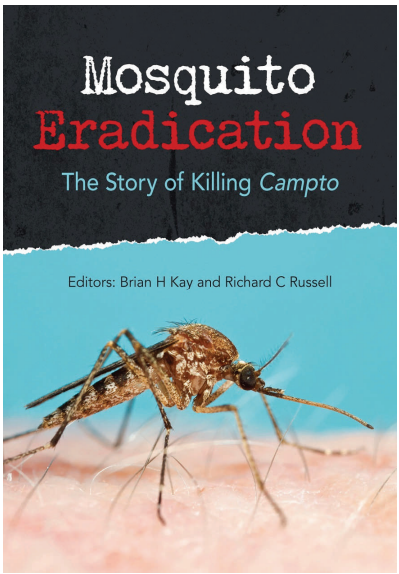
Wetlands are often seen as the ultimate symbol of beauty and tranquillity, their clear waters sheltering mysterious animals in a world where change is gentle and slow, from dragonflies skimming above their own reflections to the fishes glimpsed briefly below. Yet Australian wetlands are among the most varied and changeable habitats found anywhere, and the many creatures that live out their lives in and around water are superbly adapted to some of the most unpredictable ecosystems in the world.

This book follows the diverse common themes and patterns that link inland waters from Tasmania to the tropics. It shows how cycles of change, the ways that different wetland animals travel through and between wetlands, and the interactions of the animals themselves create an ever-changing ecological kaleidoscope. Drawing on what is known of the biology, ecology and even the genetics of many of the most abundant, widespread and successful groups of animals, the author shows similarities to wetlands in other parts of the world, as well as some of the more extreme environments and specialised animals that are unique to this continent.

Far more than a natural history, *Living Waters* explains the underlying forces that drive ecological change and movement in Australian wetlands, from the particular needs and habits of some specialised waterbirds to swarms of dragonflies and damselflies that may flourish for a few months before disappearing for years, and fishes found gasping in drying pools far from the nearest permanent water just hours after a desert deluge.

The author is a zoologist, writer and photographer who has been fascinated by all forms of aquatic life from a young age. In the course of researching interactions between plants and animals, he established Australia's first indigenous wetland nursery, giving him the freedom to research, experiment with and write about a broad range of animals from across most of this continent. He has written numerous articles on indigenous fishes and aquatic invertebrates, as well as many books including three recent practical guides from CSIRO PUBLISHING: *Planting Wetlands and Dams*, *Wetland Habitats* and *Wetland Weeds*.

NEW BOOK



Mosquito Eradication: The Story of Killing Campto

Edited by Brian Kay and Richard Russell, CSIRO Publishing, ISBN 9781486300570, November 2013, 280 pp, 245 x 170 mm, illustrated, AU$69.95. Available from: http://www.publish.csiro.au/nid/20/pid/6961.htm

In 1998, the Southern Saltmarsh Mosquito *Aedes camptorhynchus* ('*Campto*') was accidentally transported from Australia to Hawke's Bay on New Zealand's North Island, from where it dispersed to another 10 localities mainly on the North Island. After an investment of NZ$70 million over 10 years, this saltmarsh carrier of Ross River virus was eradicated in a world-first program which surprised many.

How did it get there? How did it spread? How did the team cope when it arrived at Kaipara Harbour, said to be the largest harbour in New Zealand? This book draws together the entire unprecedented campaign, uncovering the twists and turns and along the way. Written in an approachable way, it dissects a successful campaign in a way that gives guidelines for tackling similar problems anywhere in the world.

This is a symposium volume with 13 chapters contributed by a total of 36 authors, and is co-edited by Dr Brian Kay who heads the Mosquito Control Laboratory at Brisbane's Queensland Institute of Medical Research, and Professor Richard Russell of University of Sydney who is founding Director of the Department of Medical Entomology at Westmead Hospital. The Chapters are as follows: Chapter 1: How it was before: historical perspectives on receptivity and risk *(Kay, Gardner, Browne)*. Chapter 2: Strategy development and refinement at Hawke's Bay *(Garner, Watson, Dowler, McGinn, Sullivan, Kay)*. Chapter 3: From the top: who's paying for this? *(Gilbert, Forsyth, Gear, Sullivan,Yard)*. Chapter 4: Listening to the experts – the advice that drove the national programme *(Gilbert, Forsyth, Gear, Sullivan, Yard)*. Chapter 5: Who knows how to do broadscale aerial control of mosquitoes? *(McGinn, Sullivan)*. Chapter 6: Coming to grips with ProLink XR-G at Hawke's Bay *(Kay, Brown, Browne, Thomson)*. Chapter 7: Pathways of entry and mosquito dispersal *(McFadden, Mackereth, Kleinpaste, Sanson, Beebe, Gradwell, Bullians, Frampton)*. Chapter 8: Camp Kaipara – a mosquito or programme death camp?*(Gradwell, Singe, Maclaren, Crarer, Taylor, Disbury)*. Chapter 9: Developing detection and surveillance *(Mackereth, Singe, Disbury, Gilbert, Watson, Williams, Cane, Ritchie)*. Chapter 10: The national exotic saltmarsh mosquito surveillance programme *(Singe, Disbury, McGinn)*. Chapter 11: Maintaining environmental integrity in invasion areas *(Helen Gear, Travis R. Glare and Maureen O'Callaghan)*. Chapter 12: Communications and cultural issues *(Gardner, Aldridge, Gradwell)*. Chapter 13: Reflections on a successful eradication programme *(Russell, Dowler, Gardner, Gilbert, Stone)*.

LAUNCH OF NEW BIRDWING BOOK

Fig. 1. Gary Fitt (L) and Don Sands at the book launch.

Conservation of the Richmond Birdwing Butterfly in Australia

By Don Sands and Tim New, 2013, Springer, 209 pp. 53 figs incl. 36 in colour, ISBN 978-94-007-7170-3, eBook 118.99 €, Hardcover 139.99 € . Available from: http://www.springer.com/life+sciences/ecology/book/978-94-007-7169-7

Dr Gary Fitt, CSIRO Director of Biosecurity, launched this new book at an afternoon function at the Ecosciences Labs in Brisbane on November 22. Author Don Sands (Fig. 1) was there to respond on behalf of himself and absent co-author, Tim New, of Latrobe University. Jacquie Seal (Q.NPRSR) is running an experimental breeding program on the Richmond Birdwing at Fleay's Sanctuary at Currumbin under direction of Dr Ian Gynther (Q.EHP) and they both brought some livestock to the occasion (Fig. 2).

The book deals with one of longest insect conservation campaigns in Australia and involved the major iconic species, *Ornithoptera richmondia,* which has been subject to strong public interest. The species has been threatened by both clearance and fragmentation of subtropical rainforest in eastern Australia and the spread of an alien and poisonous larval food-plant. It was thus lost from much of its former range during the twentieth century. The innovative community involvements provide many lessons for similar exercises in other parts of the world. Its recovery has focused on habitat restoration and weed eradication, in conjunction with conservation of remaining forest fragments. The work involved the entire historical range of the butterfly, and has emphasised landscape connectivity, enhanced through extensive plantings of native food plants. Interest has been maintained through extensive publicity, community education and media activity, and the programme has provided many lessons for advancing insect conservation practice in the region. This summary of the extensive scientific and public aspects of this innovative insect conservation effort, emphasises the many different factors that can influence community interest and practical outcomes.

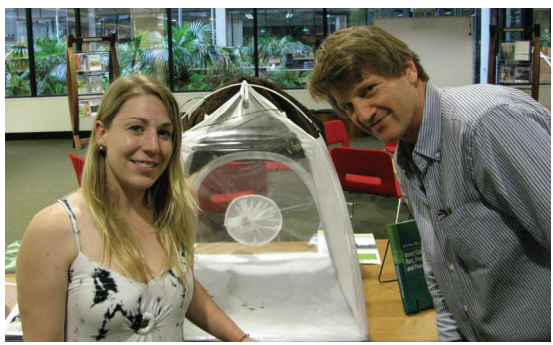


Fig. 2. Jacqui Seal (L) and Ian Gynther with a coy, caged, female birdwing at the book launch.

INSECTS IN THE FIGHT AGAINST CAT'S CLAW CREEPER

By Liz Snow and Dhileepan Kunjithapatham
Biosecurity Queensland
(liz.snow@daff.qld.gov.au)

A weed of growing importance in Queensland is the vine known as cat's claw creeper. Of South American origin, it is now known as *Dolichandra unguis-cati* (Bignoniaceae) though it has often been referred to the genus *Macfadyena* in the past. It is a woody climber which rapidly grows to the canopy and has the potential to completely smother native vegetation (Fig. 1). It is a common garden pest in Brisbane. The leaves have two leaflets, with a three-clawed tendril growing between them (Fig. 2). This tendril is the origin of both common and scientific names of the vine; *unguis-cati* literally means "claw of the cat". Its brilliant, yellow, tubular flowers are produced in the spring (Fig. 3). These lead to long, flat pods which shed numerous winged seeds carried by the wind. When cut, the vine readily sprouts from underground root tubers. It is a Class 3 Declared Pest Plant in Queensland as is listed as a Weed of National Significance under Commonwealth legislation.

A new biological control agent against cat's claw has recently been released in Queensland and is currently being bred in large numbers at the Ecosciences labs, Boggo Road. It is a tiny buprestid beetle called *Hylaeogena jureceki* Obenberger (Fig. 4) and our stocks came via South Africa, where it has also been released, and are derived from original collections made by South African biocontrol entomologists

Fig. 1. A serious infestation of cat's claw creeper.

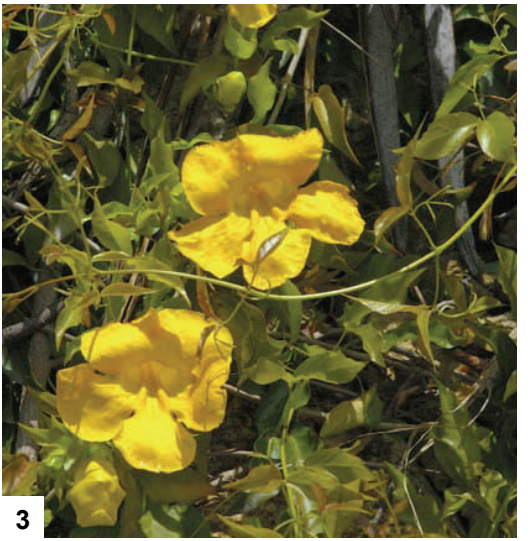


Fig. 2. Leaflets and 3-hooked tendril of cat's claw. **Fig. 3.** Flowers of cat's claw. **Fig. 4.** Adult of *Hylaeogena jurecki* (Buprestidae). **Fig. 5.** Leaf of cat's claw with larval mines and circular pupal chambers of *Hylaeogena jurecki.* One chamber contains a pre-pupal larva. Larval frass is visible inside the mines. Narrowed mine at top right tapers to site of hatching egg. **Fig. 6.** An adult and many nymphs of the tingid bug, *Carvalhotingis visenda.*

Fig. 7. Adult moth of *Hypocosmia pyrochroma* (Pyralidae). **Fig. 8.** Leaf-tying larva of *Hypocosmia pyrochroma* exposed by parting the webbed leaves of cat's claw.

in Brazil and Argentina (Dhileepan et al, 2013). The first Queensland releases were made in August 2012 and releases and monitoring are ongoing with approximately 26,000 insects released so far. It has been released at 34 sites (by our department) in addition to releases by Landcare groups and Councils who are also breeding and releasing the insects. So far, the insect has been released from the Gold Coast to as far north as Yeppoon.

Hylaeogena jureceki is a leaf mining buprestid that lays its eggs around the underside of leaf margins. The hatching larvae bore into the mesophyll layer and then progressively burrow through the leaf, finally pupating in a round disc-like case between the upper and lower leaf surfaces (Fig. 5). This life-cycle takes approximately 2 months to complete. The newly emerged adults are particularly fond of the soft new tips for their first meal. It is hoped that this insect will slow the progress of the plant, perhaps by limiting flowering and seed production. It is still too early to predict whether establishment will be successful. We would be happy to hear from anyone who finds *H. jureceki* damage as this may help us establish the spread of the insect. Likewise, if you know of any terrible cat's claw infestations that we may not have reached yet, please let us know.

Previous insects released on cat's claw creeper include the tingid C*avalhotingis visenda* Drake & Hambleton (Tingidae) (Fig. 6) and the leaf-tying moth *Hypocosmia pyrochroma* Jones (Pyralidae) (Figs 7 & 8), both released in 2008. The tingid has been successful in some areas, causing widespread leaf damage, particularly during the cooler months. Unfortunately the leaf-tying moth has not been successful and we are still monitoring for any signs of the distinctive larval damage. We would be interested to hear from anyone who thinks they may have seen this kind of damage on cat's claw creeper (Fig. 8).

We are grateful to Justin Bartlett for taking the close-up picture of *Hylaeogena jurecki.* A leaflet with further information on the cat's claw problem, including recommendations for chemical control, is available at http://www.daff.qld.gov.au/__data/assets/pdf_file/0003/63336/IPA-Cats-Claw-Creeper-139.pdf

Reference

DHILEEPAN, K., TAYLOR, D.B.J., LOCKETT, C. and TREVINO, M. 2013. Cat's claw creeper leaf-mining jewel beetle *Hylaeogena jureceki* Obenberger (Coleoptera: Buprestidae), a host-specific biological control agent for *Dolichandra unguis-cati* (Bignoniaceae) in Australia. *Australian Journal of Entomology* **52**: 175-181.

Entomological Society of Queensland 2014

$500 Student Award

This is an award by the Society to encourage entomological research. Entries are judged by a panel of three entomologists appointed by the president of the Society. The winner will be announced at the May 13 General Meeting and is then invited to present a summary of their research at the June 10 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 2013 or 2014 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 Bill Palmer at bill.palmer@daff.qld.gov.au

Closing date for submissions is Friday 11th April 2014

Entomological Society of Queensland

2014 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)

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Signature_____ Date_____

Send a copy of your thesis/report with a signed and completed entry form to:
Senior Vice-President of the Entomological Society of Queensland
by email : bill.palmer @daff.qld.gov.au
or by mail: Bill Palmer
DAFF Entomology
2C Ecosciences Precinct
GPO Box 46
BRISBANE. Q. 4001.

DIARY DATES 2013

Nine general meetings held per year on the 2nd Tuesday of the respective month

MAR—Tuesday 12th	Geoff Thompson	AGM and President's Address
APR—Tuesday 9th	Michael Ramsden	*Sirex* wood wasps in Queensland
MAY—Tuesday 14th	Dr Mike Furlong	Plant responses to herbivory: complex interactions between parasitoids, predators and prey
JUN—Tuesday 11th	Notes & Exhibits / Student Award Presentation	
AUG—Tuesday 13th	Dr. Doland Nichols	Bell Miner associated dieback of eucalypt forests
SEP—Tuesday 10th	Dr. Ken Walker	Perkins Memorial Lecture "My Digital Evolution and its Consequences"
OCT—Tuesday 8th	Prof. Mandyam V. Srinivasan	More than a honey machine: vision and navigation in honeybees and applications to robotics
NOV—Tuesday 12th	Prof. Helen Wallace	Promiscuous plants and strange bee behaviour: reproduction in Australian plants
DEC—Tuesday 10th	Notes & Exhibits and Xmas BBQ	

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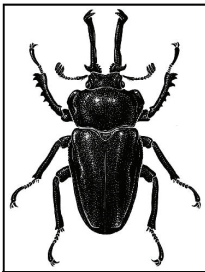

THE ENTOMOLOGICAL SOCIETY OF QUEENSLAND

NOTICE OF NEXT MEETING

Tuesday 10th December 2013, 5.00 pm

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Notes and Exhibits Meeting Followed by Xmas BBQ

Speakers will include:

Christine Lambkin & Noel Starick (QM) "Mass emergence of moth lacewings"
Geoff Monteith (QM) "Feeding and mating in an unusual shield bug"

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Seminar Room 1
Ground Floor, Ecosciences Precinct
Boggo Road, DUTTON PARK

BBQ cost $5.00, drinks available for purchase.
RSVP to Bradley.Brown@csiro.au by end of Friday 6 Dec

More venue details available at
http://www.esq.org.au/meetings.html
ALL WELCOME

NEXT NEWS BULLETIN
Volume 41, Issue 9 (January 2014)
CONTRIBUTIONS WELCOME
DEADLINE - Wednesday December 18, 2013
Send your news/stories/notices to
geoff.monteith@bigpond.com