



## Welcome to our second issue of 2016

David Yeates, Director

This issue has been delayed because many ANIC staff attended the International Congress of Entomology during the last week of September, and we wanted to include a report from the conference in this issue. Most importantly, Adam Ślipiński was awarded the Westwood Medal in a ceremony at the Congress. ANIC staff have received two of the five Westwood medals awarded so far, which is an incredible achievement

This issue also includes introductions for two new members of staff, our new hymenopterist Dr Juanita Rodriguez, and a biosecurity entomologist Thomas Wallenius. Juanita is a native of Colombia, but comes to us via PhD and postdoctoral studies in the USA. Thomas Wallenius is native born, completing his PhD on cycad weevils a few years ago, supervised by Professor David Rowell and Rolf Oberprieler. In addition, ANIC welcomes Dr Michael Braby as a Visiting Scientist in the collection. Michael worked in the ANIC many years ago producing a two volume monograph on Australian butterflies, so it is a homecoming. Michael intends to continue his research activities on butterflies and is also the chief editor of the journal *Austral Entomology*. We are very happy to welcome these new and important members to the ANIC team.

Again, the past months have been full of action in ANIC. Postdoc Bryan Lessard has been busy establishing anchored hybrid enrichment in the molecular lab and he has also found time to give a TED<sup>x</sup> talk as well. There is an article about his talk in this issue. Cate Lemann, our research technician in the

Coleoptera reports on a recent trip to Sun Yat-sen University in Guangzhou. Her visit strengthens the links between the ANIC and China. Andreas Zwick was invited to instruct overseas at workshops in China and Ecuador. You Ning Su reports on his June visit to increase digital imaging capabilities in Lao PRD and Thailand. Adam Ślipiński and Cate also hosted three Australians and one New Zealand Entomologist for a two-week intensive training course in longicorn beetles (Cerambycidae) identification during August. Ted Edwards also reports on his recent and very productive visit to North Queensland, hosted by David Rentz.



David Yeates

In addition, during the past few months, the ANIC has hosted His Excellency the High Commissioner of the Republic of Singapore, Burhan Gafoor, CSIRO's CEO Dr Larry Marshall, Australia's Chief Scientist, Dr Alan Finkel and our new Minister for Industry, Innovation and Science, The Hon Greg Hunt, MP, who viewed specimens from the collection.

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## Welcome Juanita, our new hymenopterist

Federica Turco

We at the ANIC are happy to announce a new addition to our team and to welcome Juanita Rodriguez Arrieta as our new Research Scientist, specialising in Hymenoptera.

Juanita has been working on Hymenoptera systematics since 2005. She obtained her B.Sc. and M.Sc. degrees at Universidad Nacional de Colombia. She worked on ant systematics for her undergraduate and Master's theses. After completing her M.Sc. in 2008, she moved to the United States to pursue her Ph.D. working on spider wasps (Hymenoptera: Pompilidae) molecular phylogenetics and evolution. In 2014 after obtaining her Ph.D. degree she moved to Alabama to work on the phylogenomics of spiders (Araneae) and millipedes (Diplopoda) using transcriptome data.

Juanita's research focuses on the use of morphological and molecular phylogenetics to study the systematics and evolution of arthropods. Her research is a fusion of several components that use arthropod phylogenies to:

- 1) examine the timing of lineage divergence to infer the processes leading to their actual geographic distributions,
- 2) determine the distribution of ancestral traits to test hypotheses of character evolution,
- 3) investigate their taxonomy
- 4) develop tools for the analysis of phylogenetic data.

In particular, she has worked with little-known groups such as spider wasps (Pompilidae) and millipedes (Diplopoda), as well as diverse, ecologically relevant groups, for example, the ants (Formicidae). She has also collaborated on projects about salamanders (*Pseudotriton*), bumble bees (*Bombus*), beetles (*Onymacris*) and spiders (Araneae).



Juanita in the field at Tembe Elephant Park, South Africa



Juanita in her new office

Throughout her career, Juanita has worked with arthropod collections and has used museum specimens to obtain molecular and morphological data for her studies. As the largest collection of Australian insects, ANIC will provide a foundation for answering broad questions of evolutionary biology compatible with Juanita's research program. As part of her research in CSIRO Juanita plans to: use morphological and molecular phylogenetic techniques to study select groups in

need of revision (e.g. Pompilidae, Mutillidae, and Formicidae), examine the processes that lead to the current distribution of the Australian biota, in particular, the effect of older vicariance events relative to more recent dispersals, explore the evolution of mimicry complexes in Australian insects, and collaborate with other CSIRO staff, and researchers in Australia and worldwide to develop phylogenies of various taxa, especially in poorly-studied groups.

## Welcome Thomas, our new DAWR Liaison Officer

Federica Turco

Dr Thomas Wallenius has recently been recruited as Senior Entomologist/CSIRO Liaison Officer by the Department of Agriculture and Water Resources (DAWR) to work in the ANIC. Many people may know Thomas from his previous work with CSIRO and, if you haven't already, please make him feel welcome. The following is a little of what Thomas had to say about himself:

"I completed my PhD in 2013 with a research focus on the obligate pollination mutualism between weevils and cycad host plants. This research investigated heat and scent production in the plants, and their effects in mediating behaviours of the pollinating insects. During and since completing my PhD I have had strong involvement with CSIRO and ANIC, the Australian Biological Resources Study and in teaching Entomology and Invertebrate Zoology at the Australian National University."

"Some of my most interesting research has investigated insect olfaction and the neuroethological bases of insect behaviour in pollination. This was largely achieved using a method known as electroantennography (EAG), which relies on using measures of electrical activity of antennal neurons in response to plant scents to determine their biological relevance."

"I have been extremely lucky to be involved with some great people and research groups at the ANU and CSIRO, and to expand on my background in pollination biology, chemical ecology and invertebrate biology. Since my PhD, I have furthered my work and study on the taxonomy and range of terrestrial and marine invertebrates, phylogeography of mygalomorph spiders, freshwater ecology, and coevolutionary processes of plant-insect mutualisms. My current work with the Department of Agriculture and Water Resources has expanded my fascination of the important role that invertebrates play in global economics and politics."



Thomas collecting in Tallaganda State Forest, NSW

Thomas's new role with the department has a strong biosecurity focus and sees him being largely responsible for coordinating identification referrals of pest invertebrate interceptions with research entomologists at CSIRO and around Australia. Thomas joins forces with Graham Teakle to continue this important work.

## OUR CHINESE STUDENTS



Congshuang Deng is a doctoral student from Sun Yat-sen University, Guangzhou, China. She is working on the taxonomy of fossils of the beetle family Zopheridae and some related groups of beetles and is visiting ANIC and working with Adam Slipinski for three months.



Xiao Zhang is from the Key Lab of Insect Evolution and Environmental Changes, College of Life Sciences, Capital Normal University, Beijing, China. She studies the classification and phylogeny of Homoptera and is visiting ANIC for three months.

## A welcome to ANIC for Michael Braby and his *A Field Guide to Australian Butterflies*

Ted Edwards

Simultaneously with the publication of the second edition of *A Field Guide to Australian Butterflies* the author, Michael Braby, joined the ANIC as a Visiting Scientist. Michael has had a very distinguished career in butterfly studies, completing an Honours degree with Tim New at La Trobe University and then a PhD with Rhondda Jones at James Cook University, where he studied the seasonal changes in butterfly populations and wing patterns. There followed a period of five years at ANIC, during which Michael wrote the classical, two-volume major work on Australian butterflies published by CSIRO Publishing in 2000. He then spent two years in the Pierce Lab. at Harvard on a Fullbright Fellowship and then four years at ANU on an ARC grant studying the systematics, host plant evolution and biogeography of the butterfly family Pieridae, including the enormous genus *Delias*.

Michael then moved to the Northern Territory Department of Conservation and Land Management, where he led the Invertebrate Section. This included an interlude of several years during which he was seconded to the Northern Territory Museum in Darwin.

While in Darwin, often in his own time, he pursued butterflies, and some moths, pioneering studies of many rare and poorly understood species previously known only from brief visits by interstate entomologists. He participated in the rediscovery of *Attacus wardi* (Saturniidae), the only known Atlas Moth in Australia, and similarly with *Ogyris iphis doddi* (Lycaenidae). He rediscovered and elucidated the biology of the skipper *Croitana aestiva* (Hesperiidae) and resolved the taxonomy/biology of the poorly known spp. such as *Appias albina*, *Delias aestiva* (Pieridae), *Danaus chrysippus* (Nymphalidae) and *Taractrocera ilia* (Hesperiidae) in Australia.



Territorian Michael

He developed a love for the noctuid subfamily Agaristinae and is now studying these moths, including several undescribed species of the whistling moth. The appearance in Australia of the Sri Lankan butterfly *Acraea terpsicore* (Nymphalidae) led Michael to track its movement across South East Asia and into Australia near Darwin and its subsequent spread across northern Australia. As his work progressed, Michael's reputation grew in stature and he now has the responsible, honorary position of Chief Editor of the journal *Austral Entomology*. Michael has a massive list of top-notch publications to his credit.

After the success of the first *Field Guide* Michael was contracted for a second edition, which appeared last April. A

glance at the two editions will emphasise the great increase in knowledge from the first edition, to which Michael has been a massive contributor.

During his period in Darwin, Michael generously contributed to the ANIC specimens of some of the species he studied. He maintained very close contact with us and showed his appreciation of his links with ANIC in several ways, including the dedication of this second edition to Ted.

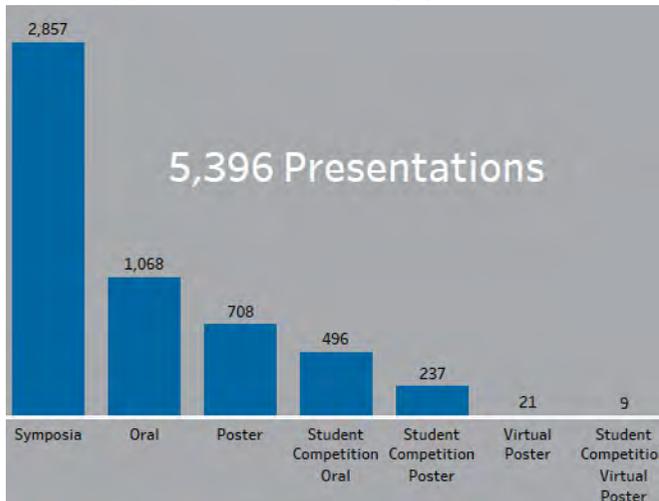
This is not a book review, but we all know that a production by Michael will be first class.

Welcome back to ANIC, Michael.

## The International Congress of Entomology and the Westwood Medal

David Yeates and Federica Turco

Seven members of staff from ANIC travelled half way around the world to attend the XXV. International Congress of Entomology (ICE) in Orlando, Florida from September 25-30. Orlando is probably better known for Disneyworld and other theme parks, but it also boasts some of the largest convention centres in the world. Before the meeting it was generally felt that this Congress would be the largest gathering of entomologists for a generation, and the organisers were not disappointed, with a staggering 6682 delegates from 102 countries in attendance. The Convention Centre housing the Congress is huge, and accommodated the ICE with ease. Staff of the venue travel around on segways - it is too big to walk. Orlando was hot and humid during the congress week, with rain on most days. The scientific program was packed, with plenary presentations beginning at 8:00 am, followed by 30-40 concurrent scientific sessions in the morning, and a similar number in the afternoon. This meant that it was impossible to avoid clashing presentations, and the most sensible strategy was to stay put in the most relevant symposium.



Left: Dr Archie Murchie, Hon Secretary of the Royal Entomological Society, middle: Adam Ślipiński with the medal, right: Dr Andy Polaszek, Natural History Museum, London. The photo was taken by Dr Luke Tilley, Royal Ent Soc.

The Congress was an important one for Adam Ślipiński, who was awarded the J.O. Westwood medal, along with co-author Hermes Escalona (previously a postdoctoral fellow in ANIC), for their fabulous book "Australian Longhorn Beetles" (CSIRO Publishing). The Westwood medal is an important recognition of the excellent taxonomic work that Adam and Hermes have done (and continue doing) on Australian Cerambycidae. Only five medals have been awarded so far and it must be noted

that two of these were presented to ANIC staff. Marianne Horak was also given this eminent award in 2006 for her work on Olethreutine Moths of Australia.

The Westwood medal is awarded every second year jointly by the Department of Entomology of the Natural History Museum in London and the Royal Entomological Society. It is an extremely prestigious award and Adam and Hermes are very deserving recipients.

## ANIC contributions to the International Congress of Entomology

David Yeates, Rolf Oberprieler, Adam Ślipiński, Nicole Fisher and Andreas Zwick

**David Yeates** presented a paper about the project to generate 600 Australian insect transcriptomes (TransANIC) at the Entomology Collections Network meeting on Saturday 24th, of September. He also co-organised the symposium “Progress in insect phylogenomics: the scale and complexity of Next-Gen Datasets” on Tuesday afternoon of the Congress. He also gave a presentation on Diptera research in ANIC at the North American Dipterists Society meeting on Tuesday evening. He and Bryan Lessard spoke in the symposium “Diptera Systematics: Deciphering Evolutionary Relationships with Diverse and Novel Data” on Friday afternoon, David about progress on transcriptomics of Lower Brachycera, and Bryan on the relationships of Stratiomyidae using anchored hybrid enrichment data. Visiting scientist in ANIC Michael Braby gave a presentation on butterfly biodiversity in Australia in a symposium on Friday morning titled “Biodiversity, Biogeography, and Conservation of Arthropods: Lepidoptera”.

**Rolf Oberprieler** was invited by the University of Memphis to participate in a symposium entitled “Phylogeny and Evolution of Weevils in Honour of Guillermo “Willy” Kuschel” and in the 2016 International Weevil Meeting held in Orlando over three days following the ICE. Both the symposium and meeting formed part of the NSF-funded 1000 Curculionidae Phylogeny and Evolution (“1K Weevils”) project, of which he is a senior participant and advisor. He presented an overview of the fossil record of weevils during the symposium and acted as one of six conveners of the subsequent meeting, which was attended by 32 delegates from all over the world. He co-convened the proceedings of the first two days of the meeting, gave two more detailed presentations on weevil fossils, another on aspects of weevil morphology and another, with Dra. Adriana Marvaldi (Argentina), on the constitution of one of the two major clades of the family Curculionidae. He also



James Lumbers, Adam Ślipiński, Nicole Fisher, David Yeates, Bryan Lessard and Rolf Oberprieler at the conference

led the discussions of the first two days of the meeting and participated in a final planning and progress meeting of the 1K Weevils project, with Prof. Duane McKenna (PI of 1K Weevils), Dra. Marvaldi and Dr. David Clarke. The program of the weevil symposium is available at the link provided below and that of the International Weevil Meeting on request.

**Adam Ślipiński** hosted a symposium on “Evolution, classification and biology of Cucujoid beetles (Coleoptera: Cucujoidea)”. He also co-authored three presentations, outlining an overview of the classification of ladybird beetles in the talk “Phylogeny and classification of Coccinellidae (Coleoptera) — where are we now?”.

**Nicole Fisher** attended the Entomology Collections Network (ECN) meeting on Friday 23rd through to Saturday 24th of

September. She also attended the ICE, co-organising the symposium “Data without Borders: Collecting, Digitizing, Using and Re-using Biological Specimen Data” on Monday afternoon of the Congress. She gave a presentation within that symposium, titled “Data capture methodologies in digitisation of bee pollinators”, based on the digitisation work of the ANIC’s bee collection

**Andreas Zwick** attended a great variety of symposia and hosted one on “The evolution of Lepidoptera – bringing it all together”. All contributions to the ICE 2016 can be found in the online conference program

<http://ice2016orlando.org/wp-content/uploads/2016/09/ICE-2016-Program-Book-w-Tabs-REV3-Web.pdf>

## ANIC goes to TED<sup>x</sup> Canberra

Bryan Lessard

On the 3rd, of September, Dr Bryan Lessard stepped onto the stage at the Canberra Theatre and spoke to 650 members of the audience on the importance of flies as part of this year's TED<sup>x</sup> Canberra line-up. Technology, Entertainment and Design, better known as TED talks, are a series of inspiring talks hosted on YouTube on ideas worth spreading, whereas the "x" stands for an independently organised event. Standing on the famous red dot, Bryan talked to the eager audience about the misconceptions of flies, their role in the ecosystem and how we could use flies to feed the growing population.



As part of the TED<sup>x</sup> Canberra day, the ANIC also had a stall displaying the beautiful diversity of Australian flies and other insects, as well as colouring pages for kids and information on how to volunteer at the collection. This was a hit with the audience as they could get a closer look at the specimens mentioned in Bryan's talk. Many even had hot cocoa in hand after learning earlier that in a world without flies, there would



Left: Bryan getting his message across. Above: Bryan on the big stage.

be no chocolate. This is because the only known pollinator of the cocoa plant is a tiny midge fly.

Bryan's TED<sup>x</sup> talk will be uploaded to YouTube in the middle of October. For updates on the availability of his talk and for a

behind-the-scenes look at his research, follow him on Twitter (@BrytheFlyGuy), Facebook (@BrytheFlyGuy) or Instagram (@bry\_the\_fly\_guy).

## Learning Longhorns

Adam Ślipiński & Cate Lemann

In August 2016 ANIC hosted the second in our series of advanced Cerambycidae training workshops funded by the Subcommittee on Plant Health Diagnostics (SPHD) and led by Dr Adam Ślipiński. These workshops intend to build advanced diagnostic skills in the wider entomological community. The participants were Justin Bartlett (DAF: QLD), Peter Gillespie (Dept of Ag., NSW) and Ben Boyd (Ministry for Primary Industries: Auckland), who all attended the Lamiinae course in 2014, and the new face of Adam Broadley (Dept of Ag. & Water Resources, Vic.).

The foundation for the workshop was this year's second volume of the Australian Longhorn Beetle Series: the subfamily Cerambycinae. This two-week intensive workshop plunged the participants into that complex and large sub-family. After two weeks training and immersion in Cerambycinae, the participants' ability to key unidentified specimens of genera was tested and certificates were issued by the SPHD. Ongoing maintenance of a working knowledge of the family is also expected of participants, and time was allowed for some revision and re-examination of the previous workshop's target subfamily, Lamiinae. All four participants completed the workshop and the identification tests with flying colours and were awarded their certificates of achievement.

Importantly for us at the ANIC, the opportunity to work closely with skilled people using the keys in the new book and specimens in our collection gives us a chance to gain really constructive feedback and improve the organisation of the collection. The third workshop in the series is still some way off, as work on the third volume of the Australian Longhorn Beetle Series, on the subfamily Prioninae, has not yet got into full swing. However, we look forward to continuing these intensive in-house training sessions in the future.



The course participants: Peter Gillespie, Justin Bartlett, Adam Broadley and Ben Boyd with Adam Ślipiński after completion of the course. Inset: The course in progress.

## ANIC Teaching at Workshops

Andreas Zwick

This year, I was invited overseas to contribute to a molecular workshop in China and a workshop on moths in Ecuador.

### CHINA

In July, I visited the College of Ecology and Evolution at the Sun Yat-sen University in Guangzhou, China, which has a history of collaborating with the ANIC. I gave two lectures at the summer school workshop “Ecology and Evolution 2016”, which was very well attended by about 50 under- and postgraduate students from numerous universities across China. The first lecture was on my research of arthropod molecular phylogenetics (“Where did the insects come from?”), whereas the second lecture had a methodological focus and was entitled “A primer on thorough phylogenetic analyses”. The students were highly motivated, and keen to learn and to make contact, which made it a pleasure to contribute to the workshop.

### ECUADOR

In August, I joined a two-week workshop on bombycoid moths and their interactions with bats. It was held at a research station in the eastern foothills of the Andes in Ecuador. About 15 students and colleagues from the U.S.A., Canada, Sweden and Ecuador shared information on Bombycoidea and the identification of moth families. Two lights were operated every night, drawing in many thousands of moths and other insects. This provided us with plenty of specimens to practice identification on. We also carried out experiments on hearing and sound production, part of a moth’s defense against bats. The diversity of moths was very high and we produced a lot of wet-preserved and pinned samples for the ANIC, including families that don’t occur in Australia, such as the Apatelodidae, Phiditiidae (closest relative of the endemic Australian Anthelidae and Carthaeidae) and Dalceridae.



Students with Andreas at the farewell dinner in Guangzhou



Participants from the workshop in Ecuador experimenting on the hearing and sound production that moths use as part of a defense against bats

## Collection, cultural and collaborative exchange with China

Cate Lemann

As part of the agreement of co-operation between ANIC and Sun Yat-sen University I was invited by Prof. Hong Pang to visit the people and facilities in Guangzhou. Despite wondrous cultural and physical differences between their world and ours, it was interesting to realise that so many of the “issues” around collection management, funding and scientific recognition have a similar thread.

Guangzhou is an astounding modern city with ancient roots. A walk along Bejing Road, an extremely modern pedestrian shopping area, had everything I imagined a modern Chinese city to be. It is palpably connected to China’s past with windows in the pavement revealing excavated earlier Bejing Roads dating back nearly 2000 years.

Time spent in the Sun Yat-sen University insect collection felt the same in many ways as spending time in ANIC. As in collections here, there are developments into the very modern world of taxonomic studies including DNA research and modern digital imaging equipment, while the collection itself reveals a legacy of entomological endeavour. The history of the collection extends back to Gressitt and Hoffman, and still houses many of their types in traditional wooden store boxes and cupboards. It then progresses through to modern metal cabinets housing extensive specimens from current biodiversity studies, which are being fully imaged and databased and frozen analysis for DNA. Dr Binglan Zhang (Curator of Collection) and I had a great time discussing and sharing collection practices and challenges and exchanging ideas around outreach, volunteers and supporting students.

The people over whelmed me with their hospitality, generosity, kindness and enthusiasm for all things. Prof. Pang leads a vibrant, multifaceted Coleoptera research group encompassing studies in biological control, taxonomy,



Guangzhou

phylogeny, biodiversity and the investigation of insects in amber and fossils in rock (<http://beetlelab.wixsite.com/ecevol>). It is our delight that many of her students are getting the opportunity to visit Australia and work in ANIC, and it was lovely to catch up with them and meet others still to visit ANIC. I thank Hong for this opportunity and really look forward to the ongoing co-operation between our two institutions.

Also while in Guangzhou I caught up with another previous ANIC visitor and current collaborator, Dr Xingmin Wang (a recent happy father). Xingmin proudly and enthusiastically showed me the facilities at South China Agricultural University and the wonders of the South China Botanic Garden, where we were allowed to collect some beetles of interest to the ANIC studies.

## Digital Imaging in Lao PDR and Thailand

### Younging Su provides support and training in SE Asia

A Regional Diagnostic Network Project funded by Australian Aid is managed by the Australian Government Department of Agriculture and Water Resources. This project is designed to assist ASEAN (The Association of Southeast Asian Nations) countries enhance their ability to develop high-quality images of plant pests and diseases in the laboratory. The project involves setting-up a laboratory-based, digital imaging system in Lao PDR and providing staff with practical training in the use of equipment and imaging software to take images suitable for publication.

In June 2016, I visited the Plant Protection Centre of the Lao PDR Department of Agriculture to help set-up the equipment and provide the relevant training. Following which, I also visited Thailand to assess their current ability in the field of digital imaging. I worked with the Insect Taxonomy Group and Weed Science laboratory of the Department of Agriculture in Bangkok, providing relevant advice and support where needed.

The visit to Lao PDR and the visit to Thailand were very successful and productive. All participants in both countries can now produce high quality images suitable for publication. Both institutions are showing strong initiative and a very positive attitude towards their regional diagnostic capacity. We look forward to further co-operation through the ASEAN mechanism.

## Tally-ho Talaroo

Ted Edwards

While in northern Queensland last May, I was invited by David Rentz and Buck Richardson to a naturalist's weekend at Talaroo Station, which is about 30 km east of Georgetown or almost halfway across the base of Cape York Peninsula.

A group of about 18 naturalists assembled, some interested in birds, some in reptiles, some in plants and some in insects. Don Franklin was recording butterflies and also gave a talk on eucalypt conservation in northern Australia. Imaginatively this talk was during the heat of the early afternoon and did not interfere with collecting as such talks often do. The weekend was organised by Michael Anthony, Wildlife Officer with the Northern Gulf Resources Management Group, and by Scott Morrison, Ranger Coordinator with the Ewamian Aboriginal Corporation (EAC), both of whom were at Talaroo for our visit and who were most interested in our studies. Three aboriginal rangers, Thomas, Cindii and Nathaniel, also helped make our visit productive and enjoyable.

My own interest was to follow up on some wonderful moths that David Rentz had collected a year before. One was an almost white species of *Pachybelia* (Oecophoridae) that has uniquely long-ciliated antennae. *Pachybelia* is a genus of 12 described species and more than 40 undescribed species distributed throughout arid and semi-arid Australia and flying in the autumn-winter period. Another was a white *Philobota* species (Oecophoridae), one of a suite of species found across northern semi-arid Australia, and the third a poorly known and unnamed species of *Porela* (Lasiocampidae). All were successfully re-collected and among a long series of the *Pachybelia* a single female was discovered.

Talaroo was a cattle property bought in 2012 for the Ewamian People, traditional owners, for conservation and heritage purposes and encompasses a little more than 30 000



David Rentz, Michael Anthony and Buck Richardson at Talaroo Homestead with the mandatory mango tree in the background.

hectares. It is run by EAC. Projects to control Rubber Vine (*Cryptostegia grandiflora*) and feral animals (cats, rabbits, pigs), are well underway. Talaroo homestead, where we stayed, is on the Einasleigh River and close to Talaroo Hot Springs. These are deep upwellings with associated travertine mounds and rim pools and with a slight smell of calcium polysulphide and a small gas emission. They are permanent and the water is hot but not boiling. They are currently being investigated as a sacred site and are now closed to the public except by invitation. In the immediate springs area there is

a grove of unusually fine specimens of the Black Tea-tree (*Melaleuca bracteata*), sedges and a grassy ground layer not seen elsewhere. The property has a very diverse range of *Eucalyptus*, *Corymbia* and *Melaleuca* species in plant communities classified as tall, medium and short savannah woodlands and open woodlands.

We visitors all concurred in a big thank you to those who contributed to a memorable and successful weekend.

## Recent publications

- Ben David, T. & **Mound, L.A.** (2016) Predator or plant pest? Observations on *Parascolothrips priesneri* Mound (Thysanoptera: Thripidae) in Israeli apple orchards. *Journal of Entomological and Acarological Research*, 48, 5532, 38–40.
- Downes, M.R. & **Edwards, Ted** (2016) An undescribed concealer moth, *Stathmopoda* sp. (Lepidoptera: Oecophoridae), in nests of the weaver ant *Polyrhachis australis* Mayr (Hymenoptera: Formicidae). *The Australian Entomologist*, 43 (3), 161–164.
- Halliday, B.** & Juvara-Bals, I. (2016) Systematics and biology of the mite genus *Ljungghia* Oudemans in Southeast Asia (Acari: Laelapidae). *Systematic & Applied Acarology*, 21, 830–864.
- Hewish, M., Marriott, P., **Edwards, T.**, Kallies, A., Williams, S. & Byrne, C. (2016) *Bark Moths & Allies-Geometroidea. Part 7 (D). Moths of Victoria*. Entomological Society of Victoria. Melbourne. Pp. 36. Disc, unpaginated.
- Hsiao, Y., **Ślipiński, A.**, Deng, C. & Pang, H. (2016) A new genus and species of soldier beetle from Upper Cretaceous Burmese amber (Coleoptera, Cantharidae, Malthininae). *Cretaceous Research*, 69: 119–123.
- Li, X. & **Yeates, D.K.** (2016) Challenging the definition of the subfamily Usiinae: Phthiraxini, an unusual new tribe of bee flies (Diptera: Bombyliidae), based on *Phthiraxia bowdeni* gen. and sp. nov. from Western Australia. *Austral Entomology*, 55(4), DOI: [10.1111/aen.12235](https://doi.org/10.1111/aen.12235)
- Lima, E.F.B. & **Mound, L.A.** (2016) Systematic relationships of the Thripidae subfamily Sericothripinae (Insecta: Thysanoptera) *Zoologischer Anzeiger*, 263, 24–32.
- Lima, E.F.B. & **Mound, L.A.** (2016) Species-richness in Neotropical Sericothripinae (Thysanoptera: Thripidae) *Zootaxa*, 4162 (1), 1–45.
- Mašán, P. & **Halliday, B.** (2016) A new species of *Hoploseius* (Acari: Blattisociidae) associated with the red-belted bracket fungus, *Fomitopsis pinicola* (Polyporaceae) in Slovakia. *Systematic & Applied Acarology*, 21, 1145–1156.
- Moraes, G.J. de, Britto, E.P.J., Mineiro, J.L. de C. & **Halliday, B.** (2016) Catalogue of the mite families Ascidae Voigts & Oudemans, Blattisociidae Garman and Melicharidae Hirschmann (Acari: Mesostigmata). *Zootaxa*, 4112 (1), 1–299.
- Mound, L.A.**, Cavalleri, A., O'Donnell, C., Infante, F., Ortix, J. & Goldarazena, A. (2016) *Ambaeolothrips*: a new genus of Neotropical Aeolothripidae (Thysanoptera), with observations on the type-species from mango trees in Mexico. *Zootaxa*, 4132 (3), 413–421.
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