

CSIRO NATIONAL RESEARCH COLLECTIONS AUSTRALIA



The (Interim) Director's Introduction	.1
Welcome to Liz, Avalon, Mengjie and Okorite	.2
Volunteer visit	.3
Vale Tom van Gerwen	4
Goodbye and a BIG thank you to James and Di	.5
James Bickerstaff farewell (and welcome back)	6
Cause for celebration: specimen relocation completed!	7
Australian Entomological Society 55th Annual General Meeting and Scientific Conference	. 9
Highlights from the 2024 International Hymathon	.11
Dermestidae and Khapra Beetle Identification Workshop	12
Henry Hacker's mutillid mystery – can you help?	13
Congratulations Laurence	13
A celebration of John Lawrence's contributions to Coleoptera	14
Recent publications	14

ANIC: www.csiro.au/en/Research/Collections/ANIC

ANICdotes for contact and subscriptions: the ANICdotes home page BANNER: Graphium macleayanus image: Biodiversity Heritage Library

The (Interim) Director's Introduction

Anthony Whalen, Director National Research Collections Australia

It is an honour for me to be able to introduce the May 2025 edition of ANICdotes. I have temporarily stepped in as ANIC Director while David Yeates takes well-earned extended leave throughout 2025. This has provided me with the wonderful opportunity of working more closely with ANIC's dedicated teams during the final stages of our substantial relocation into our new collections precinct at Black Mountain.

In this edition we welcome back Mengjie Jin as a Lepidoptera Post Doctoral Fellow, Liz Broady as our new laboratory technician, and profile the work of Okorite and Avalon, two of the students working closely with ANIC's research teams. We also say farewell to Di Hartley (retired), James Nicholls (working now in Scotland) and James Bickerstaff (moved to ABRS). Each in their own way made significant contributions to ANIC's collections and research.

We also mourn the loss of long-term volunteer Tom van Gerwen, who passed away in April. Tom's contributions to ANIC and CSIRO over 62 years—35 as staff and 27 as a volunteer—were invaluable. His early work on moths, blowflies, and grain-related research, and his role in developing ANIC's volunteer program, were significant. Vale Tom, you will be missed. It is most pleasing to be able to report that the relocation of all ANIC's specimens and staff to our new facility is complete. ANIC has moved into its state-of-the-art forever home! As detailed in Federica Turco's report this has been achieved through the careful and diligent work of many, many people—led ably by Fede herself. My

thanks to all. As collection management



Anthony Whalen

gradually returns to business as usual, I pause to note that great things will follow—our researchers will surely take full advantage of the new facilities, especially the new genomic laboratories.

Finally, ANIC has been working with CSIRO management to highlight the roles and research of our national collections in understanding Australia's biodiversity and combating exotic invertebrates of biosecurity concern. A recent Dermestidae & Khapra Beetle workshop led by Adam Ślipiński was well received. This will be followed by an insect diagnostics workshop for Australian Government entomologists, led by nematologist Mike Hodda in June 2025. This specialised training is one of many important roles ANIC plays in our national biodiversity research infrastructure.

ISSUE 26 • May 2025

Welcome to Liz, Avalon, Mengjie (again!) and Okorite

Liz Broady

Liz grew up in Sydney and received her Bachelor of Science, majoring in genetics, at the University of New South Wales.

From a young age, science, particularly biology, has been one of her passions. When she started studying genetics/molecular biology and realised that millions of unconscious molecules are constantly working together in cells to create living organisms, she was hooked!

After finishing her studies, she worked in industry labs until an opportunity to work on some of those molecules came up with Craig Moritz and Scott Keogh at ANU on Australia-wide genomics projects; the Australian Amphibian and Reptile Genomics Initiative (AusARG) and Oz Mammals Genomics



During her time at ANU, she took great pride in mentoring and helping honours and PhD students find their feet in the lab. She is thrilled to have the opportunity to continue that here in ANIC. She has started as a molecular technician with

Andreas Zwick in the Lepidoptera team where she'll be able to work on and preach about genetics and molecular biology until her dying days.

Her non-biology passions include cycling/mountain biking, rock climbing, and playing piano.

Mengjie Jin

After nearly four years of traveling to different places, Mengjie has returned to ANIC in her new role as a CERC Postdoctoral Fellow with the Lepidoptera team. She is embarking on an ABRS-funded project focused on the phylogeny and taxonomy



of Australian Heliozelidae, building upon the unpublished work of the late Dr. Ebbe Nielsen and a decade-long citizen science initiative led by Dr. Doug Hilton and colleagues.

Heliozelids are a group of small, day-flying moths that have developed a mutual obligate pollination system with Boronia flowers. They are extraordinarily diverse in Australia, yet they have received minimal taxonomic attention for nearly a century. Using integrative approaches, Mengjie aims to resolve the phylogeny of Australian Heliozelidae under a global context, revise their taxonomic framework, and document their biodiversity.

Mengjie was a visiting student at ANIC from 2015 to 2020, working with the beetle team. She contributed to research on the phylogeny and taxonomy of Cerambycidae, Cucujidae, Passandridae, and Scarabaeidae, and compiled her knowledge of Prioninae into the book Australian Longhorn Beetles volume 3. After leaving ANIC, she spent two years as a postdoctoral researcher at Sun Yat-sen University, where she studied the phylogeny of Pyraloidea (Lepidoptera).

Avalon Yennefer

Avalon is a PhD student from the University of Darwin (NT) working on root-knot nematode virulence under the supervision of Mike Hodda and Daniel Huston. Her project aims to determine why some root-knot nematode populations can overcome host plant resistance genes, and how we can diagnose these populations for better management.

Avalon grew up in the outskirts of Melbourne surrounded by bushland. She frequently spent time taking photos in the ocean and bush, and is very passionate about conservation.

Prior to starting her PhD, she obtained a science degree at Monash University (2019) and masters of bioinformatics at ...continued on page 3

Liz has quickly found herself at home in the new molecular labs

Mengjie out in the field!

The University of Queensland (2022). Her honours project was modelling the extinction of cichlids in Lake Victoria, which was unsurprisingly a combination of pollution and competition with the invasive nile perch. Her honours supervisor strongly encouraged her to study bioinformatics before beginning a PhD, so she moved to Queensland for two years of study and is excited to return there someday. During her studies she has had various character building part-time jobs, and is very happy to finally be working in her field of choice. Avalon has too many hobbies to list, including painting and drawing botanicals, dancing (Brazilian zouk) and video games.

Okorite Itumo

Okorite Itumo is a PhD candidate at the Australian National University, where her research explores the conservation value of urban green spaces for native bees, many of which remain poorly described or in need of taxonomic revision in Australia. Her project also investigates how urbanisation has



Avalon has joined Mike Hodda's team as a PhD candidate

influenced resource use by native bee communities over time by comparing historical museum specimens (pre-1958) with contemporary collections.

She is also building on Maynard's 2013 revision by categorising *Leioproctus (Leioproctus)* species into species sub-groups that were not placed by Maynard and defining their morphological characteristics. She is working under the co-supervision of Juanita Rodriguez.

Okorite is originally from Nigeria, where she was a lecturer at the Department of Animal and Environmental Biology, Rivers State University, before moving to Australia for her PhD. She holds a BSc in Zoology (2012), a Masters in Natural Resources and Environmental Management (2015), and a Master's degree in Applied and Environmental Entomology from Rivers State University (2019), Nigeria, where she developed a strong interest in native bees and their interactions with plants. In her free time, she enjoys traveling and listening to music.



Okorite is a PhD candidate working on native bees under co-supervision by Juanita Rodriguez

VOLUNTEER VISIT

In February, a number of long-term ANIC volunteers came in for an exclusive look at the new collections building, including Tom van Gerwen, who has volunteered with ANIC for 27 years. It was a wonderful opportunity to admire the many changes ANIC has been through over that time!



L to R: Olivia Evangelista, Federica Turco, Tom van Gerwen, Debbie Jennings, Marianne Horak, Nicole Fisher and Andreas Zwick. Photo by Helen van Gerwen



Tom, with daughter Helen, receiving his certificate of appreciation for his volunteer work with ANIC

Vale Tom van Gerwen

Debbie Jennings

It is with great sadness that we share the news of the passing of our dearly loved volunteer, Tom (Antonius) van Gerwen.

Tom started working in CSIRO in the Division of Entomology in 1956 on blowfly populations with Dr Richard Norris. In 1959 he took a short break from CSIRO due to financial reasons but returned in 1961 to work with Dr Lindsay Barton-Browne on *Oncopera* moths, and on the blowfly *Lucilia cuprina*. Tom spent 35 years in CSIROEntomology, before moving to the Stored Grain Research Laboratory where he worked until he retired in 1996.

In 1997, Graham Crompton (Collection Manager) conceived the idea of the ANIC volunteer scheme which was implemented in February 1998. Since Tom was retired and had a strong association with CSIRO Entomology, he was the obvious choice to be co-ordinator of the volunteer scheme. Tom continued in this role for 27 years until he could no longer volunteer due to health reasons. During this time, he received numerous awards but was always so humble in his acceptance speeches, never failing to acknowledge ALL the volunteers for their individual contributions. This is a quote from his speech at the 20-year anniversary of the volunteer scheme in 2018:

"Awards and certificates have my name on it because I was the coordinator, but they belong to all the volunteers past and present, because without their excellent work we would never have reached such a high standard."

Tom will be remembered not only for his dedication to ANIC and the volunteer scheme, but also for the kind, honest, professional and friendly colleague that he was. He was the epitome of a true gentleman, and he will be greatly missed.

Editor's note: We received news of Tom's death shortly before the publication of this issue of ANICdotes, and after the previous note on the volunteers' visit had already been included. We decided to retain this note, and we thank Helen van Gerwen again for bringing Tom to visit our new collections building



Goodbye and a BIG thank you to James and Di

Bonnie Koopmans

Anyone who has worked in the molecular lab at ANIC will know how blessed we were with two wonderful colleagues with encyclopædic knowledge and skills. In early November, we said goodbye to our molecular lab dream team James Nicholls and Di Hartley.

Di, as ANIC's molecular technician, knew the lab like the back of her hand and ran it like a well-oiled machine. She is now enjoying a well-earned retirement after almost 35 years at CSIRO, ten of which were with us in ANIC. When asked what she was looking forward to in retirement, Di said that first of all she would be having a rest! She is keen to learn to surf and spend time at the beach, and finally get around to tending the veggie garden, which (for many of us, I'm sure) has fallen by

the wayside. Her role is now in the capable hands of Liz Broady (page 2) - a recruitment Di was able to take part in before her departure.

James first joined ANIC at the end of 2017, having previously spent a twelve-year stint with the University of Edinburgh. Sadly, after spending seven years with ANIC in warm and sunny Canberra, James has decided he can't get enough of the cold and has returned to wintry Scotland at the Royal Botanic Garden Edinburgh as a Biodiversity Genomics Scientist. Congratulations, James!

Prior to his departure, James, on top of the many responsibilities and trials getting the new lab operational, also took over the crucial role of Building Warden in our new collections building - no small task in the face of the teething issues experienced in any new building, especially one as complex as ours! In the early days of access to the building, he could often be spotted face-down on the floor inspecting all corners of the new facility.

Both Di and James have had a huge impact on ANIC and more broadly in NRCA and at CSIRO, and the outpouring of support for their respective next adventures was incredibly well-

deserved - the best-attended ANIC morning tea I've ever seen! Thank you, James and Di. We are all so grateful for your generosity, kindness and expertise.



Below: A final afternoon out at the botanic gardens. L to R: Alicia Grealy, Olivia Evangelista, James Nicholls, Di Hartley, Claire Yang, Andreas Zwick

Below left: The ANIC High Throughput Genomics team, L to R: Andreas Zwick, Vidushi Patel, James Nicholls and Di Hartley. The team was awarded the 2020 Breakthrough Innovation Award from the CSIRO Digital National Facilities and Collections Business Unit.



James Bickerstaff farewell (and welcome back)

Debbie Jennings

We are very sad to say goodbye to James Bickerstaff, as he moves on to more permanent pastures at the ABRS offices in the Australian National Botanic gardens. James joined ANIC in December 2021 as a postdoctoral fellow, to work on invasive Scolytine bark beetles and uncover genomic patterns that predict the spread and establishment of these species. He very quickly became an integral part of the ANIC team, organising and co-ordinating science talks, getting Microsoft Copilot running to help with meeting minutes, and most importantly providing us all with delicious sourdough breads on any occasion that required celebration.

His work with Hermes Escalona and a number of other experts, resulted in a significant publication analysing the first genomes for haplodiploid beetles that will contribute to the understanding of the evolution of life history traits and management of invasive insects. James was also the first author in two chapters of the book Australian Beetles Vol. 3. This was a major undertaking and required significant input, especially in the midst of preparing for relocation to a new building. During his time in ANIC, James somehow managed to fit in a collecting trip to Western Australia with some ANIC colleagues, as well as a few smaller and more localised trips to Tallaganda State Forest. He also attended and presented at conferences both near and far, such as the workshop on genomics in Český Krumlov (Czech Republic) in 2023 and the Biosystematics conference across the road at ANU in 2023. He says another highlight is be winning the Murray Fletcher prize at the AES conference in 2024 (see page 10).

Although we will miss his everyday presence in ANIC (and the sourdough treats), we are very happy to welcome him back as a visiting scientist, and as a semi-permanent resident while his office at the ABRS is refurbished.



Euwallacea fornicatus. Photo by Hermes Escalona



James' new favourite t-shirt, featuring bark and ambrosia beetles



James in the field at Tallaganda State Forest

Cause for celebration: specimen relocation completed!

Federica Turco

It is with incredible pride and relief that I communicate to our ANICdotes friends that the ANIC have successfully completed the relocation of our collections into the new collections building and precinct on Black Mountain. The relocation of the ANIC 12 million specimens has been a complex and long journey, started in 2019 with the establishment of the decant working group within the ANIC curatorial team to then continue with the initial recruitment of some casual relocation support staff in 2019 and later the establishment of a termcontract relocation team.

We sailed through tumultuous seas during COVID times, and we've gone through the demanding process of designing the

whole building, top to bottom, in nine months in 2021. We've transferred an estimated 20,000 specimen tubes into new smaller tubes and jars in the ethanol collection to minimise the use of ethanol while still allowing easy access to specimens. We've assessed, prepared, cross-pinned and removed naphthalene from over 22,000 pinned collection drawers. We've removed about 360 Kg of naphthalene flakes and an estimated double that amount of naphthalene tablets in the final prepping of drawers before relocation. We've transferred and labelled thousands of slide trays, consolidated, relocated, sustainably disposed of a mountain of paper, and, more recently, rationalised and relocated large amounts of chemicals. There is also everything else I have no space to write about here! It's been a long path punctuated by stressful but also cheerful moments, in what it is well and truly a once-ina-lifetime endeavour!

There is a list of people that, as the ANIC Collection Manager, I want to extend my eternal gratitude to. First, I want to thank everyone in and around ANIC, from our scientists, students and affiliates to our external collaborators and borrowers. Thank-you for the infinite patience in all these years!

A list of critical people who have played an important role along the process follows: NRCA Directors Andrew Young and, more recently, Anthony Whalen; ANIC Director, David Yeates; NCMI Research Operations Manager, Lisa Burns; admin and on-site operational support, Josephine Ponsford; relocation management staff who have worked with us over the years, Maggie White, Lauren Curless, Blair Dormer, Belinda Muir



Slide trays, removed from their cabinets for the relocation, have all been safely returned to their rightful place. Federica shows the new cabinetry. Photograph by Andrea Wild

and Ashara Patterson. Deep gratitude goes to the IAS team (International Art Services) for their support, professionalism and respectful approach to the relocation of our collections.

And at last the two most wonderful teams I have worked with: Relocation Team – you are an incredible group of people who have been working hard with us on this project (some since 2020); we couldn't have done this without your support; your



Jake Harley of IAS putting away the final drawer of pinned specimens in the new building. Photograph by Sean Rudder

flexibility, commitment and respect for the ANIC people and collections have been incredibly touching and absolutely fundamental to the success of this project. ANIC Curatorial Team – my eternal gratitude goes to the incredible team you are and that I have the privilege of working with every day; ANIC is blessed with one of the best, most diverse and competent collection management team we could hope; you have proved your exceptional value, as individuals and as a team, over and over again, especially in these last extraordinary five years. As we complete the full vacation of our old buildings and we celebrate their service to the collections for many decades, we also set our new processes and prepare our new labs, in readiness to a full return to business as usual. We very much look forward to opening our doors to visitors, tours, loans and enquiries after our official launch, set in August 2025!

CURATORIAL TEAM 2019-2025

Olivia Evangelista Manda Faizi-Yuan Jaime Florez Fernandez Jollene Fraser Debbie Jennings Bonnie Koopmans Cate Lemann Robyn Meier Thekla Pleines Bronte Sinclair You Ning Su David Yuan Lingzi Zhou

RELOCATION TEAM 2019–2025

Lauren Ashman Alex Chen Amelia Cherry Josh Coates Peter Gray Zoe Groeneveld Lisa Hayes Stuart Lay Jess Ljubojevic Isis Londono Karen May **Holly Sargent** Joe Scott Ella Shaw Julian Teh Alberto Venchi Sandra Zwick

ANIC curatorial, relocation and research staff gathered under the oak tree to celebrate the end of specimen relocation. Photograph by Andrea Wild



Australian Entomological Society 55th Annual General Meeting and Scientific Conference

Ian Naumann

Following the highly successful 54th Australian Entomological Society (AES) Scientific Conference in Albany, Western Australia in 2023, the AES continued its enthusiasm for southern maritime locations in 2024 by holding its 55th Annual General Meeting and Conference in Hobart, Tasmania. The Conference venue was the Old Woolstore, a short stroll from the docks and colonial era sandstone buildings, which now host innumerable cafes, bars and galleries.

ANIC was well represented on the scientific program with James Bickerstaff presenting on genomic studies of his beloved bark beetles. James won the Conference's Murray Fletcher award for another presentation demonstrating how existing collections can be used to reveal the population structure of the charismatic mountain katydid. This award is bestowed upon a presentation that "best advocates for collections and their use towards scientific research, diagnostics, education or otherwise". Mollie Slater-Baker won Best Student Presentation for her talk on 'mummy wasps' (Braconidae: Rogadinae).

Juanita Rodriguez-Arrieta presented on Australian agenielline Pompilidae, Federica Turco on the ANIC relocation, Yue Liu on the phylogeny of lower Brachycera (Diptera), Lingzi Zhou on bothriderid beetles, Adam Slipinski on fossil dermestid beetles, Madalene Giannotta on mutillid wasps, and Maddi also had a poster on a side interest, encyrtid wasps which attack ixodid ticks. Annoyingly, conference delegates interested in parasitoids had to choose between Ian Naumann's breezy talk on the chalcidoid egg parasitoid genus *Anastatus* (Eupelmidae) and Keith Bayless simultaneously riffing on parasitoid acalyptrate flies in the room next door.

Happily, all delegates were able to enjoy two highly personal, keynote presentations, one on insect conservation and 'big data' initiatives by Pedro Cardoso (University of Lisbon,



Portugal), one of the world's foremost conservation scientists, and another by Melissa Houghton, a Tasmanian conservation biologist who masterfully transported delegates from Hobart to the not-so-distant, wind-swept Subantarctic.

The love affair with the Maritimes is over. The next AES AGM and Scientific Conference will be in land-locked Canberra in the first week of December 2025. This conference will be the fifth combined meeting with our colleagues from the Entomology Society of New Zealand. Updates will be available on the conference site here: https://consec.eventsair.com/australianentomological-society-56th-annual-conference/

Top: The annual conference attendee photo. Credit: Simon Grove Right: Melinda Moir presents the award for the best student presentation to Mollie-Rosae Slater-Baker (Univ. Adelaide). Photo by Murray Fletcher



...continued on page 10



From the 2025 local conference organising committee: "The last meeting held in Canberra in 2014 was attended by 330 people, and we hope to have more people engage, participate, present, discuss and socialise at this event in 2025. We will continue the long-held tradition of scientific knowledge sharing for conserving and improving important social, cultural, ecological, and industrial processes driven by arthropods. As we face increasing environmental and social challenges, understanding, managing and protecting these tiny yet powerful creatures is more important than ever. Get ready to dive into the fascinating world of entomology and join us in Canberra to shape a future where we all continue to thrive!"

The call for abstracts is currently open, and suggestions for workshops, field trips and supporting events for the conference are all welcome.

Right: Murray Fletcher presents the Murray Fletcher Award to James Bickerstaff. Photo by Samantha Edley.

Far right: James Dorey and Nikolas Johnston using a canopy net to catch Hymenoptera at Peter Murrel reserve. Photo by Mollie Slater-baker





Highlights from the 2024 International Hymathon

Madalene Gianotta

The annual Hymathon-a 24-hour, non-stop global celebration of all things Hymenoptera- took place online in December, bringing together researchers, students, and enthusiasts from around the world. Hosted by the International Society of Hymenopterists (ISH), Hymathon 2024 was bigger and better than ever, with 176 participants from 36 countries joining the event. The program featured 45 presentations (including 4 keynotes) from 14 countries, an art and photography competition, social events, and the ever-popular Hymenoptera Showdown – a fast-paced contest where participants had just three minutes and three slides to convince the audience that their taxon was the most impressive. This year's winner was the remarkable Eucharitidae (Chalcidoidea), championed by Natalie Dale-Skey.

ANIC's Hymenoptera Lab was well represented, with several exciting contributions from our team:



Maddi's award-winning photo: Dr Ben Parslow and Dr Daniel Appleby imaging *Bembix* (Crabronidae) and *Australotilla* (Mutillidae) wasps at dusk in Morgan Conservation Park, SA.

PhD student Mollie-Rosae Slater-Baker presented her research on the biodiversity and systematics of Australian rogadine parasitoids - 'Mummy wasps' - using DNA barcoding and phylogenomics (Braconidae: Rogadinae). Her talk was recognized as the Best Student Talk.

Dr Fiorella Esquivel gave a captivating talk on Honeybee stingers, using high-speed filming, micro-CT scanning and 3D printing to explore form and function.

PhD candidate Madalene Giannotta won Best Photo in the Hymenopterists at Work competition, showcasing the naturalhistory and field element of our research (bottom left).

Mollie's award-winning 'Hymathon 2023' logo design (bottom right) was designed for this year's official certificate of attendance, awarded to anyone who managed to brave the entire 24 hours!

A special moment of the event was Dr Juanita Rodriguez's acceptance speech, marking the beginning of her tenure as President of the ISH – a recognition of her ongoing leadership and contributions to Hymenoptera research.



The *effortlessly fabulous* Eucharitidae, convincingly presented by Natalie Dale-Skey of the British Natural History Museum

If you're passionate about wasps, bees, ants, and/or sawflies, consider joining the ISH! Membership provides access to a global network of researchers, exclusive publications, funding opportunities, and, of course, events like the Hymathon. Whether you're a student, early-career researcher, or established expert, ISH offers a fantastic platform to connect, collaborate, and stay up to date with the latest in Hymenoptera research. Visit hymenopterists.org for more details on how to become a member, or for a look at the 2024 Hymathon program.



Mollie's amazing Hymathon logo, representing the vast diversity of hymenopterans!

Dermestidae and Khapra Beetle Identification Workshop

Lingzi Zhou

Adam and Lingzi additionally hosted a Dermestidae and Khapra Beetle Identification Workshop for DAFF Diagnostics Entomologists in Canberra, from 4th to 8th November 2024.

The Khapra beetle (*Trogoderma granarium*) is one of the world's most devastating pests of stored products and is one of the most significant biosecurity threats to Australia's grain industry. Although the beetle is not currently present in Australia, an incursion would severely disrupt exports and market access, placing immense regulatory and management burdens on the industry. The combined impact could result in billions of dollars in lost revenue and increased production costs for Australian farmers.

The Australian native fauna of Dermestidae, the family to which *Trogoderma* belongs, is both diverse and poorly studied. In fact, 50 native Australian species have been placed in *Trogoderma*, alongside the introduced *Trogoderma variabile* (warehouse beetle), which, while a pest, is less economically damaging than the Khapra beetle.



Adam presenting on features of the genera in adult beetles

This five-day workshop was developed following research on the modern phylogeny of Dermestidae and a taxonomic study of the Australian *Trogoderma*-like group, co-funded by DAFF and ABRS, core-authored by Lingzi Zhou, and led by Adam Ślipiński. The workshop featured a series of presentations, including:

- Introduction to Bostrichoidea, Dermestidae, and their biology, zoological nomenclature, and taxonomic principles (A. Ślipiński)
- Morphology of adult Dermestidae and Australian genera (A. Ślipiński)
- 3. Current research on Dermestidae phylogeny and its implications for diagnostics (L. Zhou)

- 4. Morphology of immature stages of Dermestidae and larval-based genus recognition (A. Ślipiński)
- 5. Recognition and identification of critical species in Trogoderma and related genera of Megatomini (L. Zhou)

In addition to lectures, there were also hands-on laboratory sessions covering both adult and larval dermestid morphology to genus level, as well as rapid identification of critical *Trogoderma* and Megatomini taxa for biosecurity purposes.

The workshop was a great success, being rated highly by the attendees and equipping them with essential knowledge and diagnostic skills to deal with any future incursions.



DAFF attendees of the workshop



Diagnostic features of the larvae

Henry Hacker's mutillid mystery – can you help?

Madalene Gianotta

I'm reaching out to the entomology community for help with a puzzling mystery I uncovered while studying Velvet ants (Hymenoptera: Mutillidae) in museum collections. This group of parasitoid wasps is severely understudied in Australia and their taxonomy has a complicated history. Most species have been dumped into a catch-all genus, *Ephutomorpha*, which we now know to be polyphyletic. Even the true *Ephutomorpha* are poorly understood; the male is unknown, no host-associations have been confirmed, all type-material for the type-species *E. aurata* is missing, and females from the group are rarely collected.

While visiting the NHM, London, I came across what seemed like a breakthrough. A specimen of *E. aurata* with a collection label indicating that it had been reared from a nest. The label listed the collector as Henry Hacker, a prominent entomologist from the QM, and noted that the specimen was "bred from clay nest series no. 11, Brisbane, 2-11-1911". Unfortunately, there were no additional notes indicating which species built the nest or where this nest series is now housed.



Henry Hacker's collection label from the *Ephutomorpha aurata* specimen, reportedly reared from a clay nest in Brisbane, 1911. The identity of the species that built the nest remains a mystery.

I've followed all possible leads, to no avail; checking NHM's records (which only states that the specimen was gifted from the QM in 1913), contacting the QM (no relevant field notes), searching Hacker's publications, and even visiting the QM to check their pinned collection (here, I found many clay nests, some with Hacker's handwriting, however I couldn't associate the labels).

So, in hope of solving this mystery, I'm seeking your help: do you have any knowledge of Henry Hacker's collections that may be useful? Field notebooks, notes on host associations, or any idea where his nest series may be housed? Any leads, however small, would be hugely appreciated!

If anything rings a bell, please get in touch with me at madalene.giannotta@csiro.au or 0421 721 565. Thank you!



The charismatic yet elusive *Ephutomorpha (ss) aurata* female in Maryborough, QLD. Females of this wasp family are wingless while males are typically winged – though the male of this species is not yet known. This is the first-ever live photograph of *E. aurata* and represents one of only a handful of collection records in the past 200 years. Photo by Nigel Main.

CONGRATULATIONS LAURENCE

The Department of Agriculture, Fisheries and Forestry (DAFF) annually celebrates the Australian Biosecurity Awards. Late November 2024 saw Laurence Mound awarded the Dr Kim Ritman Award for Science and Innovation.

"Dr Mound [...] revolutionised the understanding of thrips diversity around the world, particularly in Australia" and "has excelled in strengthening scientific capacity and capability both domestically and internationally." A well-deserved recognition! The full nomination can be read on the DAFF website here.



Laurence being presented his award by Adam Fennessy, secretary of DAFF

A celebration of John Lawrence's contributions to Coleoptera

Recent publications

Dr. Adam Ślipiński, Dr. Lingzi Zhou, and Dr. Richard Leschen (New Zealand Arthropod Collection) delivered a joint presentation titled "Dr. John F. Lawrence: Life and Impact on Australian and Global Beetle Research (Coleoptera)" at the Entomological Society of Queensland's monthly meeting in November 2024.

Lingzi Zhou

Lingzi introduced John's early life and education, his tenure at the Museum of Comparative Zoology, Harvard (1964–1970), his transition to the Australian National Insect Collection (ANIC, 1977–1999), and his retirement, highlighting his continued contributions from 2000 to 2024.

Adam elaborated on John's impact on beetle systematics, describing his pivotal role in introducing phylogenetic systematics to beetle research, emphasising the importance of studying both immature and adult stages. He also discussed John's contributions to coding and synthesizing large phylogenetic and identification datasets, processing and identifying extensive collections from major ecological projects, and his collaborative efforts with numerous researchers—particularly mentoring younger scientists, adopting new methodologies, and inspiring multiple generations of Coleopterists.

Rich shared his personal journey as an example of John's mentorship has had a profound influence, illustrating how John guided and shaped his academic career.

John's legacy is celebrated as the "Grand Synthesizer of Modern Beetle Systematics." His groundbreaking research, extensive collections, dedicated mentorship, and collaborative spirit have not only deepened our understanding of beetles but also inspired generations of entomologists to continue his work.



John Lawrence and family gathered with the ANIC beetle team

Dr John F. Lawrence – life and impact on the Australian and global research of beetles (Coleoptera)

ADAM ŚLIPIŃSKI
[AUSTRALIAN NATIONAL INSECT
COLLECTION, CSIRO)
LINGZI ZHOU
(AUSTRALIAN NATIONAL INSECT
COLLECTION, CSIRO)
RICHARD LESCHEN
(NEW ZEALAND ARTHROPOD
COLLECTION)



Bond, S.J., **Huston, D.C.,** Patel, S., **Hodda, M**., Yadav, S. & Bellgard, S.E. (2024). Scientific data and background behind the first detection of *Meloidogyne enterolobii* in Australia. *Australasian Plant Disease Notes*, 19: 16. https://doi.org/10.1007/s13314-024-00539-0

Braby, M.F. (2024) A new species of *Paralucia* Waterhouse & Turner, 1905 (Lepidoptera: Lycaenidae) from the highlands of south-eastern Australia. *Austral Entomology* **63 (2)**: 224–243. https://doi.org/10.1111/aen.12688

Braby, M.F. (2024) Protected taxonomic status for *Holochila* albosericea Miskin, 1891 (Lepidoptera: Lycaenidae). *Records of the Australian Museum* **76 (3)**: 151–156. https://doi.org/10.3853/j.2201-4349.76.2024.1898

Braby, M.F. (2024) New and interesting distribution records for some butterflies (Papilionoidea) from Australia. *Australian Entomologist* **51** (2): 61–69.

Braby, M.F. (2024) New larval food plants for some butterflies (Papilionoidea) from Australia. *Australian Entomologist* **51** (2): 83–91.

Braby, M.F. (2024) Protected taxonomic status for *Papilio richmondia* Gray, 1853 (Lepidoptera: Papilionidae). *Records of the Australian Museum* **76 (5)**: 243–248.

https://doi.org/10.3853/j.2201-4349.76.2024.1906

Braby, M.F. & Heath, M. (2024) *Sarbanissa diana* Sugi, 1996 (Lepidoptera: Noctuidae) newly recorded from Australia. *Australian Entomologist* **51 (4)**: 179–182.

Braby M.F., Hsu, Y-F. & Lamas, G. (2024). How to describe a new species in zoology and avoid mistakes. *Zoological Journal of the Linnean Society* **202 (4) (zlae043)**: 1–16.

https://doi.org/10.1093/zoolinnean/zlae043

Carvalho, A.P., Owens, H.L., St Laurent, R.A., Earl, C., Dexter, K.M., Messcher, R.L., Willmott, K.R., Aduse-Poku, K., Collins, S.C., Homziak, N.T., Hoshizaki, S., Hsu, Y-F., Kizhakke, A.G., Kunte, K., Martins, D.J., Mega, N.O., Morinaka, S., Peggie, D., Romanowski, H.P., Safian, S., Vila, R., Wang, H., **Braby, M.F.**, Espeland, M., Breinholt, J.W., Pierce, N E., Kawahara, A.Y. & Lohman, D.J. (2024) Comprehensive phylogeny of Pieridae butterflies reveals strong correlation between diversification and temperature. *iScience* **27** (**109336**): 1–13.

Castillejos-Lemus, D.E., Nieves-Aldrey, J.-L., Zhang, Y.M., **Nicholls, J.A.**, Medianero, E., Rougon-Cardoso, A, Stone, G.N. & Oyama, K. (2025) Phylogenomic insights and geographic distribution of the New World genus *Amphibolips* Reinhard (Hymenoptera: Cynipidae, Cynipini) using ultraconserved elements. *Systematic Entomology* 50: 349–368. https://doi.org/10.1111/syen.12659

Cutmore, S. C., Bray, R. A., **Huston, D. C.,** Martin, S. B., Miller, T. L., Wee, N. X., Yong, R.Q-Y. & Cribb, T. H. (2025). Twenty thousand fishes under the seas: Insights into the collection and storage of trematodes from the examination of 20,000 fishes in the tropical Indo west-Pacific. *Journal of helminthology*, *99*, e45. https://doi.org/10.1017/S0022149X24000968

Dyne, G.R. (2024). New species and records of earthworms (Oligochaeta: Megascolecidae) from Queensland's Scenic Rim. *Memoirs of the Queensland Museum – Nature* 65: 124–145. https://doi.org/10.17082/j.2204-1478.65.2024.2024-06

Giannotta, M.M., Smith, I., Michie, M., Blasdell, K., Dunn, M., **Nicholls, J.A.**, Heath, A.C.G., **Rodriguez, J.** & Gofton, A.W. (2024) Molecular characterisation of Australasian *Ixodiphagus* (Hymenoptera; Encyrtidae; Encyrtinae) reveals unexpected diversity and a potential novel host switch. *International Journal of Parasitology*, 54(14): 743–753. https://doi.org/10.1016/j.ijpara.2024.09.001

Hart, L.J., **Ślipiński, A.**, Frese, M., Djokic, T. & McCurry, M.R. (2024) The first fossil longhorn beetles (Coleoptera: Cerambycidae) from Australia. *The Science of Nature*, 112(1):2. https://doi.org/10.1007/s00114-024-01954-0

Huang, Y.-H., **Escalona, H. E.**, Sun, Y.-F., Zhang, P.-F., Du, X.-Y., Gong, S.-R., Tang, X.-F., Liang, Y.-S., Yang, D., Chen, P.-T., Yang, H.-Y., Chen, M.-L., Hüttel, B., Hlinka, O., Wang, X., Meusemann, K., **Ślipiński, A., Zwick, A.**, Waterhouse, R. M., ... Pang, H. (2025). Molecular evolution of dietary shifts in ladybird beetles (Coleoptera: Coccinellidae): from fungivory to carnivory and herbivory. *BMC Biology*, *23*(1), 67. https://doi.org/10.1186/s12915-025-02174-2

Huston, D.C., Cutmore, S.C. & Cribb, T.H. (2025). Digenean life cycle truncation has enabled the opportunistic exploitation of herbivorous fishes. *Journal of Helminthology*, 99, e28. https://doi.org/10.1017/S0022149X25000069

Huston, D.C., Cutmore, S.C., Cribb, T.H., Sasal, P. & Yong R.Q-Y. (2024). Taxonomy and systematics of *Emprostiotrema* Cianferoni and Ceccolini, 2021 (Digenea: Emprostiotrematidae), parasites of rabbitfish (Siganidae) from the Indo-West Pacific marine region. *Parasitology* 1–15. https://doi.org/10.1017/S0031182024001252

Huston, D.C., Khudhir, M. & Hodda, M. (2024). *Turbiditylenchus corticeus* n. gen., n. sp. (Rhabditida: Anguinidae) from the bark of *Eucalyptus macrorhyncha* from the Australian Capital Territory. *Nematology*, 26: 1163–1177.

https://doi.org/10.1163/15685411-bja10363

Kirsch R, Okamura Y, García-Lozano M, Weiss B, Keller J, Vogel H, Fukumori K, Fukatsu T, Konstantinov AS, Montagna M, Moseyko A.G., Riley E.G., **Ślipiński A.**, Vencl F.V., Windsor D.M., Salem H., Kaltenpoth M. & Pauchet Y. (2025) Symbiosis and horizontal gene transfer promote herbivory in the megadiverse leaf beetles. *Current Biology*, 35(3):640– 654.e647. https://doi.org/10.1016/j.cub.2024.12.028.

Jain, A., **Huston, D.C.,** Kaur, J., Trollip, C., Wainer, J., **Hodda, M.**, Linsell, K., Riley, I.T., Toktay, H., Olowu, E.A., Edwards, J.,Rodoni, B. & Sawbridge, T. (2025). Insights from draft genomes of *Heterodera* species isolated from field soil samples. *BMC Genomics*, 26:158. https://doi.org/10.1186/s12864-025-11351-0

Liang, W., Nunes, R., Leong, J.V., Carvalho, A.P.S., Müller, C.J., **Braby**, **M.F.**, Pequin, O., Hoshizaki, S., Morinaka, S., Peggie, D., Badon, J.A.T., Mohagan, A.B., Beaver, E.P., Hsu, Y-F., Inayoshi, Y., Monastyrskii, A., Vlasanek, P., Toussaint, E.F.A., Benítez, H.A., Kawahara, A.Y., Pierce, N.E. & Lohman, D.J. (2024) To and fro in the archipelago: repeated interisland dispersal and New Guinea's orogeny affect diversification of *Delias*, the world's largest butterfly genus. *Molecular Phylogenetics and Evolution* **194 (108022)**: 1–17.

https://doi.org/10.1016/j.ympev.2024.108022

Lin, R.-J., Lin, Y.-C., **Braby, M. F., Zwick, A.** & Hsu, Y.-F. (2024). Phylogenetic relationships and historical biogeography of silkmoths (Lepidoptera: Bombycidae) suggest an origin in Southern Gondwana. *Molecular Phylogenetics and Evolution, 200,* 108176: 1–9. https://doi.org/10.1016/j.ympev.2024.108176

Nicholls, J.A., DeMartini, J.D. & Stone, G.N. (2024) Re-discovery and detailed description of the gall of *Andricus mendocinensis* Weld, 1957 (Hymenoptera: Cynipidae: Cynipini) on the tanoak *Notholithocarpus densiflorus* (Hook. & Arn.) Manos, Cannon & S.H.Oh (Fagaceae). *Pan-Pacific Entomologist* 100: 343–347. https://doi.org/10.3956/2024-100.4.343 Nicholls, J.A., Ringelberg, J.J., Dexter, K.G., Loiseau, O., Stone, G.N., Coley, P.D., Hughes, C.E., Kursar, T.A., Koenen, E.J.M., Garcia, F., Lemes, M.R., Neves, D.R.M., Endara, M.J., de Lima, H.C., Kidner, C.A. & R.T. Pennington (2025) Continuous colonization of the Atlantic coastal rain forests of South America from Amazônia. *Proceedings of the Royal Society of London B* 292: 20241559. https://doi.org/10.1098/rspb.2024.1559

Parvizi, E., Bachler, A., **Zwick, A.**, Walsh, T. K., Moritz, C. & McGaughran, A. (2024). Historical museum samples reveal signals of selection and drift in response to changing insecticide use in an agricultural pest moth. *Journal of Evolutionary Biology*, *37*(8), 967–977. https://doi.org/10.1093/jeb/voae068

Slater-Baker, M-R., Guzik, M., Rodriguez, J., Howe, A., Woodward, A., Ducker, N. & Fagan-Jeffries, E. (2025) Three new species of Australian miracine parasitoid wasps collected by regional schools as part of the Insect Investigators citizen science project (Hymenoptera, Braconidae, Miracinae). *Journal of Hymenoptera Research* 98: 19–45. https://doi.org/10.3897/jhr.98.137806

Sottile, S., **Nicholls, J.A.**, Stone, G.N. & Cerasa, G. (2025) An integrative taxonomic approach to describe *Andricus pseudomultiplicatus* sp. nov. and establish new synonymies in *Andricus* Hartig, 1840 (Hymenoptera: Cynipidae: Cynipini). *Zootaxa* **5609**: 451–478. https://doi.org/10.11646/zootaxa.5609.4.1

Stenhouse, A., Fisher, N., Lepschi, B., Schmidt-Lebuhn, A., **Rodriguez,** J., Turco, F., Toms, E., Reeson, A., Paris, C. & Thrall, P. (2023) Improving Biological Collections Data through Human-AI Collaboration. *Biodiversity Information Science and Standards* 7, e112488. https://doi.org/10.3897/biss.7.112488

Tennent, W.J. & **Braby, M.F.** (2024) Resolution of a muddle in butterfly labelling resulting from the activities of Colin Wyatt. *Australian Entomologist* **51** (2): 99–102.

Woinarski, J.C.Z., **Braby, M.F.**, Gibb, H., Harvey, M.S., Legge, S.M., Marsh, J.R., Moir, M.L., New, T.R., Rix, M.G. & Murphy, B.P. (2024). This is the way the world ends; not with a bang but a whimper: estimating the number and ongoing rate of extinctions of Australian non-marine invertebrates. *Cambridge Prisms: Extinction* **2 (e23)**: 1–11. https://doi.org/10.1017/ext.2024.26