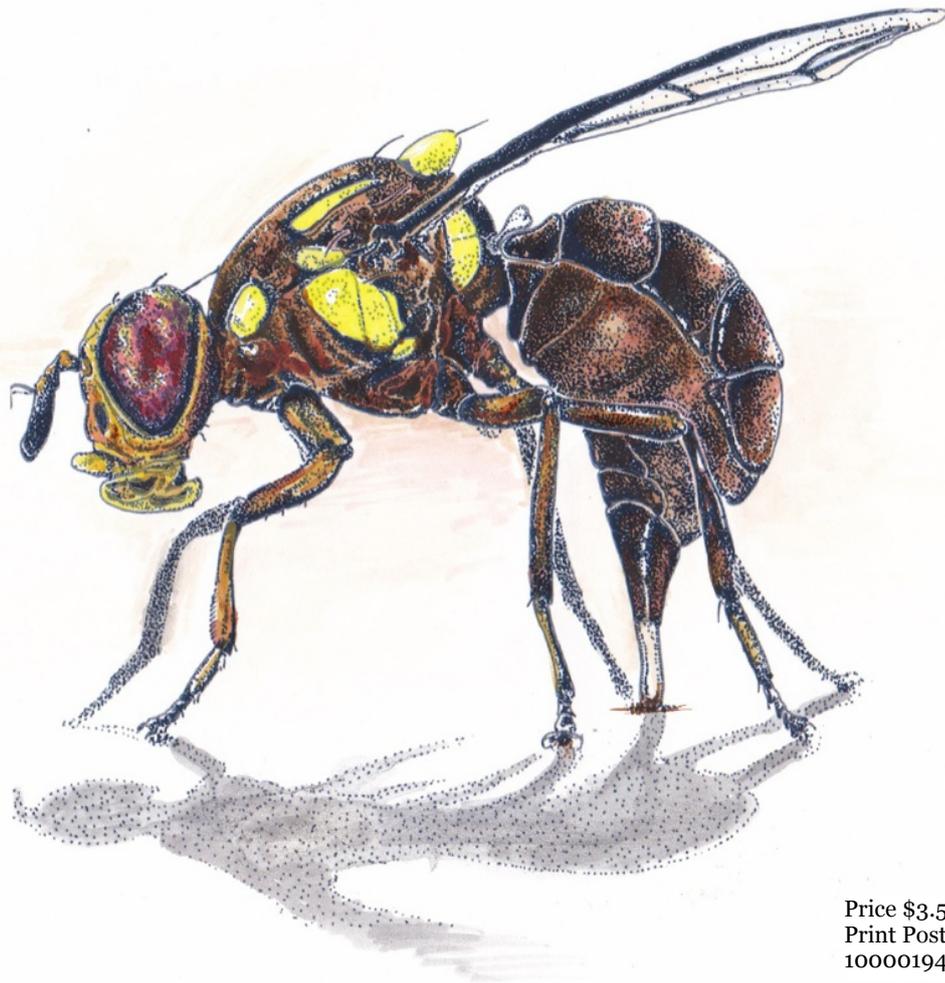


Entomological Society of Queensland

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Entomological Society of Queensland

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Front cover image: Few insects are as quintessentially 'Queensland' as the Queensland fruit fly, *Bactrocera tryoni* (Froggatt). The bane of backyard gardeners and professional orchard growers alike, the 'Qfly' has been the subject of much research across the decades up to and including today. Described by Walter Wilson Froggatt (1858-1937) and named after Henry Tryon (1856-1943), Queensland's first Government Entomologist.

Illustration by Mark Schutze based on a photograph by Jaye Newman.



Entomological Society of Queensland

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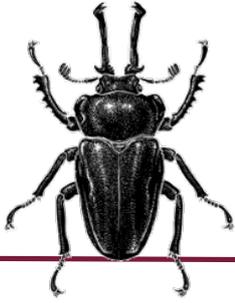
The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News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

Contributions to the *News Bulletin* such as items of news, trip reports, announcements, etc, are welcome and should be sent to the News Bulletin Editor.

The Society publishes **THE AUSTRALIAN ENTOMOLOGIST**. This is a refereed, illustrated journal devoted to Entomology in the Australian region, including New Zealand, Papua New Guinea and the islands of the South Western Pacific. The journal is published in four parts annually.

EMBLEM: The Society's emblem, chosen in 1973 on the 50th anniversary of the Society, is the King Stag Beetle, *Phalacrognathus muelleri* (Macleay), Family Lucanidae (Coleoptera). Its magnificent purple and green colouration makes it one of the most attractive beetle species in Australia. Other common names include Rainbow, Golden and Magnificent Stag Beetle. It is restricted to the rainforests of northern Queensland. Emblem illustration by Sybil Curtis.

The issue of this document does **NOT** constitute a formal publication for the purposes of the "International Code of Zoological Nomenclature 4th edition, 1999". Authors alone are responsible for the views expressed.



Entomological Society of Queensland

Minutes for General Meeting

Tuesday, December 8th, 2020

Hybrid meeting via Zoom (remote log-in) and Ground floor seminar rooms, Ecosciences Precinct, Boggo Rd, Dutton Park.

Meeting open: 3:01 pm

Attendance (43):

Members (41): Andrew Hayes, Andy Walker, Anthony Postle, Bernie Franzmann, Dawn Franzmann, Bill Palmer, Colleen Foelz, Davina Paterson, Ethan Briggs, Geoff Monteith, Isabella Giannasca, Jane Royer, Jessa Thurman, Kathy Ebert, Kempsey Ledger, Luke Splatt, Melissa Starkie, Mike Muller, Nadine Baldwin, Owen Seeman, Penny Mills, Rachel McFadyen, Simon Lawson, Susan Wright, Tim Heard, Vivian Sandoval, Katie Hiller. *Via Zoom:* Andrew Hulthen, Braxton Jones, Claudia Schipp, David Merritt, David Rentz, Eric Sinclair, Geoff Thompson, Geoff Waite, Jaye Newman, Lyn Cook, Matthew Connors, Nicole McMullen, Shannon Close.

Visitors (1): Judy Haines.

Plus one unnamed affiliate attended via phone login.

Minutes: The minutes of the last meeting were circulated in News Bulletin 48[8] November 2020. Moved the minutes be accepted as a true record: *Bill Palmer*, Seconded: *Penny Mills*, Carried: *All*.

Nominations for membership approved by council:

General members:
Isabella Giannasca

General Business:

ESQ 2021 calendars are still available. Vivian will be managing the sales, so please send through your order form to her or purchase one at today's meeting. There is a new book available: *Dragonflies and Damselflies of the Gold Coast* by Damian White, Narelle Power and Chris Burwell. Adrian Holbeck has batches of 4+ same-subject books for sales (e.g. Coleoptera, Hymenoptera, Insects, Bush Tucker,

Pests and Diseases, etc.) for \$250 each. See page 212.

Main Business:

Notes & Exhibits presentations:

Jessa Thurman (PhD candidate; UQ): *The lustrous dark lady*

Davina Paterson (Moreton Bay College): *A Teenage Life with Bugs*

Katie Hiller: Notes on *Phyllium monteithi*, the Australian Leaf insect in captivity

Mark Schutze (DAF): *A new emergency plant pest detection: Liriomyza huidobrensis—the Serpentine (or Pea) leafminer*

Tim Heard: *Observation hives for native stingless bees*

Vote of thanks: Simon Lawson

Next meeting: 9 March 2021

The next meeting is our March AGM on 9th March. Our outgoing President Mark Schutze will give the Presidential Address.

Meeting closed: 4:10pm.



Mark Schutze chairs the December meeting at EcoSciences Precinct seminar room. Members are seated apart for appropriate social distancing.



At our next meeting...

Annual General Meeting followed by Presidential Address:

“Names Matter: robust systematics = stable taxonomy = accurate diagnostics.

presented by Dr Mark K. Schutze

Senior Entomologist
Plant Biosecurity, Biosecurity Queensland
Qld Dept. of Ag. and Fisheries (DAF)



Insects* are as abundant as they are diverse, as magnificent as they are mysterious.

As entomologists† we take great joy in unravelling insect* lives to better understand their variation, evolution, behaviour, and overall place in the world and in finding ways to live with them when our worlds collide. To do this, we must first catalogue and name them: we must describe insects, for without names we are adrift.

Our challenge is to achieve this goal with limited time and resources in the face of threats to insects, their allies, and taxonomists alike. To this end, we seek to produce stable taxonomies grounded in robust systematics that stand the test of time. As daunting as this sounds, there has never been a better time to do it as new technologies and approaches grant us ever-more avenues to resolve the arrangement of leaves and branches in the great tree of insect* life.

We must also acknowledge the difficulties faced in this ‘new age’ of taxonomy and systematics, as we are confronted by a dizzying array of information that must be reconciled with traditional approaches. The benefits far outweigh any drawbacks, however, and this presentation will ambitiously touch upon this broadest of topics with special reference to, naturally, the tephritid fruit flies.

**And their allies: the mites, scorpions, spiders, and others.*

†And arachnologists, including araneologists and acarologists



Join us... *Virtually!*

Or in person!

Ground floor EcoSciences Seminar Room.

Tuesday 9th March at 1pm

Zoom link:

Meeting ID:

Zoom app:

<https://usc-au.zoom.us/j/83549873090>

Phone:

+61 2 8015 2088

Room System:

83549873090@zoom.aarnet.edu.au

The zoom calendar invitation will also be emailed to members directly, from which you can directly access the above links.

Questions? Or wish to attend in person? contact our Secretary, Penny Mills at secretary@esq.org.au

All welcome!

Entomological Society of Queensland Annual Reports for 2020

President's Annual Report 2020

--Mark Schutze



The year that has been one of great change and challenges for our Society. Yet despite the difficulties faced, I am confident we have emerged stronger and in a much better position to continue serving our entomological community. For one, our membership has grown over the year and now tops 400 members, demonstrating ever-present enthusiasm for what we do and why we do it. Nevertheless, this doesn't emerge from thin air and this year, as always, we have been working hard to not only maintain momentum, but to build it.

In the 'before times' I had set a number of objectives to shepherd through with Council in 2020.

The first of these was to guide through significant changes in Member Privileges, especially the provision of the *Australian Entomologist* to all financial members of the society, an initiative spearheaded by Geoff Monteith in 2019. Up until 2020, the journal was only available to subscribers of the journal itself, not to ESQ members at large. By opening up the journal to all members, we have broadened the readership and—we envisage—opened the doors to inspire more members to consider submitting articles to the journal. Of course, this has occurred with parallel changes in the journal's Committee; especially the appointment of Greg Daniels as Editor and Susan Wright as Business Manager, taking over from Geoff who continues to play a strong role with the journal. But this didn't all happen overnight! By making the

journal available to ESQ members, this resulted in a need to review how the finances were managed between the ESQ accounts and those of the journal, given the almost certain outcome that journal-only subscriptions would shrink now that the *Aust. Ent.* was to be part of the ESQ membership package. This necessitated updates to ensure financial contribution from ESQ accounts to journal accounts, along with a simultaneous review of subscriptions rates for ESQ members and journal subscribers to preserve ongoing sustainability of the Society and the journal. Council and the Journal Committee worked hard to strike a balance, and we believe we have achieved this aim. We will continue to review the situation in years to come and consider changes as needed. This all, naturally, required updates to the ESQ Constitution to reflect these changes; additional amendments were also passed. I wish to thank Council and the Journal Committee for their work and assistance in making this happen.

Another task on my 'list of things to do' was for us to appoint a Chair and form a Subcommittee to begin preparations for the 100th Anniversary of the formation of our Society in *only two years' time* ('ESQ2023'). This has, I am very glad to say, gone extremely well with Tim Heard accepting the role of Chair and forming a team to support him in getting things underway. I think we have a good mix of the 'old guard' and 'youthful enthusiasm' to give us the best start possible. Indeed, such enthusiasm is not restricted to us, but in meetings with the Queensland Museum executive, including Chief Executive Officer Dr Jim Thompson, it is clear that others are as excited as we are and that we have an opportunity to put on something really special. Thank you to Tim and his Subcommittee in leading this. Let's not take the foot off the pedal.

We have continued to maintain links with other like-minded scientific societies, hosting presentations by

the Treasurer of the NSW Entomological Society and staying in touch with the Butterfly and Other Invertebrates Club and the Royal Society of Queensland through their 'Queensland Science Network' (QSN) for which Geoff Monteith has been appointed ESQ's official representative. While the Covid restrictions have hampered plans for collaborations with these Societies in 2020, including the cancellation of the World Science Festival, we hope 2021 brings more opportunities as the situation improves. Similarly, our plans for field trips (our famous 'Bug Catches') have been hampered; but with the recent summer rains here's hoping we get back out sooner rather than later.

I wish to thank all of our speakers in 2020 who have endured our hasty yet largely successful transition to digital presentations; and an apology to Geoff Monteith who was the first 'cab off the rank' this year and hence had his talk cancelled due to the initial outbreak. Thankfully, however, Geoff was able to put together a fantastic contribution for the *News Bulletin*. I acknowledge that many of the talks this year had a lot to do with tephritid fruit flies, but for those who know me: are you really surprised? I do hope that they were of interest however, and that there were just enough non-fruit fly talks to keep things varied. Speaking of varied, I am once again highly impressed by our Notes and Exhibits meetings. These really are a wonderful way to grab a snap-shot into what our membership is up to and I heartily encourage all members to be bold and step up for future 'show and tells'.

Congratulations once again to our Award winners this year: to Shannon Close for her Student Award, and to the 2020 recipient of the Small Grant Scheme Award, Ethan Beaver. I understand the travel restriction have had an impact on Ethan's collecting plans, but contingencies are in place and we look forward to seeing his project progress in 2021. Congratulations once again to Neil Heather, who was this year inducted into the Society as one of our Honorary Life Members.

Penultimately, I wish to acknowledge the 2020 ESQ Council, especially Susan Wright and Bill Palmer who were dropped in the deep end at the start of the year as Journal Business Manager and ESQ Treasurer, respectively. Valiant efforts from both have been brought to bear, and for that I am truly appreciative. Our Secretary, Penny Mills, has demonstrated remarkable eye for detail and been ever-there to keep me honest, while Kathy Ebert has continued to outshine herself as *News Bulletin* Editor. Our Councillors, Vivian Sandoval, Mike Muller, and Shannon Close have also provided wonderful support especially in leading the ESQ Calendar, as has Past President Gary Fitt who sees out his tenure on Council this year along with Shannon who we bid farewell as she has more important matters to look after as she shifts focus from six legs to two (well, technically four): her new son, Harrison. Great thanks to our Permit Officer, Christine Lambkin, for her perpetual energy in maintaining this most highly valued Privilege available to members. And a very big thank you to Vice President Helen Nahrung, 'Zoom-saviour *par excellence*' who came along *just at the right time*. This year we already had a lot to grapple with, and that was before the pandemic. To use the parlance of our times, all of Council have 'pivoted' to face this most 'unprecedented' of times, demonstrating resilience and fortitude at every turn. In far fewer places have I seen such dedication to maintain buoyancy when faced with such blustering and tempestuous 'head-winds'.

And finally, I thank all the ESQ members for their involvement and participation in the Society; we would be nothing without them; it is for them that we are here.

In closing, I wish the Council and especially the incoming President of 2021 all the very best in restoring a sense of normality to proceedings as we look toward exciting times ahead.

Dr Mark Schutze

2020 ESQ President





Secretary's Annual Report 2020

Attendance at Council Meetings: The 2020 Council met 12 times from the March AGM to February 2020, including an additional council meeting held in July and a special council meeting held on 6th October. Due to the COVID-19 circumstances, the April–September Council Meetings were held online via Zoom. As restrictions eased, our Council Meetings became a hybrid event (some members attended in person whilst other members joined the meeting virtually). Attendance by council members (Mar-Feb) is provided in Table 1:

Table 1. Attendance record for ESQ Council Members in 2020 (March 2020 – February 2021). Additionally, Christine Lambkin (Permit Officer) attended two meetings and Tim Heard (ESQ2023 subcommittee Chair) attended two meetings. Mike Muller was outgoing Past President for the March Council Meeting prior to the AGM before becoming a councillor for 2020. Geoff Monteith, Jessa Thurman and Cate Paull were outgoing *Australian Entomologist* Bulletin Editor, Treasurer and Councillor respectively and only attended the March Council Meeting.

Position	Name	Attendance
President	Mark Schutze	11
Vice President	Helen Nahrung	11
Past President	Gary Fitt	12
Secretary (& Assistant News Bulletin Editor)	Penny Mills	12
Treasurer	Bill Palmer	11
<i>Australian Entomologist</i> Business Manager	Susan Wright	10
New Bulletin Editor	Kathy Ebert	11
Councillor	Shannon Close	9
Councillor	Vivian Sandoval	11
Councillor	Mike Muller	12

Membership: Council received and approved 47 new membership applications between January and December 2020 (30 general; 12 students; 5 joint). This was higher than the number of new members approved in 2019 ($n = 36$). Our new student members include tertiary, secondary and primary school students which is a fantastic age spread of new members. Of new student members: UQ (4), USQ (1), UNSW (1), Deakin University (1), ANU (1), Moreton Bay College (1), Yeronga State School (1), Leichhardt Public School: (1) and St Paul's Lutheran Primary (1). Thirty-two memberships and one sustaining associate were terminated (twelve requested terminations and one deceased).

Student award: One student award submission was received and judged by Mark Schutze (Chair), Cate Paull and Chris Burwell. The winner was **Shannon Close** (UQ; Supervisor: David Merritt) for her thesis on: The female reproductive system of an adenotrophically viviparous fly, *Cyclopodia albertisii* Rondani 1878. Shannon presented her thesis at the virtual June 2020 Notes and Exhibits and the accompanying article in the *News Bulletin* Vol. 48 (4).

Small Grants Scheme: Four applications for the 2020 SGS were received by the Secretary. The judging panel of Mark Schutze (Chair), Andrew Hayes, and Susan Wright selected **Ethan Beaver's** proposal titled: The systematics of the *Ogyris aenone* species group. Unfortunately, Ethan was unable to undertake the planned field work for his project in 2020, but hopefully with restrictions easing his planned field trip can go ahead.

General Meetings were scheduled to be held at the Ecosciences Precinct in Dutton Park. However, due to the enforced restrictions brought in soon after our March AGM meeting, we had to cancel our April General Meeting. Not to be dissuaded by the unusual circumstances we faced, and Mark's determination that the subsequent general meetings would still go ahead despite rain, hail or a global pandemic, we soldiered on, tinkered with the speaker schedule and held our first virtual meeting via the Zoom meeting platform. Immense thanks goes to Owen Seeman who happily obliged to be our first "guinea pig" and test the system out. It was amazing to see our members adapt to these unprecedented times and embrace the novel way of attending our general meetings. Holding virtual and hybrid (Room 'n' Zoom) general meetings were not without it challenges, and some attendees could not be positively identified so had to be relegated to "Unknown affiliates". Speakers, titles, and attendance records are listed in Table 2. We had a boost in average 2020 attendance (61.4

participants) thanks to the virtual and hybrid Room ‘n’ Zoom meetings compared with our 2019 average attendance (45.4 participants).

Table 2. Details of 2020 ESQ General Meetings (Mar–Dec), including month, type of presentation (if different from general presentation), speakers, titles, and attendance records for ESQ members and visitors. Unfortunately, due to COVID-19 restrictions, the April General Meeting had to be cancelled.

Month	Speaker	Title	Members attended	Visitors attended	total
Mar	Presidential Address Gary Fitt	From <i>Helicoverpa</i> to Ebola – reflections on the ecological underpinning of pest management, resistance management and biosecurity	30	6	36
Apr	Geoff Monteith	Searching for Cooloola monsters: 40 years of discovery of these iconic Queensland insects	NA*	NA*	NA*
May	Owen Seeman	Mites on insects: the other other 99%	64^	14^	78^
June	Notes and Exhibits Shannon Close (student award)	The female reproductive system of an adenotrophically viviparous fly, <i>Cyclopodia albertisii</i> Rondani 1878			
	Michael Ramsden	My home insect museum: Education, reference and just plain fun			
	Vivian Sandoval	Australian insects on stamps	61^	6^	67^
	Robin Parsons	Update from the Entomological Society of NSW			
	Penny Mills	Entomology in isolation			
Aug	Matt Krosch	Bugs and bodies in the tropics and from the air: forensic entomological research at the Queensland Police Service	58 (40)	15 (12)	73
Sept	Melissa Starkie	Biogeographic histories and evolutionary relationships of Australian Dacini fruit flies	58 (33)	10 (5)	68
Oct	Jane Royer	The chemical ecology of male fruit fly lures: from pollination to annihilation	49 (26)	12 (3)	61
Nov	Hazel Parry	Digital IPM: managing insect pests in the age of big data, computer simulation and the ‘Internet of Things’	43 (16)	24 (20)	67
Dec	Jessa Thurman	The lustrous dark lady			
	Davina Paterson	A teenage life with bugs			
	Notes and Exhibits Katie Hiller	Notes on <i>Phyllium monteithi</i> , the Australian leaf insect in captivity	40 (13)	3 (1)	43
	Mark Schutze	A new emergency plant pest detection: <i>Liriomyza huidobrensis</i> , the Serpentine (Pea) leafminer			
	Tim Heard	Observation hives for native stingless bees			
Average attendance			50.4	10.5	61.4

* Due to the COVID-19 restrictions we had to cancel our April General Meeting so no attendance was recorded. However, Geoff Monteith provided an amazing Feature Article for *News Bulletin* 48(2) on the timeline of Cooloola monster discoveries.

^ All members attended the meeting virtually via the Zoom meeting platform.

(#) Number of participants who attended the hybrid meetings virtually via the Zoom meeting platform.

Owen Seeman's May presentation drew the largest attendance (64 members and 14 visitors, total = 78) albeit, virtually. However, it was one of the best attended meeting in recent times, with Ary Hoffman's 2019 Perkins Lecture (66 participants) and Tim Heard's Presidential Address in 2018 (at least 65 participants) being the next best attended meetings.

Acknowledgements: Thanks to Vivian who assisted me with my secretarial duties in September due to an unfortunate misadventure which left me as an one-armed bandit. Thanks also to all of Council for adapting quickly to changing circumstances, especially to our President Mark for steering the ship through some of the most challenging and uncertain times the ESQ has faced, and to Vice President Helen for her assistance in setting up and organising the virtual and hybrid general meetings throughout the year. 2020 has been an unforgettable year in more ways than one, but we take the lessons learned into 2021 and hope we can still provide an excellent service to all our members.

Penelope J. Mills

ESQ Secretary

2 Feb 2021

Submissions now being accepted



ESQ Small Grants Award

ESQ Council initiated the Small Grants Scheme in 2017 to further encourage entomological research and study, especially in our wonderfully diverse state of Queensland! We see this as an excellent way to reinvest Society resources into our membership community, providing support to undertake a project that advances our understanding of the amazing insect world that surrounds us. Projects can be anything related to entomology, including targeted collecting trips, visits to museums or other institutions, ecological, physiological or behavioural studies, or even work that is more applied and in the agricultural or medical fields. It's all up to you and your imagination!

A pro forma is available on the ESQ website (www.esq.org.au/pdf/SGSaward2021.pdf) with applications due to the ESQ Secretary by no later than the 30 April 2021. The maximum budget for the project is \$2000, with the successful applicant announced by the end of June 2021. Funds will be available from July 2021 and the project is to be undertaken between July 2021 and June 2022. While this grant scheme is open to all ESQ members, both far and wide, we encourage submission of project proposals with a Queensland entomology focus. We also encourage you to consider projects that may be suitable for submission to the *Australian Entomologist* journal, or even a note for the ESQ News Bulletin or presentation at one of ESQ's General Meetings!

All the best and good luck!

2021 ESQ Student Award

The Student Award was established by the Society to encourage entomological research. It is open to any student who completed an Honours Degree, Postgraduate Diploma or 4-year Undergraduate Degree at a Queensland tertiary institution in the previous calendar year. Entrants need not be Society members. See our website for details: www.esq.org.au/awards

Treasurer's Annual Report for 2020

To get a complete picture of the financial position of the Society, members must also read the financial information contained in the report for the *Australian Entomologist*. Overall, the financial situation for the Society is very sound indeed. When we consider the Society as a whole, we have some \$48,357 in assets over our liabilities. This is approximately twice our total 2020 expenditure of \$23,328. However we are anticipating considerable, unusual expenditure over the next three years in relation to events to be held for our centenary in 2023.

Council had to appoint a new auditor in December because our designated auditor Ms Rebecca Keys became unavailable. Mr Bob Miller FIPA, FAA, JP (Qual.) kindly offered his services and conducted the audits. It is anticipated Mr Miller will stay on for 2021.

Although many members were in arrears early in the year, this was quickly rectified and the year ended in a very healthy state with some 410 financial members. There were some 52 new members approved by Council which is an indication of the good health of the Society. Some 32 memberships were terminated by resignation, death or by falling two years behind in their subscription. The general account operated by the Treasurer showed a small profit of \$821.60 for the year after allowing for a new \$5,000 term deposit. The increase in income this year from memberships of some \$2,769 over last year reflects the new memberships, the payment of overdue fees, greater payment of 2021 fees within the 2020 financial year and the fee increase for the 2021 subscriptions.

No income was received into the general account from term deposits this year because the term deposits did not mature within the year. Interest rates are now at historically low levels and likely to remain low for some years. Any new term deposits will probably attract interest rates of well under 1% pa. The printing and postage of our News Bulletin remains our major expenditure (\$4862.83). The customary small grant award (\$2,000) and Student Award (500.00) were also made. Calendar sales more than covered production costs.

Bill Palmer

Treasurer, Entomological Society of Queensland

28th Jan 2021

Nominations for ESQ 2021 Office Bearers

The following nominations were received by the Secretary before closing date of January 22nd:

President: Helen Nahrung. *Nominated by Simon Lawson, Seconded by Andrew Hayes*

Vice President: Andrew Hayes. *Nominated by Helen Nahrung, Seconded by Simon Lawson*

Secretary: Penelope Mills. *Nominated by Ethan Briggs, Seconded by Craig Edwards*

Treasurer: Bill Palmer. *Nominated by Mark Schutze, Seconded by Luke Splatt*

Councillor: Brendan Trewin. *Nominated by Mark Schutze, Seconded by Melissa Starkie*

Councillor: Vivian Sandoval. *Nominated by Mark Schutze, Seconded by Penny Mills*

Councillor: Mike Muller. *Nominated by Mark Schutze, Seconded by Luke Splatt*

News Bulletin Editor: Kathy Ebert. *Nominated by Penny Mills, Seconded by Mark Schutze*

Australian Entomologist - Business Manager: Susan Wright, *Nominated by Kathy Ebert, Seconded by Penny Mills*

ESQ Collecting Permit Report for 2020

The Queensland Parks and Wildlife Service (QPWS), Department of Environment and Science (DES) Scientific Purpose Permit ESQ PTUKI for National Parks and CYPAL WITK18701717 and State Forests WITF18701717 to collect unprotected invertebrates in QLD is valid until 8 June 2021. Amendments PTUKI WITK18701717-1 for National Parks on 27 February 2019 **included KULLA (McIlwraith Range) NP (CYPAL)**, and PTUKI WITK18701717-3 for National Parks on 18 September 2019 **included Rungulla and Coalstoun Lakes NP**. No amendments were sought in 2020.

Of the 271 protected areas now on the permit:

- 216 require prior online notification and many require additional phone contact as outlined on the ESQ Permit website
- 7 NP with IMA/ILUA/CYPAL now also require written evidence of permissions for each specific case prior to access and have many extra conditions as outlined on the ESQ Permit website
- 42 areas **have PARTS to which access is not allowed**. When issuing the PTUKI QPWS provided maps of Post-Wik (Dec. 1996) **no access areas (RAA) with valid NT** that are not to be accessed, now available on the ESQ Permit website. A NP or SF may contain both Pre-Wik and Post-Wik areas.

Ethical Biodiversity Research Guidelines have been developed for ESQ researchers working with Aboriginal groups. A set of protocols and procedures has been developed and upgraded several times that ESQ biological researchers should follow when working on country has been posted on the ESQ permit website. By being pro-active, ESQ may lead the way in establishing additional protocols for researchers who come under their permits. The ongoing aim is to significantly increase cultural understanding focusing on potential benefits for Traditional Owners, integrating their cultural aspirations, two-way communication and knowledge transfer including training in appropriate level of cultural knowledge and best scientific practice. The **ESQ Protected areas, Conditions & Contacts** and **ESQ Collecting permit Protocols and Procedures** have been corrected, upgraded and both are available on the ESQ Permit website or directly from the Permit Officer.

We received notice from the Acting Senior Ranger (Eastern Downs) of a **breach of the conditions of our Scientific Purpose Permit WITK18701717** on the 4th January 2020 in Giraween NP by an endorsed member. The alleged breaches included:

1. Lack of online notification 7 days prior.
2. Lack of contact with Ranger as required.
3. Assistant not endorsed on permit and unable to produce identification.
4. Light sheet on a NP track.
5. Camping or remaining overnight on permit areas.

Nor was the endorsed person able to produce a printed endorsed copy of the permit as required.

The notice and my recommendations were presented to the ESQ Council on Tuesday 10th March 2020 at the first meeting for the year. The ESQ Council decided that:

- 1) The member concerned be dis-endorsed from the ESQ Collecting Permit, effective immediately;
- 2) members endorsed on the ESQ Collecting Permit are informed about the breaches
- 3) members are reminded of the conditions of the permit by announcement at the ESQ AGM and via the News Bulletin (published 31st March 2020 ESQ News Bulletin 48(1): page 11.

Chris Lambkin has discussed Permits and access to protected areas under Aboriginal co-management or with post-Wik Native Title Determinations with Cairns based John DeCampo (QPWS) and Simon Thompson (DES/DATSIP) over the last 12 months. Chris Lambkin has advised Michael Prociv (Project Officer – Approvals Management QPWS) regarding applications to collect Invertebrates and also John DeCampo (QPWS) on conditions on PTUKI for the collection of non-protected invertebrates.

As required under the ESQ permit, an annual report was submitted to QPWS in June 2020. As of June 2020, **77 ESQ members were endorsed on the ESQ collecting permits** for National Parks and CYPAL WITK18701717, WITK18701717-1, and WITK18701717-3 and State Forests WITF18701717 for 271 protected areas. 36 of those endorsed in the June QPWS 2020 report proposed to enter areas with RAA or CYPAL conditions in the 3 year life of the permit, with 30 having completed field work notifications for those areas.

In the June QPWS 2020 report 36 **ESQ members reported** on identifications of **11275 specimens** collected under the ESQ permits including **3472 butterflies & 26 moths; 466 dragonflies & damselflies, 41 flies** including 26 bee flies (with new species); **3457 Arachnids** including 1362 spiders, 1941 mites & 200 Pseudoscorpions; **10 cockroaches, 477 beetles** including 99 dung beetles, 54 flower beetles (Cetoniinae), 20 marsh beetles (Scirtidae, with new species), 25 ant-like flower beetles (Anthicidae, with new species), 54 darkling beetles (Tenebrionidae) & 71 Carabids (with new species); **2751 Hemiptera** including 148 Achilidae, 857 Aphalaridae, 40 Cicadellidae (with new species), 1138 cicadas (Cicadidae), 71 Cixiidae (with new species), 102 Eurybrachidae (with new species), 68 Fulgoridae (with new species), 50 Psyllidae, 70 lace bugs (Tingidae); **351 Hymenoptera** including 69 bees (with new species) & 274 ants; **10 lice** (Phthiraptera); **88 caddisflies** (Trichoptera) and last but not least **20 thrips** (Thysanoptera). 36 members submitted NULL reports.

Included in the June QPWS 2020 report were specimens of Arachnida (3552 specimens) and Insecta (2197 specimens) identified and registered at QM since the last ESQ report. Many of those specimens were registered because of **description of new species** following the return of loaned QM specimens described in the following papers (authors in bold ESQ members).

- Bartlett, Justin S.** 2019. Description of a second species of the genus *Australoclerus* Opitz (Coleoptera: Cleridae) *The Australian Entomologist*, 46(2): 99-103.
- Constant, J.** 2005. Revision of the Eurybrachidae (IV). The Australian genus *Gelastopsis* Kirkaldy, 1906 (Hemiptera: Fulgoromorpha: Eurybrachidae). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique* **75**: 57-69
- Constant J.** 2018. Revision of the Eurybrachidae XIV. The Australian genera *Olonia* Stål, 1862 and *Stalobrachys* gen. nov. (Hemiptera: Fulgoromorpha). *European Journal of Taxonomy* 486: 1–97. <https://doi.org/10.5852/ejt.2018.486>
- David L. Emery; Nathan J. Emery; Lindsay W. Popple**, 2019, A revision of the *Yoyetta abdominalis* (Distant) species group of cicadas (Hemiptera: Cicadidae: Cicadettinae), introducing eight new species. *Records of the Australian Museum* 71 (7): 277-347 <https://doi.org/10.3853/j.2201-4349.71.2019.1720>
- Liebherr JK** (2018) Taxonomic review of Australian *Mecyclothorax* Sharp (Coleoptera, Carabidae, Moriomorhini) with special emphasis on the *M. lophoides* (Chaudoir) species complex. *Deutsche Entomologische Zeitschrift* 65(2): 177-224. <https://doi.org/10.3897/dez.65.27424>
- Leijs R, **Dorey J**, Hogendoorn K (2020) The genus *Amegilla* (Hymenoptera, Apidae, Anthophorini) in Australia: a revision of the subgenus *Asaropoda*. *ZooKeys* 908: 45-122. <https://doi.org/10.3897/zookeys.908.47375>
- Li, X. & Yeates, D.K.** 2018. Morphological phylogeny of the Australian genera of the bee fly subfamily Bombyliinae (Diptera: Bombyliidae) with description of four new genera. *Invertebrate Systematics* **32**: 319-399.
- M.S. Moulds, L.W. Popple & D.L. Emery**, (2020) A new species of *Yoyetta* Moulds from south-eastern Australia with notes on relationships within the *Yoyetta tristrigata* species group (Hemiptera, Cicadidae, Cicadettini), *Australian Entomologist* 47 (1) 25-28.
- Noack, A.E., Cassis, G. & Rose H.A.** 2011. Systematic revision of *Thaumastocoris* Kirkaldy (Hemiptera: Heteroptera: Thaumastocoridae). *Zootaxa* **3121**: 1-60 [50].
- Popple, Lindsay, W., and David L. Emery.** 2020. Four new species of cicadas in the *Yoyetta abdominalis* (Distant) species group (Hemiptera: Cicadidae: Cicadettinae) from southeastern Australia. *Records of the Australian Museum* 72(4): 123–147.
- Will, Kipling; **Monteith, GB** 2018. Multi-locus phylogeny, taxonomic review and description of new species of Australian *Nurus* (Sensu Stricto) Motschulsky, 1865 (Coleoptera: Carabidae: Pterostichini) *The Australian Entomologist*, 45(4): 353-388

Six publications *acknowledged the ESQ permit directly* as a source of material for study (**authors in bold ESQ members**)

- Constant J. & Semeraro L.**, 2020. - Revision of the Eurybrachidae (XVI). The Australian *Olonia rubicunda* (Walker, 1851): Description of the male, distribution and host plants (Hemiptera: Fulgoromorpha: Eurybrachidae). *Belgian Journal of Entomology*, 107: 1–18.
- Ham, Robert D.** 2020. *Acraea Terpsicore* (Linnaeus, 1758) (Lepidoptera: Nymphalidae) Disperses Into Central-Western Queensland. *Australian Entomologist* 47 (3): 113–118.
- Kallies, Axel.** 2020. The clearwing moths (Lepidoptera, Sesiidae) of Australia, New Guinea and the Pacific Islands. *Zootaxa* **4833**: 1–64. <http://dx.doi.org/10.11646/zootaxa.4833.1.1>. (includes new species)
- Li, X. & Yeates, D.K.** 2018. Phylogeny and taxonomic revision of the genus *Eristalopsis* Evenhuis (Diptera: Bombyliidae: Bombyliinae). *Arthropod Systematics and Phylogeny* **76**(3): 395–427 (includes new species)

Martoni, F.; Taylor, G.S.; Blacket, M.J. Illuminating Insights into the Biodiversity of the Australian Psyllids (Hemiptera: Psylloidea) Collected Using Light Trapping. *Insects* **2020**, *11*, 354. <https://doi.org/10.3390/insects11060354>
Mitchell A, Moeseneder CH, Hutchinson PM. 2020. Hiding in plain sight: DNA barcoding suggests cryptic species in all 'well-known' Australian flower beetles (Scarabaeidae: Cetoniinae). *PeerJ* 8:e9348 <http://doi.org/10.7717/peerj.9348>

The ESQ Permit was also used to collect specimens that contributed to studies and publications by endorsed members:
Burwell, C.J., Hobson, R.G., Hines, H.B, **Jefferies, M.G., Power, N.P** and **White, D.** 2020. Dragonflies and damselflies (Odonata) of the Granite Belt region, South-eastern Queensland, Australia. *Australian Entomologist* 47 (1) 1–24, 27 March 2020.

Burwell, C.J., Theischinger, G., Leach, E.C. & Burwell-Rodriguez, A.I. 2020. Dragonflies and damselflies (Odonata) of the Eungella region, central coastal Queensland, Australia. *Proc. Roy. Soc. Qld* 125: 33-42.

Monteith, Geoff and **Ebert, Kathy** 2019 REPORT ON BEETLE STUDIES at MARY CAIRNCROSS BIOBLITZ 28 MARCH - 1 APRIL 2019. Unpublished.

White, D., Power, N.P and **Burwell, C.J.** 2020, *Dragonflies and Damselflies of the Gold Coast* (108 pages) (self published)

While a number of ESQ members attempting to enter CYPAL areas reported difficulty communicating with the relevant Aboriginal Corporation this has improved over the last year. Kutini-Payamu (Iron Range) NP and Daintree NP are under the greatest demand. Unfortunately communication with the Jabalbina re access to Daintree NP was not consistent. Under the ESQ Protocols and Procedures Ethical Biodiversity Research Guidelines members collecting in **CYPAL areas** must submit a **plain language report** to the relevant **Aboriginal Corporation** and the ESQ Permit Officer within 3 months of access.

Six 'CYPAL' reports were submitted for the June QPWS 2020 report.

Four on Lepidoptera (butterflies and moths) were submitted following access to *Kutini-Payamu NP* in July, September & October 2019.



Above: Bright Orange Darter – female. Below: White-clubbed Swift – male. Meyer & Brown 2019 survey.



Cliff Meyer and **Steve Brown** compared July 2019 findings (following Cyclone Trevor in March) of 78 species of butterfly in Kutini-Payamu NP to the 44 species recorded in July 2017. Many more rainforest understory butterflies were encountered in 2019 than prior to the Cyclone, which is to be expected as understory plants flourish with the availability of more sunlight. A week earlier **Rob Ham** recorded 50 species of butterfly in Kutini-Payamu NP and also reported that typical woodland butterflies were far more common in the rainforest than usual, probably due to increased light levels, whereas very few rainforest Lycaenids (blues) were observed, many of the trees upon which they usually settle having been defoliated or destroyed. A team of **Mark Hopkinson, Alan Hopkinson, Scott Bourne,** and **Brett Holmes** spent 8 days in September 2019, also observing 50 species of butterflies in Kutini-Payamu NP, with *Hypochrysops hippuris* the only endemic species seen. **David Lane** visited Kutini-Payamu National Park for 4 days in Oct 2019 to initiate research into the foodplants and life histories of moth families Sphingidae and Saturniidae, and Lycaenidae butterflies. Due to extremely dry conditions, only 6 moth species were reported.



Above: 3 Ways Kutini-Payamu NP Oct. 2019. Image D.Lane.
 Below: Mating pair of *Telicota mesoptis* (Hesperiidae). 2019 Image Ed Petrie.



Ed Petrie is researching the unknown native foodplants for the butterfly *Telicota mesoptis* (Hesperiidae). Due to weather and the Covid 19 crisis he was only able to undertake two field days in *Daintree NP*. He was able to identify the butterfly was widespread with 8 specimens collected and reared.

Hermes Escalona (ANIC), Living Li & Yun Hsiao (ANU) visited *Daintree NP* 26-27th October 2019 finding male cones shedding pollen of one species of cycad with weevils of the genus *Milotrane* (Curculioninae) in different locations and collecting specimens as well as notes on their bionomics. Living also collected 5 specimens of the flightless darkling beetle (Tenebrionidae) *Apterotheca costata*.

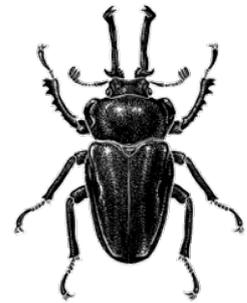
Covid 19 had a massive effect on the activities of ESQ members endorsed on the permit with the closure of camping grounds, restrictions on movement, and culminating with the closure of many National Parks and State Forests. Some projects have been cancelled, and many significantly delayed. Despite the Covid restrictions, as of January 2021, **91 ESQ members are endorsed on the ESQ collecting permits** for National Parks and CYPAL WITK18701717, WITK18701717-1, & WITK18701717-3 and State Forests WITF18701717 for 271 protected areas. 41 of those endorsed have proposed to enter areas with RAA or CYPAL conditions in the 3 year life of the permit, with 19 having completed **127 field work notifications** for those areas (including 6 CYPAL and 18 RAA) since June 2020.



Apterotheca costata on a tree trunk. Image L. Li.

Please note that the Scientific Purpose Permit ESQ PTUKI for National Parks and CYPAL WITK18701717 and State Forests WITF18701717 to collect unprotected invertebrates in QLD **is valid until 8 June 2021**. Therefore, the **renewal process** will begin soon, and negotiations, especially with the Rainforest Peoples of the Wet Tropics, are now required to provide **evidence of support from Aboriginal Corporations before submission** of the application. Members will be communicated with during this process.

Christine Lambkin
ESQ Permit Officer
Queensland Museum
South Brisbane, Qld 4104
Email christine.lambkin@qm.qld.gov.au
31 January 2021



The Australian Entomologist Annual Journal Report for 2019



After a tumultuous year which saw institutions shutdown and many researchers separated from their study subjects, scientific papers still came forth and we successfully brought you the journal for 2020. Four parts of Volume 47 of *The Australian Entomologist* were published during the year, totalling 312 pages. There were 98 pages of colour, an increase on last year. The cover image for 2020 was a black and white pen/ink stippling on paper illustration of a common eastern Australian mantid, *Sphodropoda tristis*, by ESQ President Mark Schutze. 22 original papers contributed by 44 individual authors covered a wide variety of taxa and topics. These included: 11 new species descriptions including one “honouring” COVID-19 (thanks Laurence!), new synonymies, new records for Australia, new host records, regional species lists plus numerous biological, behavioural, and life history papers, many on rarely seen insects plus an extensive bibliography. There were three book reviews. We covered mostly Australian species but some from Papua New Guinea and Fiji also featured. Taxa covered included Coleoptera (Buprestidae, Latridiidae), Diptera (Limoniidae), Hemiptera (Cicadidae), Hymenoptera (Apidae, Colletidae, Gasteruptiidae, Megachilidae, Platygasteridae), Lepidoptera (Cossidae, Hepialidae, Immidae, Sphingidae, Uraniidae and butterflies), Odonata (Synthemistidae) and Orthoptera (Acrididae), Thysanoptera

(Phlaeothripidae). There was no special issue this year. All 2020 issues were mailed out within normal circulation deadlines although postal services were disrupted and delivery, in many instances, was delayed.

Our financial statement indicates a net loss of \$1062.64 for 2020. This is less than expected due to the 47(4) printing and graphic design costs being carried over to 2021. Nearly all revenue fell again this year with less hardcopy paid subscribers, royalty income from sale of our electronic content by Informit continuing to fall, back issue sales down and page charges down (although not substantially). Most costs increased including postage although this was counteracted somewhat by the drop in hardcopy subscribers. Graphic layout costs increased substantially. Fewer subscriptions were paid in advance of 2021 as the renewal notices were sent in December rather than October due to timing of the decision for a subscription increase.

This year for the first time *The Australian Entomologist* is available to ESQ members as part of their membership. This increased readership of the journal from about 200 to about 550. Hardcopy subscriptions are maintained as stand-alone subscriptions. Finances were monitored during 2020, and from 2021 a proportion of ESQ membership income will be transferred to the *Australian Entomologist* working account, \$2500 for this year. Revised By-Laws and changes to the Constitution to accommodate the new arrangements were passed during 2020.

Hardcopy subscriber numbers fell this year to 168 from 189, with geographic distribution being as follows: ACT 9, NSW 22, NT 1, QLD 58, SA 11, TAS 6, VIC 10, WA 7, Overseas 34.

At the AGM in March, Geoff Monteith stepped down as Business Manager after 12 years, but has remained as an Assistant Editor. I took over as Business Manager at the AGM. I'd like to thank Geoff Monteith who freely offered a wealth of knowledge gathered over the last 12 years. I'd also like to thank my fellow members of *The Australian Entomologist* Publication Committee, Greg Daniels as Editor, and Christine Lambkin, Trevor Lambkin, David Lane and Geoff Monteith as Assistant Editors for all their support and their efforts in sustaining such a quality journal.

Special thanks to all the authors and referees who make this journal what it is and to our loyal subscribers. We will endeavour to continue offering a place for entomological discoveries to be published in an inexpensive, timely and accessible manner into 2021. We hope you enjoy reading it.

Susan Wright

Business Manager

Australian Entomologist

Membership Renewals for 2021

Membership renewals for 2021 were due 1 January 2021. A renewal form is included with this bulletin but the renewal forms are also available on the website

<http://www.esq.org.au/pdf/Renewal2021.pdf> Please let me know if you have recently changed your postal or email contact details. If you are unsure of your subscription status then please contact me by post or email.

Best wishes,

Bill Palmer, ESQ Treasurer

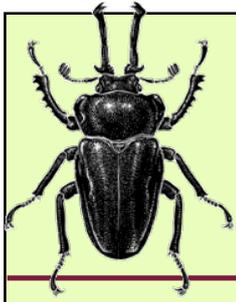
PO Box 537, Indooroopilly Q 4068

palmerwa@bigpond.com



ANNUAL REPORT 2020
FINANCIAL STATEMENT FOR THE AUSTRALIAN ENTOMOLOGIST –
JANUARY 1 TO DECEMBER 31, 2020

Assets		\$	Liabilities	\$
CBA Chq A/c 00908915				
Closing Balance	4,836.40		Subs in Advance (2021)	930.00
Less Chq's O/s	(33.50)	4,802.90		
Term Deposits			Graphic design	500.00
Bank Aust A/c 307023174		11,456.31	for Vol 47-4 Brochures -	
Bank Aust A/c 307023175		4,156.40		
Bank Aust A/c 138340573		5,625.41	Printing Costs	1,884.30
			for Vol 47 -4 Publication	
Stationery				
(Printed Envelopes)		25.00	Postage - Vol47-4	0.00
Unsold past issues (Aust Entomol.)				
2101 @ 0.75 ea (Cost)		1,575.75		
Total		27,641.77	Total	3,314.30
Excess Assets over Liabilities			\$	24,327.47
Income		\$	Expenditure	\$
Subscriptions		5,915.75	Merchant Bank Fees	128.46
Page Charges		750.00	Postage	2,408.74
Interest -Bank Aust (T/D 307023174)		301.19	Printing Costs	4,356.00
Interest -Bank Aust (T/D 307023175)		149.03	Graphic Layout Costs	1,600.00
Interest -Bank Aust (T/D 138340573)		148.29	Professional Fees	250.00
Postage Reimbursements		67.00	Digitising Costs	250.00
Back Issues - Sales		104.00		
Royalty from Informit		295.30		
Donations		200.00		
Total		7,930.56	Total	8,993.20
Net Trading Profit / (Loss)				(1,062.64)
2020 Subscriptions as at Dec 31:				
Australian Subscriptions		134		
Overseas Subscriptions		34		
Total Subscribers		168		
I Certify this is a true and accurate financial statement of the Australian Entomologist for the period 1 January 2020 to 31 December 2020				
Bob Miller FIPA, FFA, JP (Qual)				
Independent Accountant				
20/01/2021				



Insect Bites

Bite-sized observations of amazing insects!

A smelly Bolitophagini

These fungus dwelling darkling beetles (*Byrsax macleayi*) in the tribe Bolitophagini, can be found on rotten logs or under bracket fungi at night. The males have large horns like those pictured here, while the females lack them, suggesting that there may be mate competition. Large numbers of the beetles were found feeding on the fungus at night, but by day they had all disappeared into the crevices of bark on the same tree.

I found these while spotlighting near Imbil in November with Geoff Monteith, who recommended giving this beetle a sniff. In 1914, H. J. Carter described this beetle as having a “pungent musk smell,” and I can confirm, it does indeed reek.

--Jessa Thurman



Beetles congregating on bracket fungi



A male *Byrsax macleayi*

These beetles are about 1 cm in length and can be found in montane rainforest in southeast Queensland and northern New South Wales. Their smell comes from secretions containing quinones and ketones. Want to know more? See: Brown et al. 1997. Chemical composition and taxonomic significance of defensive secretions of some Australian Tenebrionidae. *J. Aust. Ent. Soc.* 31:79-89.

Photo credits: J. Thurman

Have you found an intriguing insect?

Share your photo and interesting observations to:

Kathy Ebert, Editor: k.ebert@uq.edu.au

Feature articles: Notes and Exhibits



The Lustrous Dark Lady

*presented by Jessa Thurman
PhD candidate
University of Queensland*

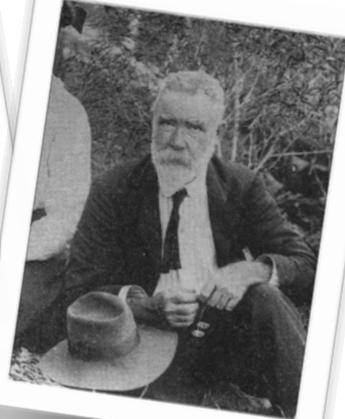
Queensland has been the home of many influential entomologists for over 100 years and when you come across an unexpected entomological wonder, you will inevitably stumble across details of this legacy. In 1864, Joseph Bancroft moved to Brisbane, Queensland from England with his family, and continued his entomological research. His studies were based in parasitology and his discovery of the agent for elephantiasis (lymphatic filariasis) led to the arthropod-born worm, *Wuchereria bancrofti*, being named in his honour. His son, Thomas Lane Bancroft carried on this legacy, studying mosquitoes and blood parasites, alongside collecting animals for the Queensland Museum and publishing 84 papers on natural history. And it was with this grandfather and father that Mabel Josephine (Jo) Mackerras (1896-1971) was raised into yet another influential entomologist.

After spending her childhood learning about insects and plants around Deception Bay, she expanded her studies at the University of Queensland, publishing



Jo hunting for snakes to study their blood parasites.

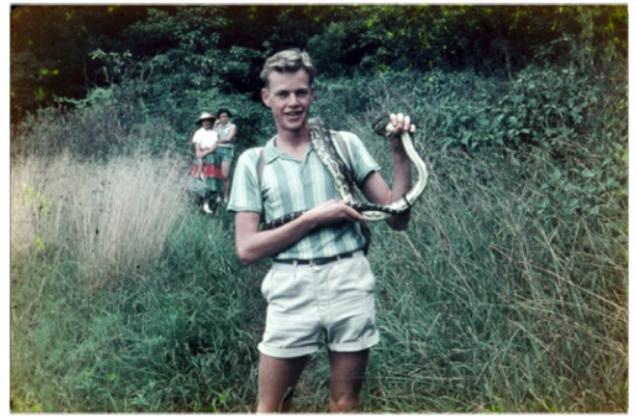
fourteen papers on parasites of cattle, fish, and frogs. While studying medicine at the University of Sydney, she met her partner, Ian Mackerras, and the two were known to spend their weekends sailing and fishing. Soon enough, the two published their first joint paper on parasites of marine fish, with many partnered contributions to our entomological knowledge from their long marriage.



Left: Joseph Bancroft (1836-1894);
Right: Thomas Bancroft (1860-1933).

It was these interests in blood parasites and her family's work on mosquitoes which later proved key to the Australian Army in World War II. With several troops stationed in the South-West Pacific, malaria had become a large threat to Australia's war effort. Jo, alongside Hugh Ward and Bill Keogh, developed the malarial research unit and established a stock of infected mosquitoes for study. Her work ultimately reduced incidence of malaria in the troops and aided the war effort.

Despite this long career, Jo continued her research through retirement, supporting the idea that retirement to an entomologist takes on a different definition. She and Ian moved to Canberra to 'volunteer' at the CSIRO. While there, Ian organised the compilation of the first edition of *Insects of Australia* while Jo worked extensively on Australian cockroaches, publishing 13 papers on their biology and taxonomy. For this work, she would occasionally receive samples from young entomologists exploring the bushland. In 1964, she received a female specimen of *Methana convexa*, a lovely dark-bodied cockroach, from a Mr. G. B. Monteith. It bred well for her in captivity, allowing her to describe its biology and in her correspondence



Mr. Geoff Monteith (c. 1964) also catching snakes, but not to study their blood parasites.

with Mr. Monteith, she described it as "that lustrous dark lady."

It is this story and legacy that I came to learn about when I found such a lustrous lady laying an ootheca on the side of a tree. I was spotlighting with Geoff Monteith to find interesting invertebrates to photograph and this cockroach was displaying a peculiar behaviour. Geoff first spotted her trying to attach her ootheca to the tree. I later came across her palpating over the secured ootheca and covering it with a saliva. I quickly photographed her and went



Methana convexa covering her ootheca with a sticky saliva, covering it with pieces of bark taken from the tree, and the result of her work (ootheca indicated by stick).

to tell Geoff about it. He was excited to hear I'd found the same female, so we both returned and in the few minutes that I was away, she had begun to cover the ootheca with pieces of bark. We both watched as she dutifully tore pieces of bark from the tree, attached it to the ootheca, then regurgitated bits of chewed bark between the cracks. I watched her do this for 40 minutes, photographing it and taking video of the interesting behaviour. During this time, Geoff told me that she was known as the "Lustrous Dark Lady," but it was only after I had returned home that I came to learn who Jo Mackerras was and how she had admired this cockroach too.

Jo noted that this species covered their ootheca with bark and that another couple of species, *Methana marginalis* and *Scabina antipoda* do as well. Pauline Pope, a research technician who worked for Jo, also noted this behaviour in *Periplaneta australasiae*, the cockroach who frequents households. More remains to be investigated into what this cockroach 'glue', used to secure the debris may be compiled of, but one thing is certain: Jo Mackerras would have enjoyed this find in the dark rainforest. I never anticipated learning so much about this famous Queensland entomologist when I stumbled across *M. convexa*. Jo's legacy is intimidating. She was an exceptional entomologist, accomplishing much over her lifetime, and helping others along the way. If I've learned anything from it, it's that I have years to go, much to learn, and even more to enjoy as an entomologist.



A pair of adult *Phyllium monteithi*

Notes on *Phyllium monteithi*, the Australian leaf insect, in captivity



presented by Katie Hiller
Queensland Museum &
Mt Glorious Biological Centre

In March last year Queensland Museum purchased two pairs of adult *Phyllium monteithi* Brock & Hasenpusch for public display in the Discovery Centre. Live stick insects have always been one of their most popular displays since 1986 when they were first exhibited in a purpose-built tall perspex enclosure designed by Dr Geoff Monteith, who was curator of Entomology at the time.

The most successful species over the years have been the Spiny Leaf Insect, *Extatosoma tiaratum* (Macleay); the Goliath Stick Insect, *Eurycnema goliath* (Gray); the Children's Stick Insect, *Tropidoderus childrenii* (Gray); and the Titan Stick Insect, *Acrophylla titan* (Macleay).

In anticipation of World Science Festival 2020 in March Discovery Centre staff thought it would be an opportune time to introduce a new species, especially one only recently described and named in honour of former museum entomologist Dr Geoff Monteith by Brock and Hasenpusch (2003). The species has been recently placed, with two New Guinea species, in a new subgenus *Walaphyllium* by Cummings *et al.* (2020)

As anticipated, they proved to be a popular display but following the closure of the museum and the cancellation of World Science Festival 2020 at the end of March 2020 due to COVID-19 they were relocated to our lab at Mount Glorious.

In the lab they were kept on cut foliage of *Syzygium australe*, Brush Cherry, in water bottles inside of a styrofoam box with cling wrap fronts to retain humidity and facilitate viewing. The floor of the cage was cleaned of frass daily and the foliage given



Left: Adult male moulting

Right: Moulting male turned around to consume shed skin

Below: Three subadult females, upper and (arrowed) undersides.



a light spray of water. The temperature was maintained between 24 and 28 Celsius.

The males died within a fortnight of their arrival, however the females lived for several months longer. One female died at the beginning of May and the second at the end of June.

The original two females laid a total of 165 eggs in this three month period. Each female laid 1-2 eggs per day. The first egg hatched on 27 July, four months from the date of the first egg laid. Eggs continue to hatch sporadically, from 3 eggs a week to a record 10 eggs a week. To date 134 nymphs

have hatched.

The first adult female of this generation moulted on the 27 December 2020, 5 months from the date of the first egg hatching. She laid her first egg on 21 January 2021, 25 days after her final moult. Two males moulted to adulthood within the same week. Currently there are six adult females and four adult males and 35 nymphs.

Eight nymphs were returned to the Discovery Centre for public display, 31 were adopted by members of



The photos show various stages of the life cycle of this remarkable insect. A: *Phyllium monteithi* eggs, hatched and unhatched; B: Hatchling nymph showing bright colouration; C: 2nd instar nymph; D: 3rd instar nymph. Photo by Steve Wilson.

the Queensland Entomological Society at the Notes and Exhibits meeting in December, and 18 nymphs have been given to others.

Behavioural notes: Upon hatching the colourful nymphs which resemble ants, are extremely active, continuously running around the enclosure and up and down the foliage and refusing to settle. By the second day they adopt the ‘don’t move and you won’t be seen’ policy of all other stages.

Moulting was rarely observed and usually occurred at night. Shed skins were consumed by morning.

Only one attempted pairing has been observed, 27 days after the first adult female had moulted, and two days after the first egg laid.

Nine nymphs are being fed on foliage of *Xanthostemon chrysanthus*, Golden Penda. It has been reported that this produces a yellow colour form in the adults. The foliage I am using has no soft new growth and the nymphs are consequently slow

My teenage life with bugs

presented by Davina Paterson

My name is Davina, and I only joined the Entomological Society of Queensland back in October 2020, attending my first ever meeting in November. Whilst not a professional in the field, I have had a fascination about the natural world all my life, from when I was a tiny kid playing with jumping spiders in the backyard or watching a “magical moving stick” in the bushes. In grade 5, I received my first ever pet stick insect, little did my parents know what they were signing themselves up for... As I got older my curiosity for the natural world, especially invertebrates, turned to passion. A passion for conservation and education. I do believe that my main driving motivations for pursuing these interests of mine was always a good blend of wide-eyed curiosity and fiery passion. It is both of these things that led me to promoting insects within my high school, and now having just recently graduated, I can happily say I think I’ve left a mark establishing or running several exciting programs!

to develop and have shown no evidence of this effect to date.

Nymphs and adults produce a distinctive smell when strongly disturbed.

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Davina with her stick insects.

One thing that I’ve always held to strongly is the belief that young children are some of the best listeners I know. They are easily excited about anything and everything, and unapologetically curious about the world: always asking ‘why’ and ‘how’? It is this intense curiosity that I noticed in younger kids that pushed me to give ‘bug shows’ to the pre-prep students, introducing them to the world of insects, a world very few school-age students get to properly interact with. By introducing insects to kids early on, I believe they grow more invested in

them going forward, taking more care in preserving the environment as well as pushing them to question what would otherwise be taken for granted.

Overall, I didn't find it too challenging to convince younger children to see the value in insects. By exposing them to bugs and having discussions around them at a young age, I hope to normalise it so that they don't see it as odd or inconvenient to take care of insects in their natural habitats. The real challenge was convincing secondary school students. Pre-preps are still young enough not to hold any real prejudices, but older kids are a bit more of a challenge.

In the high school, I helped to establish a stick insect care group, where students could take part in actively caring for stick insects owned by the science department, with rewards such as getting to take them home on weekends, and collaboratively naming them all. I would also use our weekly meetings as an opportunity to educate the students on the importance of insect conservation. This group, through recurring trips throughout the high school bringing along the little phasmid family they had grown to love, was able to expose more and more students to the stick insects, normalising them within the school community.

Our group was even featured on an episode of the TV show *Totally Wild* where Stacey Thomson, AKA Ranger Stacey, interviewed myself and the group, and I was able to excitedly talk through all the things I knew about our stick insects, in hopes that someone would watch and get excited too.

Pretty much, looking back on my life thus far, particularly my high school journey, it is very clear to me that insects have played a major role in my adventures through life... and they will continue to do so for many years to come. I have made strides in actively normalizing insects within my school community, because it is all well and good to be passionate, but passion without action is merely dreaming. It has always been my philosophy that if I can make a difference in at least one person's life, then it has all been worth it... Sharing my interest in



Spiny leaf insects cared for by the students in the stick insect care group.



Davina shares her enthusiasm with Ranger Stacey of *Totally Wild*.

insects and insect conservation is how I do this... demythologizing insects as being these horrifying little monsters is how I do this... making insects and knowledge surrounding them accessible and engaging is how I do this...

Thanks for reading, I am Davina and this has been my *Teenage Life with Bugs*.

Detection of serpentine (pea) leafminer, *Liriomyza huidobrensis* (Diptera: Agromyzidae), in Queensland

presented by Dr. Mark Schutze
Senior Entomologist with the Plant Biosecurity
Laboratory and Queensland Department of
Primary Industries Insect Collection (QDPC),
Biosecurity Qld, Qld-DAF.



Figure 1. Larva of *Liriomyza huidobrensis* exposed from bean leaf material. Image credit: Biosecurity Qld

Genus *Liriomyza* is a diverse group of flies consisting of over 370 species worldwide and 16 known from Australia (plus one from Lord Howe Island). Central/South American in origin, some are important agricultural pests with adults and particularly larvae causing damage to plant tissue, especially the leaves. The name ‘serpentine’ is ascribed due to meandering leaf mines the larvae leave behind as they burrow between the leaf surfaces; these mines tending to increase in size along the length as larvae grow. Damage to the plant includes loss of tissue and subsequent reduction in photosynthetic capacity.

Australia’s existing *Liriomyza* flies are known to many, especially the already-present *L. brassicae* which is often encountered by vegetable growers. Offshore species are of particular concern, such as the vegetable leafminer *L. sativae*, American serpentine leafminer *L. trifolii*, and the serpentine (pea) leafminer *L. huidobrensis*. Of these, *L. sativae* had been the only species to date to establish a foothold on mainland Australia where it is currently restricted to the far north tropical Queensland. At least that was up until the end of 2020.

The first official detection of a new *Liriomyza* sp. occurred in NSW. On the 22nd October 2020, a grower in Western Sydney called the Exotic Plant Pest Hotline to report the presence of a suspected exotic leafminer. Specimens, both live and dead, were collected the following day and by the end of the month they had been identified by NSW

authorities as *L. huidobrensis*. As is required for new detections of high-priority exotic pests, secondary confirmation identification was sought and provided by our facility at Ecosciences Precinct (Brisbane) at the Queensland Department of Agriculture’s Plant Biosecurity Laboratory. Identification was achieved by morphological examination and DNA sequencing of the mitochondrial COI barcode region, for which abundant reference sequences are available in public databases such as NCBI-Genbank and the Barcode of Life Database (BOLD).

While the NSW pest-response gears were starting to turn, it wasn’t long before John Duff of Queensland-DAF gave me a call mid-November regarding suspicious pest damage in bean leaves from a grower in Kalbar, some 65km (as the crow flies) south-west of Brisbane. John had seen bean damage before, especially from bean fly (*Ophiomyia phaseoli*; also Agromyzidae), but thanks to widespread pest alerts going out about the new leafminer in NSW, he was quick to act on what appeared to something nefarious and drove straight to our lab to hand-deliver the affected material.

The damage was extensive. Jane Royer (Principal Entomologist) and I dug around the leaves and extracted a considerable number of dipteran larvae (Fig. 1) and pupae (Fig. 2) from the leaf mines (Fig. 3). No sign of any adults though; however, there



Figure 2. Pupa of *Liriomyza huidobrensis* located on the underside of the bean leaf. Note that they usually pupate in the soil, so this pupa on the leaf likely represents a larva that got stuck on the way out! Image credit: Biosecurity Qld

were abundant feeding and oviposition holes on the dorsal surface of the leaves which is indicative of adult attack (Fig. 4). Having been pre-prepared from routine leafminer DNA identifications for *L. brassicae* and undertaken the confirmatory identification of the NSW material, we were able to rapidly extract DNA, PCR, and sequence selected specimens via the Australian Genome Research Facility (AGRF) to get a result within a couple of days. And sure enough, *L. huidobrensis* they were.

Soon after, on the 23rd November, the national authority known as the Consultative Committee on Emergency Plant Pests (CCEPP) met to determine that due to the locations of the incidents, the current spread of the pest, the pest's biology that includes a diverse host range, they agreed to recommend that *L. huidobrensis* is not technically feasible to eradicate, and that we were to move straight into pest management. This is where our job, with plant biosecurity, largely ended as other agencies within Qld-DAF other than Biosecurity Queensland, primarily Agri-Science, assume the pest management mantle. We, at the PBL, did receive a few more samples, especially in the early days of the response. These yielded more *L. huidobrensis* where we also found some interesting—yet not unexpected—



Figure 3. Ventral surface of bean leaf showing extensive leaf mines. Image credit: Biosecurity Qld



Figure 4. Dorsal surface of bean leaf showing extensive adult feeding and oviposition holes. Image credit: Biosecurity Qld.

parasitoid pupae (Fig. 5). These were similarly subjected to DNA analysis, returning a tentative result for a species of *Neochrysocharis* (Hymenoptera: Eulophidae); a group of wasps known to attack *Liriomyza* spp. The parasitoid work is now being pursued by Victorian researchers at 'cesar Australia' and University of Melbourne.

So, what does *L. huidobrensis* eat, I hear you ask? And what does it look like?

The serpentine (pea) leafminer is a broad generalist, known to feed on at least 365 plant species across some 49 families; there's a good chance that if you

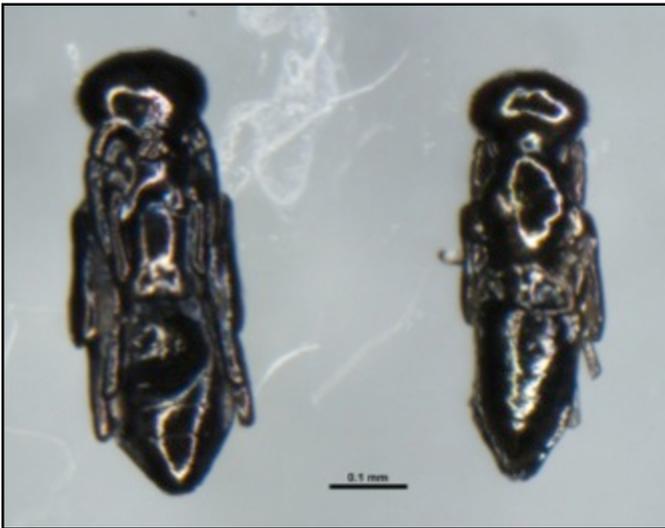


Figure 5. Parasitoid pupa found in association with the *L. huidobrensis* larvae. Tentatively identified as *Neochrysocharis* sp. based on mtDNA COI sequencing. Image credit: Biosecurity Qld

grow it in your backyard vegie patch, then this fly will eat it. The full list of hosts is too numerous to include here, but common crops include beans (as mentioned), broccoli, spinach, beets, celery, and potatoes. Damage occurs primarily in the leaves (but can occur elsewhere), with feeding and oviposition holes created by the adults (Fig. 4) on the dorsal leaf surface and winding leaf mines visible on the ventral leaf surface (Fig. 3). Note, however, that where heavy infestation occurs the leaf mines criss-cross and give a more blistered appearance. Gentle teasing apart of the leaf material should reveal small maggots, and—even though they pupate in the soil—the occasional yellow/orange pupa (Figs. 1 and 2). Adults are small with black and yellow markings, as shown in Figure 6, noting that morphological identification at the species level and discrimination from other *Liriomyza* spp. is extremely difficult and requires specialist identification to discern *L. huidobrensis* from other virtually identical relatives species, such as *L. brassicae* (Fig. 7).

How it got here, we cannot say for certain. It has, however, been present in SE Asia for a number of years, having been recorded in Indonesia since at least the 1990s and is otherwise broadly distributed across the world in Africa, Asia, Europe, and the Americas. Arguably, its eventual detection comes as little surprise given such widespread distribution and



Figure 6. Adult specimen of *L. huidobrensis*. Image credit: Biosecurity Qld



Figure 7. *Liriomyza brassicae*. Image credit: CBG Photography Group, Centre for Biodiversity Genomics

extensive host range.

So... what to do if you think you've got it?

Any suspect detections of this species should be referred to specialists for follow-up identification. If in Queensland, please call the Qld-DAF call centre on 13 25 23; or the national Exotic Plant Pest Hotline 1800 084 881; or your local State/Territory jurisdiction.

Observation hives for native stingless bees

*presented by Tim Heard
Sugarbag Bees*

Observation hives have long been used to display the internal workings of social bee colonies, including honey bees and stingless bees. Generally, one or more sides of the hive are constructed of a clear material. A cover blocks light and insulates the hive when it is not under observation.

Stingless bee hives commonly include an observation window on top. Standard hives are close to cubic in shape to improve the thermal conditions for the housed bee colony. This standard design allows opportunities to view some parts of the nest, particularly the food pots. But most of the interesting action takes place in the brood chamber, where the brood is reared, the queen lays eggs and much intriguing behaviour occurs. The bees tend to cover the brood in a protective envelope called an involucre. So standard observation hives, although useful for the bee keeper, lack the appeal necessary to spark the interest of a class of school children or a museum crowd. They also frustrate researchers attempting to make detailed observations.

On display at this meeting were two compressed observation hives for stingless bees. The restricted width obliges the bees to build their structures right up against the clear walls. The flat observation hive is compressed in the horizontal plane. The vertical observation hive is squashed vertically. These design features provide enhanced opportunities for observation of nest structures and bee behaviour.

Each hive was stocked with a colony of *Tetragonula carbonaria*, the common subtropical species on the east coast of Australia. This species is unique in building its brood in a spiral pattern. This form was clearly visible in both hives. The two views combined to give a deep appreciation of the



Above: The flat observation hive is flattened in the horizontal plane. Below: The vertical observation hive is compressed vertically.



complexity and beauty of this natural wonder.

Both hives are very narrow, only 45 mm internally. External dimensions are 445 x 345 x 55 mm. The internal volume is 5.2 L, smaller than a standard Australian stingless bee hive of 8 L. The reduced volume works with the flat shape to force the bees to build against the clear window. The width could be increased by 100 mm to 600 mm to make a larger 6.6 L box, for the larger nest of *Tetragonula hockingsi*. Or the width could be reduced by 100

mm to 400 mm to make a smaller 3.9 L box, for an *Austroplebeia australis* colony.

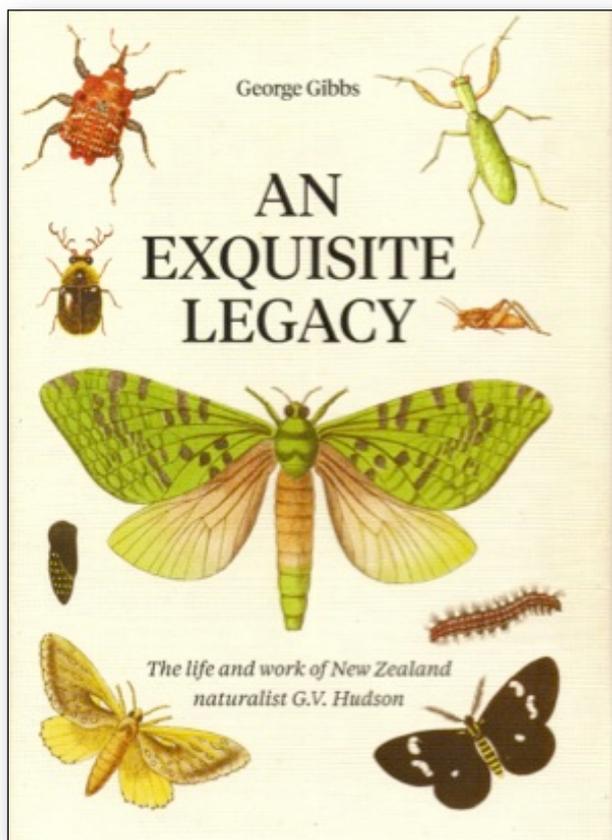
The hives are made of two parts: outer box cover and inner box. The windows are lined with 3 mm clear acrylic. All other components are made of plywood, 25 mm thick for excellent insulation. All surfaces are painted for protection, except the interior of the inner box which will be in contact with the bee nest and so best left unpainted. The two entrance holes were blocked to transport and display the hive.

It is not a trivial task to stock these flat observation hives with a colony of stingless bees. First, I removed one clear plastic side wall, then transferred a limited amount of nest material, including brood and queen cells, from a donor hive into the observation hive. This small nest would not have survived without assistance. So, I then attached it to the donor hive with a tube. The donor then continues to support the recipient for several months until it is strong enough to survive on its own.



Above: Jewelry and insect displays at the December Notes & Exhibits meeting.

Below: Enjoying some festive treats outdoors after the December meeting (L to R): Ethan Briggs, Penny Mills, Mike Muller, Rachel McFadyen, Andrew Hayes.



Book Notice

An Exquisite Legacy: the Life and Work of New Zealand Naturalist G.V. Hudson.

By George Gibbs, 160pp, hard cover, 205x285mm, ISBN9781988550176, Potter & Burton, Nelson, NZ.

Price NZ\$59.99. Available from

www.pottonandburton.co.nz **NOTE:** ESQ members

can get a 10% discount off the NZ book price by entering the coupon code **EXQUISITE** when ordering online.

Any insect bibliophile in Australasia knows of the series of books on New Zealand insects written and illustrated by George Vernon Hudson during the first half of the 1900s, now extremely rare and expensive on the second-hand market. The remarkable story of Hudson's life and art is told in this beautiful book by Hudson's grandson, George Gibbs. George Jnr inherited his grandfather's genes and had an

outstanding career in entomology at Victoria University in Wellington, specialising on the primitive micropterygid moths and New Zealand's famous giant orthopteran weta, though he may be best known for his textbook (as gripping as the best novel!) on biogeography called *Ghosts of Gondwana* (Potter & Burton, 2006, rev.2016).

G.V. Hudson, had a remarkable and dedicated life. Born in England in 1867, his mother died three years later. His father, a glass painter, removed him from the bullying English public school system and educated him at home, this including fine painting skills. By the time they migrated to New Zealand in 1881, young George, at age 14, had already started to paint British insects and had produced three home-made, illustrated 'books' on British insects. At age 12 he had also started to keep a meticulous daily diary illustrated with sketches of his natural history discoveries; he maintained this diary every day until shortly before his death in 1946.

In New Zealand, after a year working on a family farm, he got a job in the Post Office in Wellington that was to be his permanent career. His free time was devoted to his life's real objective which, quite simply, was to discover, to work out the life history, and to paint as many species of New Zealand insects as humanly possible, then to publish the information in books and papers. A regular series of papers started (at age 15) in 1882 in both British and New Zealand journals, leading to his first book in 1892, *An Elementary Manual of New Zealand Entomology*, running to 128 pages with 13 full-page colour plates of insects. This was followed during his lifetime by 6 more books, totalling 1665 pages, with important ones being his 1928 *Butterflies and Moths of New Zealand* and his 1934 *New Zealand Beetles and their Larvae*.

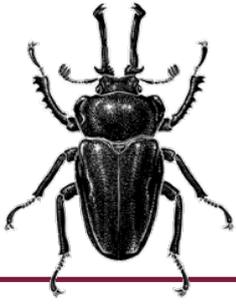
George Gibbs writes in detail about Hudson's art for he believes that the desire for artistic perfection in depiction was the driving force of his life. He painted only during daylight hours, always while he still had freshly caught specimens to work from, and usually with only a hand lens to assist. Except for his

first book where he painted full page layouts, all his insects were painted on small ca.40x50mm squares of card, first with a pencil outline then filled with fine watercolour brushwork. Even as an old man his brushstrokes were producing perfect lines of scales and hairs at minute size. These small cards were then stored away and could be set out like tiles when the time came to arrange plates for each book as it reached finality. George calculates that Hudson did 3127 individual paintings during his lifetime. Many of his originals still survive. George shows how much of their real merit was lost in the poor colour reproduction possible in the early 1900s, by printing some of them with modern techniques beside copies from the original books.

The book is essentially a New Zealand story but there are two glimpses which will be of special interest to Australians. At UQ, Dave Merritt and his students have long studied aspects of the famous 'glow worm' flies (*Arachnocampa* spp). These curious insects first came under notice in New Zealand and it was G.V. Hudson who first solved the mystery of the identity and biology of these strange flies at age 19 in 1886. He subsequently published 8 papers on various aspects of them. The other glimpse concerns the famous Australian entomologist and prodigy, R.J. Tillyard, who was appointed to head the biological section of New Zealand's Cawthron Institute in 1920. Hudson felt very strongly that Tillyard was undermining his 'amateur' scientific reputation by appointing 'professional' entomologists in areas where he felt he was the authority. George Gibbs traces Hudson's disquiet at this development and his palpable relief when Tillyard left to head up the CSIRO Division of Entomology in Canberra in 1926.

George Gibbs' delightful book is filled with the personal warmth, understanding and passion that only a relative and fellow entomologist could bring to the story of this man who has left us this 'exquisite legacy'.

Geoff Monteith
Queensland Museum



Entomology News

from Queensland and beyond...

Australian Entomological Society Awards

The Australian Entomological Society held their Annual General Meeting in late November last year via Zoom. At the AGM, their annual awards were announced. The prestigious Ian Mackerras Medal for excellence in entomological research was awarded to Professor Nathan Lo from the University of Sydney for his work on the evolutionary biology of termites and insect symbiosis. The Phil Carne Prize is awarded to a student with outstanding research - this year's award went to Vivek Kempraj, a PhD student studying at Macquarie University in Sydney. Vivek's research focusses on chemical ecology, and he has recently published on olfaction in Queensland fruit flies. First place in the Photographic competition went to **ESQ member Colleen Foelz** for her stunning photo of *Havinthus rufovarius* (Reduviidae) feeding on a caterpillar (*Orygia australis* (Erebidae)). To see her photo: <https://www.austent.org.au/awards/illustration-and-photographic-competition>. Second place in the photo competition went to Samantha Ward from the University of Melbourne. Her photo of mating butterflies will be featured on the cover of Austral Entomology. Third place in the photo competition was awarded to **ESQ member, Jessa Thurman**, for her photograph of a funnelweb spider (*Arbanitis*). Congratulations to all!!

Society of Australian Systematic Biologists (SASB) Awards

The SASB recently announced their Excellence in Research awards. The mid-career research award was granted to Dr Kym Abrams from Western Australia for her research on evolution and

systematics of subterranean and short range endemic invertebrates with a focus on schizomid arachnids. The early career research awards went to **ESQ member, Dr Juanita Rodriguez**, curator of Hymenoptera at ANIC, for her work on phylogenomics and systematics of Pompilidae (spider wasps) and Mutillidae (velvet ants). Dr Dan Huston also received an early career research award for his work on systematics and taxonomy of parasitic trematodes. The student research award was given to David Juskiewicz for his PhD research on coral taxonomy at Curtin University.

A recent publication on the Tawny Coster butterfly

Tawny Coster, a butterfly native to the Indian subcontinent, has colonized into SE Asia in the last couple of decades, entered Australia in 2012, and is continuously expanding its range. A recent paper published by Shawan Chowdhury from UQ with Rich Fuller, **ESQ members Michael Braby and Myron Zalucki**, has found that the Tawny Coster continues to occupy a stable climatic niche, with an annual expansion rate of 135 km/year. The authors also noted a sex-biased migration. Read all about it in this open access article:



Tawny Coster.
Photo Wikimedia Commons

Chowdhury S, Braby MF, Fuller RA, Zalucki MP (2020). Coasting along to a wider range: niche conservatism in the recent range expansion of the Tawny Coster, *Acraea terpsicore* (Lepidoptera: Nymphalidae). *Diversity and Distributions* 1-14. DOI: 10.1111/ddi.13200



Inviting nature to dinner

While it looks like a book about butterflies, and it is a book about butterflies, this new book co-authored by **ESQ member, Helen Schwencke** and Dick Copeman, expands beyond this group to

explore insects and other invertebrates and their ecological roles, and importance in ecosystems, more generally. It addresses how to bring more insect biodiversity back into our local places and spaces. It is a book written for a lay audience, and is a work of science communication. The book includes sections on wildlife friendly gardening, butterfly foodplants and even a few recipes! This edition is a Preview version - complete in and of itself - though the authors are seeking feedback from readers about all aspects of the book. The topic is such a large one, They're wanting to know what readers would like to know and how they want it presented, rather than making that selection and it falling short of needs and expectations. More information and how to order at www.earthling.com.au/

Online insect art classes!

NatureArt Lab is offering online insect art classes! NatureArt Lab is a team of artists and photographers that offer a variety of workshops, classes and other events. Founded by Julia Landford, a wildlife and botanical artist, the group offers several online art classes this year include *Illustrating Moths in Watercolour* and *Fungi Drawing in Ink*. Check out this opportunity to nurture your artistic talents at: www.naturelab.com.au/collections/online-classes



Entomologists needed!

Queensland Trust for Nature (QTFN) and UQ are hosting several citizen science camps this year (Covid-permitting!). Their first camp is an "Invertebrate Camp" at QTFN's Koala Crossing Nature Refuge near Peaks Crossing on March 13-14. They are looking for people who would like to provide a workshop during the camp.

Koala Crossing Nature Refuge is located at the base of Mt Flinders, 5 km from the township of Peak Crossing. It is the largest remaining stretch of open eucalypt forest in the region, adjoining the Flinders-Goolman Reserve. The property is managed to protect the existing remnant and mature regrowth while actively managing fire, weeds and feral pests. Four different ecosystems are represented at Koala Crossing, one of which is listed as 'endangered' and one is listed as 'of concern' biodiversity status.

If you are interested or would like more information, please contact Gabrielle Lebbink at gab@qtnf.org.au

International Congress of Entomology postponed (again)

The continuing Covid-19 pandemic in key countries and regions such as the USA, Latin America, UK, Germany, etc. has forced the 26th International Congress of Entomology in Helsinki, Finland to be postponed by another year: the new dates are 18-23 July 2022.



A pretty metallic carabid beetle, *Carenum brisbanense*, recently spotted in one of the fire affected areas near Binna Burra in Lamington National Park. Photo: K. Ebert.



Announcements

Only ten calendars left!

Last chance to order a 2021 ESQ calendar! Contact Vivian Sandoval (vivian.sandoval@gmail.com). Only \$10 postage paid! Order forms available at www.esq.org.au/pdf/2021-calendar-order-formV.pdf



Save the Date!

Australian Entomological Society Conference 2021

The Australian Entomological Society has planned a conference later this year. We are pleased to be running this conference jointly with the **Society of Australian Systematic Biologists (SASB)** and the Australasian section of the **International Union for the Study of Social Insects (IUSSI)**. The conference will be held in *Adelaide 5–8 December* this year.

World Science Festival:

Talk on Scientific Illustration with Geoff Thompson

Join Geoff as he explores how scientists have captured their images and work through the ages. For more information and to register:

<https://www.worldsciencefestival.com.au/event-program/brisbane/scientific-illustration-with-geoff-thompson>

Insect art part of climate change exhibit

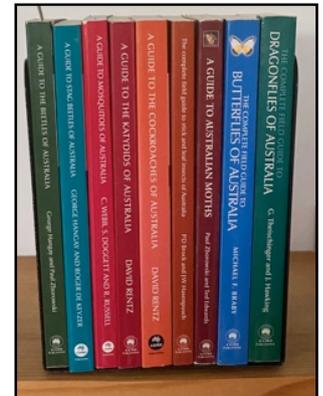
The Institute of Modern Art (IMA) at the Judith Wright Centre, Fortitude Valley, currently has an exhibit on climate change and features a work by Tintin Wulia, a renowned artist who incorporates insects into artworks. The current exhibit will be open until 20 March. Details on the artwork: <https://www.blogalstudies.com/post/some-memory-prevails-affective-thinking-on-the-border-death-and-the-future>

More about the exhibit: <https://ima.org.au/exhibits/on-fire/>.

A whole library of Books for Sale!!



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Diary Dates for 2021

Meetings held on the second Tuesday
of the respective month

MARCH 9	Mark Schutze, ESQ President	AGM and Presidential Address: “ <i>Names matter: robust systematics = stable taxonomy = accurate diagnostics</i> ”
APRIL 13	Andy Howe (USC)	“ <i>Harmonia axyridis: the gift that keeps on giving</i> ”
MAY 11	Toni Withers (SCION)	“ <i>Australian paropsine beetles and their biocontrol across the ditch</i> ”
JUNE 8	Notes and Exhibits	Student Award winner and other presentations TBD
AUGUST 10	Di Taylor (DAF)	a talk on weed biocontrol, Title TBD
SEPTEMBER 14	Chris Moeseneder (CSIRO)	“ <i>An integrative approach to understanding the Australian flower beetles</i> ”
OCTOBER 12	Nigel Andrew (UNE)	Biennial Perkins Lecture: “ <i>Dung beetles, ants and my vision for Entomology</i> ”
NOVEMBER 9	Luke Splatt (DAF)	a talk on Fire ants, Title TBD
DECEMBER 14	Notes & Exhibits	Notes and Exhibits/Christmas Afternoon Tea

SOCIETY SUBSCRIPTION RATES for 2021

(includes electronic subscription to *Australian Entomologist*)

GENERAL	Person who has full membership privileges	\$40pa
JOINT	Residents in the same household who share a copy of the <i>News Bulletin</i> , but each otherwise has full membership privileges.	\$50pa
STUDENT	Student membership conveys full membership privileges at a reduced rate. Free the first year , \$20pa subsequent years. Students and others at the discretion of the Society Council.	\$20pa

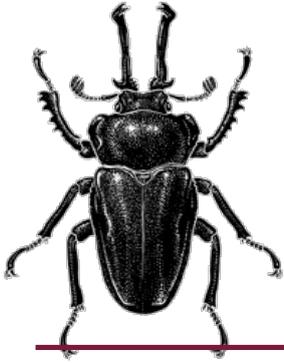
ESQ membership subscriptions should be sent to the Treasurer, PO Box 537, Indooroopilly, QLD 4068
<http://www.esq.org.au/membership.html>

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Entomological Society of Queensland



Next meeting:

Tuesday, 9th March, 1:00 pm



ESQ Presidential Address

*Names matter: robust systematics =
stable taxonomy = accurate diagnostics*

presented by Dr Mark Schutze

Senior Entomologist
Plant Biosecurity, Biosecurity Queensland
Qld Dept. of Ag. and Fisheries (DAF)

Join us... *Virtually!*

Using the Zoom link here:

<https://usc-au.zoom.us/j/87677714981>

or in person*

*Numbers limited so please register your intent to attend in person with the secretary:
secretary@esq.org.au

Next News Bulletin:
Volume 49, Issue 1 (March 2021)

Deadline for contributions: 12 March 2021

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