

Entomological Society of Queensland

NEWS BULLETIN



Price \$3.50
Print Post Approved
100001946

Volume 46, Issue 9, Jan/Feb 2019

Entomological Society of Queensland

Website: www.esq.org.au

Address: PO Box 537, Indooroopilly QLD 4068

President

Mike Muller

Email: muller36@bigpond.net.au

Vice President

Gary Fitt

Email: Gary.Fitt@csiro.au

Past President

Dr Tim Heard

Email: tim@sugarbag.net

Ph: 0434 416 053

Secretary

Dr Mark Schutze

Email: m.schutze@qut.edu.au

Treasurer

Dr Brenton Peters

Councillors

Julianne Farrell

Email: juliannefarrell17@gmail.com

Dr Cate Paull

Email: cate.paull@csiro.au

Penny Mills

Email: penelope.mills@uqconnect.edu.au

News Bulletin Editor/Web Manager

Kathy Ebert

Email: k.ebert@uq.edu.au

Assistant News Bulletin Editor

Penny Mills

Email: penelope.mills@uqconnect.edu.au

Permit Information Officer

Dr Christine Lambkin

Ph: (07) 3840 7699

Fax: (07) 3846 1226

Email: christine.lambkin@qm.qld.gov.au

Honorary Life Members

R.A.I. Drew

D.L. Hancock

R.P. Kleinschmidt

C. Lambkin

G. B. Monteith

M. S. Moulds

D.P.A. Sands

F.R. Wylie

THE AUSTRALIAN ENTOMOLOGIST

Editor

Dr David Hancock

Ph: (07) 4053 1574

Email: davidhancock50@bigpond.com

Assistant Editor

Dr Federica Turco

Email: federica.turco@csiro.au

Assistant Editor

Dr Lindsay Popple

Email: Lindsay.Popple@uqconnect.edu.au

Assistant Editor

Shannon Close

Email: shannon.close@uqconnect.edu.au

Business Manager/Assistant Editor

Dr Geoff Monteith

Ph: (07) 3371 2621

Email: geoff.monteith@bigpond.com

Front Cover: A photograph of the saltmarsh mosquito, *Aedes vigilax*. This species is found in coastal saltmarshes and mangroves from the south coast of New South Wales north around the continent and down to the southwest corner of Western Australia, and in the Riverland and Adelaide region of South Australia. Its drought-resistant eggs are laid in the margins of temporary pools that are flooded by peak tides or rain events. On subsequent inundation, these eggs can hatch simultaneously in millions, taking as little as 7-8 days to develop into adults. The adult mosquitoes are renowned for their capacity to disperse over many kilometres. This makes them the worst pest species in coastal Queensland, where the larvae are the target of aerial spraying programs by councils from the Gold Coast to Noosa. *Photo by Stephen Doggett, Department of Medical Entomology, NSW Health Pathology, Westmead Hospital. Used with permission.*

ISSN 1037-2989



Entomological Society of Queensland

Table of Contents

Minutes from the General Meeting.....	154
At our next meeting.....	155
Annual Reports	
Presidents Report.....	156
Secretary's Report.....	158
Treasurer's Report.....	160
Permit Report.....	162
Journal Report.....	164
Feature articles from Notes & Exhibits:	
<i>Gonipterus</i> in Queensland: documenting diversity and distribution.....	166
Pigeon Louse <i>Pseudolynchia canariensis</i> (Hippoboscidae) in Australia.....	168
Origin of the ESQ emblem & history of <i>Phalacrognathus muelleri</i>	170
Obituary: Dr Brenton Peters 1948-2019.....	176
Entomology News.....	180
Announcements.....	184

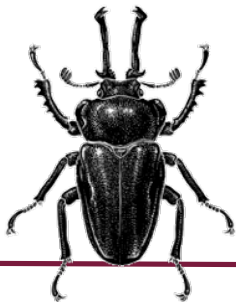
The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News 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 11th, 2018

Held in the Seminar Rooms, Ecosciences Precinct,
Boggo Rd, Dutton Park.

Meeting open: 3 pm

Attendance (53):

Members (38): Mark Schutze, Mike Muller, Geoff Monteith, Kathy Ebert, Geoff Thompson, Des Foley, Jane Royer, Andrew Dickson, Noel Starick, Chris Lambkin, David Merritt, Lyn Cook, Andrew Hayes, Helen Nahrung, Simon Lawson, Lachlan Richardson, Lui Lawrence-Rangger, Cate Paull, Penny Mills, Jessa Thurman, Andrew Maynard, Ngoc Hoan Le, Manon Griffiths, Brogan Amos, Tim Heard, Alisha Steward, Shannon Close, David Exton, Bernie Franzmann, Colleen Foelz, Nadine Baldwin, Liam Bromley, David Holdom, Susan House, Ethan Briggs, Rachel Whitlock, Claudia Schipp, Natalia Medeiros de Souza

Visitors (15): Peter Johnston, Amalie Spadijer, Natasha Hungerford, Brad Scott, Andrew Liebhold, Norhasnida Zawawi, Mary Fletcher, Steven Rice, Lara Senior, Marianne Eelkema, Carmel Harris, Adrian Holbeck, Nicole Forrest, Adelaide Power, Adam Billsborough

Minutes: The minutes of the last meeting were circulated in News Bulletin 46[8] November 2018. Moved the minutes be accepted as a true record: Cate Paull, Seconded: Penny Mills, Carried: All.

Nominations for membership approved by council:

General Members:

Belinda Walters

Student Members:

Ari Kilsonen (Age 4)

Student members (cont'd):

Lachlan Richardson (QUT)

Ha Viet (Steven) Chu (UNSW)

Ethan Briggs (UQ)

General Business:

Nominations for Office Bearers – due by end of January.

Main Business - Notes & Exhibits:

‘Gonipterus in Queensland: documenting diversity and distribution’ by Natalia Medeiros de Souza, PhD Candidate, University of the Sunshine Coast

‘Physicochemical Properties of Stingless Bee Honey from Queensland and Malaysia’ by Nida Zawawi, Queensland Alliance for Agriculture and Food Innovation, University of Queensland;

‘Pigeon Louse *Pseudolynchia canariensis* (Hippoboscidae) in Australia’ by Christine Lambkin, Queensland Museum (p.s., pigeon louse is a type of fly!)

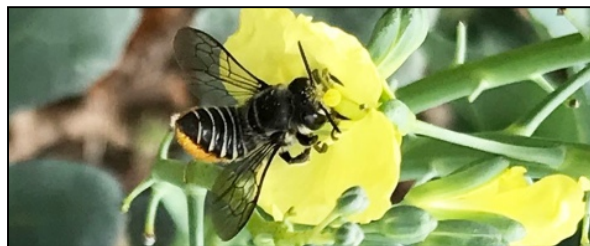
‘Some history about the stag beetle *Phalacrognathus muelleri*, our Society’s insect emblem’ by Geoff Monteith, Queensland Museum.

Tim Heard provided the vote of thanks to all speakers.

Next meeting: Tuesday, 12 March:

The next meeting will be our Annual General Meeting with the Presidential address presented by Mike Muller. This meeting will start at 1 pm in the library followed by afternoon tea.

Meeting closed: 4:05 pm



A megachilid bee visits a broccoli flower in a Brisbane suburban garden.

At our next meeting...

Annual General Meeting followed by the Presidential address:

“Come in Sucker – A 46-year Journey with Biting Flies”



*presented by Mike Muller
Medical Entomologist*

As a child growing up on a family dairy farm on South Coast NSW, Mike Muller collected “wrigglers” and “tumblers” from an old boiling copper and put them in jars to watch adult mosquitoes emerge. Little did he know at the time what career awaited him. After graduation with an entomology major in Agricultural Science from the University of Sydney, Mike commenced work in 1972 in the CSIRO Livestock industries for 23 years, initially at the McMaster Laboratory on the campus of the University of Sydney, and transferring to Long Pocket Laboratories in Brisbane in 1977. Work involved collecting and manipulating mosquitoes and biting midges that carry virus diseases in livestock. This included being part of the



team that detected bluetongue virus in Australian livestock in the 1970s, and field work from the Top End of the NT to Gippsland in VIC. From 1995 until formal retirement in 2018, Mike was employed for a further 23 years in the Mosquito Management program at Brisbane City Council, running the helicopter spraying program, leading a small technical group, and learning how the work was a mixture of science, politics and diplomacy. Mike will recount some of his experiences over those years and consider some of the challenges facing biting fly control in the future.

Nominations for 2019 Office Bearers

The following nominations were received by the Secretary before closing date of January 30th:

President: Gary Fitt. *Nominated by Mark Schutze, Seconded by Justin Bartlett*

Vice President: Mark Schutze. *Nominated by Jane Royer, Seconded by Shannon Close*

Secretary: Penelope Mills. *Nominated by Mark Schutze, Seconded by Shannon Close*

Treasurer: Jessa Thurman. *Nominated by Mark Schutze, Seconded by Shannon Close*

Councillor: Shannon Close. *Nominated by Mark Schutze, Seconded by Jane Royer*

Councillor: Vivian Sandoval. *Nominated by Geoff Monteith, Seconded by Kathy Ebert*

Councillor: Cate Paull. *Nominated by Andy Wang, Seconded by Bradley Brown*

News Bulletin Editor: Kathy Ebert. *Nominated by Geoff Monteith, Seconded by Albert Orr*

Australian Entomologist - Business Manager: Geoff Monteith, *Nominated by Kathy Ebert, Seconded by Albert Orr*

Tuesday 12th March at 1 pm

**Ground floor Library at EcoSciences. Tea & coffee following.
All welcome!**



Entomological Society of Queensland

Annual Reports for 2018

President's Annual Report 2018



2018 has been yet another strong year for our Society. We have had excellent attendances at our regular general meetings, as outlined in the Secretary's Report, and a great variety of topics for our presentations, which have all been of very high quality.

As you may know, I came to the President's role from a background of medical entomology and mosquito management, and I promised the Council I would make use of my network to seek presentations from that field. That led to topics covering concerns about the potential for the return of the dengue mosquito *Aedes aegypti* to Brisbane, using citizen science to monitor for that return, and a more general overview of quarantine entomology that has to deal with agricultural and horticultural pests as well as exotic mosquito incursions.

Of course, we started the year with the Past President's address on stingless bees from our renowned expert Tim Heard. Other topics included the complexities of insect venoms and silk, the amazing variety and habits of trapdoor spiders, and

the detective work around the involvement of thrips in cycad pollination. All of these speakers provided detailed articles based on their presentations for inclusion in the subsequent ESQ Bulletins and we are grateful to all our presenters for the time and effort and quality that they contributed to our annual program.

Our Notes and Exhibits Meetings in June and December also gave us plenty of variety. While I am reluctant to single any of these out, I must make special mention of one of the presentations in June, from our Permit Information Officer Christine Lambkin. Christine has for some time been managing Queensland Museum's and our interaction with Queensland Parks and Wildlife Service (QPWS) for arrangements to collect insects and carry out research in dedicated parks and reserves. This becomes very complex when these areas are also covered by various Native Title claims and determinations. In May 2018, our Society partially supported Christine's travel to North Queensland to participate in discussions with representatives from QPWS, Department of Aboriginal and Torres Strait Islander Partnerships, and a number of indigenous groups. Following her subsequent detailed overview of the "state of play" at our June meeting, Christine provided an exceptionally detailed article for publication in our June / July 2018 Bulletin that will provide essential guidelines for anyone who wishes to carry out research or collecting in these various areas.

One striking recollection I have for the year has been the high quality of photos and graphics that have illustrated our presentations. The standards achievable with the technology available today are astounding – a far cry from my early memories of preparing photographic slides and loading them the right way around and up in Kodak projector carousels, but now I am really showing my age.

The Society had three candidates submit their theses for the Student Award in 2018. The judging panel was unable to separate the top two submissions and as a result there were two winners, as announced at the General Meeting on May 8. They were Melissa Starkie for her Bachelor of Science (Honours) thesis at QUT: *Is ITS1 barcoding an effective tool for use in tephritid fruit fly diagnostics?* And Perry Bennion for his Bachelor of Science (Honours) thesis at the University of Queensland: *Phylogenetic investigation of Podomyrma ants and their Psyrdrax hosts, and assessment of their nest associates in eastern Australia: Early investigations into an Australia Ant-Plant interaction and its associates.* Melissa gave a presentation at our June Notes and Exhibits meeting, but Perry was overseas and may give a presentation at a later date. Both provided articles for our June / July Bulletin.

We also had strong candidates for the Small Grants Award, with eight submissions. The winner was Natalia Medeiros de Souza, a PhD candidate at the University of the Sunshine Coast, who gained support for her project on *Goniapterus* weevils, a complex genus that contains a number of pests of eucalypts. Natalia gave a presentation on her project at our December Notes and Exhibits meeting, and her progress report is in this Bulletin.

In October 2018 Council agreed to publish and give partial financial support to a popular book being prepared by ESQ members Albert Orr and Geoff Monteith on insects and other invertebrates of the Mary Cairncross Scenic Reserve which is a high-visitor nature reserve near Maleny. It will be completed during the 2019 year and hopefully launched at the Perkins Memorial Dinner in October.

I had the good fortune to inherit a great group of experienced and dedicated people on the Council, with almost no change from the previous year. Thanks go to Cate Paull, Julianne Farrell and Gary Fitt for their help on judging committees. Our Bulletin Editor Kathy Ebert has maintained a truly high standard for our regular Bulletins, with able assistance from Penny Mills. Geoff Monteith has been an ESQ stalwart and *éminence gris* Council

member for what seems forever, managing the publication of *The Australian Entomologist* with a great team, and regularly refreshing our memories of the Society Constitution and By-Laws. Our Treasurer Brenton Peters kept our funds and membership records under tight control and the Society is in a sound financial position. Secretary Mark Schutze is incredibly efficient with the planning and recording of our meetings and correspondence and makes everything run smoothly. Past President Tim Heard was always ready to contribute his experience to the Society and took a leading role in maintaining our social media activity. The incoming President can expect to step into those shoes with a very competent Council.

Sadly, in January 2019, we received the news of the passing of our Treasurer Brenton Peters. He had filled this position since March 2012 and dedicated himself to our service in his retirement. We will greatly miss his attention to detail and his dry wit. An Obituary by Ross Wylie is in this News Bulletin.

Julianne Farrell has advised that she would be standing down from Council, and we thank her sincerely for her service and wish her well for the future.

It has been a privilege and a pleasure to serve in the position of President of the Entomological Society of Queensland. I look forward to the next 12 months as Past President and I'm sure the incoming Council members will hit the ground with their tarsi running.

-- Mike Muller



ESQ members enjoy a chat and a cup of tea after the December meeting.



Secretary's Annual Report 2018

Attendance at Council Meetings:

The 2018 Council met ten times from the March 2018 AGM to January 2019. Attendance by council members (Mar-Jan) is provided in Table 1.

Table 1. Attendance record for ESQ Council Members in 2018 (March 2018 – January 2019). Bradley Brown (not listed in the table below) was out-going Past President and attended only the March Council Meeting prior to the AGM.

Position	Name	Attendance
President	Mike Muller	10
Vice President	Gary Fitt	5
Past President	Tim Heard	7
Secretary	Mark Schutze	9
Treasurer	Brenton Peters (deceased)	4
<i>Australian Entomologist</i> Business Manager	Geoff Monteith	8
New Bulletin Editor	Kathy Ebert	9
Councillor (Assistant News Bulletin Editor)	Penny Mills	10
Councillor	Julianne Farrell	3
Councillor	Cate Paull	6

Membership: Council received and approved 25 new membership applications between January and December 2018 (9 general; 15 students; 1 joint). This was considerably fewer than the number of new members in 2017 ($n = 46$). Of new student members: UQ (5); QUT (1); UNSW (1); UNE (1); Macquarie (1); Charles Darwin (1); Primary/Secondary school level (3); and two from international universities. Eighteen memberships were terminated with notification letters posted by the Secretary in June 2018.

Student award: The student award was given to two students following a decision by the judging panel (Mike Muller [Chair], Gary Fitt, and Julianne Farrell) to award the prize to Melissa Starkie (BSc Hons at QUT. Supervisors: Matthew Krosch and Stephen Cameron. Topic: *Is ITS1 barcoding an effective tool for use in tephritid fruit fly diagnostics?*) and Perry Bennion (BSc Hons at UQ. Supervisor: Lyn Cook. Topic: *Phylogenetic investigation of Podomyrma ants and their Psyrdrax hosts, and assessment of their nest associates in eastern Australia*); each received the full \$500 cash prize. Melissa presented her topic at the June 2018 Notes and Exhibits; Perry was unable to present due to living in the U.K., but he (along with Melissa) submitted an article for the News Bulletin Vol. 46(4).

Small Grants Scheme: Eight applications for the 2018 SGS were received by the Secretary. The judging panel (Mike Muller [Chair], Julianne Farrell, and Cate Paull) selected Natalia Medeiros de Souza as the winner, whose project was to work on the taxonomy of *Gonipterus* weevils.

General Meetings were held at the Ecosciences Precinct in Dutton Park. Speakers, titles, and attendance records are listed in Table 2. Average 2018 attendance (46 ± 12.4) was higher than in 2017 (29.9 ± 9.7). Tim Heard's Presidential Address at the March AGM drew the biggest crowd (45 members and 20 visitors, total = 65).

Acknowledgements: Thanks to Penny for stepping in as acting Secretary when I was away in November. As this is my last Secretary report before I step down from the position, I thank all of Council for their support and friendship during my time as Sec. for the past four years.

I pay special tribute to Dr. Brenton Peters (Treasurer) who sadly passed away on the 17th of January, 2019; it was an absolute pleasure working with Brenton on Council over the past four years, and I will miss him dearly as both a colleague and friend.

Mark K. Schutze
ESQ Secretary
5 February 2019

Table 2. Details of 2018 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.

Month		Speaker	Title	Members attended	Visitors attended	total
Mar	Presidential Address	Tim Heard	Stingless bees, their journey from obscurity to insect ambassadors	45	20	65
Apr		Andy Walker	Exploring insect venoms and silk	32	7	39
May		Brendan Trewin	The history of <i>Aedes aegypti</i> in Southeast Queensland and novel techniques for its surveillance and control	30	26	56
June	Notes and Exhibits	Melissa Starkie (student awards)	Is ITS barcoding an effective tool for use in tephritid fruit fly diagnostics?			
		Christine Lambkin	ESQ Collection Permits Update	33	11	44
		Vivian Sandoval	Who are, where are and why study minute tree-fungus beetles? (Coleoptera: Ciidae)			
Aug		Mike Rix	Life down under: evolution and conservation of Australia’s trap door spiders	41	17	58
Sept		Brian Montgomery	Zika Mozzie Seeker – exploring Citizen Science as a tool to monitor invasive and urban mosquitoes	23	13	36
Oct		Irene Terry	Wacky world of cycads: Thermogenesis, volatiles and pollinator interactions	27	3	30
Nov		John Nielsen	Mosquitoes, moths and microscopes: life as a biosecurity entomologist in Australia	22	11	33
Dec	Notes and Exhibits	Natalia Medeiros de Souza	<i>Gonipterus</i> in Queensland: documenting diversity and distribution			
		Nida Zawawi	Physicochemical Properties of Stingless Bee Honey from Queensland and Malaysia			
		Christine Lambkin	Pigeon Louse <i>Pseudolynchia canariensis</i> (Hippoboscidae) in Australia	38	15	53
		Geoff Monteith	Some history about the stag beetle <i>Phalacrognathus muelleri</i> , our Society’s insect emblem			
Average attendance				32.33	13.67	46
SD				7.87	6.87	12.41

Treasurer's Report for 2018

During 2018, the society membership continued to increase and we are now up to 385 members. Student members continue to have free membership for the first year with many of them becoming paying members in subsequent years. We currently have 80 student members, 30 joint members (15 memberships), 267 general members and 8 Honorary Life members. Our members can be found in every state in Australia and 7 overseas countries. The main expenses for the society are the printing and posting of our News Bulletin, however, the cost of printing the News Bulletin (\$2421) was less than the previous year (\$3322) because fewer members are requesting printed copies. The trading loss of \$982.85 was much less than the previous year because we didn't have the initial outlay for the Perkins poster displays and sponsorship of the inaugural Australian Native Bee Conference. We continued with the annual Student Award and the Small Grants Award. Finances are stable heading into the new year. Thanks to all our members whose prompt subscription payments enable our society to continue to support entomological research and education in Australia. For complete details of the year's incomes and expenditures, please see the accompanying Financial Statement.

*Report compiled by Mark Schutze, Geoff Monteith and Kathy Ebert
on behalf of the Treasurer, the late Brenton Peters*

REMINDER: ESQ SMALL GRANTS AWARD

Dear members,

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!

What are the details you ask?

A pro forma is available on the ESQ website: <http://www.esq.org.au/pdf/SmallGrantScheme2019ProForma.pdf> with applications due to the ESQ Secretary by no later than the 31st of March 2019. Contact the ESQ Secretary (secretary@esq.org.au) if you would like a hard copy pro forma posted to you.

The maximum budget for the project is \$2000, with the successful applicant announced by the end of June 2019. Funds will be available from July 2019 and the project is to be undertaken between July 2019 and June 2020. 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!

It's over to you now, so put your thinking caps on for an exciting entomology project and be sure to submit your application by the end of March! All the best and good luck!



ANNUAL REPORT 2018
FINANCIAL STATEMENT FOR THE ENTOMOLOGICAL SOCIETY OF
QUEENSLAND -
1st JANUARY TO 31st DECEMBER 2018

ASSETS	\$	LIABILITIES	\$
CBA chq A/c 00901185			
Closing balance	13779.96	Subs in advance (2018-19)	1,782.00
CBA term A/c 417850113582	7717.39		
Closing balance:			
Cash on Hand	0		
TOTAL	\$21,497.35	TOTAL	\$1,782.00

EXCESS ASSETS OVER LIABILITIES: \$19715.35

INCOME	\$	EXPENDITURE	\$
Subscriptions	6,944.00	Printing costs, News Bulletin	2421.09
Interest (CBA 00901185)	0	Postage costs, News Bulletin	1593.81
Interest (CBA 417850113582)	154.83	Student prize	1000.00
50% of Aust. Post Box Service	63.50	Small Grants Scheme	2,000.00
Questagame donations	341.59	ESQ insurance	430.00
		Auditor's honorarium	210.00
		Stationery	0
		Monthly merchant card fee	172.99
		Petty Cash	100.00
		PO Box rental	127.00
		December meeting catering	143.73
		ESQ Poster carry case	32.00
		ESQ history poster printing	127.60
		Website hosting and domain (2yrs)	128.55
TOTAL	\$7,503.92	TOTAL	\$8,486.77

NET TRADING PROFIT/LOSS: \$982.85

MEMBERSHIP at December 31, 2018:

QUEENSLAND MEMBERS	286 (188 General, 22 Joint, 8 Life, 68 Student)
INTERSTATE MEMBERS	85 (67 General, 8 Joint, 10 Student)
OVERSEAS MEMBERS	14 (12 General, 2 Student)
TOTAL MEMBERS	385

I certify this is a true and accurate financial statement of the ENTOMOLOGICAL SOCIETY OF QUEENSLAND for the period 1 January 2018 to 31 December 2018.

Rebecca Keys
Independent Accountant

10th February 2019

ESQ Collecting Permit Report for 2018

Our Queensland Parks and Wildlife Service (QPWS), Department of Environment and Science (DES) Scientific Purpose Permit expired in mid-January 2018 and the renewal application was submitted in November 2017 with a list of 283 protected areas in the final application. All but 62 of those protected areas had Native Title claims or determinations, each requiring Land Council notification and consideration of the renewal, significantly slowing the process. As reported in the ESQ News Bulletin (see Vol. 46(4) June/July 2018 for details) Chris Lambkin (ESQ Permit Officer) in collaboration with Simon Thompson (DATSIP) had discussions with several Aboriginal groups, Balkanu CYDC, DES, DATSIP, WTMA & QPWS especially in Cairns 15-17 May 2018 (co-funded by Queensland Museum & ESQ) concerning biological research, permits, and collection of specimens on country.

The ESQ PTUKI for National Parks and CYPAL WITK18701717 and State Forests WITF18701717 to collect unprotected invertebrates in QLD arrived 8 June 2018 and is valid until 8 June 2021.

Of the 268 protected areas on the permit:

- ↪ 217 require prior online notification and many require additional phone contact as outlined on the ESQ Permit website
- ↪ 6 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
 - o Black Mountain (Kalkajaka) NP, Daintree NP and Ngalba Bulal (Cedar Bay) NP, Naree Budjong Djara (Blue Lake Stradbroke Is.) NP, Cape Melville NP, Juunju Daarrba Nhirrpan NP, Kutini-Payamu (Iron Range) NP
- ↪ 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.
 - o Bellthorpe NP, Blackbraes NP, Blackbraes RR, Boodjamulla NP, Conondale NP, Crohamhurst CP, D'Aguilar National Park, Dinden NP, Dularcha NP, Flat Top range RR, Girramay NP, Girringun NP, Glass House Mountains NP, Goodedulla NP, Grey Peaks NP, Herberton Range NP, Hull River NP, Kondalilla NP, Maleny NP, Mapleton NP, Moresby Range NP, Mount Aberdeen NP, Mount Etna Caves NP, Neurum Creek CP, Paluma Range NP, Tully Gorge NP, Undara Volcanic NP, Wondul Range NP, Wooroonooran NP
 - o Baldy Mountain FR, Beerburum West SF, Booroondoo SF, D'Aguilar SF, Dinden West FR, Herberton Range SF, Kumbarilla SF, Paluma SF, Western Creek SF, Whetstone SF, Yelarbon SF.
- ↪ 3 areas with no access at certain times (school holidays, bird activity, etc)

The Permit now DOES NOT INCLUDE:

- ↪ 3 CYPAL areas because no official response
 - o (Kulla (McIlwraith Range) NP, Oyala Thumotang (Mungkan Kandju) NP and Rinyirru (Lakefield) NP)
- ↪ **12 areas because of NT determinations of Post-Wik gazetted lands**
 - o Byfield NP, Crater Lakes NP (Lake Barrine Section), Currawinya National Park, Danbulla NP, Djiru NP, Fraser Island RA, Kinrara NP, Koombooloomba CP, Koombooloomba NP, Tully Falls NP
 - o Byfield SF, Booroondoo SF.

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. 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.

This information has been posted on the ESQ permit website but as of Sept 2018 the CHECKLIST of PROCEDURES has been upgraded so that:

1) The Research field work notification form for all protected areas has a new web link <https://recreation.npsr.qld.gov.au/forms/research-field-work/> and allows up to 6 areas to be entered per form – note use WITK18701717 for NP and WITF18701717 for SF or WITK&F18701717 if notifying access of both NP and SF. Automatic responses from DES are to be forwarded to Chris Lambkin.

2) If contact cannot be made with Aboriginal Corporations prior to entering CYPAL/IMA/ILUA areas, inform Chris Lambkin. **You are not allowed to enter any CYPAL/IMA/ILUA areas without prior expressed permission in writing.** Send Chris Lambkin a copy of the written permission BEFORE you access or collect.

As of February 2019, **48 ESQ members have reapplied for the 2018 permit and are endorsed on the ESQ collecting permits** for National Parks and CYPAL WITK18701717 and State Forests WITF18701717 for 268 protected areas. 27 of those endorsed have proposed to enter areas with RAA or CYPAL conditions in the 3 year life of the permit, with 13 having already completed field work notifications for those areas.

In May 2019, I will send out a request to endorsed members for annual reports outlining locality information for specimens collected and identified by end April.

Christine Lambkin
ESQ Permit Officer

a BIG thank you!!



A big thank you goes out to everyone who contributed to the News Bulletin this past year and helped with the production! Thanks to all the presenters for their seminar write-ups, but also to the other people who contributed news, photos, stories, book reviews, etc. I am grateful to David Rentz, Geoff Monteith, Penny Mills, Mark Schutze, Stephen Cameron, Shannon Close, Brian Cantrell, Ted Edwards, Chris Lambkin, George Hangay, Jessa Thurman, Michael Braby, Kit Prendergast and Christopher Harrington for contributing material to the bulletin. Thanks to the proofreaders, Penny Mills, Geoff Monteith & Mike Muller for ‘polishing’ the text until it shines. And thanks to those people willing to lend a hand with stuffing envelopes and getting the printed copies out: Penny Mills, Geoff Monteith, Shannon Close & Vivian Sandoval. And of course, thanks to our fantastic printer, Cindy at Rocklea Printers. What a team! Looking forward to another great year!

Kathy -- ESQ News Bulletin Editor

The Australian Entomologist Journal Report for 2018



Four parts of Volume 45 of *Australian Entomologist* were published during the year, totalling 504 text pages, which is a 62% increase on page numbers in 2017. There were 98 pages of colour compared with 82 pages in 2017. Three of the four issues were mailed out within normal circulation deadlines. Issues included 37 original papers, 1 book review and 5 pages of new literature. This included the largest single paper ever published in *Australian Entomologist* (52 pages), which was a summary by Robert Hoare of exotic moths, mostly Australian, established in New Zealand in the last 18 years. The cover image for

2018 was again by leading insect artist and ESQ member, Dr Albert Orr. It depicted a mating pair of the dragonfly, *Hemicordulia australiae*. His 2017 cover image of a burrowing carabid was reused on Volume 45 Part 4 which was a special memorial issue of 180 pages to honour the late Dr Barry Moore. This is the largest single issue ever published. A donation of \$2000 was received to support this large issue.

Subscriber numbers fell by 2 from 226 to 224 during 2018. The distribution of subscribers at end of 2018 was as follows: ACT 21, NSW 30, NT 1, QLD 97, SA 9, TAS 7, VIC 14, WA 7, and Overseas 38. The majority of subscribers are private individuals but there are 20 Australian and 31 overseas institutional subscribers, mostly libraries. Forty-four (19.6%) subscribers have opted for the emailed pdf version rather than hardcopy.

Our financial statement indicates a small trading loss of \$355 for 2018. We have considerable reserves to cover these perturbations and it is expected that an overall subscription rise will be necessary in 2020. This will be the first rise for ten years. Overseas hardcopy subscription rates were raised for 2019 to cover increased postal rates. Royalty income from sale of digital content from *Australian Entomologist* by our electronic distributor Informit rose from \$270 to \$360. This is expected to continue to grow and balances the slight decline in traditional subscriber income. A second contract for electronic distribution of content was signed with Ebsco during 2018.

Composition of the Publication Committee is as follows: Editor: David Hancock (based in Cairns); Business Manager: Geoff Monteith (Brisbane); Assistant Editors: Shannon Close (Brisbane), Geoff Monteith, Lindsay Popple (Cairns) and Federica Turco (Canberra).

The Publication Committee would like to thank the many people (subscribers, authors and referees) who contribute to the *Australian Entomologist* and help to keep it as a vital part of the Australian entomological scene.

Geoff Monteith
Business Manager
Australian Entomologist

ANNUAL REPORT 2018
FINANCIAL STATEMENT FOR *THE AUSTRALIAN ENTOMOLOGIST* –
JANUARY 1 TO DECEMBER 31, 2018

ASSETS	\$	LIABILITIES	\$
CBA chq A/c 00908915			
Closing balance	\$3,801.02	Subs in advance (2018)	1221.00
		Cheques not presented	00.00
Bank Australia term accts			
Closing balance: 307023174	10888.36		
307023175	8757.78		
138340573	5346.14		
Stationery (printed envelopes)	100.00		
Unsold past issues <i>Aust. Entomol.</i>	1359.00		
1812@ \$0.75 ea			
TOTAL	<u>\$30,252.30</u>	TOTAL	<u>\$1,221</u>

EXCESS ASSETS OVER LIABILITIES: **\$29031.30**

INCOME	\$	EXPENDITURE	\$
Subscriptions	6203.90	Printing costs, Vol 45(1-4)	6422.90
Page charges	790.00	Postage	3389.66
Interest (Aust. Bank 307023174)	281.1	Monthly merchant card fee	179.57
Interest (Aust. Bank 307023175)	217.77	Graphic layout costs	400.00
Interest (Aust. Bank 138340573)	139.57	Audit costs	210.00
Back issue sales	227.50	Stationery	66.33
Royalties from Informit	360.60		
Postage received	92.50		
Donation	\$2,000.00		
TOTAL	<u>\$10,312.94</u>	TOTAL	<u>\$10,668.46</u>

NET TRADING PROFIT/LOSS: **-\$355.52**

2018 SUBSCRIPTIONS at Dec 31:

AUSTRALIAN SUBSCRIPTIONS	186
OVERSEAS SUBSCRIPTIONS	38
TOTAL SUBSCRIBERS	224

I certify this is a true and accurate financial statement of the *Australian Entomologist* for the period 1 January 2018 to 31 December 2018.

Rebecca Keys
Independent and Honorary Accountant
3 February 2019



Feature articles: Notes and Exhibits

Gonipterus in Queensland: documenting diversity and distribution

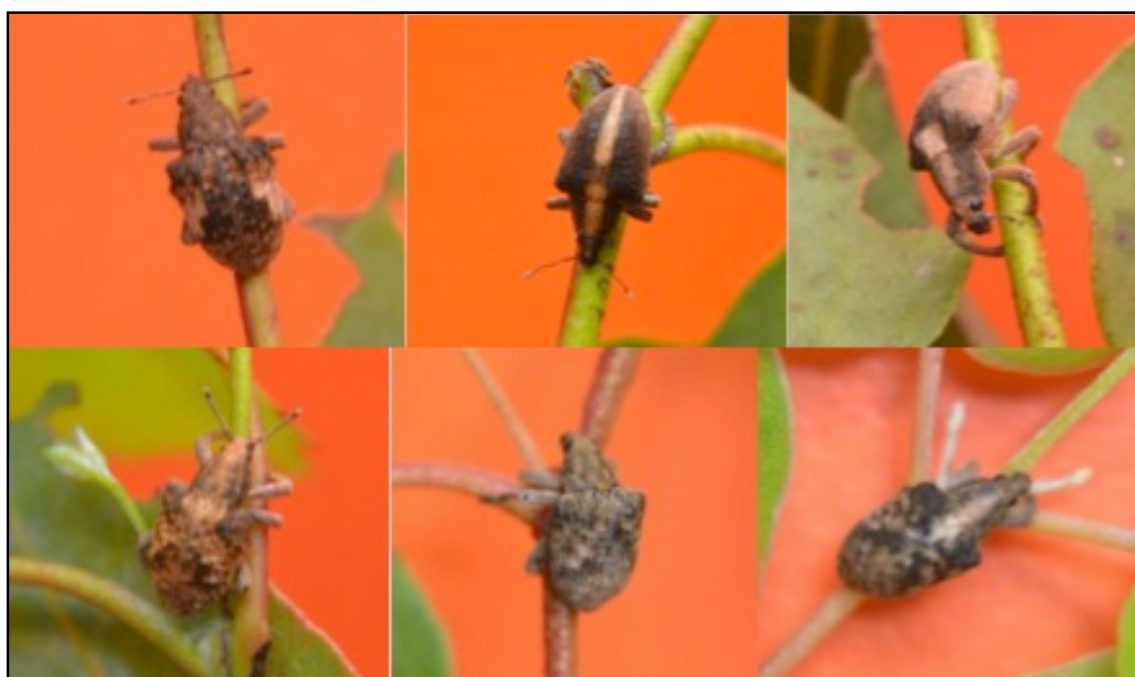
presented by Natalia Medeiros de Souza
PhD candidate, University of Sunshine Coast
Small Grant Scheme Recipient

Gonipterus (Coleoptera: Curculionidae) is a genus of insects native to Australia associated with eucalypts, feeding on fresh, flushing foliage. As early as 1890, these weevils started to spread around the world, becoming pests of eucalypt plantations in countries of Africa, Europe and the Americas as well as New Zealand and Western Australia. Up until 2012, the invasive species found overseas were thought to be *G. scutellatus* and *G. gibberus*, endemic to southern Australia and Tasmania.

The big breakthrough of the taxonomy of this genus came in 2012, when new research analysed genetic and morphological characters and revealed that “*scutellatus*” was actually a cryptic species-complex,

comprising at least eight species, some still undescribed (Mapondera et al. 2012). This work changed the perspective we had about these insects: the invasive species were actually *G. platensis*, *G. sp. n. 2* and *G. pulverulentus*, with the two former the most widespread; *G. scutellatus* was actually only found in Tasmania; and many of the Australian *Gonipterus* were still undescribed. These findings have important implications in our understanding of their distribution, host relationships, natural enemies and biocontrol, and highlighted how much there is still to know about these weevils.

In 2017, I started my PhD with *Gonipterus*, looking at the chemical ecology of the tritrophic system of



Different morphospecies of *Gonipterus* collected in Queensland.

weevils-host trees-egg parasitoids in search for parasitoid host-finding mechanisms that could be potentially be manipulated for improvement of biological control. My research involved collecting weevils and their parasitised egg capsules in the field, especially in South East Queensland (SEQ), to start laboratory colonies for experiments. Soon enough I realised there was a challenge ahead of me: species of *Gonipterus* often co-occur on the same hosts and, although I separated them using general external characters, the most reliable taxonomic feature to ID these species is male genitalia. That means that I had to start dissecting some specimens, and I found a diversity of species in and out of the “*scutellatus*” complex, some of them likely undescribed.

With all these specimens in hand, I decided to apply for the ESQ Small Grants Scheme with a proposal: take these weevils to the Australian National Insect Collection (ANIC) where I could access a large number of museum specimens for comparison and finally ID them and record the distribution in Queensland, where not much work on these weevils was done so far. My proposal was accepted and I am thrilled to have the opportunity to go to ANIC and work alongside Dr. Rolf Oberprieler, an expert in *Gonipterus* taxonomy, on this project. We have made the arrangements and soon my weevils and I will be heading down to Canberra!

Since the project was approved, I have made more field collections and now I have specimens from SEQ and all the way to Charters Towers (North Queensland). I collected as much information about the weevils I collected as I could, photographing live specimens, recording their hosts and locations and making some (attempts of) sketches of general external characters often damaged after preservation, the males were dissected and pinned for transport. I have also checked museum specimens (ANIC, QDPC, and QM) and found several Queensland specimens that could possibly have been misidentified, given that they were recorded before 2012. I have requested loans from both QDPC and QM to take specimens with me to ANIC and take a



Map of collection sites in Queensland.

closer look at them.

The outcome I expect from this work is an updated record of the diversity and distribution of *Gonipterus* in Queensland with description or deposit for description of new species, contributing to our knowledge about Queensland biodiversity and need for conservation. Promptly available information about their biodiversity and distribution could also be the key to managing them as pests in their invasive range, both for any future invasions and for searching for parasitoid populations adapted to Queensland-like climatic conditions.

MAPONDERA, T. S., BURGESS, T., MATSUKI, M. & OBERPRIELER, R. G. 2012. Identification and molecular phylogenetics of the cryptic species of the *Gonipterus scutellatus* complex (Coleoptera: Curculionidae: Gonipterini). *Australian Journal of Entomology*, 51, 175-188.



A female velvet ant (Mutillidae) photographed at Auburn River NP by Penny Mills

Feature articles: Notes and Exhibits

Pigeon Louse *Pseudolynchia canariensis* (Hippoboscidae) in Australia

presented by Christine Lambkin
Queensland Museum

I had been working on renewing the fly display for the new Queensland Museum (QM) Discovery Centre opening in March 2019. I wanted to include a vertebrate parasite and found a beautiful set of 8 specimens of Hippoboscidae in the UQIC (now part of QM) collected by TD Houston in Anzac Square, Brisbane, from a pigeon in 1994. They have a distinctive appearance - with quite different venation from other Australian Ornithomyiinae.

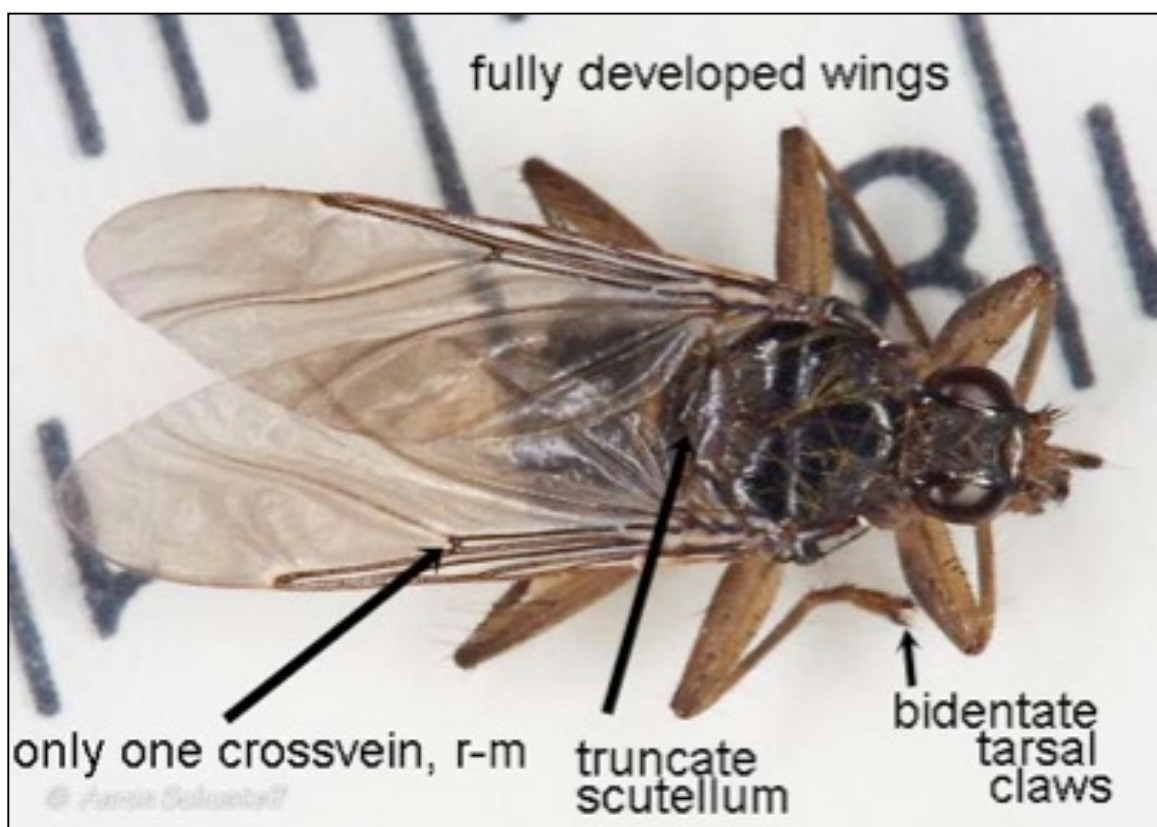
Using Maa (1963) I keyed out a specimen to *Pseudolynchia*, a genus that is not in Australia according to the Australian Faunal Directory (AFD), the Diptera Catalogs or the hippoboscids experts. The characters that define the genus are the fully developed wings, the deeply bidentate but seemingly trifid tarsal claws, only a single (r-m) crossvein on

the wing, and the truncate hind scutellar margin.

A Google search however revealed that the genus and species had been recorded by Roberts in 1945 in The occurrence of the pigeon fly (*Pseudolynchia canariensis* Macq.) in Australia with a note on Australian Hippoboscidae in the *Australian Veterinary Journal* 21, 150-151. (Reprinted 1950). We had a hard copy of that paper at QM, so I sent a scan to the AFD so that the species could be included as being in Australia.

Maa in 1969 missed this species occurrence in Australia again. And therefore it was not recorded in the 1989 Catalog of the Diptera of the Australasian and Oceanian Regions edited by Evenhuis nor the updates online.





I contacted Bill Crowe (National Entomology Coordinator DAFF) and now the Australian Chief Plant Protection Office. He is notifying the Australian and Queensland Chief Vets about the presence of this fly in Australia.

I found another 7 specimens in QM all collected from Brisbane city in the 1990s, already identified by Chris Burwell as *Pseudolynchia*. Also via Google I found a conference paper by Bob Doneley from 2006 where he stated that ‘... pigeon flies (*Pseudolynchia canariensis*) are all seen from time to time, causing feather damage, skin irritation and restlessness within a flock.’ Bob is Associate Professor, Avian and Exotic Pet Medicine, University of Qld, Gatton. When I contacted him, he was most intrigued, but admitted that he might have misidentified these insects that they call ‘flat flies’. Jenny Beard collected a hippoboscid from a native pigeon – but while Ornithomyiinae, it wasn’t *Pseudolynchia*.

I wanted to inform the Entomological Society of Queensland in the hope that some pigeon fanciers may be able to supply QM with more and recent specimens. Please....

References:

- Doneley, B. (2006) Pigeon medicine and surgery. *The North American Veterinary Conference* 1525-1530.
- Evenhuis, N. L. (ed) (1989) *Catalog of the Diptera of the Australasian and Oceanian Regions* (Bishop Museum Special Publication 86 edition). Bishop Museum Press and E.J. Brill, Honolulu and Leiden. 1155 pp.
- Roberts, F. H. S. (1945) The occurrence of the pigeon fly (*Pseudolynchia canariensis* Macq.) in Australia, with a note on Australian Hippoboscidae. *Australian Veterinary Journal* 21, 150-151. (Reprinted 1950)
- Maa, T. C. (1963) Genera and species of Hippoboscidae: types, synonymy, habitats and natural groupings. *Pacific Insects Monograph* 6, 1-186.
- Maa, T. C. (1969) A revised checklist and concise host index of Hippoboscidae (Diptera). *Pacific Insects Monograph* 20, 261-299.

Feature articles: Notes and Exhibits

The origin of the emblem of the Entomological Society of Queensland and the history of *Phalacrognathus muelleri*

presented by Geoff Monteith
Queensland Museum

The origin of the emblem

The Entomological Society of Queensland was founded in 1923 and for the first 50 years of its existence it had no official emblem insect. As the 50th anniversary of the society drew near, a major one-day symposium was planned to mark the event and ESQ Council held a competition among members for the design of a society emblem based on a notable Queensland insect. The six entries received were published in the May 1973 News Bulletin and featured only three different insects: the stag beetle, *Phalacrognathus muelleri*; the Cairns birdwing butterfly, *Ornithoptera euphorion*; and the Zodiac moth, *Alcides metaurus*. A postal vote of members was called and the June 1973 News Bulletin announced that the winner by a big margin was a dorsal view of *Phalacrognathus muelleri* (Fig. 1) submitted by Sybil Curtis (Fig. 2) who was then an insect illustrator with CSIRO Division of Entomology and an ESQ member since 1962.

The new emblem was launched at the ESQ Jubilee Symposium “Changing Patterns in Entomology” held at the University of Queensland in September 1973 and attended by 130 members and visitors (ESQ 1974). A special gold-embossed set of drink coasters showing the logo (Fig. 3) was produced by the society to mark the occasion and hundreds were sold to members.

The original 1973 design was a slightly stylised image to suit the unsophisticated printing technology used in the News Bulletin in those days. When ESQ took over the *Australian Entomological Magazine*



Fig. 1. Winner of the 1973 competition for an ESQ Emblem.



Fig. 3. Drink coaster sold at the 1973 Jubilee Symposium.



Fig. 2. Sybil Curtis, who designed the first ESQ Emblem.

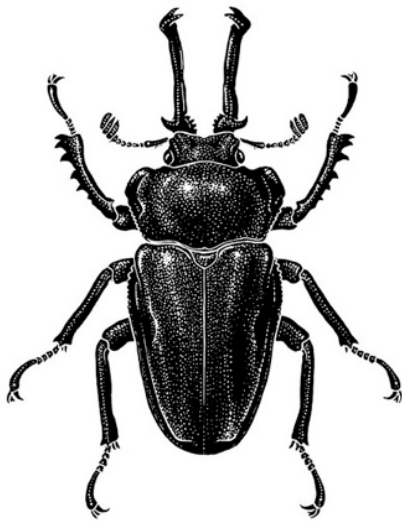


Fig. 4. Revised image of *Phalacrognathus muelleri* prepared by Sybil Curtis in 1988.

journal from its founder, Max Moulds, in 1988, Sybil Curtis produced an elegant, realistic replacement image (Fig. 4), with full texture and shading, for use as a cover emblem on the journal. This revised emblem has been the official ESQ emblem since 1988 and it is used regularly in the News Bulletin as a filler image. Printing these days has moved to the stage where full colour is the norm and for a few years we have tended to use a magnificent colour photograph of *Phalacrognathus muelleri*, taken by the Queensland Museum's high tech insect photographer, Geoff Thompson, as an alternative ESQ emblem. Members attending meetings in Brisbane will be familiar with that same photograph which adorns the pop-up banner Kathy Ebert designed and which we display outside the meeting room at EcoSciences Precinct. When Kathy Ebert and I produced the series of colour posters of the history of entomology in Queensland for the inaugural Perkins Dinner in September 2016, Kathy wove that colour image into a logo design which went into the top left corner of each poster (Fig 5).

But what of *Phalacrognathus muelleri* itself, and why was it so convincingly chosen as our emblem? It is the only member of its genus of stag beetles (Lucanidae) and is restricted to the rainforests of northern Queensland between Cooktown and

Townsville. It is Australia's largest and most gorgeous stag beetle and is probably our best known insect outside Australia, particularly among collectors. The brilliance of its reflective enamelled colours is opal-like in effect and varies through green, gold and purple. This has given it the common name of 'the rainbow stag beetle'. It was once considered a rarity but is now regularly bred in captivity, especially in Japan. Because of its more ready availability now, prices have become quite moderate for average specimens but size is a premium among stag beetle collectors and specimens over the magic length of 60 mm can fetch prices well above \$1000. An excellent summary of the adult and larval biology of the species, based on their 14 years observations, was given by ESQ members Graham Wood, Jack Hasenpusch and Ross Storey in their 1996 paper in the ESQ journal *Australian Entomologist*. They gave a summary of its discovery which I draw on and amplify below.



Fig. 5. Kathy Ebert's 2016 colour design of the ESQ emblem for the history posters.

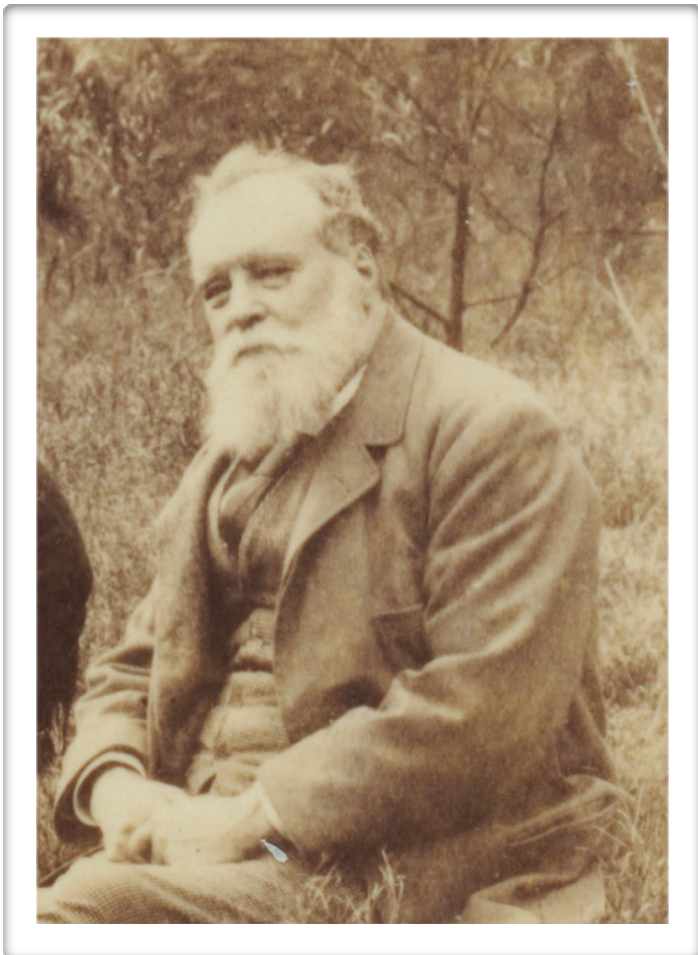


Fig. 6. Sir William Macleay, photographed 1888, who described *Phalacrognathus muelleri* in 1885.

The history of Phalacrognathus muelleri

Surprisingly, this spectacular species was not described until 1885 and the story of its discovery is intriguing and remains somewhat of a mystery. It was initially described on the basis of a single female specimen from 'North Australia' by Sir William John Macleay (Fig. 6), the wealthy pastoralist and politician who established his own private museum in Sydney (Macleay 1885a). Males and females of stag beetles are very different and Macleay placed his new female in the genus *Lamprima* which has several duller green or gold species (Reid *et al.* 2018). The specimen had been sent to Macleay by Charles French Snr (Fig. 7) who was later Government Entomologist in Victoria and author of the famous series of six volumes of *Handbook of the Destructive Insects of Victoria*. At that time French was yet to start his career as an entomologist and was assistant to the redoubtable

Victorian Colonial Botanist, Baron Ferdinand von Mueller (Fig. 8), at the Royal Botanic Gardens in Melbourne. Macleay noted that French had asked him to name the new beetle after von Mueller, a request “....to which it gives me great pleasure to comply.” Macleay speculated in his paper that the new species “may well form the type of a new genus...but in the absence of a male specimen...it would be premature.” This prompted French, perhaps with a twinge of conscience, to immediately send Macleay the male specimen which he had held back previously, and in the same year Macleay published a second paper (Macleay 1885b) erecting the new genus *Phalacrognathus* for his species. The genus name means ‘hairless jaws’, distinguishing it from *Lamprima* which usually has a dense brush of hairs on the inner surface of the male mandibles. Macleay described the male as “...the most beautiful insect I have ever seen, not surpassed in brilliancy of metallic lustre by the most gorgeous of the *Buprestidae*”. Macleay’s ‘pull’ in getting his second paper published immediately by the Linnean Society

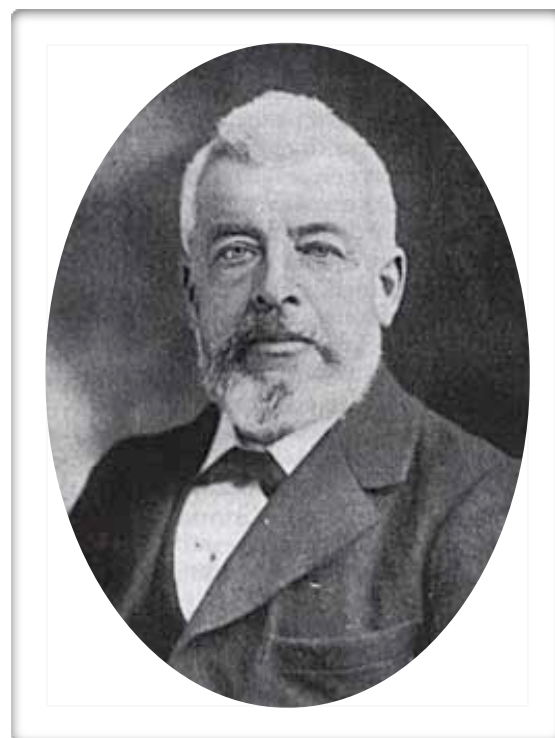


Fig. 7. Charles French Snr who sent specimens of *Phalacrognathus muelleri* to William Macleay for description.



Fig. 8. Victorian Colonial Botanist, Ferdinand von Mueller, after whom the rainbow stag beetle was named.

of New South Wales may be related to the fact that he was President and had just built a headquarters for the Society near his home in Elizabeth Bay and had endowed it with £14,000!

Macleay exhibited the female specimen at the Linnean Society meeting in Sydney on 29 April 1885 where it “excited much attention” (Anon. 1885a) and he showed the male at the same venue on 30 September (Anon 1885b). The origin of those specimens which French sent to Macleay, both labelled ‘North Australia’ remains a mystery. At that general time von Mueller was employing botanical collectors to work in northern Queensland. One of these was William Sayer who was a cousin of Charles French. Another was Walter Froggatt who, according to Musgrave (1932) sent insect specimens to both French and von Mueller. It is quite likely that French’s male and female *Phalacrognathus muelleri* came to him via one of his boss’ collectors, and this might also explain why French asked Macleay to name the species after von Mueller. Contemporary entomologists were also curious about the origin of

those original specimens. At a meeting of the Linnean Society of NSW in 1892 Mr A. S. Olliff enquired “..as to the exact habitat of the splendid lucanid beetle...described by Sir William Macleay...about which the only information is that they came from North Australia?”. Mr F. A. Skuse, then entomologist at the Australian Museum in Sydney, replied that specimens had recently been received by the Museum from “*Russell Scrub, Boar Pocket, near Cairns, Queensland*” (Anon. 1892). This locality was a popular staging post on the newly opened pack trail from Cairns to the Herberton tin fields and this is probably how the unknown collector accessed the area. Much is now submerged under Tinaroo Dam at the northern end of the Atherton Tableland.

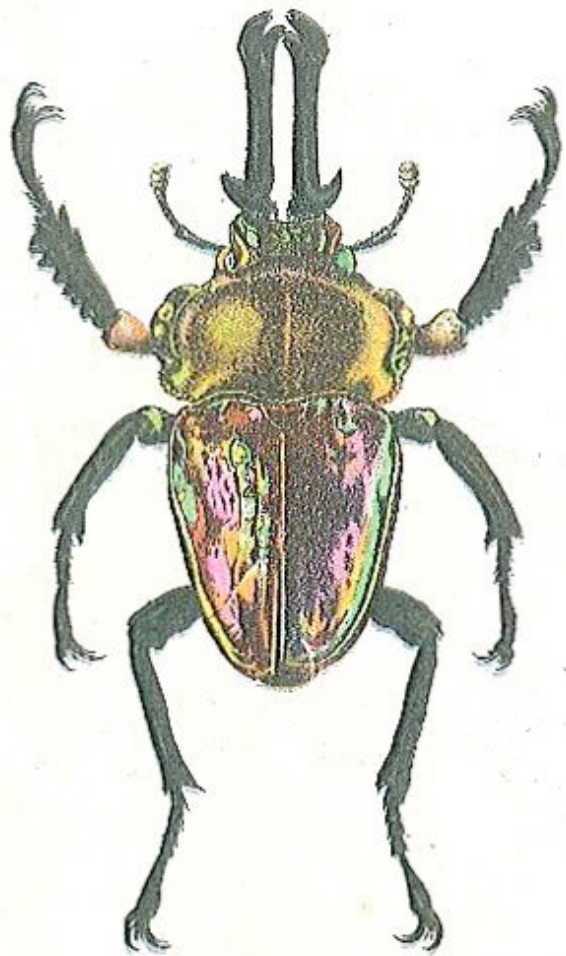


Fig. 9. Colour lithographic illustration of *Phalacrognathus muelleri* published by Paolo Dattari in 1886.

Macleay did not illustrate *Phalacrognathus muelleri* in either of his two 1885 descriptive papers on the species. This was accomplished a year later by a remarkable publication by an Italian in Melbourne revealed by Dwyer (1996). Paolo Dattari was an Italian gentleman, architect and artisan from the Florence region of Italy who came to Australia in 1870. He worked as a government architect in Melbourne, made presentation art items and was a judge of the jewellery section of the Melbourne International Exhibition in 1880-81 (Dwyer 1997). He was also a good friend of von Mueller and active in the Field Naturalists Club of Victoria of which Charles French had been a founder. At a meeting of the FNCV on 18 June 1886 he presented copies of a pamphlet he had prepared on *P. muelleri* illustrated

with a beautiful colour lithographic plate which brilliantly captures the changing colours of the beetle despite the printing technology of the day (Fig. 9, ex Dattari, 1886). The text of the pamphlet reproduces Macleay's descriptions of the male and female and has some discussion of variability in the species by Dattari himself. Its purpose seems in part to have been to tell a Victorian audience of the accomplishment of fellow Victorians French and von Mueller in discovering the species which had been published in far off Sydney. Dattari makes the somewhat ambiguous statement that French was "*the first to introduce from North Australia this fine insect*", but we have no evidence that French actually visited the Cairns region himself at that stage of his life. Dattari also refers to an additional

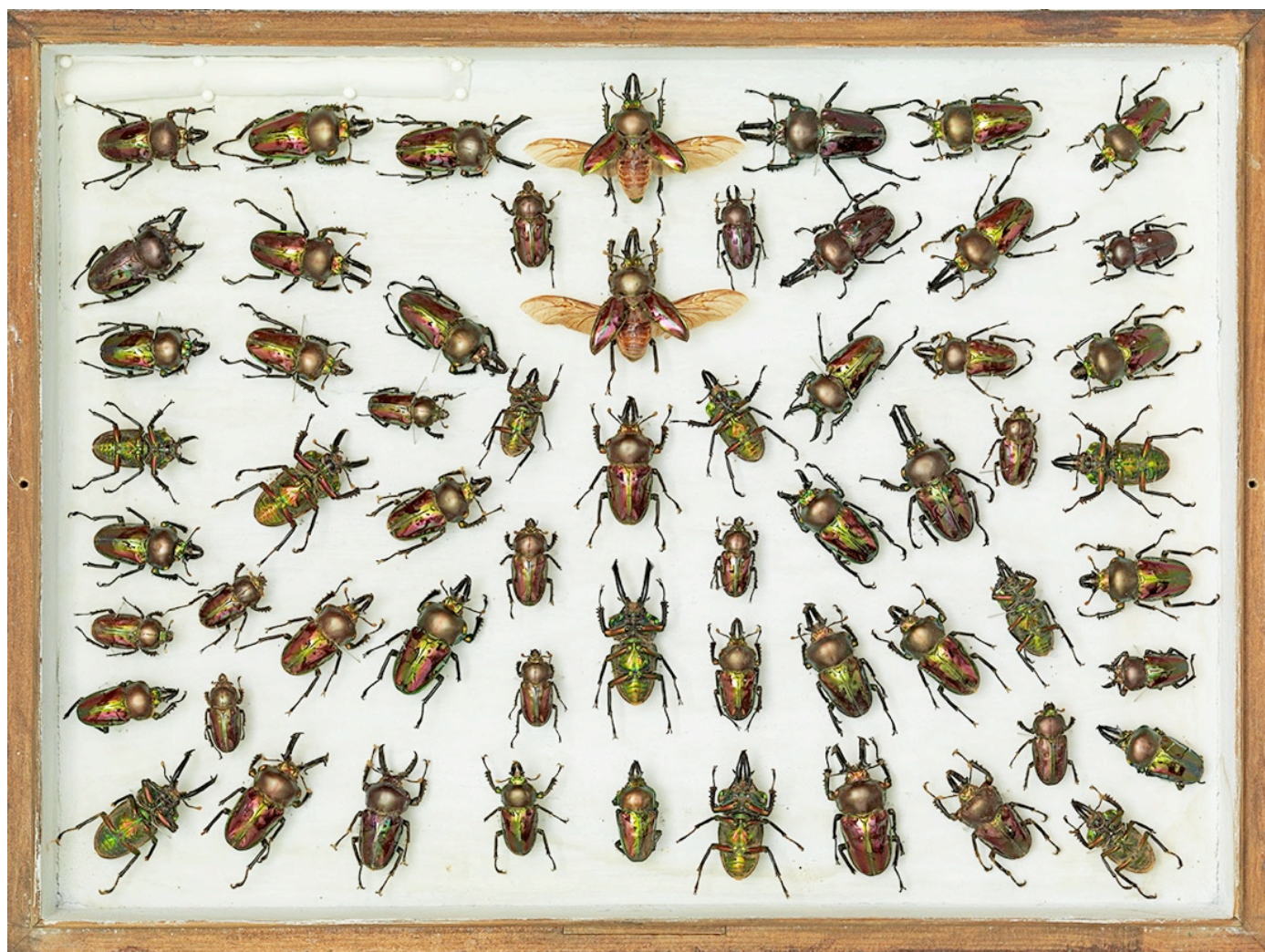


Fig. 10. A case of 60 specimens of *P. muelleri* prepared by Frederick Parkhurst Dodd about 1918 and now in the Queensland Museum.

two males in his possession, “..the pair having been presented by me to the illustrious Dr Beccari, Director of the R. Museum in Florence..”, so there were clearly more specimens in Victoria in 1885-6 than the single male and female that Macleay had been given to describe.

The species was redescribed a few years later by Shipp (1893) under the synonymic name, *Phalacrognathus westwoodi*, from a single male in the Oxford University Museum. The specimen had been purchased by Professor J. O. Westwood from the French dealer Adolphe Boucard in 1889 and it came from the same uninformative locality of “North Australia” as had those of Charles French.

The first person to collect *Phalacrognathus* in numbers was Frederick Parkhurst Dodd who settled in Kuranda in 1905 and made his living by selling insects to European collectors (Monteith 1991). He discovered that adults could be collected regularly by inspecting sap flows of certain rainforest trees and they became a desirable item on his sales list for many years. His son, Alan Parkhurst Dodd, recalled in a talk to ESQ in 1971, that the sharp eyes of the family could average 40-50 specimens a season (Dodd 1971). The Queensland Museum holds a case of 60 specimens of the species prepared by F. P. Dodd for his grand tours of his collection through eastern Australia in 1918 and 1923 (Fig 10).

The Entomological Society of Queensland’s emblem, based on this exciting and spectacular stag beetle, was prepared as part of the 50 year celebrations of the society. Members should note that we are only a few short years from our 100th year in 2023. **What might we do to celebrate that event? Start thinking!!**

REFERENCES

- ANON. 1885a. Notes and exhibits. *Proceedings of the Linnean Society of New South Wales*. **10**: 187.
- ANON. 1885b. Notes and exhibits. *Proceedings of the Linnean Society of New South Wales*. **10**: 553.

ANON. 1892. Notes and exhibits. *Proceedings of the Linnean Society of New South Wales*. **17**:20

DATTARI, P. 1886. Remarks on the new Australian beetle, *Phalacrognathus muelleri*. pp 1-8, Melbourne. Privately published and presented to the Field Naturalists Club of Victoria.

DODD, A. P. 1971. The stag beetle, *Phalacrognathus muelleri*. *News Bulletin of the Entomological Society of Queensland* **74**:12.

DWYER, R. 1996. To honour a noted botanist. *Victorian Naturalist* **113**(4): 208-209.

DWYER, R. 1997. Paolo Dattari, jewellery and the Italian Court at the Melbourne International Exhibition of 1880-81. *Italian Historical Society Journal* **5**(2): 13-15.

MACLEAY, W. J. 1885a. Revision of the genus *Lamprima* of Latreille, with descriptions of new species. *Proceedings of the Linnean Society of New South Wales* **10**:129-140.

MACLEAY, W. J. 1885b. A new genus of the subfamily Lamprimides of Lacordaire. *Proceedings of the Linnean Society of New South Wales* **10**:473-474.

MONTEITH, G. B. 1991. *The Butterfly Man of Kuranda*. 34 pp. Queensland Museum, Brisbane.

MUSGRAVE, A. 1932. *Bibliography of Australian entomology 1775-1930 with biographical notes on authors and collectors*. 380pp. Royal Zoological Society of NSW, Sydney.

REID, C.A.M., SMITH, K. and BEATSON, M. 2018. Revision of the genus *Lamprima* Latreille, 1804 (Coleoptera: Lucanidae). *Zootaxa* **4446** (2): 151–202.

SHIPP, J.W. On a new species of the genus *Phalacrognathus*, MacLeay. *Transactions of the Entomological Society of London* **1893**: 223-225.

WOOD, G.A., HASENPUSCH, J. and STOREY, R. I. 1996. The life history of *Phalacrognathus muelleri* (Macleay) (Coleoptera: Lucanidae). *Australian Entomologist* **23**(2): 37-48.





Remembering...



"What an extraordinary man you were, Brenton! You certainly were one of a kind. I will forever miss your smile with which you greeted me every time we met in countless meetings of our beloved Society over many years. How to forget you and your sense of humour... You will live in my memories. Safe travels, dear Brenton"

Federica Turco



OBITUARY

Dr Brenton Charles Peters

17 February 1948 – 17 January 2019

There were two main loves in Brenton's life, family and science in that order, but it is the science I will reflect on here. Like all professions, science has its highs and lows; the hypothesis, the pursuit, the discovery moment, sometimes the bite of failure. Darwin once likened a scientist to a blind man in a dark room looking for a black cat that isn't there.

So, how did Brenton get into science? He was born on the 17th February 1948 in Fullarton, Adelaide, South Australia. He was the eldest child of Ron and Audrey Peters and brother to Jennifer with whom he shared a strong bond throughout his life. His childhood in the family home at Brighton was full of games, sport, fishing, and the start of one of his passions, keeping and breeding birds, that in an intriguing way is linked to his later career. Brenton and his Dad would collect termite mounds and keep colonies in a plastic bin to feed to the birds. His interest in collecting insects also started young and he once formed an insect club with local kids.

He studied at the Waite Institute of the University of Adelaide and completed a Bachelor of Agricultural Science degree with honours in 1969. That year was a seminal career moment for Brenton. In December 1969 a brightly polished Brenton Peters arrived at the Forestry Laboratory at Bulolo in Papua New Guinea where I was working; he was there for a two year stint and it was the start of his long association with Forestry.

New Guinea in those days was a fairly wild and woolly place; still is for that matter. Pre-self government, pre-independence but exciting for a young entomologist in his early twenties. Communications were poor, no TV, bad radio reception and if you wanted to phone home to Australia you needed to book an operator-connected call at the Post Office and wait for hours sometimes until your call came through, and even then you may not

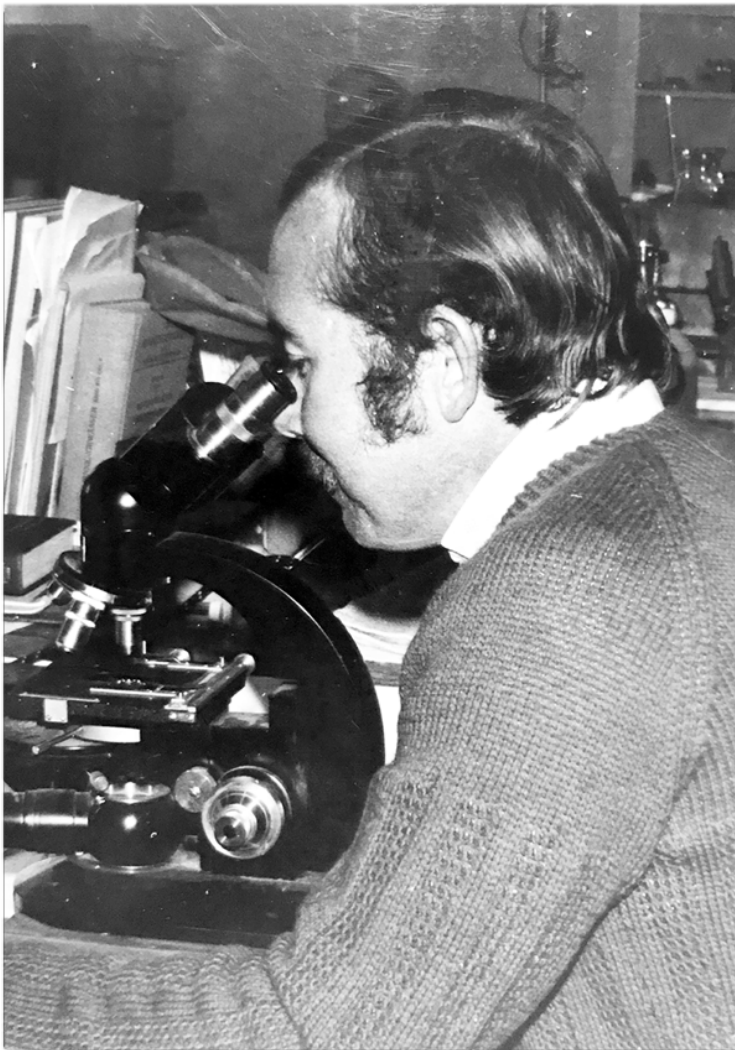
talk directly to the person you called. You were isolated, you made your own fun and it was another world. Brenton revelled in it; he took every day as an adventure.

The first forestry pest he worked on was *Vanapa oberthuri*, a very large black weevil that infested hoop pine trees in plantations causing tree death. He branched out, if you will excuse the pun, to pests of eucalypt plantations, which took him to other parts of the country, some very isolated and very challenging for a new graduate. I could tell a myriad of stories of Brenton in PNG but if I had to pick one it would be a field trip to the island of Kui in the Huon Gulf in 1970 to survey timber borers in a logging operation. It was one of those trips when if anything could go wrong it did. Brenton, our friend Neil Gough, a compatriot of Brenton's from the Waite working at the Bernice P Bishop Museum at nearby Wau, and myself took a commercial lugger out of Lae for a 3 hour trip. En route, the steering jammed and we went round in circles for hours before it was repaired. We had contemplated escape using the foam-filled seat cushions to float and paddle our way to the beach at Salamaua which seemed so close. What gave us pause was when a crewman who was fishing to while away the time pulled in a very large fish but the head only – the rest had been taken by a shark. Eventually we got to Kui and had the best collecting



Vanapa oberthuri

an entomologist could wish for – you have to be a insect person to appreciate it. I still have specimens of the giant longicorn *Batocera wallacei* which was in such numbers that I stuffed some into Brenton's terry towelling hat when we ran out of collecting jars. On the return journey we commissioned a jet boat for a fast trip back but hadn't reckoned on a hungover skipper and mate who had been partying the night before in Lae. The seas were rough, the boat wouldn't plane and broke down. The skipper was violently ill, the mate passed out and there we were bobbing out to sea with a cyclone approaching. What to do – entomology to the rescue. After waving unsuccessfully at passing boats in the distance we soaked a rubber foot thong (Neil's idea) in petrol, set it alight after attaching it to extended entomology net poles and sent up a smoke signal. We were picked up by a passing barge and safely home. The adventures of course did not end there; when Brenton wasn't working he was exploring, trekking some of the old war trails and gold mining tracks around the Bulolo region including the Salamaua track which is as rugged as



Kokoda. The friendships made in New Guinea last a lifetime and only a few months ago Brenton attended a gathering of former staff from the Bulolo lab, talking old times.

He left New Guinea in 1971 and returned to Adelaide where, after recovering from a bout of malaria, he took a job that was very much applied entomology. He worked on the management of chironomid midges swarming in vast numbers about sundown, inundating homes and businesses in the area surrounding the sewage treatment works at Bolívar where the midges were breeding. Sewage ponds... a lesson for aspiring scientists, science jobs are not always glamorous. He married Carmel Hockley in 1973 and shortly afterwards they moved to Melbourne where Brenton had taken a job with the chemical firm BASF.

He joined the Queensland Department of Forestry in 1979 to take part in one of the world's largest fumigation programs for the eradication of the West Indian drywood termite *Cryptotermes brevis* under the

direction of Robin Yule. That saw the old Parliament House under a 'circus tent' pumped full of poisonous methyl bromide gas in the Brisbane CBD, nobody died except the termites. For much of the remainder of his career Brenton, with the help of Jock Kennedy and Chris Fitzgerald, was associated with an ongoing campaign against the pest, to the extent he was referred to as 'Mr Brevis'. The program has not eradicated the pest but kept it under control with the saving of multiple millions of dollars annually. That is part of the history of Queensland and part of his legacy.

It was during the early Brisbane days that Brenton and Carmel started their family with the birth of Sonya in 1980 followed over the next 11 years by Julia, Milton, Georgina and Elliott. Sadly, Brenton lost Carmel to cancer in 2004. Brenton's passion for the natural world has been passed on to his children, and I am sure in turn to his grandchildren Charlotte, Olivia, Hannah and Patrick.

Brenton published extensively throughout his career on a range of timber pests from powder post and auger beetles to quarantine pests and termites, but particularly termites a subject on which he gained his doctorate in 2004. He was senior author, with co-authors Judy King and myself, of a book on Pests of Timber in Queensland of which he was very proud. Another significant paper, with Chris

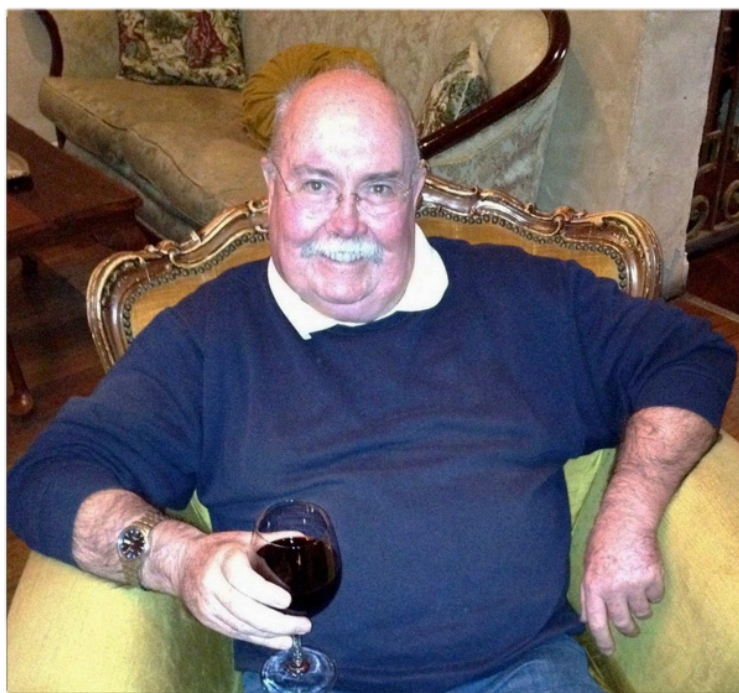


Dr Brenton Peters of DPI&F inspecting one of the termite trial samples; demonstrating the effectiveness of treated pine as compared to untreated controls in the prevention of damage by termite attack.



Fitzgerald, was *Developments in termite management: life after the cyclodienes*. This document pulled together the use of physical and chemical barriers, aggregation and baiting. His work contributed to various Australian building codes and standards and was also internationally recognised. They say you can't teach an old dog new tricks but Brenton always kept up with the technology going from the days of arsenicals, chlorinated hydrocarbons and organophosphates to microwaves for detecting timber pests, to bait toxicants and nanoparticles. He retired in 2011 but kept his hand in through consultancies and private projects. He was a staunch member of the Entomological Society of Queensland, a valued member of Council and Treasurer since 2012.

There is a set of rules that should be followed if you want to be a true scientist, so let's see how Brenton's report card stacks up. 1) See failure as a beginning, not an end 2) Never stop learning 3) Assume nothing, question everything 4) Teach others what you know 5) Analyse objectively 6) Respect constructive criticism 7) Give credit where it is due 8) Take initiative 9) Ask the tough questions early 10) Love what you do or leave. Brenton ticks all of the boxes.

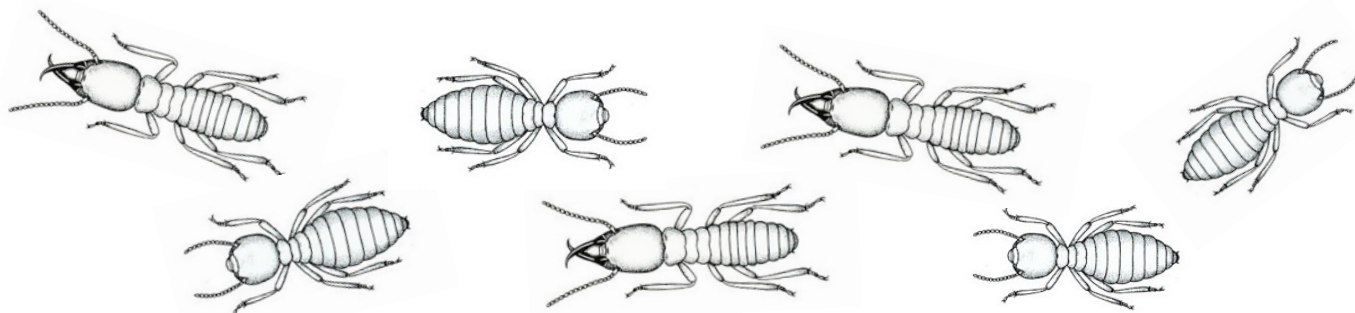


The other scientist qualification I should add is 'preserve your sense of humour'. Brenton was ever the optimist, good with a quip, and not easily discouraged; a bit like Thomas Edison who once said "I have not failed, I have just found 10000 ways that don't work". Brenton was still working on a paper in his last week and putting a case to the journal editor.

Brenton was a wonderful friend, a devoted family man and a great scientist, he will be very much missed.

-- Ross Wylie

Thank you to all those members who have sent their condolences. Brenton has been such an integral part of council for many years and we will truly miss his presence, his quick wit and sense of humour.



Termite images: CSIRO SciencelImage *Coptotermes acinaciformis* <http://www.scienceimage.csiro.au/image/499>



Entomology News

from Queensland and beyond...

Australia Day Honours to Ian Galloway



Congratulations to Ian Galloway who was awarded AM as a Member of the General Division in the 2018 Australia Day Honours List announced by the office of the Governor-General in Canberra on January 26. Ian graduated in Entomology from University of Queensland in the late 1960s and became one of the taxonomists in the then DPI Entomology Branch, later heading the taxonomic group. While there he completed a PhD on the taxonomy of Australian Scelionidae, a group of parasitic Hymenoptera of biocontrol interest. He moved on from there to head the pests and diseases branch of the then Queensland Lands Department and this included administrative supervision of the then Alan Fletcher weed biocontrol group at Sherwood. Developing an interest in museum administration, he took a position as Deputy Director of the National Museum of Victoria in Melbourne in the 1990s and came back to Queensland as Director of the Queensland Museum in the 2000s, retiring about three years ago. He was President of the Entomological Society of Queensland in 1978.

Secrets of fat legs revealed

Parasitoid wasps in the family Gasteruptiidae have characteristic long legs with enlarged tibiae that dangle as they fly. A group of researchers from several US universities along with researchers from Flinders University in Adelaide and the University of Western Australia, have analysed the wasps' legs using microscopy, chemical analysis, gene expression and behavioural observations. They have found that there are fat bodies in the tibiae! Usually fat bodies are associated with the abdomen, but these wasps have them in their tibiae and it is thought that

the fat bodies are important for balance and maneuvering in flight, for amplifying vibrations to help them detect their prey and possibly for detoxification.

To read more about this research see:

Miko I et al. 2019. Fat in the leg: Function of the expanded hind leg in gasteruptiid wasps (Hymenoptera: Gasteruptiidae). *Insect Systematics and Diversity* 3(1):2, 1-16.

Gasteruptiidae wasp. Image: Wikimedia Commons



Insect Ecology Workshop in Brisbane

Several ESQ members attended a workshop entitled “Do we need insect ecologists” which was part of the Ecology Society of Australia conference held in Brisbane in late November. Three guest speakers presented their views on the challenges of working with insects in ecology and conservation. Problems included: not enough research on basic taxonomy and behaviour, public perceptions of insects and the importance of science communication in education, popular media and extension. In addition to the speakers, there were displays of aluminium and resin castings of *Myrmecia nigrocinta* (bull ant) nests. Dr. Chris East from QUT uses molten aluminium to create casts of ant nests. The aluminium is melted onsite at temperatures up to 800°C then poured into the ant nests. Chris has also tested resin in the nests. Resin can be cleaned and polished to give a view into the different nest chambers.



Above: ESQ member, Jess Thurman examines the ant nest casts.

Left: resin casts provide a view of the larvae in the ant nest.

Mystery photo: fungal or insect made?

Colleen Foelz photographed some mysterious fluffy stuff seen attached to wood in subtropical mangroves on St Bees Island (off Mackay). Colleen sent the photo to Vivian Sandoval for identification. Vivian had never seen anything similar before, so she asked for opinions from several experts in mycology and entomology, and got some very different responses. Have you ever seen anything like this before?? **STOP PRESS!** John Lawrence tells us they are larval threads of tenebrionid beetles. Luckily, Vivian and Geoff Monteith have been able to collect some of this ‘living wool’. Find out the rest of the story next month!!!



Edible Insects Talk at Binna Burra Lodge

The use of insects as food has been one of Vivian Sandoval's passions over the last few years. She has been leading projects and breeding edible insects, as well as giving talks and tastings in Latin and North America. In a recent presentation at Binna Burra, Vivian introduced anthro-po-entomophagy, showed the pros and cons of insect consumption and discussed why we don't eat insects in Western cultures. She also prepared an edible insect tasting experience with different kinds of roasted insects (Fig. 1).

The menu featured:

- Mealworm "farofa" (Seasoned cassava flour with roasted mealworms) (Fig. 2)
- Cricket cheese rolls
- Mixed insect crackers (Fig. 3)
- Cricket energy bars (by Grilo Company – Byron Bay) (Fig. 4)
- River mint, peppermint & ant tea



Fig. 1. Vivian and the goodies.

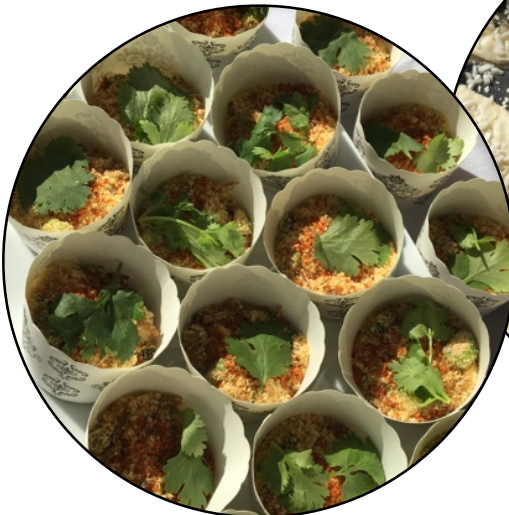


Fig. 2 Mealworm "farofa"



Fig 3. Mixed insect crackers



Fig 4. Cricket Energy Bar by Grilo Company. Photos: Fran Guard

Another successful generation of biocontrol...

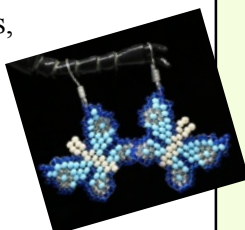




Bugs and Beads: the Exhibition

A *Bugs and Beads* Exhibition was featured at the December Notes and Exhibits meeting.

Bugs and Beads is the brand created by Vivian Sandoval, a Colombian entomologist living in Brisbane, connecting her entomological knowledge with her craft skills. Vivian is designing jewellery and collectables (keyrings, fridge magnets and models) inspired by insects and nature. She is using different kinds of materials such as tiny small glass seed beads, perler beads, wooden buttons, paper, real beetle elytra and butterfly wings (collected dead from glasshouses or in the field) combined with resin, 925 sterling silver and 14/20K gold filled. Vivian brought a selection of her cleverly crafted bracelets, pendants and earrings for the exhibit.



Aroona BugCatch 2019

Where: Aroona Station, south of Grandchester, c. 1.5 h drive south-west of Brisbane.

When: February 23–24, 10 am start on the Saturday.

Who: Organised in conjunction with the not-for-profit organisation Queensland Trust for Nature (QTFN; Renee Rossini), Penny Mills and Kathy Ebert.

Costs: \$25/person (covers catering costs for meals for 2 days) OR \$10 for one day.

Details: This is an overnight BugCatch, with participants to bring their own camping gear and cutlery. There is a homestead on the property that provides shelter, electricity and water (tank water and bore water). There will be outhouse toilet facilities available.

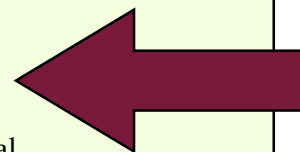
The Aroona property was acquired by the QTFN in 2015 and is still a working cattle property. The main purpose for Aroona is to show that farming and conservation practices can co-exist. A successful botanical camp was run at the property in Sept. 2018, but a proper invertebrate survey is yet to be completed at Aroona. The aims of this BugCatch are to sample the invertebrate fauna in different ecosystems using various trapping methods and to help identify (within reason) the various groups and species that occur on the property.

To register your participation and receive additional details, please email Penny Mills at

penelope.mills@uqconnect.edu.au.

RSVP: By Wednesday 20th

February. Places are limited. Please let us know if you have any special dietary requirements.





Announcements

Membership Renewal Time:

Membership fees were due on the 1st of January 2019. Pay by direct debit now, before you forget!

See our website for renewal forms and other payment options:

www.esq.org.au/pdf/Renewal2019.pdf

Account Name: ENTOMOLOGICAL SOCIETY OF QUEENSLAND

Branch number (BSB): 06 4141

Account number: 00901185

*** Please use member's name as reference number**

Membership fees: General \$30, Joint \$36, Student \$18 (*free the first year*)

See our website form for other payment options: www.esq.org.au/pdf/Renewal2019.pdf



You are invited...save the date!

Come celebrate
Queensland Entomology
at the Biennial
Perkins Memorial Dinner
October 9th, 2019



Every two years the Entomological Society of Queensland holds the Perkins Memorial Lecture when a prominent entomologist is invited to give a lecture on a topical theme of entomology in memory of Athol Perkins who was the first Head of Entomology at the University of Queensland and one of the founders of the Society in 1923. As the Society approaches its centenary year, Council has initiated a biennial dinner to be held on the evening of the Perkins Lecture. The Perkins Dinner will be held in the beautiful function room of the St Lucia Golf Club on October 9th this year. We invite members to note the date. More details will be posted in the News Bulletin later in the year. It will be a chance to meet with the Perkins lecturer who will be a guest of honour, catch up with other entomologists, see displays and more. Have you got any ideas for the event or need more information? Contact the event convenor: Kathy Ebert (k.ebert@uq.edu.au).



Diary Dates for 2019

Meetings held on the second Tuesday
of the respective month

MARCH 12	Mike Muller, ESQ President	AGM and Presidential Address: <i>"Come in Sucker – A 46-year Journey with Biting Flies"</i>
APRIL 9	Dr. Phyllis Weintraub (Volcani Institute, Israel)	Title TBA, Topic: Effect of Auchenorrhyncha symbionts on phytoplasmias
MAY 14	Dr. Nancy Schellhorn (RapidAIM Pty Ltd)	<i>"The journey to RapidAIM."</i>
JUNE 11	Notes and Exhibits	TBA
AUGUST 13	Dr. Raghu Sathiyamurthy (CSIRO)	<i>"Assessing risk in host-specificity testing for weed biocontrol: juxtaposing scientific and regulatory perspectives"</i>
SEPTEMBER 10	Susan Wright (Queensland Museum)	<i>"The Queensland Museum Collection – what we hold and why"</i>
OCTOBER 8	Perkins Memorial Lecture: Prof. Ary Hoffman (Uni. of Melbourne)	TBA
NOVEMBER 12	Mark Schutze (QDAF)	TBA
DECEMBER 11	Notes & Exhibits	Notes and Exhibits/Christmas Afternoon Tea

SOCIETY SUBSCRIPTION RATES

GENERAL	Person who has full membership privileges	\$30pa
JOINT	Residents in the same household who share a copy of the <i>News Bulletin</i> , but each otherwise have full membership privileges.	\$36pa
STUDENT	Student membership conveys full membership privileges at a reduced rate. Free the first year , \$18pa subsequent years. Students and others at the discretion of the Society Council.	\$18pa

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

THE AUSTRALIAN ENTOMOLOGIST SUBSCRIPTION RATES

AUSTRALIA	Individuals/Institutions	AU\$33pa/AU\$37pa
ASIA/PACIFIC	Individuals/Institutions	AU\$40pa/AU\$45pa
ELSEWHERE	Individuals/Institutions	AU\$45pa/AU\$50pa
ELECTRONIC	Individuals/Institutions	AU\$25pa/AU\$30pa

Journal subscriptions should be sent to the Business Manager, PO Box 537, Indooroopilly QLD 4068
<http://www.esq.org.au/publications.html>



Entomological Society of Queensland



Notice of next meeting:

Tuesday, 12 March 2019, 1:00 pm



Annual General Meeting & Presidential Address

Mike Muller

Medical Entomologist

will present:

**“Come in Sucker – A 46-year Journey with
Biting Flies”**

All welcome! Join us after the meeting for tea and coffee.

Ground floor Library, Ecosciences Precinct, Boggo Road, DUTTON PARK

More venue details available at <http://www.esq.org.au/events.html>

Next News Bulletin:

Volume 47, Issue 1 (March 2019)

CONTRIBUTIONS WELCOME

Deadline Friday, March 15th, 2019.

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