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Entomological Society of Victoria

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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

(a) to stimulate the scientific study and discussion of all aspects of entomology,
(b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
(c) to compile a comprehensive list of all Victorian insect species,
(d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, Melway reference Map 43 K5 at 7:45 p.m. on the third Tuesday of even months, with the exception of the December meeting which is held earlier in the month. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	$30 (overseas members $32)
Overseas Member with printed bulletin	$65
Country Member	$26 (Over 100 km from GPO Melbourne)
Student Member	$18
Electronic (only)	$20
Associate Member	$ 7 (No News Bulletin)
Institution	$35 (overseas Institutions $80)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, D. Dobrosak. R. Field, D. Holmes, T. New, K. Walker.

Cover and logo design by Ray Besserdin 2017

Cover photo: *Stilbopteryx napoleo* in the Big Desert on 26th January 2011. Photo by Peter Marriott

Minutes of the Entomological Society of Victoria General Meeting, Tuesday 18 April 2017 at Melbourne Museum

Attendance: Marcelle Tiller, Peter Carwardine, Garrad Flint, Maik Fiedel, Peter Lillywhite, Miriam Holt, Glenise Moors, Josh Grubb, Julia McCoey, Carol Page, Geoff Hogg, Elly Hogg, Wendy Moore, Frank Pierce, Linda Rogan, Ken Harris, Ray Besserdin, Peter Marriott, Ian Endersby, Roch Desmier de Chenon, Gordon Ley, James Neave

Apologies: Patrick Honan

Guests: Don Ewart, Emily Grubb **Speaker:** Dr Don Ewart

The general meeting was opened by Vice President Peter Carwardine.

New Logo: Ray Besserdin was invited to the floor to propose his vision for a new logo for the society. Ray displayed printed colour and black and white versions of the logo which features *Arcipeza reticulata.* He also showed different options for possible T-shirt designs which could possibly be made available online.

Previous Minutes of the general meeting held on 21 February 2017 and reported in April 2017 Vic. Ent. 47 (2) pp 25-28].
M: Peter Marriot S: Carol Page Carried.

Peter Carwardine introduced the speaker for the evening.

Dr Don Ewart – Termites: Not what they seem

Peter Carwardine introduced Don, a termite specialist who having worked at four universities, now teaches at Melbourne Polytechnic and chairs the termite Standards committee. He worked at CSIRO Forest Products in Clayton, back when CSIRO was more involved in basic resource science. His "Dr Don's Termite Pages" (drdons.net) was the first web guide to cover termites. He is working with others to build the Institute of Pest Risk Management (tiprm.com), a group aimed at raising urban pest management professionalism and reducing pesticide use. He has also worked on Codes of Practice and is currently authoring a Code of Practice covering pest management in NSW for their EPA. He has noted that by far the best means of termite control is the proper building of houses in the first place.

Don's early research at Wyperfeld National Park involved baiting with grids of toilet paper rolls to measure relative termite activity around the Outlet Creek forests. Later at Boola Boola State Forest south of Rawson, an area heavily logged to supply the Maryvale pulp mill, he expected to find termites benefiting from the carnage. What he found however was that the termite populations were heavily impacted. This research involved studying the mounds of *Coptotermes lacteus*, direct baiting and temperature studies. In one test with wooden blocks within a 200 litre drum, the termites entered not from the bottom as expected, but through a small hole centrally in the lid from which they built complicated spiralling runways. Don passed around a block that had 3 intact sides but felt quite hollow. This was from a trial of house framing timber in Queensland. The pesticide from the treated blocks had spread through the air in the drums to the untreated control blocks, reducing termite feeding. This transfer of the pesticide may be a problem in houses. At present Don finds he is working mostly doing field trials up north where the *Coptotermes* are active all year.

Don described termites as eusocial insects. They also undergo incomplete metamorphosis lacking a pupal phase, that is they are hemimetabolous. Many insect groups that develop with hemimetaboly are also truly social. As such termite colony populations are large, in many cases 600,000 to millions. But each individual is small, often less than 3 mm and they don't take up a lot of space when they cluster together, as in the cold, but individual members can forage over more than 50m when the conditions are right.

Illustration 1: Test of model houses with timbers treated against termites near Townsville, QLD.

Termites are present over most of the worlds land mass and with global warming are gradually moving toward the poles.

Fossilised termite mounds in Mexico have been found to be about 155 million years old so mound building is a long-established behaviour. It is thought to have arisen separately several times.

Although there are differences between winged ants and termites, one of the easiest ways to recognise termites is by their simple beaded (moniliform) antennae lacking the characteristic ant elbow. Termites are fragile creatures and have a low tolerance for temperature change, sunshine and desiccation. The colony protects itself with shelter tubes that are constructed 'one spit ball at a time.' All of their dwellings are lined with their own excrement and kept at high humidity which means that they have to have exceptional microbial control strategies.

As social insects, termites are highly organised with a caste system where each individual's job changes over time. Not all individuals will mature and therefore not all can reproduce. There are 'soldiers' but they often avoid open battle, saving their efforts to protect the core of the colony.

For a long time termites have been known to be in the Order Isoptera (meaning equal wings). However molecular advances have shown them to sit within the Order Blattodea, the cockroaches. So termites are best thought of as highly organised cockroaches. Interestingly enough, the Giant Northern Termite, *Mastotermes darwiniensis*, our own termite dinosaur produces an egg raft very similar to the cockroach ootheca. Debate continues as to whether termites are to be the epifamily Termitoidae or infraorder Isoptera.

All termites eat cellulose. This may be obtained from trees, grass and herbs, soil humus or manufactured products like toilet rolls. Gut microbes which are extremely complex are critical to the digestion of cellulose. Don described termites as 'walking compost bins'. They could be considered to be the bus that transports the microbes to the cellulose they need. In many cases termites eat the heartwood of the tree recycling this redundant material into accessible food for the tree. This is beneficial to a healthy tree.

Illustration 2: Distribution of the termites

Each individual termite has limited brain capacity and for the most part is not controlled by the queen. Rather the colony exhibits impressive distributed intelligence so that it is possible for them to build an archway, starting the two sides at once and meeting up accurately. This is quite a feat. They also show that as a group they can respond to long term and short term goals. An example was *Mastotermes* sp. climbing up and then ring-barking a live tree so that it would die, providing food in the following year. How this complex behaviour arises is not yet understood.

Locally there are three main types of termites:
Drywoods, which live in dampish wood in trees and produce recognisable faecal pellets.
Dampwoods, which feed in wet, rotted wood.
Subterraneans, which can travel underground between food sources.

Management of termite risk is not DIY and treatment depends upon the type of termite problem and really requires good professional advice.

Don's presentation stirred up a lot of interest and questions teaching most of us something we didn't know about termites.

Peter C. thanked Don for this stimulating presentation..

General Meeting closed

Minutes of the Entomological Society of Victoria
ANNUAL GENERAL MEETING
Tuesday, 18th April 2017 19:45 Melbourne Museum

Attendance and apologies are as per the general meeting of the same date.

The meeting was opened and all were welcomed by Vice President Peter Carwardine.

Previous Minutes of AGM 19th April 2016 [reported in June 2016 Vic. Ent. 46 (3) pp 45-47].
M: Marcelle Tiller S: Ian Endersby Carried.
President's report – Peter Carwardine
Peter thanked Patrick Honan for his continued efforts and support of the society.
Thanks were also given to all on the council and to Peter Marriot for his contribution to the Moths of Victoria.

Treasurer's Report – Joshua Grubb
The Treasurer's report is as printed in April 2017, VE 47(2) : 46-47.
Schedule 1, Regulation 15, Form 1 states that the Treasurer's 2016 report gives a true and fair view of the financial performance and position of the society. It was signed at a council meeting at 21 March 2017 by 2 council members, P. Marriott & J. McCoey and displayed at the AGM as required by the Associations Incorporation Reform Act (2013).
M: Joshua Grubb S: Ray Besserdin Carried.

In response to increased expenses, particularly postage costs, the Treasurer proposed a $5 increase to all subscriptions, excluding international, associate and electronic subscriptions. New subscription rates would be Ordinary Members $35, Country Members $31, Student Members $23 and Institutions $40. At current membership, this will cover current costs, with a small surplus.
M Joshua Grubb S: Ray Besserdin Carried.

Editors report – Linda Rogan
After the approval of the new logo the Bulletin will be given a bit of a freshen-up with a change to a more modern font and a somewhat larger photo on the front cover. Thank you to Ray for all his artistic efforts. Another thank-you is due to my proof-readers Ian Endersby and Carol Page and to all the authors. Also thank you to Ray Besserdin who has taken on the task of preparing and posting the printed Bulletins.

This year we will complete the series on Neuroptera, the net-winged insects, by Ken Harris and Chrysomelidae, the leaf beetles, by Martin Lagerwey.

I urge all members to consider making a contribution to the Bulletin; in depth articles to short snippets and observations with photos are all welcomed. Consider whether your favourite insect group could be featured in a series beginning in 2018. My goal is for the Bulletin to represent the breadth and variety of member's interests and expertise as well as possible.

If there is any member out there who is interested in helping to produce the Bulletin and either works with or is willing to learn the use of MS Publisher, please let me know. It would be of great help to me to have someone who could produce at least one Bulletin per year at times when I am travelling.

Publications report – Peter Marriott
Moths of Victoria book 8 to be published this year with book 9 in preparation.

Proposal that the new logo for the Society be adopted
M: Peter Marriott S: Ken Harris Carried.

Thank you to Ray for all his hard work and effort in recreating our logo.

Peter Carwardine passed the meeting over to Ian Endersby to chair the election of office bearers.

Election of office bearers and council: All positions were declared vacant.
As there was no prior nomination for the position of President, Peter Marriott was nominated.
M: Peter Carwardine S: Ken Harris

Nominations received prior to the meeting include:
Vice President: Peter Carwardine
Treasurer: Joshua Grubb
Editor: Linda Rogan
Council member: Steve Curle
Council member: Julia McCoey
Council member: Ray Besserdin
Secretary: Marcelle Tiller
A further nomination was forthcoming at the meeting:
Council member: Maik Fiedel
There were fewer nominations than vacancies therefore all were elected unopposed.

Ian Endersby handed the meeting over to Peter Marriott who closed the meeting at 9.31pm.
Close of AGM Meeting

Next Meeting Tuesday 20 June 2017
Note 7:45 pm start

Are you coming to the members' night on Tuesday June 20?

Bring along your observations and keep us up to date with your insect projects.
Please notify Marcelle secretary@entsocvic.org.au about what you will present.

There'll be a short presentation on the BushBlitz at Croajingolong in November last year too.
A number of people have been informally meeting at Michelinos Trattoria Restaurant prior to the general meetings.

Any member's who would like to meet at Michelinos –at around 18:00 are welcome to join us for a pre-meeting chat/food. Please RSVP to secretary@entsocvic.org.au or by message to 0415909166 if you wish to join us there.

Proboloptera embolias a new geometrid moth record for the state, at dawn in the wilds of Croajingolong Photo Peter Marriott.

Your new Entomological Society Logo?
Ray Besserdin

The black line art cicada logo familiar to members since the late 1960s was the first strong logo ESV enjoyed identifying with. It was designed and drawn by the late Charles McCubbin, who apart from being a keen entomologist and president of the society for a time, was a professional illustrator and 'commercial artist'. The society had no logo to speak of at the time, just a cover art for 'Wings and Stings', our publication of those years. Charles brought a sharp new, "take us seriously" marketable face to the society and proposed a design based on *Cyclochila australasiae,* the Green Grocer so common in much of South Eastern Victoria.

The cicada logo was a robust, symmetrical and centrally balanced artwork, combined with Times Roman Capitals, (the most common newspaper type font), it looked formal and was easily reproduced on Letterpress and Roneo printing machines, at any size.

New printing and reproduction technology have now allowed the society to produce stunning full colour bi-monthly Bulletins, and the old cicada logo was no longer in step. Furthermore, although the cicada logo was based on the common Victorian green variation of *C.australasiae,* the art was indistinguishable from the vast majority of cicadas.

With a dynamic new design fitting modern times, and exploiting the ability to reproduce in colour, choosing an insect that, while not entirely endemic to Victoria, represented a visually spectacular and significant species, made *Acripeza reticulata* an excellent subject for a new logo.

This species is found in pockets, mostly in the high country, worthy of special excursions to the wild, and few would not be breath-taken by its dramatic defence display. Both males and females bear the brightly coloured dorsal tergites (plates), but the fatter proportions of the female abdomen and shorter tegmena (thickened forewing) made it a better choice for our logo. The long antennae curved over the body then visually contain the overall shape. The addition of the drop shadow in the colour version was one more advantage taken within the new printing technology, adding further dimension. The Society still wished to appear formal despite the dynamic changes. A symmetrical type foundation with a clean, bold, modern sans serif face that is solid and very legible provided the means.

Finally, the new logo also exists as a black line version for reproduction where colour isn't suitable, making it ideal for further applications like membership forms and T-shirt printing for members to buy, or to sell and raise funds for the society.

May you all enjoy your new logo and reflect with pride next time you're lucky to encounter one of our living mascots in the wild.

Entomological Society of Victoria

Minutes of Entomological Society of Victoria Council Meeting
Tuesday 16th May 2017 Melbourne Museum

Attendance : Peter Carwardine, Peter Marriott, Joshua Grubb, Linda Rogan, Julia McCoey, Maik Fiedel, Marcelle Tiller (minutes)

Apologies : Steve Curle, Ray Besserdin

Previous minutes
Minutes of the previous council meeting held on Tuesday 17th May 2016 were published in VicEnt v. 46 (3) June 2016 pp. 66-68.
M: Linda Rogan S: Julia McCoey

Correspondence

Austral Entomology magazine – tabled at meeting

Treasurer's Report

Account Balances:
General: $3721
Le Souëf: $7935
Publishing: $24608

Membership:
Total non-institutional: 145
Unfinancial: 23
Institutions: 9
M: Joshua Grubb S: Julia McCoey

New members

Kate Umbers, Marsfield NSW, interest in Alpine insects (esp. Orthoptera), warning colouration, and mantises.
M: Maik Fiedel S: Linda Rogan

Editor's report

Several book reviews are in progress.

The font for the Bulletin is to be altered to be more consistent with the new cover. Linda is to find an appropriate print font which may appear clearer in print. Additionally a slightly larger print may be required.

The National Library of Australia edeposit system is now working well. Josh is to see that this item is removed from the mailing list and added to the bottom of the email list in the data bank as a reminder that the deposit must be made when the email copies are sent out.

Linda will be an apology for the July Council meeting and the August excursion. She asks that someone be designated at the next Council to take photos and notes at the excursion for the September Bulletin.

Publications report
Discussion was held about Mackenzie Kwak's proposed tick book. 'The council were receptive to the idea. Peter Marriott to discuss with Mackenzie how this can proceed.

Julia McCoey to a give brief report on Austral Entomology publication for the bulletin.
Marcelle Tiller to bring the Austral Entomology publication to general meetings.

Facebook report

We've had a few significant posts on our page that has generated a little bit of interest recently. Bearing in mind, we are just publishing, typically, insect related news posts from around the world.

An article on moth evolution has surpassed our previous best (Maik's Lady Gaga stick insect ~5,000 reached) by quite some way. 21,484 people reached.

The council thanks for Steve Curle for the continued success and growth of the Facebook page which helps to attract people to the society.

Linda Rogan to add a Facebook logo, link and a Q.R. number to the back cover of the bulletin.

General business

Future meeting schedule:

June- Members night: Linda Rogan to add a reminder in bulletin for members night. Marcelle Tiller to send a reminder email 2 weeks prior to meeting to ask members if they would like to present at the evening.

August- excursion: Joshua Grubb to email the AgriBio, Centre for AgriBioscience

October- general meeting: Three possibilities considered for the general meeting, one of those being a member's night.
Alternatively speakers have been suggested as below:
Peter Marriott to approach a speaker or speakers to discuss spiders.
Linda Rogan to contact a speaker in regards to speaking on ants.

December- break up: Linda Rogan presented maps and ideas for the Warrandyte state park location. Linda will follow-up on dates and other details which will be advertised closer to the event.

Welcome emails being sent to new members by Marcelle Tiller when membership forms received. This includes details of where and when the General meetings are to be held

Meeting closed.

Victorian Neuroptera – Part 7 Myrmeleontidae - Antlions (section 2)
Ken Harris kennedyh@iinet.net.au

This article completes the coverage of the family Myrmeleontidae, the antlions. Two more tribes of the Myrmeleontinae are included, the Protoplectrini and the Distoleontini. The two smaller sub-families Acanthaclisinae and Stilbopteryginae complete the family.

Family: Myrmeleontidae - Antlions
Sub-family: Myrmeleontinae, Latreille , 1802
Tribe: Protoplectrini

This is one of the smaller tribes with four Australian genera containing thirteen species. Two species in two genera have been found in Victoria.

Genus: *Protoplectron* Gerstaecker, 1885

This is the largest genus in the Protoplectrini, with eight Australian species, one of which has been recorded in Victoria.

Protoplectron venustum Gerstaecker, 1885 (Figure 1)
Synonym:
Protoplectron plicatum Navás, 1914

A medium-sized lacewing, this species has a wingspan of about 53 mm. There are only two Victorian records, both from the north-west of the state, and it also occurs in all mainland states and territories. It can be identified by the pattern of scattered blackish marks on the wings. It has a black abdomen. The only dated Victorian record was photographed in January.

Figure 1. *Protoplectron venustum* in Murray-Sunset National Park on 25th January 2010 Photo by Shaun Winterton

Figure 2. *Distoplectron minor* at Ned's Corner on 27th November 2011

Genus: *Distoplectron* Banks, 1943

This is a small Australian genus of just three species, one of which has been recorded in Victoria.

Distoplectron minor Banks, 1943 (Figure 2)

Although similar in appearance to *P. venustum*, this species is slightly smaller with a wingspan of about 47 mm and can be separated by close examination of the blackish marks on the fore wings. There are only 18 Victorian records, mostly from the extreme north-west of the state. Its range extends from South Australia to New South Wales and southern Queensland. All Victorian records were in November.

Tribe: Distoleontini

The second largest tribe in Australia, Distoleontini also extends widely around the world. There are about 64 species in eight genera in Australia. Nine species in five genera have been found in Victoria.

Genus: *Distoleon* Banks, 1910

This is a genus of about eight species, ranging as far as Europe. Three species are confirmed as occurring in Australia, but only one has been found in Victoria.

Distoleon bistrigatus (Rambur, 1842) (Figure 3)

This large species has a wingspan of about 70 mm. It is quite distinctive, with hind wings longer than fore wings and sharply pointed. The hind wings have a dark longitudinal streak towards the wing apex. There are 16 Victorian records and the species extends to all mainland states and territories. Victorian records are spread across the state and all occurred in summer and autumn.

Figure 3. *Distoleon bistrigatus* at Ned's Corner on 1st December 2011

Figure 4. *Xantholeon helmsi* ex Chiltern

Genus: *Xantholeon* Tillyard, 1916

An endemic Australian genus, it has ten species. There is a single record of one species in Victoria.

Xantholeon helmsi Tillyard, 1916 (Figure 4)
Synonym:
Cataleon gratiosus Navás, 1933

This medium-sized lacewing has a wingspan of about 60 mm. Should be readily recognisable, being delicate and pale yellow, with brown bands across the otherwise yellow abdominal segments. It has almost unmarked wings. There is only one Victorian record from Chiltern and the date is unknown, so no flight time can be estimated. It is also found in New South Wales and Queensland.

Figure 5. *Escura australis* in Mallacoota on 7th February 2015

Genus: *Escura* Navás, 1914

Another endemic Australian genus with nine described species, only one species is known in Victoria.

Escura australis (Esben-Petersen, 1915) (Figure 5)

Original designation:
Formicaleon australis Esben-Petersen, P. 1915

This is a fairly large lacewing with a wingspan of about 70 mm. It has a distinctive abdomen, which is basically black, but has bands of ivory on several segments. The fine markings on the fore wing are also distinctive. There are ten known records from Victoria, mostly in the east of the state, but one record comes from the north-west. It is also known from New South Wales and

Tasmania. It has been found on the wing between January and March.

Genus: *Bandidus* Navás, 1914

This is large diverse genus apparently confined to Australia which may get divided into further genera. There are about 43 described species, of which six are known from Victoria.

Figure 6. *Bandidus apicalis* ex Pirlta, Vic. in January 1937 collected by F. E. Wilson

Bandidus apicalis (Esben-Petersen, 1923) (Figure 6)

Synonym:
Heteroleon apicalis Esben-Petersen, 1923

A quite small lacewing with a wingspan of just 36 mm, this species has a black abdomen and the pronotum has two broad dark grey stripes. It has a distinctive greyish-brown streak at the apex of each fore wing. There is only one Victorian record, from the extreme north-west of the state. Although infrequent in Victoria, the species is recorded from all mainland states and territories. The Victorian record was on the wing in January.

Figure 7. *Bandidus canifrons* in Great Western, Vic. on 27th November 2013 Photo by Jenny Holmes

Bandidus canifrons (Navás, 1914) (Figure 7)

Synonym:
Formicaleo canifrons Navás, 1914

A medium-sized lacewing, with a wingspan of about 52 mm, this species has a black abdomen, with a narrow band of dull yellow at the rear of each segment. Its hind wings are almost plain, but it can be identified by the pattern of marks on its fore wing. There are 29 Victorian records spread across the state, and its range extends to South Australia, New South Wales and Queensland. It is on the wing between November and March.

Figure 8. *Bandidus breviusculus* on Black Mountain, ACT on 19th January 2009 Photo by Donald Hobern

Bandidus breviusculus (Gerstaecker, 1885) (Figure 8)

Original designation:
Myrmeleon breviusculus Gerstaecker, 1885
Synonym:
Alloformicaleon waterhousei Tillyard, 1916

This species is another medium-sized lacewing with a wingspan of about 55 mm. Its abdomen is similar to the previous species, black with narrow ivory bands at the rear of each segment, but may have additional pale spots on some segments. It can be identified by the pattern of blackish marks on fore and hind wings. There are only three records of this species in Victoria, all from the central north of the state. It's range extends to all mainland states. It has been found on the wing in the summer months.

Bandidus cornutus New, 1985 (Figure 9)

This species is only known from one specimen, collected in Springvale in 1892. It is similar to *B.vafer* (below), but has very distinctive male genitalia. It is a largish species with a wingspan of about 67 mm. Its wings are almost unmarked and its abdomen has about three yellow spots on each side of the midline. It is known only from Victoria, in the Melbourne area and the one specimen was on the wing in February.

Figure 9. *Bandidus cornutus* (Holotype) ex Springvale on 11th February 1892 collected by J.A.Kershaw

Bandidus vafer (Walker, 1853) (Figure 10)

Original designation:
Myrmeleon vafer Walker, 1853
Synonyms:
Myrmeleon desperatus Walker, 1853
Myrmeleon perniciosus Walker, 1853
Myrmeleon malefidus Walker, 1853
Nelees strigatus Navás, 1914

Slightly smaller than the very similar *B. cornutus*, this species has a wingspan of about 65 mm. The abdomen is black, with a thin yellow band on each segment and there are a few blackish marks on the fore and hind wings. There are only four records from Victoria, and these are all from the south east of the state. It is also known from South Australia, New South Wales and Tasmania. It has been found on the wing in February and March.

Figure 10. *Bandidus vafer* ex Providence Ponds on 12th March 2015 collected by G. Lewis

Bandidus grandithecus (New, 1985) (Figure 11)

Original designation:
Stenoleon grandithecus New, 1985

Figure 11. *Bandidus grandithecus* (Holotype) ex Lake Hattah on 15th February 1969 collected by G. W. Anderson

This species is only known from two specimens collected together at Lake Hattah in 1969. It has a black abdomen with narrow pale borders at the rear of each segment. It has fairly distinctive brown markings on the wings. It is quite a small species with a wingspan of only 32 mm. Known only from Victoria, the only specimens were on the wing in February.

Sub-family: Acanthaclisinae, (Navás, 1912)

This is a moderately large sub-family worldwide, with about 218 species in 16 genera. It is relatively small in Australia, with only 16 species in four genera. Three species have been recorded in Victoria.

Genus: *Heoclisis* Navás, 1923

With eight Australian species, this is the largest Australian genus in the sub-family . There are an additional three species in Southeast Asia. Only one species has been recorded in Victoria.

Heoclisis fundata (Walker, 1853) (Figures 12, 13)
Original designation:

Figure 12. *Heoclisis fundata* in Moe South on 23rd February 2012 photo by Darren Carman

Figure 13. *Heoclisis fundata* in Moe South on 23rd February 2012 Photo by Darren Carman

Myrmeleon fundatus Walker, 1853

One of the very largest lacewings, this species has a wingspan of about 102 mm. It is a widespread species, with 26 Victorian records from all over the state and also being recorded in every state and territory. It has few marks on the wings, but is predominantly grey, with a black median stripe on the pronotum and thorax. The lower face is bright yellow. Flight records come from all summer and autumn months.

Figure 14. *Cosina maclachlani* ex Northern Territory in December 1968 collected by U.N.E. Explor. Soc.

Genus: *Cosina* Navás, 1912

This is a small endemic genus with five Australian species. Two species may have been recorded in Victoria both distinguished by having distinctly black wing veins.

Cosina maclachlani (van der Weele, 1904) (Figure 14)

Original designation:
Acanthaclisis maclachlani van der Weele, 1904

I am unable to trace any Victorian records for this species, but it is shown in the Australian Faunal Directory as occurring in Victoria. It is distinguished from the next species, *Cosina annulata,* by having narrow yellow bands at the rear of most abdominal segments. It is a large species with a wingspan of 91 mm. It is shown as being present in all mainland states and territories.

Figure 15. *Cosina annulata* at Darling River, New South Wales. on 27th January 2010 Photo by Shaun Winterton

Cosina annulata (Esben-Petersen, 1915) (Figures 15, 16)

Original designation:
Acanthaclisis annulata Esben-Petersen, 1915

This species is also shown in the Australian Faunal Directory as occurring in Victoria, but

Figure 16. *Cosina annulata* ex West Australia in 1912 collected by W.W. Frogatt

again I am unable to locate any Victorian records. It is even larger, with a wingspan of about 105 mm. It is distinguished from *Cosina maclachlani* by having broad yellow bands on each abdominal segment. It is also shown as present in all mainland states and territories.

Sub-family: Stilbopteryginae (Weele, 1908)

This is a small sub-family confined to Australia. Its species are somewhat different from other Myrmeleontidae and it was originally considered a separate family, the Stilbopterygidae. There are ten species in two genera. Only one species has been recorded in Victoria.

Genus: *Stilbopteryx* Newman, 1838

This is an endemic genus of seven species. *Stilbopteryx* have slender almost parallel-sided wings. They have a dark apex and white pterostigma. One species is known from Victoria.

Stilbopteryx napoleo (Lefèbvre, 1842) (Figures Cover, 17)
Original designation:
Ascalaphus napoleo Lefèbvre, 1842
Synonym:
Stilbopteryx dromedaria Tillyard, 1916

Figure 17. *Stilbopteryx napoleo* ex Big Desert on 26th January 2008 collected by Axel Kallies

A large spectacular lacewing, the species has a wingspan of about 95 mm. It has a distinctive dark apex to each wing and a dark band just back from the costa, with a white pterostigma. It is distinguished from *S. costalis* by having three or more pale areas on the sides of the abdomen (Cover Figure). The species is mainly in the west of the country, in Western Australia, South Australia and the Northern Territory, but fairly recently there have been three Victorian record, all from the extreme west of the state, in the Little Desert, Big Desert and Murray Sunset National Park. All three records were in January.

Acknowledgements
I wish to thank Museum Victoria, A.N.I.C in Canberra and the Australian Museum in Sydney for access to their collections of Neuroptera specimens. Thanks to Tim New for his expert knowledge of the Neuroptera, particularly the Myrmeleontidae and to Peter Marriott, Shaun Winterton, Jenny Holmes, Donald Hobern and Darren Carman for permission to use their photographs.

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Vale Alan Louey Yen
20 May 1950 - 20 March 2017

A long-term member of the Entomological Society of Victoria, Dr Alan Yen passed away peacefully after a long battle with brain cancer. Alan formed his lifelong passions for science and photography at Carey Grammar School and went on to study Biological Sciences, especially Zoology, at La Trobe University, where he undertook Honours and a Ph.D., and where his interests in entomology and the Australian environment expanded. His doctoral studies, from 1972, sought to investigate the diversity of *Acacia*-dwelling psyllids and revealed a then little suspected diversity paralleling that of the better-documented eucalypt fauna and established Alan as an authority on these insects. Extensive fieldwork throughout Victoria and more widely, increased Alan's awareness of the vulnerability of many of the plants and insects he came across and led to another lifelong passion, insect conservation. Alan developed a very wide circle of friends and colleagues, with many of those associations lasting throughout his life.

Subsequently, Alan held a number of different positions in Victoria, each focused on entomology, and each also allowed him room for initiative and exploration and collectively led to his increasing reputation as a fine scientist and colleague whose broad perspectives did not mask an intrinsic ability to recognise and appreciate detail, and to collaborate effectively across many aspects of his discipline.

Alan joined Museum Victoria in 1981 as assistant curator in the Invertebrate Survey Department and over the next two decades he led important inventory surveys of terrestrial invertebrates over many of the state's major ecosystems – with the conviction that 'ecological collections', as templates of knowledge of current biodiversity and responsibly archived for future study, can provide valuable indices for appraising environmental changes. He also championed the development of a living invertebrates display at the museum. Alan was a foundation (and long-term) member of the Scientific Advisory Committee formed to oversee the, then new, Flora and Fauna Guarantee Act, and also developed his wider interest in conservation through concentrated work on several key species. His work on the Giant Gippsland Earthworm (with Beverley Van Praagh, and given notable publicity by a visit from David Attenborough to film this elusive animal) and the Eltham Copper butterfly are examples in Victoria.

Notable publications flowed over that period. In addition to many reports and research papers, the book *'Worms to Wasps'*, with Mark Harvey and Graham Milledge, was a welcome guide to recognising major invertebrate groups, and was followed by a later account of notable spiders and scorpions around Melbourne (with Ken Walker). The major overview of conservation of Australia's non-marine invertebrates, with Rhonda Butcher, remains important some 20 years later.

Leaving the Museum in 2001, Alan was later appointed to the position of Research Leader - Invertebrate Sciences within Agriculture Victoria, initially at Knoxfield and transferring later to the new AgriBio complex in Bundoora under a joint appointment with La Trobe University where he added disciplines such as biosecurity and major pest management campaigns to his interests. This later period also marked Alan's increasing interests in using insects as food, fostered also by investigations of the insect food of indigenous Australians, for which he undertook a number of visits to central Australia to investigate how those insects were harvested and identified. Those interests lead to consultancies with FAO in south-east Asia and Alan's increasing global profile in this discipline. His enthusiasm and ability were acknowledged by his appointment as the foundation Editor-in-Chief of the new international *Journal of Insects as Food and Feed*. Throughout his career, Alan 'networked' and participated effectively to advance his science. He held office in the Royal Society of Victoria and the Field Naturalists' Club of Victoria, and his wisdom was sought by many organisations and collaborators. A mentor to many colleagues and friends, Alan was also a devoted family man. He is survived by Pam and his sons Luan and Jian, together with their partners and his young granddaughter, Mackenzie.

Tributes from colleagues:

Alan is man with the dark glasses and moustache 2nd from photo right

To me, one of Alan's many attributes was his ability to get together a group of people to participate in a common activity – and then Alan would find a way to fund it.

The above photo is from Alan's successful redo on the Horn expedition across 1994-1996 where he took a wide range of people to central Australia to retrace the journey of the original Horn expedition 100 years prior.

Alan was always collaborative and this was a wonderful example.

Alan has been a big part of my life for more than 45 years – in many research collaborations we spoke or exchanged ideas frequently, and it is hard to accept that he has gone. The memories he has left to me and others…, as husband, father, colleague, mentor and friend will assuredly endure, and his broader scientific achievements and example are an important legacy to us all.

I met Alan when he was still an undergraduate – he was conspicuous as he sat near the middle of the front or second row of the lecture theatre, and looked serious. He was pointed out to me as clever, but I was also told 'his terrible handwriting is even worse than yours, and you may need him to translate his assignment and exam papers!"

Alan developed 'cooperative illegibility 'into quite an art form. He would respond rapidly to queries and correspondence with a scribble note that was often quite unintelligible to the recipient – and for a time we continued bouts of scientific exchanges in which I am sure that neither of us really knew what the other was saying. The uncertainties though, stimulated much wide-ranging and welcome personal contact in search of translations, consolidating our long friendship.

I watched Alan's passion for science and the Australian environment develop rapidly during his postgraduate years, and the main task of 'supervision' was to try to deter him from distractions form the many tangential issues that arose. Throughout he worked hard, achieved and remembered much, read widely and networked effectively – Characteristics that stayed throughout his career, together with high ethical standards, concern for people and a keen sense of mischief and humour – never malicious, often unpredictable.

During the 1970s Alan developed his life-long concerns for insect conservation. Our field trips were an opportunity for much discussion and debate, punctuated by plaintive cries of 'Are we there yet?' whenever Alan was in the back of the vehicle.

We all, of course, know that Alan indeed 'got there', his abilities and humour intact, and his formidable capability for lateral thinking a constructive, entertaining and often de-tensioning facet of many otherwise boring committee meetings. Throughout his life, his concerns for his colleagues and friends, and his family were paramount and many…are reflecting on the unobtrusive help he gave them. Those recollections will often reflect Alan's resourcefulness, the basis of many enduring 'yenisms'.

As one case, Ken Walker has reminded me of a time Alan was planning a field trip to the desert and needed to protect his new camera lenses from sand. He hit on the idea of encasing them in layers of condoms. He rang a manufacturer to ask the price of a gross of unlubricated condoms. After a pause the lady receptionist called him a pervert and slammed the phone down!

The respect in which Alan was held and the integrity that pervade his career is mirrored in part in the naming of at least eight species of insects or spiders after him, the latest being a member of his favourite bug group, on which his PhD studies were undertaken.

For many academics a pinnacle of success is to be overtaken and his or her scientific interests to be advanced by his or her own students. Alan thus made my own career rewarding and enjoyable.

I am sad to say 'Goodbye" but will continue to celebrate Alan's achievements and to remember that special blend of ability, humour and determination that made him, not only a leading scientist, but also a privilege and pleasure to know as a colleague and as a dear friend.

With thanks to Tim New, Ken Walker and Linda Semeraro

Leaf Beetles Genus *Peltoschema*

By Martin Lagerwey

The Paropsines are leaf eating beetles which are largely restricted to Australia because they are specialist feeders on *Eucalyptus* and *Acacia*. Paropsine genera loosely include *Paropsis*, *Paropsisterna, Dicranosterna, Trachymela*, *Peltoschema* (formerly *Pyrgoides*) and others (Reid, 2006 & Selman (1994). This essay will deal only with *Peltoschema*. There are 95 species in Australia (Joviet et al eds. 1994) which are well represented in Victoria. *Peltoschema* are usually found on *Acacia* (as are *Calomela* and the *Dicranosterna*). A few are found on other native Fabaceae such as *Daviesia*. Some species of *Peltoschema* feed as larvae on flowers and in these cases the larvae are yellow in colour. These peak in number during early spring. Other *Peltoschema* are strongly mimetic of Coccinellidae. Some species can escalate rapidly in numbers and are a significant pest of *Acacia* forests. Most destructive is *Peltoschema orphana* the fire-blight beetle on *Acacia dealbata* silver wattle

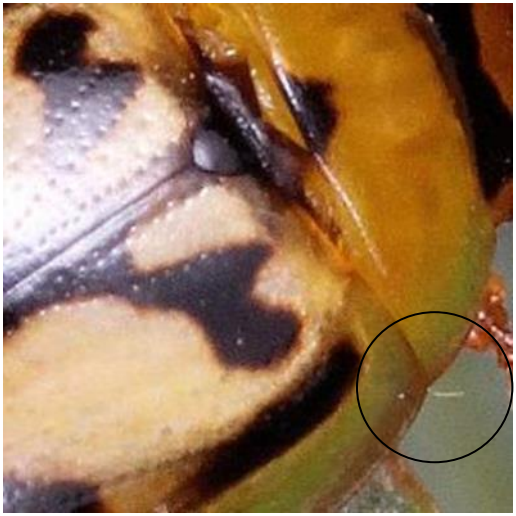

Fig 1 *Peltoschema hamadryas* with a single trichobothrium (sensory bristle) on the posterior corner of the pronotum.

Fig 2 *Peltoschema oceanica*. Mt Lofty, Wonga Park

Peltoschema are hemispherical, similar to *Paropsisterna* but smaller, often more elongate and with a single trichobothrium (small sensory bristle) on each side of the pronotum (Fig 1). This is the most reliable diagnostic feature although it is hard to see and sometimes even broken off. Other helpful factors for determining the genus is the forward produced head, the pronotum is widest at its base and the determination of its food plant. Three smaller species of *Paropsisterna* are very similar and possibly belong to *Peltoschema*.

A most spectacular example of mimicry is exhibited by the widespread *Peltoschema oceanica* (Fig 2). Specimens are often misidentified as Coccinellidae (ladybird beetles) in collections and photographs. They differ from Coccinellidae by their longer and filiform antennae and the pronotum (first segment of the cover of the thorax) which has a transverse row of four black dots. Coccinellidae usually have highly glossy elytra but leaf beetles have puncturation series, sometimes striate (grooved).

Peltoschema orphana is the fire blight beetle (Fig 3) and the best known beetle in this group. Both the larva and imago (adult) are foliage feeders. It is one of several species which prefer *Acacia dealbata* Silver Wattle host and can defoliate and destroy whole stands, giving the appearance of fire damage. There are beetles similar to *P. orphana* feeding on different species of wattles which are possibly different and undetermined species.

Fig 3 *Peltoschema orphana* on *Acacia dealbata* (Silver Wattle).

Peltoschema hamadryas (Fig 4) is a common beetle feeding on several early flowering *Acacia* species. The larvae can be found right through winter. They are sometimes green but yellow when anthophagous (feeding on flowers). Beetles are greenish or testaceous (straw colored) and the complex black markings can range from almost absent to entirely black. In midsummer heat they will aestivate under bark, usually on nearby Eucalyptus.

Fig 4 *Peltoschema hamadryas* (Yarra Bend, Fairfield) on *Acacia pycnantha* Golden Wattle. Inset is the larva which is yellow if feeding on flowers.

Figs 5 – 10 includes some of the more commonly encountered local species. *Peltoschema suturalis* (Fig 5) is usually found on *A. pycantha* Golden Wattle and can be common. They appear in winter and can be green or yellow.

Peltoschema rubiginosa (Fig 6) is a very variable species and can be difficult to recognize without seeing many examples. Museums sometimes place this in *Paropsisterna (defecta)* which I do not think is valid. The puncturation series are loosely zigzag or doubled. It occurs on *A. pycnantha,* also *A.williamsonii* and *A. haekeoides*.

Fig 5 *Peltoschema suturalis* Yarra Bend, Fairfield.

Fig 6 *Peltoschema rubiginosa* Yarra Bend, Fairfield.

Fig 7 *Peltoschema perplexa* Eppalock, Vic. Showing green and yellow forms.

Fig 8 *Peltoschema delicatula* Mt. Lofty Wonga Park.

Peltoschema perplexa (Fig 7) is common in limited locations. The image demonstrates green and yellow forms, a phenomenon which also occurs in most other species.

Peltoschema delicatula (Fig 8) is the smallest beetle in the genus at 3mm. The Tasmanian *P. vestalis* (Daccordi & de Little, 2003) was synonymized by Reid in 2006.

Fig 9 *Peltoschema nigroconspersa* Fernshaw, Vic. is unique and found on *Acacia verticillata* Prickly Moses.

Fig 10 *Peltoschema maculiventris* Walpeup. Photo by Geoff Walker

The final group are mimics of ladybird beetles (Figs 11 – 14) which occur on *Acacia* and several native peas. This group is primarily orange and black and they have finer puncturation series and might not even be monophyletic. *Peltoschema tetraspilota* (Fig 11) appears to be part of a group of species that mimic the various species of *Orchus,* the four spotted ladybird beetle and its allies. Based on ALA, it appears to be most common in Victoria but that is because most of the images are mine, making the sampling of the dataset rather badly skewed. It is likely to be considerably more widespread.

Peltoschema basicollis (Fig 12) is restricted to *Acacia buxifolia* and possibly a few other food-plant species. There is also a complex range of similar species including *P. oceanica* (Fig 1).

Fig 11 *Peltoschema tetraspilota.*

Fig 12 *Peltochema basicollis* and *Peltochema* cf. *basicollis*

Fig 13 *Peltoschema trilineata* Bruthen-Nowa Nowa 16th November.

Fig 14 Unknown *Peltoschema* sp. Cambarville

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Further information see
https://sites.google.com/site/peltoschemagallery/home

Discussion

Araujia sericifera Brotero, an invasive vine from tropical and temperate South America (Coombs & Peter 2010), has received little commentary from Australian butterfly observers despite being "famous for catching both diurnal and nocturnal Lepidopteran flower visitors" (Coombs & Peter 2010: 2nd page of 12) – at least in South Africa. Coleman (1935), Holmes (1966) and Nikitin (1971) commented on the curious ability of the flowers to trap butterflies and moths by their proboscises. Holmes (1966), who referred to *A. sericifera* as the 'Cruel Plant' or 'White Bladder Plant', listed six species of butterflies and one moth encountered so snared in his garden at Red Hill, Victoria in 1965. Holmes stated that "Unlike most plants the Cruel Plant contracts its stamens on contact thus firmly holding the moth or butterfly by the proboscis" (p.14), which, if that were the case, suggests a purpose by this movement to secure the insect in the way that a carnivorous plant might do. Nikitin (1971: 47), however, stated that insects are inadvertently trapped when their proboscises get "firmly caught in the glutinous masses of pollen" from which they cannot free themselves, a process that presents as incidental rather than intentional. Coleman (1935) had earlier explained the mechanism, which appears to be a three-fold process leading to misadventure for occasional visitors but not most. (1) The low position of the nectar well means that the insects need to probe deeply into the flower. (2) The specialised structure of the pollinia enables them to clip onto the proboscis increasing its bulkiness on withdrawal. (3) The anther-slit narrows towards the top – that being the main structural issue – which means that the pollenia load on the proboscis may create a tight squeeze and that physical exertion to withdraw a heavily loaded feeding organ is then needed. Some smaller insects (which pollinate it in Australia) struggle to provide that required force, depending on the load they have acquired whilst foraging. Coleman (1935: 7), however, pointed out that the proboscis of the trapped skipper (which from her illustration may have been a small hesperiine) bore no pollinia, but was apparently wedged in the narrow anther slit "by the twisting of its own parts." She deduced that, "had it pulled directly upward I think it could have escaped" (p.7). More recently, Coombs and Peter (2010: 6th of 12) explained the process of ensnarement as twofold. They wrote of their observations: "We inspected several moths that were caught within the flowers and found that either the tongue itself was wedged between the anther wings or moths carrying a pollinarium are caught when the entire pollinarium is dragged into the stigmatic chamber and wedged behind the anther wings." That said, the flowers of the 'Moth Catcher' (another common name by which the vine is known, in addition to the older 'Codlin-Moth plant') offer a variably large nectar volume albeit of low concentration (Coombs and Peter 2010) and so entice their Lepidopteran visitors by offering a bountiful feed, but one that may be their last. The photos of the entrapped *O. walkeri*, as shown when we encountered her, display numerous scales dusted on the petals (Fig 1 & 2), evidence of her repeated struggle to escape when first snared. Her settled state, when observed by us an unknown time later, suggests either fatigue or, perhaps, a measure of learned helplessness at a simple level of cognitive recognition.

Nikitin (1971: 47) reported that "numerous examples of *Pieris rapae*, and single specimens of *Ocybadistes flavovittata, Graphium sarpedon choredon, Papilio anactus*, and *Danaus plexippus* were observed under these conditions". We are not wholly sure, on the evidence available and literature sourced by Nikitin (1971), as to whether the *Ocybadistes* species he encountered would be the one he listed (see quotation above) or whether it was *O. walkeri*, a species more often seen in the Sydney region, and which was left unrecorded in that inventory. Nikitin (1964), however, earlier listed both species under the genus *Padroana* using nomenclature from earlier decades, and so his use of the epithet *flavovittata* (in at least that first paper) equates to *O. walkeri* in contemporary nomenclature. On that circumstantial evidence, one may deduce then that the subsequent report from 1971 also intends *O. walkeri*, even though a modern generic arrangement has been applied. Historic taxonomic ambiguities aside, Forster (1992) has since reported two individuals of *O. walkeri* trapped by the proboscis in flowers of *A. sericifera* at Indooroopilly, Queensland, so our report is supplementary data but still noteworthy. In South Africa, Coombs and Peter (2010) observed that single individuals of the day-flying *Cephanodes hylas* (Sphingidae) and two butterfly species, *Acraea horta* (Nymphalidae) and *Catopsilla florella* (Pieridae) visited the flowers but did not comment on whether they were trapped; they also listed eleven (11) species of moths, mostly noctuids, which visited its flowers

at night. Coombs and Peter (2010: 8th of 12) concluded from their study on this vine's pollination biology in South Africa that "The efficacy of moths in pollinating *A. sericifera* is limited due to the tendency of these insects to get stuck and die within the flowers." A trapped adult, if it has not pollinated the flower itself, very likely prevents or discourages other insects from doing so by its presence on the flower.

The appellation of the 'Cruel Plant' (as it is commonly called), reflects a seemingly purposeless entrapment of Lepidoptera – the vine is not carnivorous and thus does not consume the slowly dying (but perhaps not starving) insect as part of its nutritional requirements. At odds with this, it relies on insect visitors to pollinate it (Coombs and Peter 2010); indeed, *O. walkeri* is a known and efficient pollinator of *Hoya australis* R. Br ex Traill, another member of the Asclepiadaceae, and one that does not trap it (Forster 1992). A facultative purpose by *O. walkeri* attending *A. sericifera* may be to pollinate its flowers whilst feeding, which at least one skipper butterfly (albeit unidentified) is known to assist in (Coleman 1935), and so entrapment is only by misadventure and is uncommonly seen (Coleman 1935). It provides scope for evolutionary speculation as to why this process should exist and what purpose it may actually serve, rather than perceive it as an accidental or neutral event of nature which has not been selected for, or against. Being snared in the process of feeding at nectar might seem counterproductive unless that snaring process and the resulting struggle that ensues, increases the efficiency of pollination by dislodging the transported pollen from the proboscis and forelegs – the body parts to which the load usually adheres (Forster 1992). A snared Lepidopteran, however, may deter other insects from visiting the flower or other flowers close by, particularly if the snared insect attracts predators by its struggle. The entrapped insects are likely to provide a food source for insectivorous birds, predatory wasps and spiders which forage on live insects, particularly those made vulnerable by an inability to escape. If the ensnared butterfly or moth should remain undetected, once it dies and gives off a scent of decay it would quickly attract foraging ants, particularly in warmer climes, but no predators were observed inspecting the butterfly that we noted. Coleman (1935), Holmes (1966), Nikitin (1971), Forster (1992) and Coombs and Peter (2010) all remained silent on any creatures foraging on the entrapped insects, whether alive or dead, and so presumably did not observe this. We did not have the opportunity to revisit the plant over several days to determine the outcome of the entrapped skipper (whether it may have eventually freed itself, whether it became prey, or whether it perished naturally), and instead removed it as a voucher (see species account above).

'Biting the hand that feeds' is usually not an adaptive strategy in evolution, even if infrequent. That supposed 'cruelty' – as reflected in one common name for the vine – is rooted in anthropomorphic perspective; it offends the humanistic philosophy of doing no harm to other creatures. Some may suppose that entrapment could imply a measure of 'cruelty', particularly when the insect is servicing the plant's own reproductive requirements, a process that is essential for its ultimate survival. Hence, if one wishes to invoke a bioethical stance, the insect's foraging is an activity of 'beneficence' – meaning action for the benefit of the plant (albeit the foragers are rewarded by a nectar gift and so it is incidental goodwill and better described as non-maleficence). In this case, it is an outcome that is not malevolent as it is not done to the insect with harmful or evil intent (although the plant's name implies otherwise), but results from misadventure or from the flower's (seemingly) inapposite design. That outcome may be perceived as cruelty, being 'maleficence' – meaning an action of doing harm – which is what is happening from the anthropocentric (and the insect's) perspective and, hence, is seen as an unacceptable outcome towards its entomic helper. Bioethics aside, the evolution of the plant is usually adaptive and if the trapping activity is of no purpose, then it may result from a compromised design as part of the flowers' adaptation – one that enables pollination by insects of various sizes and differing mouth structures (Coombs & Peter 2010), at cost to some. It is an interesting event, nonetheless, and one worthy of study. We suspect that it has an environmental benefit, even if simply to provide food for other organisms; such may associate with this plant in its place of origin (but perhaps not in Australia, assuming too that small and less robust pollinators are also involved in its place of origin), which may struggle to catch their own food without the plant's occasional provisions. Nature can be full of surprises, and it is this that makes the study of ecological entomology fascinating!

Finally, in an earlier note on butterflies in the Glenbrook area, Hawkeswood (1980) listed three other species, namely *Vanessa itea, Polyura sempronius*, and *Geitoneura klugii*, all of which were seen feeding at sap alongside *Heteronympha merope*. The second author (TJH) later compiled an inventory of the butterflies seen personally in that same area (and which included the reserve we visited) during the summer months in the mid-1970s (Hawkeswood 1981). That paper included 13 other species (both residents and vagrants) which we did not see on our joint visit. In addition, TJH has seen *Euploea corinna* in the Glenbrook-Lapstone area on two occasions in April 2016 (Dunn & Dunn database). These records bring the tally of species reported from this small reserve (and local area closer to Glenbrook) to 34, but many others would occur there. Our survey of nearly four hours reported 50% of the local summer fauna recorded to date from that small area (Hawkeswood 1981, this paper), a moderate percentage which gives an indication of the faunal coverage that can be tallied on a short visit in optimal weather when local butterfly presence is approaching its seasonal zenith.

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Notice to contributors to ESV Bulletin regarding the EBSCO database. All Bulletins backdated to 2010 will be listed in the EBSCO database. Also future Bulletins when they reach sufficient age. If for reasons unforeseen, in part or in full, any contribution does not meet an author's approval for inclusion, please notify council so we may block your work from appearing in the EBSCO database.

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DIARY OF COMING EVENTS

Next Meeting Members' presentations
Tuesday 20 June 2017
Note 7:45 pm start

Members' presentation nights are a popular way to communicate your entomological interests and projects you are involved in to other members. In general presentations are brief allowing as many as possible to be presented on the night. Please notify Marcelle secretary@entsocvic.org.au about what you will present. Details page 53.

General Meetings:

Month	*Date*	*Planned event*
August	TBA	TBA
October	17	TBA
November	Saturday 25	End of year excursion Warrandyte State Park details to follow.

Council Meetings are held at the Museum Victoria at 5:15 pm
on the following Tuesdays in 2017:
18 July, 19 September and 21 November

The Society's Home Page on the World Wide Web is located at:
www.entsocvic.org.au

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