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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: Upper: *Austroneurorthus horstaspoecki* on Mt.Baw Baw on 17th January 2016, photo by Reiner Richter. Centre: *Coniopteryx maculithorax* on Raymond Island on 8th December 2013, photo by Andrew Bould. Lower: *Sisyr rufistigma* at Won Wron on 3rd May 2015, photo by David Akers.

Minutes of the Entomological Society of Victoria General Meeting, Tuesday 15 August 2017 at Melbourne Museum

Attendance: Julia McCoe (minutes), Ken Harris, Graham Patterson, Peter Carwardine, Mark Hunting, Glenise Moors, Peter Muller, Geoff Hogg, Ellie Miller, Peter Marriott.

Apologies: Ray Besserline, Marilyn Hewish, Linda Rogan.

The General Meeting was opened by Peter Marriott. Peter spoke about the final events for the year. The next meeting will be at AgriBioscience in two months' time at Latrobe University. The end of year excursion and breakup will be in November at Warrandyte State Park. In the afternoon we will invite local residents to explore the area for insects with us. It will be an enjoyable occasion for parents, kids and members alike.

Future meetings next year will be held at a different venue to be announced later this year, due to the work associated with the relocation of the Discovery Centre at Melbourne Museum.

Peter especially welcomed Mark Hunting, who was a past president of the Society in the mid-1990s and now lives in Queensland.

Presentations:

Ants in Australia

Simon Hinkley Collection Manager, Terrestrial Invertebrates, Museums Victoria.

Simon noted the large number of described and yet-to-be-described ant species both in Australia and specifically in Victoria before sharing with us some of the notable species and their characteristics and behaviours.

There are currently 1760 described species of ant in Australia, with 359 of those found in Victoria. Some notable examples comprise:

Orectognathus, 18 species. Its 'ice tong' shaped mandibles are used to trap soft-bodied arthropods and also for defence of the nest (Figure 1)

Myrmecia pilosula, the jumping jack, known for its painful sting, the jumping jack has a very far-reaching range. Nowhere to hide! (Figure 2)

Odontomachus, impressive predators with powerful jaws that can also be used to fling the ants away from danger.

Camponotus consobrinus, or sugar ants. They are polymorphic and vary considerably in size. They do not sting, but can nip. (Figure 3)

Iridomyrmex purpureus, meat ants. Their nests can contain thousands of individuals whose activity causes clear 'highways' leading away from the nest (Figure 4).

Oecophylla smaragdina, green ants. Not Victorian, but a fascinating Australian ant worth a mention. They work together to build leaf nests using silk produced by their larvae (Figure 5).

Bothriomyrmex regicidus. Queens of this species are believed to use their scent to gain access to the nest of another ant species from the genus *Tapinoma*. The invading queen then kills the resident queen and the workers proceed to raise the eggs of the new queen.

Papyrius 'nitidus' complex. These ants locate and tend the eggs of the threatened species of butterfly *Acrodipsas myrmecophila*.

For those not interested in ants in their own right, ants are important for a variety of other organisms. They are an important food source for animals such as the thorny devil and echidna. Some plants have an elaiosome attached to their seeds which entice ants to 'harvest' the seeds



Figure 1 *Orectognathus antennatus* Photo April Nobile / © AntWeb.org / CC BY-SA 3.0



Figure 2 *Myrmecia pilosula*, Photo Peter Marriott



Figure 3 *Camponotus consobrinus*
Photo Michael Bedingfield



Figure 4 *Iridomyrmex purpureus*
Photo by Steve Shattock



Figure 5 *Oecophylla smaragdina*
CSIRO Science Images

and take them back to their nest for this edible elaiosome, while still leaving the seed viable.

The ant collection at the museum consists of nearly 18,000 registered specimens in addition to material still awaiting identification and registration. The museum also holds 970 type specimens including holotypes and syntypes.

Simon concluded with a few examples of ant genera from outside Australia.

International species of note include the Argentine ant, which is an invasive species present in Australia, and *Solenopsis invicta*, the fire ant, which has the potential to become a serious invasive threat, posing an enormous risk to the Australian natural environment and humans. Less threatening and more delightful from south and Central America are the *Cephalotes* species, which can have amazingly shaped flattened heads that can be used to block entrances to the colony.

Ants are Everywhere

Peter Muller

Peter discussed his field observations of ants in remnant vegetation. Peter has a land management background. His project has the aim of raising the profile of ants and their habitat, to raise community awareness of the value of those habitats. Remnant vegetation, areas of fragmented, isolated vegetation, near population centres, can support ants but often too small for some animals. Urban parks are a valuable community amenity and environmentally important as well. Small and remnant vegetation and inhabitants are often under threat. Peter is also investigating whether the visible signs of ants – their mounds/entrances – are specific enough to identify the species present in these areas.

To address this question, Peter required some upskilling of his ant physiology and identification skills. Confident identification is a must. A representative selection of sites was also a requirement for the study.

Some of Peter's observation sites selected were; Enfield State Park, Inverleigh Nature Conservation Reserve, and Long Forest Park as representative 'high quality habitat' sites, Shelford, Beaufort Camp Hill, unused roads, as representative remnant and isolated bush reserves, and lastly, as urban sites, Ballarat Victoria Park, Trig Point Hill, and Fountain of Friendship Park, Geelong.

As a pilot for the project, Peter used the *Myrmecia* "Bull ant" genus, as they are large and easily



Myrmecia simillima

visible, have a small number of species in Victoria, and have a distinctive nest mound profile. Other common ants would be included as they became noticed.

Peter described some of the sites he observed. A few dozen active nests in a 500 metre stretch of road verge plantation illustrates progressive ant movement. Micro and macro habitat features include the amount of available

light. Some *Myrmecia* species have different mound styles, illustrating the need for work to assess these species. There appeared to be deliberate litter coverings of mounds, perhaps for climate control of the nests.

Peter noted his results: there are a variety of mound styles. Mound style seems to be more than a function of excavated soil disposal. Mound shape will vary due to disturbance in urban environments (for example mowing).

Almost without exception, *Myrmecia* species occurred close to eucalypts. This may be due to diet requirements. The more specialised the diet, the more specialised the habitat. Mound placement occurs occasionally at old stumps and fallen branches, also at the bottoms of posts and trees, and may be styles favoured by a species.

Mound placement appears to be influenced by slope and aspect and therefore solar access to nest; placements in small clearings, and roadside clearing to take advantage of increased sunlight, as compared with the neighbouring forest. Placement on slopes was most often northerly, often westerly, and less often southerly or easterly. In the upper mound galleries, the surface covering may aid nest climate control

Peter then described some *Myrmecia* nest profiles, with many illustrative examples that he photographed on site.

In coastal woodland in Anglesea, nests were rounded, and found under plants known as ‘honey pots’ (audience member noted another common name for the plant is ‘ant’s delight’)

Peter noted repurposed previously abandoned colony nest are used again.

Entry and exit holes can be diagnostic of species and ant size.



Myrmecia mandibularis
Smaller Bull Ant species



Camponotus consobrinus “sugar ant”
showing flood control



Aphaenogaster longiceps
Distinctive mound style



Myrmecia pyriformis/forcicata
Mound under "honey pots" *Acrotriche serrulata*
aka "ants delight"



Myrmecia pilosula "jack jumper"
Alternative tin mound also see Figure 2 p. 94



Camponotus molossus
Turret shaped entrance

2014/11/16 15:49

Ants can be landscapers: Deliberately placed covering of small sticks and leaves mark ant activity.

Soil type, on mound, can indicate depth of digging.

Camponotus molossus builds a distinctive turret shaped entrance.

In Long Forest, associations occurred between species and fallen vegetation, stumps, tree trunks.

M. nigriscapa, a timid ant, sometimes does not build a 'mound', just a hole.

Nests can be built in surprising places, as exemplified by a jumping jack nest built on an old tin (see the previous page).



Camponotus suffusus exhibits ant mimicry of the golden hairs on the abdomen, mimicking *Myrmecia*.

Peter concluded his presentation with a mention of some of the surprising attributes of ants, including computer algorithms that are based on ant behaviour, and the amazing engineering ability of ants to respond to flood and build nuptial take off towers.

The meeting was closed at 9.30pm.

Victorian Neuroptera – Part 8, Sisyridae – Sponge-flies, Nevorthidae, and Coniopterygidae – Dusty-wings

Ken Harris kennedyh@iinet.net.au

This is my eighth and final article on the Victorian Lacewings. Three rather unusual families are covered here. The first family, the Sisyridae, known as sponge-flies or sometimes spongillaflies, have completely aquatic larvae feeding in freshwater sponges, usually in shallow still water. The second family is the Nevorthidae, believed to be the most ancient of lacewing families. These also have aquatic larvae, but they are associated with fast-flowing mountain streams. The Coniopterygidae, known as dusty-wings are by far the smallest of the lacewings with a wingspan of less than 7 mm, and some are found on *Acacia* species.

Family: Sisyridae (Handlirsch, 1908) – Spongeflies, Spongillaflies

The Sisyridae is a small family, with four genera and about 70 named species worldwide. There are two genera in Australia, with nine named species. The adults are very like small brown lacewings, especially like *Micromus tasmaniae*. The larvae are unique among lacewings, being entirely aquatic. The larvae live in and feed on fresh-water sponges which are mostly found in still shallow water. There are numerous records of the larvae in Victoria, but very few adults. I eventually traced some 23 specimens stored in alcohol and mixed in with the Hemeroibiidae in Museum Victoria. There are certainly two and possibly three species recorded in Victoria, all in the genus *Sisyra*.

Genus: *Sisyra* Burmeister, 1839

This is the largest genus in the family with about 43 species worldwide. Currently nine species have been described in Australia and I have been able to identify two species from Victoria and there is possibly a third undescribed species. Very few adult Sisyridae have been collected in Victoria, but their larvae have often been collected and I have locations for some 79 larvae none of which are identified to species. They are widely distributed throughout the state (Figure 1). The life cycle of one Australian species, *Sisyra pedderensis*, that frequents Lake Pedder in Tasmania, has been studied in depth (Forteath & Osborn 2012). Adults are identified to species using the key in (Forteath et al. 2015).



Figure 1 Distribution of *Sisyra* larvae in Victoria



Figure 2 *Sisyra rufistigma* in Morwell NP on 9 January 2016



Figure 3 *Sisyra rufistigma* ex Jeeralang Junction on 28 December 2015

Sisyra rufistigma Tillyard, 1916 (Figures 2, 3, cover)

This appears to be the commonest spongfly in Victoria with about 23 records of adults. The fore wing is uniformly brown, but with several cross-veins darkly bordered. It is a very small lacewing with a wingspan of only 10 mm. The Victorian records are in the east and south of the state and the species is also recorded in N.S.W. Flight records are mostly from November to March.



Figure 4 *Sisyra potamophila* near Wargan on 5 February 2016 photo by R. Richter



Figure 5 *Sisyra potamophila* (paratype) ex Paroo River, Nocolche, N.S.W. on 1st April 2005 collected by C.N.Smithers

***Sisyra potamophila* Smithers, 2008** (Figures 4, 5)

This is a very uncommonly recorded lacewing. It was described from three specimens collected in 2005 in northern N.S.W. (Smithers 2008). One was photographed in southern Queensland in 2010 and most recently Reiner Richter, photographed one in the NW of Victoria in February 2016. It is identifiable by near white pterostigmal area. Its wingspan is only 8.5 mm. The Victorian record was on the wing in February.

Sisyra* sp. aff. *potamophila (Figure 6)

While attempting to key out the identities of the various *Sisyra* specimens, I found four specimens that did not fit any named species, although they are clearly all the same. The key leads them all to *Sisyra potamophila* and they share with that species the near white pterostigmal area. The pattern of coloured markings on the wings does not match the pattern on the five specimens of *S. potamophila*. I therefore consider that these may represent an undescribed species. Because of the matching pterostigma, I am for the present calling it *Sisyra* sp. aff. *potamophila*. All four known specimens of this lacewing are from central Victoria and it has been found on the wing between December and March.



Figure 6 *Sisyra* sp. aff. *potamophila* ex Wonga Park on 23 February 1976 collected by A. Neboiss

Family: Nevrothidae (Nakahara,

1958)

This is a small family, with only about 16 species in four genera world-wide, from southern Europe, south-east Asia and Australia. They are considered to be the most ancient lineage of living lacewings, having numerous fossil records. Like the Sisyridae they have aquatic larvae, which are usually associated with fast-flowing mountain streams. Australia has two species in a single endemic genus. They are known from N.S.W. Queensland and Victoria.

Genus: *Austroneurorthus* Nakahara, 1958

This genus is endemic to Australia and contains only two species, one of which has been recorded in Victoria.



Figure 7 *Austroneurorthus horstaspoeki* on Mt. Donna Buang on 13 January 2016 photo by Zac Billingham

Figure 8 Victorian distribution of *Austroneurorthus horstaspoeki*

Austroneurorthus horstaspoeki Aspöck, 2004 (Figures 7, 8, cover)

For a long time, only one *Austroneurorthus* species was recognized in Australia, but this, the second species was described by U. Aspöck in 2004. It took me a long time to find any *Austroneurorthus* from Victoria, but in January 2016 live specimens were photographed on five occasions and I subsequently located three specimens stored in alcohol in Museum Victoria. Obtaining a copy of (Aspöck, 2004), I discovered that all the photographed specimens were of the new species, *Austroneurorthus horstaspoeki*, which has much more strongly marked wings than the other species *A. brunneipennis*. It seems possible that all *Austroneurorthus* in Victoria are *A. horstaspoeki*. There are very few records of the adults, but I have been provided with numerous (826) records of the larvae from fresh-water invertebrate surveys, which gives a pretty full picture of their distribution in the state. The larvae are usually found by disturbing the river bed of fast flowing often alpine streams and catching them downstream in a net. All adults have been recorded in the summer months.

Family: Coniopterygidae (Burmeister 1839) – **Dustywings**

The Coniopterygidae are unlike other net-winged insects. They are very small with a wingspan of 2 to 5 mm and their wings are usually covered with a whitish dust of waxy scales giving rise to the common name dustywings. At first sight they are often taken for whiteflies, which are true bugs in the family Aleyrodidae. Unlike most Neuroptera their wings have very few cross-veins, so they are not strictly net-winged. They are associated with woody plants, both as larvae and as adults. In Australia, many species are associated with *Acacia* shrubs. Worldwide there are more than 100 described species. Australia has 42 species in five genera of which ten species in four genera have been recorded in Victoria.

These tiny insects can usually be determined to sub-family, genus and sub-genus with a hand lens according to their wing venation, but to distinguish species, examination of the genitalia by microscope is usually necessary.

Key to genera of Coniopterygidae occurring in Victoria from (New 1992).

- Fore wing with 1 R-M crossvein, near centre of wing; hind wing vein R_s not arising from R near base of wing Coniopteryginae
- Fore wing with 2 R-M crossveins; hind wing vein R_s arising near wing base Aleuropteryginae

Coniopteryginae

- 1. Hind wing vein M simple, not forked *Coniopteryx*
- Hind wing vein M forked *Neosemidalis* 2
- 2. Wings grey, sparsely covered with wax grains *Neosemidalis* (*Neosemidalis*)
- .Wings hyaline, with thick coating of wax *Neosemidalis* (*Leucosemidalis*)

Aleuropteryginae

1. Hind wing radial crossvein meeting R_5 on R_{2+3} ; fore wing R_{4+5} superficially resembling anterior branch of M; (hind wing veins M and Cu_1 very close for more than half length of Cu_1 , so no clear space between them) *Cryptoscenea*
2. Hind wing radial crossvein meeting R_5 on stem of fork; vein M forked in both wings, anterior branch of fore wing vein M coalescing with, or connected by crossvein to R_{4+5} *Heteroconis*

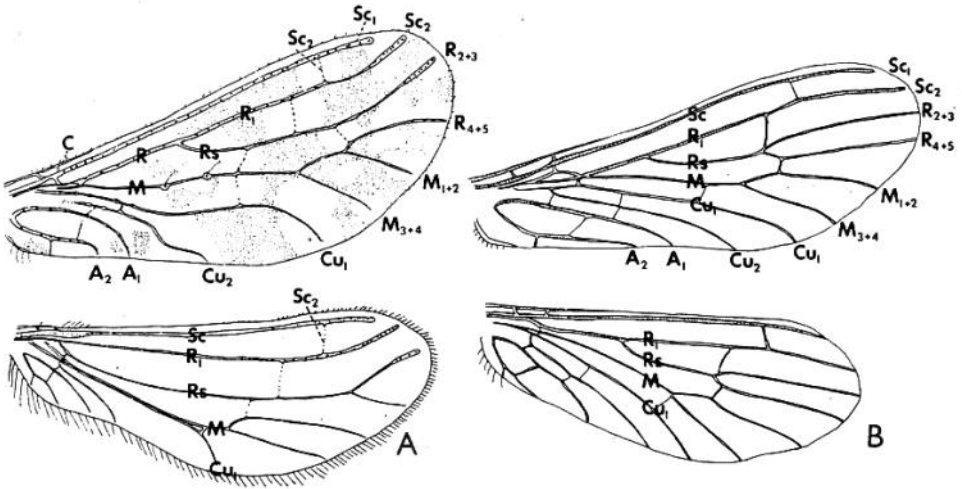


Figure 9 Wing venation of **A.** *Heteroconis ornata*, **B.** *Neosemidalis nervalis* from (Meinander 1972)

Sub-family Coniopteryginae Burmeister, 1839

This sub-family has two genera in Australia, containing 24 species of which five species have been recorded in Victoria.

Genus Coniopteryx Curtis, 1834

This is large genus with at least 223 species worldwide. Eight species are known in Australia, but only one has been recorded in Victoria.



Figure 10 *Coniopteryx maculithorax* on Raymond Island 8th September 2014 photo by A. Bould



Figure 11 *Coniopteryx maculithorax* on Raymond Island 8th September 2014



Figure 12 *Coniopteryx maculithorax* from Monga, N.S.W. 24th September 1957 collected by E.F.Riek

Coniopteryx maculithorax Enderlein, 1906 (Figures 10, 11, 12, cover)

This tiny lacewing is the only member of the Coniopterygidae that I have seen, thanks to Andrew Bould who discovered them living all year round, in a Black Wattle (*Acacia mearnsii*) in his garden on Raymond Island. It is a typical dusty-wing having the veins almost obscured by the whitish dust of waxy scales. They have a wing-span of only 5.25 mm. The name *maculithorax* refers to the two blackish spots on the thorax (Fig 10). I have records of them from *Acacia dealbata*, *A. mearnsii* and *A. melanoxylon*, suggesting a strong preference for *Acacias*. They range from Queensland to Tasmania. Victorian records are from March and September, but A. Bould reports that they are present throughout the year. There are about 28 Victorian records, all from the south-east of the state.

Genus Neosemidalis Curtis, 1834

This is the largest genus in Australia, with 16 Australian species divided into two sub-genera (see key above). There are only two species outside Australia, both occurring in Papua New Guinea. Four species are known from Victoria.

Sub-genus Neosemidalis (Leucosemidalis) Meinander, 1972

This sub-genus has six Australian species, one of which occurs in Victoria.

Neosemidalis (Leucosemidalis) farinosa (Enderlein, 1906) (Figure 13)

Synonyms:

Parasemidalis farinosa Enderlein, 1906

This is white having a thick coating of waxy scale on its wings. It has a wingspan of about 6.4 mm and is known from all Eastern states and Western Australia. There is only one record from Victoria, on Mt. Beauty in November.



Figure 13 *Neosemidalis (Leucosemidalis) farinosa* from Clyde Mt. N.S.W. on October 26th 1960 collected by E.F.Riek



Figure 14 *Neosemidalis (Neosemidalis) globiceps* from Melbourne on 8th January 2015 collected by Luis Mata

Sub-genus Neosemidalis (Neosemidalis) Enderlein, 1930

This sub-genus has 8 Australian species, three of which occur in Victoria.

Neosemidalis (Neosemidalis) globiceps Meinander, 1972 (Figure 14)

The males of this species have a near spherical head when viewed from the side. It has a wing-span of about 5.2 mm and all 7 specimens were collected in Victoria, in January and March.

Neosemidalis (Neosemidalis) kayi Meinander, 1972 (Figure 15)

This lacewing is known from Queensland and Victoria. The one Victorian record was from Wedderburn in the west of the state in October.



Figure 15 *Neosemidalis (Neosemidalis) kayi* from Wedderburn on 20 October 1958 collected by E.F.Riek



Figure 16 *Neosemidalis (Neosemidalis) nervalis* from Singleton, N.S.W. on 27 April 1991 collected by A.S.Smithers

***Neosemidalis (Neosemidalis) nervalis* Meinander, 1972 (Figure 9B, 16)**

This lacewing is quite widespread, being recorded in all Australian states, but there is only one Victorian record, from Nunawading in May. It has a wingspan of about 5.4 mm.

Sub-family Aleuropteryginae Enderlein 1905

This sub-family has three genera in Australia, containing 18 species of which four species in two genera have been recorded in Victoria.

Genus *Heteroconis* Enderlein, 1905

This is a distinctive genus as the adults have a pattern of near black marks on the wings, often enabling the species to be identified with a hand lens. It is quite widespread, with about 61 species worldwide, with 13 species recorded in Australia, four of which have been seen in Victoria.

***Heteroconis nigripennis* Meinander, 1969 (Figure 17)**

This is a widespread little lacewing, being recorded from all the eastern states and also in Western Australia. The name *nigripennis* means black-wings and it has extensive blackish markings over its wings. It has a wingspan of just 5.5 mm. There are seven records from Victoria, ranging across the centre of the state. All flight records were in March.



Figure 17 *Heteroconis nigripennis* from SW Australia on October 1966 collected by J.W. & F. Evans



Figure 18 *Heteroconis smithersi* from Myrtleford on 20 March 1965 collected by C.N.Smithers

***Heteroconis smithersi* Meinander, 1969 (Figure 18)**

This is a less common lacewing. Only one (the holotype) has been recorded from Victoria at Myrtleford in March 1965. The species has also been recorded in Queensland. It also has blackish markings on the wings, although the pattern is slightly different from *H. nigripennis*. Its wingspan is about 5 mm.

Heteroconis ornata Enderlein, 1905 (Figures 9A, 19, 20, 21)

This little lacewing has wings which are white with patches of near black in an ornate pattern and its wingspan is about 6 mm. The species was described from N.S.W. and is also found in Queensland, and it ranges across to New Zealand. The only record was on the wing in September. This is the one Coniopterygid for which I have located an image of the larva, which is just 2 to 3 mm long (Figure 19).



Figure 19 Larva of *Heteroconis ornata* in New Zealand on 24 September 2011 photo by S.E. Thorpe

This pretty, little lacewing is a very recent addition to the Victorian list and I just missed seeing it by an hour! I visited Andrew Bould on Raymond Island to see and photograph the *Coniopteryx maculithorax* on his black wattle. After a successful evening, the wind got up and so we left to drive back to Churchill. Andrew reports that after we had gone, the wind dropped and he went back into his garden and found an unknown little dustywing on a different Acacia shrub. He sent me his picture and I at once knew it was a *Heteroconis* species, and searching for *Heteroconis* images on the internet I found an image from New Zealand of *H. ornata*, which was a perfect match. Andrew's find on Raymond Island remains the only Victorian location and that was in September 2013, although he now has further records of the species from other months. The Acacia on which Andrew finds it is not a local species and I do not know its identity.



Figure 20 *Heteroconis ornata* on Raymond Island on 9 September 2009 photo by Andrew Bould

Heteroconis maculata Meinander, 1969 (Figure 22)

I found a fourth species of *Heteroconis* lodged in the LJ Cookson collection in Museum Victoria. It is clearly different from the other three species and is probably *Heteroconis maculata*. *H. maculata* is



Figure 21 *Heteroconis ornata* from Minna Murra, N.S.W. on 6 November 1956 collected by E.F. Riek



Figure 22 *Heteroconis maculata?* from Warrandyte on 12 February 2002 collected by L.J. Cookson

known from New South Wales and Queensland, but not previously from Victoria. This tiny (4 mm) lacewing was collected by LJ Cookson in Warrandyte in February 2002.

Genus *Cryptoscenea* Enderlein, 1914

Cryptoscenea is a genus of about 13 species ranging through Australia, S.E. Asia and Africa. Four species are known from Australia and one has been recorded in Victoria.

Cryptoscenea australiensis (Enderlein, 1906)

(Figure 23)

Synonyms:

Helicoconis australiensis Enderlein, 1906

This last Victorian lacewing ranges through all the eastern states and is also found in New Zealand. There are four records from Victoria, but only one has a date and location. This was from the Melbourne area in December. It has a wingspan of about 7 mm.



Figure 23 *Cryptoscenea australiensis* from Napier, New Zealand on 20 April 1927 collected by Mrs C.I. Cato

Acknowledgements

I wish to thank Museum Victoria, A.N.I.C. Canberra and Museum Australia, Sydney for access to their collections of Neuroptera specimens. Thanks to Tim New for his expert knowledge of the Neuroptera and to Reiner Richter, Zac Billingham, Andrew Bould and Stephen Thorpe for permission to use their photographs.

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Web Sites

Atlas of Living Australia

<http://www.ala.org.au/>

Australian Biological Resources Study

Australian Faunal Directory

<http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/taxa/SISYRIDAE>

<http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/taxa/NEURORTHIDAE>

<http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/taxa/CONIOPTERYGIDAE>

Bowerbird

<http://www.bowerbird.org.au/>

Morwell National Park Online

<http://morwellnp.pangaean.net/browser/invertebrates.html#Neuroptera>

Additional Victorian Lacewings
Ken Harris kennedyh@iinet.net.au

As I was completing my series of articles on the Victorian Neuroptera, I was provided with photographs of two additional species, not previously recorded in Victoria. From the photos alone, neither can be allocated to a species, but both are interesting additions to the Victorian lacewing fauna.

Family: Myrmeleontidae - Antlions

Tribe: Dendroleontini, Banks 1899

I was sent a photograph taken in Chiltern by Eileen Collins of an Antlion, which is clearly not one of the species already known in Victoria. The photograph shows that the species has a very distinctly marked thorax, pronotum and crown of the head. Two genera share this feature, *Austrogymnocnemia* and *Glenoleon*. I have examined all the specimens in Museum Victoria of these two genera, but none of them match this one.

There are two species in Museum Victoria with similar patterning, but neither of them is a real match. The closest is *Glenoleon banksi*, which is from the west of West Australia. The other is 4 specimens labelled as *Glenoleon ? cahillensis*. These are all from Northern Queensland and *G. cahillensis* (which they are said to resemble) is from the north of the Northern Territory. It seems to me that the Mt. Pilot specimen is none of these species and the best I can do is label it as *Glenoleon sp.* for the present.

Glenoleon sp. (Figure 1)

I have no information as to size. The body is mostly yellowish, with intricate black markings on head and thorax and broad black bands on the abdomen. The antennae are finely banded pink and black. There are no obvious markings on the wings, but the radial vein has alternating black and white segments with the cross-veins to the Rs vein following the same colour pattern. The only known record is from Mt. Pilot near Chiltern in Victoria in October.



Figure 1 *Glenoleon sp.* Antlion on a granite rock on Mt. Pilot, 9th October 2004. Photo by Eileen Collins

Family: Berothidae – Beaded Lacewings

Cathy Powers provided me with photographs taken in the Brisbane Ranges in March 2017 of a lacewing from the genus *Spermophorella* in the Berothidae. The genus *Spermophorella* is not previously recorded in Victoria and is therefore the third genus of the Berothidae in the state.

The earlier key (Harris 2016)³ only covered two genera and I therefore provide an alternative key to the genera, extracted from (Aspöck & Randolph, 2011)².

- Forewing proximally hardly smaller than distally (Fig. 2) *Stenobiella*
- Forewing proximally clearly smaller than distally 2
- Forewing sinuate (Fig. 3)..... *Trichoma*
- Forewing rounded (Fig. 4) *Spermophorella*



Figure 2



Figure 3



Figure 4

The Victorian genera are noteworthy among lacewings for their hairiness of the body, veins and margins of the wings.

Genus: *Spermophorella* Tillyard, 1916

This genus of six species is confined to Australia. They have rounded wings and like other members of the Berothidae are very hairy. They are found throughout the mainland of Australia, but one species has recently been recorded in Victoria.



Figure 5 *Spermophorella* sp. Brisbane Ranger 9th March 2017 photo by Cathy Powers



Figure 6 *Spermophorella* sp. Queensland 29 October 1980 collected by A.Neboiss

***Spermophorella* sp.** (Figure 5)

This lacewing was photographed in the Brisbane Ranges on 5 dates in 2017, between 3rd and 18th March.

It is in the genus *Spermophorella*, but without a specimen, it is not possible to determine the species. A set specimen of a similar *Spermophorella* sp. is shown in Figure 6, from Museum Victoria, although it is probably not the same species. Without a firm identity, it is not possible to indicate where else in Australia the species can be found.

Acknowledgements

I wish to thank Museum Victoria for access to their collections of Neuroptera specimens. Thanks to Tim New for directing me to the most likely genus for this species. Thanks to Eileen Collins and Cathy Powers for the photographs which brought these interesting species to my attention.

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Web Sites

Atlas of Living Australia
<http://www.ala.org.au/>

Australian Biological Resources Study
Australian Faunal Directory
<https://biodiversity.org.au/afd/taxa/MYRMELEONTIDAE>

Arrival of the Tawny Coster butterfly in the Bowen region, Queensland

Kelvyn Dunn & Ed Petrie

Abstract

The Tawny Coster, *Acraea terpsicore* (Linnaeus 1758) (Lepidoptera: Nymphalidae) is reported for the first time from the Bowen region, in northern Queensland. This expansion extends the known range some 157 km southeast from Townsville.

Introduction

The nymphalid butterfly *Acraea terpsicore* has recently established in the Top End of the Northern Territory from where it has spread rapidly eastward through northern Queensland. The contemporary field guide by Braby (2016) illustrated both sexes and provided a range-fill map based on knowledge available up to the end of 2014; it showed a much smaller regional coverage compared with the greater distribution now evident. Indeed, the butterfly has expanded dramatically since its first appearance near Darwin in 2012, reaching the south western coast of Cape York Peninsula, Queensland by the winter of 2016 (Wilson 2016). That expansion continued eastward to Cairns and its environs (Field 2017) in the Wet Tropics coastal region, where it arrived in late March 2017. Field (2017) estimated its dispersal rate from Darwin to Cairns to be 334 km per year, with a “prevailing northwesterly to northeasterly wind” from cyclone ‘Debbie’ in northern Queensland speeding up its journey to the east coast (Field 2017: 28). In addition to the records provided from the Cairns district, Field (2017) reported a female having been taken at Mission Beach by J. Young and the sighting by I. Montgomery of dozens of adults feeding on flowers about 7 km beeline SW of Bluewater in late March.

Many encounters in the Townsville residential area followed soon after during the middle of May. Dunn and Woodger (2017) reported large numbers of the butterfly in the suburban and coastal regions of that city, including the industrial area of South Townsville, with that appearance presenting as an incursion. Those authors suggested that the adults might have resulted from a wave of immigration from the inland, rather than from the west-north-west along the coastal region. With moderate numbers of the Tawny Coster butterfly already present in the nearby Bluewater area (W of Townsville) by the end of March, Dunn and Woodger (2017) speculated that wind currents linked to that cyclone might have swept low numbers of adults into Townville from coastal regions from the west-north-west at that earlier time. If so, these scattered individuals had gone unseen. When adults suddenly became abundant in Townsville city in the middle of May, some six weeks later, there were already hundreds of larvae of various instars denuding the foliage of Passionfruit vines (*Passiflora foetida*) at South Townsville and at the Bohle River, North Shore. Despite the numbers present, there were no pupae to be found at that time (T. Woodger pers. comm.), which suggests that the first generation was still underway. Woodger has since reared some juveniles to adults and confirmed that they belong to this species after the first of these emerged on 14 June (a month after the main influx of adults in

May); this evidence indicates that these were the offspring of earlier arrivals. Information supportive of this has since come to hand.

A resident of Kelso, c. 17 km SW of Townsville CBD, reported that “Many hundreds were observed passing through the Rural-Residential area Kelso Country Estate ... heading south-east in the week 30 March to 5 April 2017” (Herbison-Evans & Crossley 2017). Only a few adults remained in Kelso through the rest of April and May, and that same resident reported that one female had laid about 60 eggs on a leaf of a Passionfruit vine (*P. foetida*) on 13 May 2017 (Don Herbison-Evans pers. comm.). Miller (2017: 37) wrote in an anecdote (published in June), that “The last report I have heard was that they have already passed through Kelso in Townsville, still heading South” This and the following report are further evidence of migration to the southeast.

Further southerly expansion in Queensland

About midday on 5 June 2017 one of us (EP), whilst delayed in queued traffic at roadworks along the Bruce Highway, saw a female *A. terpsicore* flying out of savannah woodland at 16 km W of Bowen, Queensland (20.0051°S 148.0954°E); the site is about 31 m above sea level. The adult was flying at a steady speed in a south-easterly direction; it did not deviate from that path despite a SSE wind of about 27km/h (which was recorded at the meteorological station at Proserpine, some 68 km SE of Bowen, and covered the greater region – WU 2017), and maintained a height of some 2.5 m above ground. The female, a singleton, was flying more or less against the wind, not aided by it, and appeared to be in migratory mode, as she seemed to be flying purposefully and was undistracted by any environmental features. EP had departed from Mackay, Qld. at 0900 h (AEST) that same day and saw no Tawny Costers along the highway until that time. The clear sky and warmth was suitable for butterfly activity all morning; it was



Figure 1. *A. terpsicore* male basking at 1 km W of Palm Cove, Qld, 5 Sep. 2017; Photo – EP

20°C in Mackay on departure, and by midday the temperature in the Bowen district was about 23°C (as recorded for Proserpine at the meteorological station there). Across the Proserpine-Bowen region, meteorological data indicated that the wind direction had swung from SSE at 0900 h to SE by 1000 h and to ESE by 1100 h. It maintained that east-south-easterly direction, which more or less follows the coastline, for the remainder of the day and blew at a maximum velocity of 27.8 km/h across the broader region at the time of the observation at the roadworks, but had dropped to 22.2 km/h for much of the afternoon until evening (WU 2017).

From that site northwards to near Townsville adults were occasionally seen crossing the road, with some 10 to 12 observed over the circa two-hour driving time, a road distance of about 180 km. These adults were all flying in a south-easterly direction like the first one seen by chance at the roadworks, and similarly against the wind. This suggests that adults, which involved both sexes (not just females), were quite widely spaced along that road-transect, averaging about one adult every 15 km or so, being seen variably every 10 minutes whilst driving (on that same reckoning). On reaching Townsville soon after 1400 h, the temperature had reached 25°C (WU 2017). At Townsville, the wind had changed from SE to ESE by 1230 h and steadied after 1430 h as an easterly for the remainder of the afternoon (as recorded at the meteorological station there). It would have been blowing variably from 22-26 km/h across the northern end of that region where adults were seen crossing the highway. The species is unmistakable when seen on the wing during sunshine, particularly the males as they stand out as bright orange (Fig. 1); the flight pattern is also distinctive, which made the adults of this species easily recognised (from those similarly coloured butterflies that can occur in the area) by an experienced observer whilst driving. Details of the ratio of the sexes, as well as the fine sites where their road crossings occurred were not recorded as the traveling circumstances did not allow for this. However, EP has found that fresh males can be recognised in the field with confidence but that some worn males can resemble females in flight so it is often useful to examine adults in the hand to determine the sex ratios with certainty. The counts provided and intervals along the route to Townsville are by estimation, not from diarised records done at the time.

Discussion

The subsequent appearance of low levels of migrating adults extending southeastwardly from near Townsville through to about 16 km W of Bowen on 5 June suggests that the Tawny Coster was by then (three weeks after the incursion in the eastern suburbs of Townsville) in the colonisation phase in that more southerly region. Evidence of the apparent absence of these butterflies in the Bowen township area and an absence of any encounters along the Bruce Highway to Mackay, a driving distance of at least two hours involving 192 km by road, supports this belief.

Braby *et al.* (2014) had predicted, based on climatic modelling, that the Tawny Coster will continue its southeastward expansion along the coastal and subcoastal regions into central Queensland. Dunn and Woodger (2017) proposed, however, that the species might colonise beyond that predicted area, and may advance into southeastern Queensland, should that region of cooler climate prove amenable to the species. We note that the Glasswing *A. an-dromacha* expands its range southward in some seasons (Braby 2016) and that females will oviposit where hosts are available, which includes the Sydney bioregion (Dunn & Hawkeswood 2017) and that the juvenile stages would likely develop to maturity there, and farther south, in the warmer months.

Acknowledgements

The authors thank Terry Woodger (West End, Townsville) for the use of his observations on the juvenile stages of the Tawny Coster in the Townsville region, and Dr Don Herbison-Evans (NSW) for the details on the movement of the species at Kelso from the information that was made available to him.

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BOOK REVIEW

The Secret Life of Flies By Erica McAlister
 April 2017 CSIRO Publishing Reviewed by Melissa Van De Wetering

The Secret Life of Flies is an enjoyable blend of facts and anecdotes about a publically underappreciated invertebrate order – the dipterans. This book is written from such a loving point of view that it is hard not to feel your own fondness for flies growing as you make your way through the chapters. The author, Erica McAlister, addresses the common misconception of flies as just ‘disease carriers that vomit on our food’ by taking us on a journey through the lives and habits of what she refers to as ‘one of nature’s greatest marvels’.

The book opens with the immature life stages of the fly and then moves through the different feeding guilds, with colourful fact-filled discussion of the flies within them, accompanied by vivid high-resolution images. It is not a taxonomic review, but a rather a compilation of the author’s stories and experiences as she explains the interactions between

flies, humans and the environment. Despite public opinion, these interactions are most frequently positive, if somewhat disgusting at times.

We begin with ‘The Immature Ones’, where the author’s discussion of mosquito eggs, among others, is cheerful enough to make you hope you have some in your backyard so perhaps you can observe the ‘hotdog’-like *Anopheles* egg, or a cluster of *Culex* ‘bowling pins’ for yourself. You might be lucky enough to see female ‘tumblers’, the active pupal stage of the mosquito, undergoing ‘an eventful and sometimes perilous emergence’ as amorous males wait to pounce. This chapter goes on to discuss the benefits for and development of viviparous flies, the ups and downs of larval identification and some inventive body plan adaptations.

The book then moves into its feeding guild chapter structure, beginning with the pollinators. Here you will find chocolate midges, fungus gnats, 'horrid phorids' and hover flies. Arctic pollinators are discussed as well as some honourable mentions for some special flies such as *Moegistorhynchus longirostris* for longest proboscis in relation to body size and *Aedes communis* for carrying pollen on its eyeballs.

The following three chapters deal with the less savoury eating habits for which we know flies best: the detritivores, the coprophages and the necrophages. These chapters highlight the importance of flies as the 'composters of the animal world', releasing and recycling nutrients from decaying plant and animal matter. These chapters look at morphological adaptations for feeding specialisations, and discuss what it takes to be effective at decomposing plant and animal material. Crane flies, fluffy drain flies, giant wood flies and the mysterious Axmyiidae are just a few of the detritivores addressed before we head to animal waste and discuss the coprophages. Here, face flies, house flies, blow flies and soldier flies feature and the finer points of bat guano decomposers are discussed, including the terrible hairy fly. No discussion of decomposition is complete without examining maggots and the decomposition of animal matter, including their medicinal uses and contribution to forensic science.

The vegetarians are next, representing members of 40 families, including 'some of the most destructive little feeders on the planet'. The fungivores follow with a closer look at fungus gnats and some of the other mycophagous flies such as phorids and crane flies. The predators and the parasites are dealt with in subsequent chapters, before the author finishes the book off with perhaps the most annoying guild to humans, the sanguivores. This chapter focuses more of the adaptations of the blood suckers than the diseases they can spread, keeping with the theme of the book – that flies are 'fantastically useful, adaptable and diverse animals' and we still have so much to learn about the life of flies.

Reading this book has taken my mild interest in flies and supercharged it. The author has managed to inject so much positivity and appreciation into her writing that anyone who reads this book will be inspired about flies. If you love your chosen taxon as much as Erica McAlister loves hers, I think you have found your niche. I will finish with the author's response when asked why she loves flies so much - 'because no other group is more adaptive, crazy or more ingenious in their morphology and general bad-ass behaviour'.

Minutes of the Entomological Society of Victoria Council Meeting, Tuesday 2017 at Melbourne Museum

Attendance: Linda Rogan (minutes), Peter Marriott, Peter Carwardine, Julia McCoe, Maik Feidel.

Apologies: Ray Besserdin,

Previous Minutes of council meeting held 17 July 2017 [reported in August 2017 Vic. Ent. 47 (3) p. 92.

M: P Marriott S: L Rogan

President's Report:

Peter informed us that Marcelle has had to stand down from the Council. We wish to thank her for her efforts over the past two years.

Editor's Report:

Positive feedback has been received on the new look Bulletin.

All members are requested to think carefully about writing an article or report of observations from their area of interest for the Bulletin in 2018 either as a single article or perhaps a series similar to those we have had in the past. So far we have had series on Mantids, Odonata, Leaf

Beetles and Lacewings. Many thanks to these contributors. The editor would also like to see more behavioural, ecological and life cycle observations and/or articles. Articles dealing with Victorian ants would be of particular interest in the near future.

Discussion was held about the gold border that has been used to differentiate the minutes of general and council meetings from and other items in the Bulletin. Members of the Council have found these useful when looking quickly for past minutes.

Closing for the December Bulletin is **Friday 17 November**.

Publications Report:

Moths of Victoria part 8 will be out in October. The 2nd edition of MoV1 will be reprinted shortly as there are only about 60 left from the 2012 edition.

The Neuroptera book is still in preparation.

The Lakes catchment area Lepidoptera book, which has received a \$2000 grant, is now ready to go to the printer.

General Business:

Secretarial duties - Discussion was held about how the Secretarial duties will be carried out. At present there is no one within the council who is in a position to take on the entire position. Council invites and encourages any member who would like to make a contribution to the society to consider joining the Council at this time.

An online forum Discussion was held as a follow-up to Julia's suggestion. The Council gave 'in principle support'.

National Pollinator week 12-19 November Mackenzie Kwak has proposed the Society participate by running a pollinator scavenger hunt at the Royal Botanic Gardens on the 18 and 19th of November. He has prepared the material and requests one to two other members to join him on each day. Council is positive about this idea and will discuss further details with Mac.

Agribio excursion: Mali has kindly agreed to host the event on 17 October and suggested a 7:30 start. Details to be confirmed by Josh and will be printed in the October Bulletin including a map.

End of Year combined event 25 November with Manningham Council 2:30-4:30 and Friends of Warrandyte State Park 5:00 onwards. Details will be in October Bulletin.

The First two meetings for the beginning of next year were discussed with the proposals below:

February meeting to be a potential members evening, with members invited to speak.

April meeting, if he has returned a talk from Patrick on his travels.

June, another PHD presentation night due to its initial popularity.

Peter Marriott closed the meeting for the evening.

Join us for the Members' Excursion to the Centre for Agribioscience 5 Ring Road, Bundoora

Tuesday 18 October 2017 at 7:30 pm sharp

Kindly hosted by Dr Mallik Malipatil | Principal Research Scientist (Biosystematics) | Biosciences Research and his taxonomy team. This will include an exclusive tour of the facilities with most time spend in the collections that are not generally open to the public.

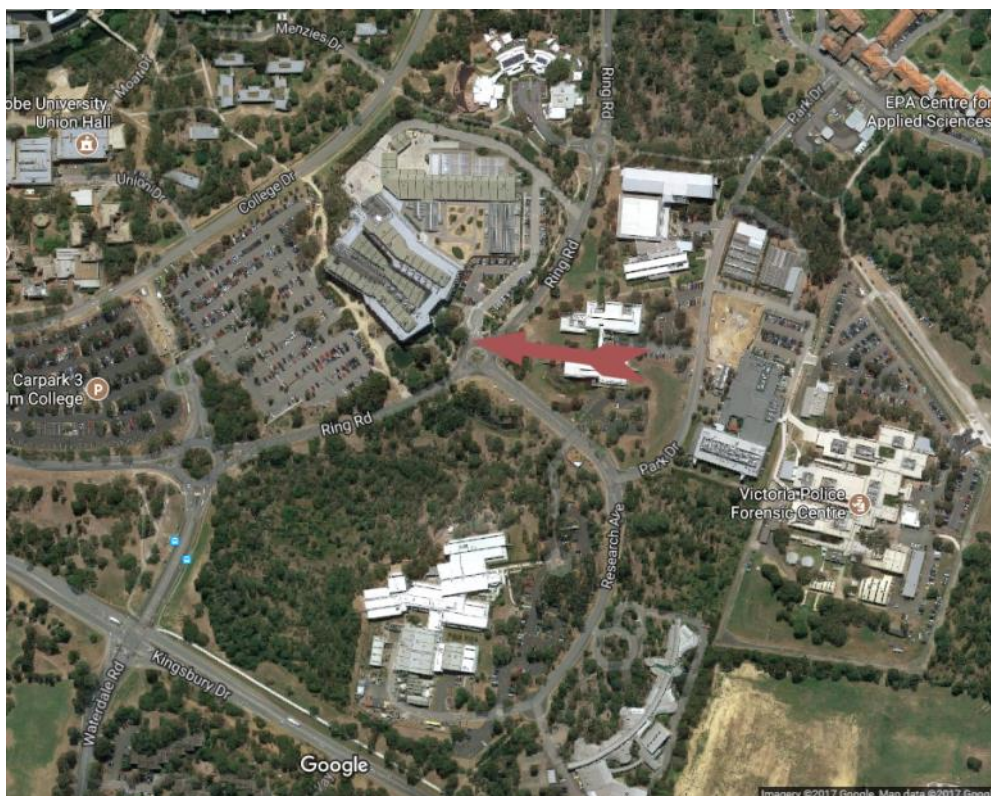
Car parking is in the Agribio visitors car park in front of the main entrance. Walk to reception and if the door is locked, press the buzzer.

RSVP so that numbers can be gauged: secretary@entsocvic.org.au

For further information see <http://www.agribio.com.au/about-the-jv/location>

Enter from Waterdale Road and Kingsbury Drive

Melways map 19 G6 and 573 H9





Final meeting for 2017 for EntSocVic

This year we are combining with the Friends of Warrandyte State Park to explore the area, look for invertebrates and share our passion with the locals
Saturday 25 November 2017



Arrive at 2:00 Spring Outdoors event
at Pound Bend car park (left arrow map below).

Thirty local residents will be arriving for a walk/talk to learn about the insects in their patch at 2:30pm.

OR

Arrive between 5 and 6pm at FOWSP nursery along Pound Bend Road (right arrow)



BBQ with FOWSPians.

Tours of the FOWSP indigenous nursery, Frogland and the pollinator garden on request.

BYO food, drink and utensils for BBQ

Coffee, tea and hot water will be supplied and a BBQ available for cooking

Fireside talks after tea including background of FOWSP and Pound Bend and the importance of light trapping.

Light traps will be operating from dark until late.

Bring Torch and collecting equipment.

RSVP and let us know of your arrival time to secretary@entsocvic.org.au
or phone Linda for information on 0491 112 692



OFFICE BEARERS

- PRESIDENT:** Peter Marriott 8 Adam Street, Bentleigh, 3204 ph. 9557 7756
- VICE PRESIDENT:** Peter Carwardine, 5/154 Grange Road, Carnegie 3163.
ph. 9571 8958
- HON SECRETARY:** secretary@entsocvic.org.au
- HON TREASURER:** Joshua Grubb, 61 Meakin St. Watsonia North 3087 Vic. ph.0417381109
treasurer@entsocvic.org.au
- HON EDITOR:** Linda Rogan, 16 Marden Dr Briar Hill 3088 ph. 9435 5806
editor@entsocvic.org.au

OTHER POSITIONS

- EXCURSIONS SEC:** Peter Carwardine, 5/154 Grange Road, Carnegie 3163.
ph. 9571 8958
- IMMEDIATE PAST PRESIDENT:** Patrick Honan phonan@museum.vic.gov.au
- WEBMASTER and FACEBOOK:** Vivienne and Steve Curle, webmaster@entsocvic.org.au
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Thanks to Ray Besserdin, Carol Page and Ian Endersby for assistance in producing the *Victorian Entomologist*.

CONTRIBUTIONS TO THE VICTORIAN ENTOMOLOGIST

The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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Contributions may *preferably* be E-mailed to Internet address: editor@entsocvic.org.au or posted to the Hon. editor in **Microsoft Word for Windows** with an enclosed hard copy. Tables should fit an A5 page with 1 cm borders i.e. 12.5cm width x 18cm height as a maximum size and complex tables should be in .pdf format. Preference will be given to articles with 5 or fewer pages of solid text and articles longer than this will be returned to the author for reconsideration. The main text of the news bulletin is prepared in 9 pt font Source Sans Pro (please do not use fixed point paragraph spacing). The deadline for each issue is the third Friday of each odd month.

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 Excursion to AgriBioscience at Latrobe University
7:30 pm start
Details p. 115

General Meetings:

<i>Month</i>	<i>Date</i>	<i>Planned event</i>
November	Saturday 25	End of year excursion Warrandyte State Park details p. 116
February	Tuesday 20	Members' presentations.
April	Tuesday 17	AGM and speaker
June	Tuesday 19	TBA

Council Meetings are held at the Museum Victoria at 5:00 pm
on the following Tuesdays :
21 November 2017 and in 2018-16 January, 20 March, 15 May, 17 July,
18 September and 20 November



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