*Understanding Our Natural World*

# Field Nats News No.275

**Newsletter of the Field Naturalists Club of Victoria Inc.**
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**June 2017**


## From the President

I have virtually completed my second year as president of FNCV and I must say the time has gone very quickly and I have enjoyed the experience immensely. I continue to attend as many of the Club's activities as I can fit into my timetable. There is always something new to be learnt at every meeting. In particular, I recently I had the privilege of attending the Juniors' Easter Camp at Mali Dunes. It is clear to me that the future of our organisation rests heavily with the Junior Naturalists and they need to be supported at every level and in any way we can. The enthusiasm and talent I observed at the camp is very encouraging. Claire Ferguson has managed the Juniors for over seven years with great dedication and faultless leadership. I would encourage anyone who might be able to contribute to the organisation and running of the group to contact Claire as soon as possible.

The deadline for FNN 276 will be **10 am on Tuesday June 6th.** FNN will be going to the printers on 13th June with collation on 20th.

Fat-tailed Dunnart *Sminthopsis crassicaudata*

Mali Dune's owner, Sue Hayman -Fox, made us all very welcome and led several tours of the property and associated reserves. Everyone enjoyed the evening campfires and the associated activities. I believe it is important that we continue to have more experienced and specialized naturalists accompany the activities of the Juniors whenever possible so that they can learn, first hand, the skills and knowledge that reside in the senior membership. This helps to broaden and enrich the experience of the kids and their parents. At the last Juniors' meeting, Dr Mary Gibson presented an excellent talk on the ecology and biology of lichens.

A large scolopendrid centipede- *Ethmostigmus rubripes*

Mammals encountered at Mali Dunes included Western Grey Kangaroos, Fat-tailed Dunnart, (photo above, right ), rabbits, hares and there was evidence of foxes, wild dogs and feral cats. Reptiles seen were: Stumpy-tailed Lizard, Mallee Dragon, Marbled Gecko, Pink-nosed Worm-lizard and unidentified snakes. Emus, pelicans, Red-capped Robins, pardalotes, Willie Wagtail, Golden Whistler, Mallee Fowl, magpies, various honeyeater species, Grey Fantails and ravens were some of the many bird species observed. The invertebrates were well represented by many species of spiders, termites, grasshoppers, crickets, katydids, beetles, flies, hemipterans and the ubiquitous meat ants and sugar ants. Large scolopendrid centipedes were commonly seen (photo above) wolf spiders virtually covered the ground at night, their eye-shine reflecting intensely in our spotlights. *More details of this camp p9-10.* Photos M. Campbell.

**Max Campbell**

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# CALENDAR OF EVENTS

***All meetings are held at the FNCV Hall, 1 Gardenia St. Blackburn at 8 pm., unless otherwise indicated. On days of extreme weather conditions, excursions may be cancelled. Please check with leader.***

## June

**Sunday 4th – Fungi Group—Foray: *Mount Worth State Park, Seaview*.** Meet at 10.30 am at Moonlight Creek picnic area (Mel Ed 37 Page X912 U8; Vic Roads Ed 8 Page 97 B6). Contact: Carol Page 9857 6388; cpage356@gmail.com
Use this mobile number ONLY on the day of foray, 0438 446 973

**Monday 5th - Fungi Group—Meeting:** Members' night. Contact: Carol Page 9857 6388; cpage356@gmail.com

**Tuesday 6th - Fauna Survey Group—Meeting: *Spatial ecology of the Powerful Owl.*** Speaker: Nick Bradsworth. Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

**Friday 9th to Monday 12th - Fauna Survey Group—Survey: *Killawarra in the Warby Ranges.***
**Prior Registration Essential.** Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

**Monday 12th - Marine Research Group—-No Meeting: *Queen's Birthday Public Holiday***

**Thursday 15th – Botany Group—-Meeting: *Flora of the Kwongan, Western Australia.*** Speaker: John Harris
Contact: Sue Bendel 0427 055 071

**Saturday 17th – Juniors' Group—-Excursion: *Mt Burnett Observatory visit.***
**For** details contact: Claire Ferguson 8060 2474; toclairef@gmail.com

**Sunday 18th – Fungi Group—Foray: *Blackwood, Jack Cann Reserve*.** Meet at 10.30 am in the Garden of St Erth Carpark, Simmons Reef Road (Mel Ed 37 Page X909 E11). Contact: Carol Page 9857 6388; cpage356@gmail.com
Use this mobile number ONLY on the day of foray, 0438 446 973

**Tuesday 20th - Collate FNN.** Starting about 10 am. All welcome.
Contact Wendy at the FNCV office 9877 9860 or admin@fncv.org.au

**Wednesday 21st - Microscopy Group—Meeting:** Speaker to be advised. Contact: Philippa Burgess 0409 866 389

**Monday 26th—FNCV Council Meeting 7.30 pm sharp**.
Agenda items and apologies to Wendy 9877 9860 or admin@fncv.org.au

**Tuesday 27th – Day Group Meeting: *Introduction to fresh water protozoans.*** Speaker: Maxwell Campbell, FNCV President. Contact: Max Campbell 0409 143 538; 9544 0181 AH; mcam7307@bigpond.net.au

**Wednesday 28th – Geology Group—Meeting: *Minerals of the Granites with an emphasis on Victorian Deposits***
Speaker: John Bosworth, Life Member of Mineralogy Society of Victoria, volunteer at Museum Victoria Geosciences Department (Mineralogy). Contact: Ruth Hoskin 9878 5911; 0425 729 424; rrhoskin@gmail.com

**Friday 30th – Juniors' Group 7.30 pm—-Meeting: *The Seashore – what lives where?*** Speaker: John Eichler.

The preparations for the FNCV Annual Biodiversity Symposium on August 19th and 20th are well underway. This year's theme is "**Marine Biodiversity in the 21st Century".** There will be 16 speakers covering a broad range of subjects concerning marine biodiversity and ecology.
**Make sure you mark the date in your diary; it promises to be a very interesting symposium..**

**The policy of the FNCV is that non-members pay $5 per excursion and $3 per meeting, to contribute towards Club overheads. Junior non-member families, $4 for excursions and $2 per meeting.**

# Members' news, photos & observations

We always have space for member photos and natural history observations. Please share with us what you have noted in your daily life, travels or garden. Email: fnnews@fncv.org.au by the first Monday in the month.

Welcome

**Warmest greetings to the following new members who were welcomed at our last Council meeting.**

**Kelly Tobin, Ethan Coleman, Lee Coleman and Dylan Coleman**

## Urban Reptiles

I have lived in a quiet court in Templestowe (no units) for 35 years and to this day we continue to find Blue-tongued Lizards peering into our windows .

A few weeks ago Wendy and I were very surprised and delighted to find a Marbled Gecko somehow existing inside the Field Naturalist Office.

**JB**

**Many thanks to those who helped collate and label FNN 274**

Hazel Brentnall
Edward Brentnall
Andy Brentnall
Keith Marshall
Neil McLachlan
Joan Broadberry

**Thanks to the editorial and layout team who put together FNN 275**

Joan Broadberry
Wendy Gare
Sally Bewsher


FSG is for the Fauna Survey Group. This beautiful time exposure photo was taken by Darrel Whitaker at the FSG Easter camp at Annuello. Three members waved their torches to create the letters.
*More photos and a report pages 9 and 10.*

# Fungi Group

**'Uncovering cryptic species in the *Lactifluus clarkeae* complex'**, and,
**'Using DNA sequencing and allergen testing to identify the pollen and fungal spores in the air of Melbourne and how this affects hay fever'**
***Presentation by Lachlan Tegart***
**3rd April 2017**

Lachlan is a Master of Science (Bioscience) student at The University of Melbourne and also a recipient of the 2015/2016 Jim Willis Studentship, which enabled him to work with Dr Teresa Lebel on a fungi project at the National Herbarium, Royal Botanic Gardens Victoria. Lachlan's presentation was in two parts, firstly about his fascinating work on *Lactarius, Lactifluus* and *Russula* species at the Herbarium, and secondly concerning his studies on the Melbourne Pollen Count at The University of Melbourne.

1. THE FUNGI
Morphological descriptions of macrofungi (mushrooms) are based on their **macrocharacters** and **microcharacters**. Macrocharacters refer to the visible parts of the fungus, such as the pileus (cap), lamellae (gills), and stipe (stem), while microcharacters, visible only with a microscope, include the structure of the pileipellis (skin of the cap) and the hymenium (fertile surface with basidia, cystidia and spores).

Historically, it has been very hard to distinguish between *Lactarius clarkeae, Lactarius subclarkeae* and *Russula flocktonae*, because macroscopically there is a large morphological overlap between these species. The presence of latex in the fruit-bodies is not always consistent, and depends on climatic conditions. Even microscopically, these species are hard to tell apart, especially if they are old herbarium specimens. So Lachlan and Teresa set about analysing the DNA of these species and came up with some surprising results.
*Russula flocktonae* was expected to sit in the *Russula* genus clade, but instead was distributed with *Lactarius clarkeae* (now *Lactifluus clarkeae*)! What's more, of the samples of *L. clarkeae* that were analysed, possibly **nine new groups** were found that could describe all the samples labelled *L. clarkeae* or *Russula flocktonae*. Because these new groups are 'hidden' within an already recognised species, they are called **potential cryptic species**.

As part of his study of these cryptic species, Lachlan examined the literature already published about *Lactarius*. Annemieke Verbeken, a Belgian mycologist who has been working on *Lactarius* and *Russula* (*Russulaceae*) for nearly 20 years, recently showed that the genus *Lactarius* is not monophyletic. Consequently it has been split into ***Lactifluus*** (which includes ***Lactifluus clarkeae***, *Lactifluus piperatus* and *Lactifluus wirrabara*) and ***Lactarius*** (which includes *Lactarius deliciosus*, *Lactarius eucalypti* and *Lactarius torminosus*).

Lachlan worked on the nine new groups of *Lactifluus* species, studying their (mostly microscopic) morphological characteristics, and further extracting and analysing the DNA of the Herbarium samples in order to obtain a better analysis. Two of the species, namely *Lactifluus aurantioruber* and *Lactifluus mcNabii*, are also found in New Zealand, so the work involved collaborating with researchers in New Zealand. More data is still needed for some of the groups.

During their research, Lachlan and Teresa found a **new species**, which they are calling *Lactifluus* "*australopiperatus"*. This is the Australian equivalent of *Lactifluus piperatus,* a northern hemisphere species that grows under introduced hosts such as Birch (*Betula*). The Australian species grows under native hosts such as *Eucalyptus* and *Nothofagus*. More molecular work is needed, but the phylogeny suggests that this species is genetically distinct from its northern hemisphere counterpart.

These images illustrate the variety of fruiting forms in the *Lactifluus clarkeae* complex.

2. THE MELBOURNE POLLEN COUNT AND FORECAST
The purpose of this work is to help people who are allergic to pollen to monitor their own symptoms. The pollen count is monitored from 1 October to 31 December, every day at 4:30 pm, and provides a daily count as well as a forecast for the following week. A high volume air sampler is used to collect pollen on a filter. The pollen is then washed from the filter and the DNA is extracted for sequencing. The main focus is on grass pollens, because these are the main problem.
Of the subtropical grasses, the most common and most promi-

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nent cause of hay fever is Bahia grass, but Ryegrass is much more common in the temperate southern regions of Australia, such as Victoria and New South Wales, and more people are sensitised to its pollen.

In Melbourne, **Ryegrass** pollen is the main allergen. However, Ryegrass pollen cannot be identified specifically, because grass pollens are not morphologically distinguishable. Currently all grass pollen is referred to as 'Ryegrass pollen', although this is not necessarily the case.

There are also non-grass-season allergies: patients are presenting with allergies outside the peak grass pollen season. Other possible airborne allergens not included in the Melbourne Pollen Count include Birch (*Betula*), and the fungus *Alternaria*, which is a major **indoor** allergen but is also found in the open air. There are also other allergens that have not yet been characterised. Of the many types of fungal spores, *Trametes* and *Schizopora* spores were present as the most abundant fungal spore counts.

Many thanks to Lachlan for an excellent presentation and very interesting, most worthwhile meeting.

**Virgil Hubregtse**

## FNCV FUNGI GROUP FORAY
## *23rd April 2017*
## CAMBARVILLE

Wet Eucalypt forest with Mountain Ash (*Eucalyptus regnans*) and Rainforest with Myrtle Beech (*Nothofagus cunninghamii*).

Eight group members met on a dry morning at the Cambarville Picnic area ready for a foray, led by Reiner Richter. He had found a display of young Delicate Peppery Coral *Artomyces colensoi* growing along a rotting tree branch, but his second offering was a puzzle – minute yellow cups with a dark grey inner surface - growing on a small branch. We have seen them several times before but they are still a mystery. Our normal first walk, The Big Tree Track, was closed, due to damage, so we walked down the road to the Cumberland Walk. However, wherever we went leeches (*Haemadipsidae)* were plentiful and we became quite paranoid, but photos taken show how beautiful they are.

On the walk down we found a lot of fungi, mostly on wood. Interesting to see Golden Splash Tooth *Mycoacia subceracea* on the underside of one log. The bright yellow patches showed the teeth under a hand lens. Also on this piece of wood was the dark purple patches of *Hypoxylon placentiforme,* see Bruce Fuhrer *A field guide to Australian fungi* 2011 no 502 (*H rubiginosum*, misapplied name).

Across the road and along the Cumberland Walk we found a whitish, very wrinkled crust (67 mm long by 20 mm wide) on a small branch. The fertile surface showed the reticulate-patterned form of the Wrinkled Crust *Byssomerulius corium* which can vary from finely wrinkled to reticulate. The soft shelving edges were just starting to grow. Also within a crack in a large branch there were a few tiny white clubs and we first thought that they may have been a *Mitrula* species, but as these generally grow on very wet soil or litter and have a coloured (yellowish) head, the Cambarville specimens are more likely to be the White-club Scum-lover *Multiclavula mucida* which grows in algae on wood. There is some indication of algae in our photos.

After lunch we parked cars in the Cora Lynn Falls car park and walked along the falls track. On the ground, just inside a circle of Soft Tree-ferns *Dicksonia antarctica, Mycena vinacea* was growing. It is a large size for a *Mycena* with a lilac cap and purplish stem. The species is reputed to have a radish-like odour, but we forgot to get down to smell it. Pulling aside the drooping rachises of one Tree-fern we found the Delicate Yellow Coral *Ramariopsis crocea* which is multi-branched with distinctive u-shaped divisions. Usually it is found growing in moss on the ground, but we have occasionally seen it growing on tree-fern stems.

The tall (50 mm), bright yellow simple clubs of the Yellow Club *Clavulinopsis amoena* were growing on and amongst well rotted woody litter. Carol Page:- "This colourful Clavulinopsis was found by Reiner under a Musk Daisy-bush, a lovely splash of yellow in the dim light". The fruit-bodies had flattened and somewhat divided tips, not unusual for this species. Nearby, hanging down under a log, Reiner spied Icicles *Mucronella pendula.* There were a few fruiting-bodies of single spines with pointed tips attached to wood by a short, white stem. Just further along was a *Russula persanguinea* (reddish cap, white stem and gills). Further down the track we again found a *Resupinatus*, and had a discussion as to the species, but Carol's photo clearly shows that it is the grey tomentose *R. cinerascens*, photo below.

*Rasputinatus cinerascens* Photo: Carol Page.

For Lachlan Tegart, it is always disappointing to see *Austropaxillus infundibuliformis* **(**photo p7) because he often gets his hopes up suspecting at first sight it is *Lactarius clarkeae* - the species complex he is studying with Dr Teresa Lebel. Both *A. infundibuliformis* and *L. clarkeae* have similar orange-tan colouration, decurrent gills and funnel-shape caps characteristics that are often confusingly shared in maturity. However the two can be distinguished by the distinctively forked gills see image of *A. infundibuliforis (previous page) is,* while *L. clarkeae* does not, although sometimes has lamellulae (gills) that do not extend fully from the edge of the cap to the stipe. Other differences are that *A. infundibuliformis* has a bright-rust brown spore print, and *L. clarkeae* has a white spore print. Despite the apparent gross similarities, these two are indeed very different mushrooms, which is supported by them both being in separate taxonomic orders.

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*Austropaxillus infundibulbiformis* Photo: Lachlan Tegart

Further to the information about *Austropaxillus infundibuliformis*, Michal Dutkiewicz on the website SA Natureteers stated that "This golden-bright and arrestingly-shaped mushroom is rather large for an Australian species and can be found across Australia in Eucalypt forests growing on the ground. Until it was discovered that it and its relatives, including *Austropaxillus muelleri*, were atypical of the genus *Paxillus*, they were listed under that genus. The underside forked, gill-like structures belie the fact this is actually a Bolete, which has a different structure on its undersurface that usually (in the case of most Bolete genera such as *Boletus*, *Suillus* and *Phlebopus*, for example) takes the shape of little tubes that look a little like a fine mesh of honeycomb or tubes packed side to side. *Austropaxillus* are mycorhizal, which means they form an attachment and relationship to the roots of trees – The relationship is mostly symbiotic, ie. beneficial to both organisms." Genevieve Gates and and David Ratkowsky (*A Field Guide to Tasmanian Fungi*, 2016, 2nd edition p 35) describe a species called *A. muelleri* which can apparently only be separated from *A. infundibuliformis* by microscopical study, indicating that *A. infundibuliformis* will probably have to be called a group.

In addition, while we were walking down to the Cumberland Track Reiner found *Serpula himantioides* photo below growing on an old Eucalypt log. This is a saprophyte and causes a brown rot. It was found last year on the underside of a pine log in the Dandenongs at Olinda Creek walking track. The web article *Evolutionary history of Serpulaceae (Basidiomycota): molecular phylogeny, historical biogeography and evidence for a single transition of nutritional mode* by Inger Skrede (email author), Ingeborg B Engh, Manfred Binder, Tor Carlsen, Håvard Kauserud and Mika Bendiksby (*BMC Evolutionary Biology* 201,111:230) shows some interesting research. It reports that *Austropaxillus* and *Gymnopaxillus* (with truffle-like hypogeous fruit bodies) form ectomycorrhizal associations with roots of *Nothofagus* and *Eucalyptus* trees which are known only from the temperate Southern Hemisphere. Results in this article also show: "Our results corroborate that the two ectomycorrhiza -forming genera, *Austropaxillus* and *Gymnopaxillus* form a monophyletic group nested within the saprotrophic genus *Serpula*, and that the *Serpula* species *S. lacrymans* and *S. himantioides* constitute the sister group to the *Austropaxillus-Gymnopaxillus* clade." Furthermore, the article goes on to say,"We found that both vicariance (Beringian, ie. is a process by which the geographical range of an individual taxon, or a whole biota, is split into discontinuous parts by the formation of a physical or biotic barrier to gene flow or dispersal) and long distance dispersal events are needed to explain the phylogeny and current distributions of taxa within Serpulaceae. Our results also show that the divergence between the ECM group and the brown rot species (*Austropaxillus* vs. *S. lacrymans* and *S. himatioides*) is estimated to have happened between the Late Cretaceous to Late Eocene (66-35 MyBP). The Range expansion of one daughter lineage, *Austropaxillus* into South America, Australia and/or New Zealand occurred some time during the Eocene to Mid Miocene. The divergence into one mainly southern South American clade and one Australian/New Zealand clade is estimated to have happened about 15 (24-7) MyBP. Our molecular results clearly show that the treatment of Serpulaceae as a separate family comprises the three genera *Austropaxillus*, *Gymnopaxillus* and *Serpula*. The fact that *Austropaxillus* and *Gymnopaxillus* are nested within *Serpula* suggests taxonomic changes are needed to accommodate this monophyly. The initial divergence of extant *Austropaxillus* taxa into one mainly southern South American clade and one Australian/New Zealand clade about 22 (32-12) MyBP must represent a long distance dispersal event. The divergence between *Austropaxillus macnabbi* from New Zealand and *A. muelleri* from Tasmania must have resulted from a more recent dispersal event. The transition from a saprotrophic to ectomycorrhizal nutritional mode is a common ecological transition. The common ancestor of *Austropaxillus* and *Gymnopaxillus* diverged from the saprotrophic clade about 50 MyBP. The temperature decline and a drier climate in the end of the Eocene and the onset of Oligocene may have promoted this transition from saprotrophy to mycorrhiza."

Is it *Gloeoporus taxicola* or 'not *Gloeoporus taxicola*'? Morphologically the specimen seen on the Cora Lynn Falls track (and at earlier forays) matches the description in Fuhrer 2011 no 432 and Gates and Ratkowsky (2016) p 201 "the surface is a maze of folds and reticulations and scattered peg-like projections". However, other descriptions by GH Cunningham (*The Thelephoraceae of Australia and New Zealand*, Bulletin 145), and the Mycobank web site all emphasise the presence of pores which may be reticulate, porose, angular or oval with no mention of folds or peg-like projections. Another point is that both Fuhrer (2011) no 394 and Gates and Ratkowsky (2016) p 185 mention another *Gloeoporus*, *G. phlebophorus*, "a pure all-white cartilaginous polypore that forms bell-like fruit-bodies (ca 2-4 cm diam) on wood. The pores are minute (up to 7 per mm) and difficult to see without a 10x hand lens." A further difficulty is that Virgil Hubregtse found clamp connections on the hyphae, which G. taxicola should not have. These characters indicate that the species we are finding does, in fact, differ from the pored genus *Gloeoporus*. I believe that we need to sample, describe and examine specimens from our next foray to see if we can resolve this identification.

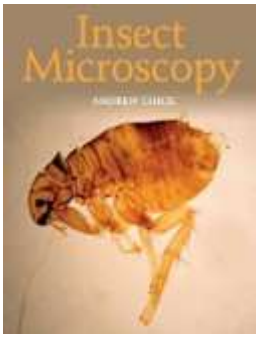
Very sad news to hear that Ian Bell has died. He died peacefully in his sleep surrounded by friends and family. We will remember his wonderful phototography and interest in fungi.

Thanks to all forayers for searching and photographing the species we found. Thanks to Carol Page, Reiner Richter, and Lachlan Tegart for their contribution and many beautiful photographs.

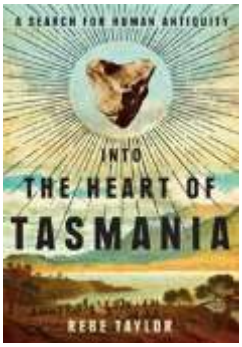
**Ed Grey & Pat Grey**

# NEWS FROM THE BOOKSHOP (June 2017)

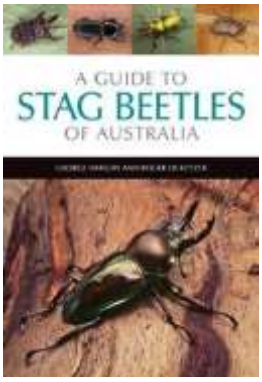
Stocks of *The Geology of* Australia 3rd ed are finally available on the bookshelf along with copies of some of the titles included in this months' article. Also the greatly anticipated release of the new bird book, *The Australian Bird* Guide by Menkhorst *et al* are available from the clubrooms. There are still copies of *Victorian Orchids in Habitat* also available. The bookshop display cabinets in the clubrooms are full to overflowing and as much I would like, I am unable to provide a copy of all books that may be of interest. If an advertised title or one that is not on display is of interest to you please send me an email and I will be more than happy, if suitable, to order in a copy for review prior to purchase. To order or inquire about a book, please send an email to me, at, **bookshop@fncv.org.au** and I will reply as soon as I can. Your support is greatly appreciated. Happy reading, it is the perfect weather! ***Kathy Himbeck***



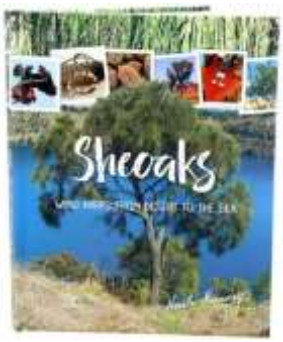

***Insect Microscopy* (A. Chick)** outlines the basics of insect microscopy, explaining what equipment is needed and how to get the best out of it. Microscopes and invertebrates go hand-in-hand, enabling, even the most amateur entomologist, the ability to see the finest detail and structure of these tiny creatures. This book is suitable for a range of age groups and levels of knowledge that are interested in microscopy. It is regarded as a book that can be used as an ongoing reference, rather than to read from cover to cover. For this reason it should be on every amateur entomologist's bookshelf. **(PB, 128 pp., August 2016) RRP $49.99 Members $40**




***Into the Heart of Tasmania – a search for human antiquity* (R. Taylor)** tells a story of discovery and realisation. In 1908 English gentleman, Ernest Westlake, packed a tent, a bicycle and forty tins of food and sailed to Tasmania. One man's ambition to rewrite the history of human culture inspires an exploration of the controversy stirred by Tasmanian Aboriginal history. It brings to life how Australian and British national identities have been fashioned by shame and triumph over the supposed destruction of an entire race. To reveal the beating heart of Aboriginal Tasmania is to be confronted with a history that has never ended. **(PB, 204 pp., January 2017) RRP $34.99 Members $28**




***A Guide to Stag Beetles of Australia* (G. hangay, R de keyzer, P Zborowski)** is a comprehensive account of the 98 lucanid species found in Australia. This book reveals their diversity and beauty, looks in detail at their morphology, habitats and ecology, and explains how to collect, keep and preserve them. Natural history enthusiasts and professional and amateur coleopterists alike will benefit from the use of this guide. The book features some stunning images from Paul who has over 40 years' experience of field-based study of insects in habitats all over the world's tropics. **(PB, 256 pp., April 2017)**




***Sheoaks: wind harps from desert to the sea* (N. Bonney)** is a rare treat for lovers of our bushland. The book includes a range of information on the better known species from the Casurarinaceae family. Neville endeavours to cover many aspects of this interesting tree family, including its evolution, botanical history, conservation, decorative wood uses, distribution and much more. **(HB, 112pp., 2016) RRP $45 Members $39**

***The Natural History of Maroondah Series* (Ruth Jackson)** is an assortment of botanical prints depicting a wide range of local plants that are beautifully presented in exquisite detail. You would never guess that the artist behind these prints is legally blind! Ruth created the stunning, FNCV Correa emblem and for the last twenty years has worked as an environmental activist, using her paintings to help people become interested in the local plants. The full range of prints and cards featuring butterflies, fungi orchids, wildflowers, shrubs and trees are available for purchase, with a large number on display, are available exclusively through CRISP Nursery (www.crispnursery.org.au)**. Cards are $4 each, mounted prints $40 and unmounted prints $15.**

## Extracts from SIG reports given at the last FNCV Council Meeting

**Botany Group: Meeting 20th April**. Dr Ken Walker from Melbourne Museum presented on Bowerbird and citizen science. Bowerbird is the museum's online data base of living things. Ken is an engaging and enthusiastic speaker who told us of instances of photos of insects posted on Bowerbird that were the first instances of these species being documented in over 50 years. This has been really useful for scientists researching the species. Bowerbird entries have also given information on the behaviour of the species. Ken also explained how to join and use Bowerbird. 24 people attended.

**Geology Group:** The Geology SIG were shown the interesting geology of Studley Park on Saturday 22nd April by Phil Bock. The clearly defined strata and ripple marks left by Silurian age seas were very obvious in much of the area, and the severe folding as a result of mid-Devonian mountain building was particularly striking. This was originally called the Dights Falls Crush Zone. We also looked at the small overlay of Brighton sandstone near the golf course, and two igneous dyke intrusions (which now have been almost covered by vegetation). It was a perfect day weather wise and the walk was well attended by both visitors and members. Many thanks to Phil for giving us his expertise and vast knowledge of all things geological.

## Juniors' Group:

### Jono Stevensen's talk: "Our Unique Southern Oceans":

Our March meeting had past Juniors' member, Jono Stevensen drive all the way from Foster to speak to only 13 of us about the importance of the southern area of Australia for its marine habitats and marine life. We saw many examples of habitats, plants and animals. We found out that in some places there are over 800 species in one area! In the southern oceans of Australia, 90% of the species you will find are endemic to the south. We were told that if you turn over rocks in rock pools, you will find lots of life, but you have to be careful as there may be dangerous creatures. Jono also taught us that while other areas have high nutrient levels and low species diversity, our southern oceans have low nutrient levels which leads to high diversity because species have to make the best of food available and fill different niches.

There were lots of habitats that had large diversities of animals. Some of the habitats Jono mentioned were:

- Intertidal, which have chiton, crabs, shells.
- Shallows, which have leafy and weedy sea dragons, urchins, and some fish.
- Deep reefs, which have fish, seaweed, sponges, and sea squirts.
- Salt Marshes, which have the endangered bird Orange Bellied Parrot that migrates from Tasmania to Melbourne after breeding season.
- Mangroves, Victoria has the southernmost Mangroves. Lots of animals live there, such as crabs, birds and other small creatures.
- Intertidal Seagrass/Mudflats, which have soldier crabs, a kind of crab that sheds their shells in numbers, so it is safer. Small balls of sand are left behind on the beach. They also support lots of migratory waders after breeding season. • Seagrass Meadows which are hard to find animals in because they hide in the grass. A lot of the animals are also camouflaged, like green fish.
- Beaches support the Hooded Plover, which have trouble surviving because horses, dogs and people trample their nest or eat the birds/eggs.
- Submerged beaches support over 800 species of animals, and look very bare. Most of the species have camouflage, or hide under the sand.
- The blue, between the surface and the bottom has lots of small planktonic creatures, jellyfish, krill, and humpback whales.

We learnt lots of fascinating things about the Unique South and the wonders it holds.

**Alex (and Robyn) Goode**

### Easter Camp at Mali Dunes:

This year's Easter Camp was held in North West Victoria, near the Big Desert Wilderness Park in North Yanac. We had 46 people attend, including Max and Faye Campbell and two

*(Continued on page 9)*

*(Continued from page 8)*
of their adult friends. Our host was Sue Hayman Fox, who owns the property, Mali Dunes, on which we were camped. Sue took us for guided walks around her property (which is regenerating from being farmland a decade ago) and the adjoining reserve land (which is untouched bushland). We learnt from Sue about Mallee Fowl, their mounds, the flora of the area and the huge project she was involved in building the dome house at Mali Dunes. We visited Broken Bucket Tank Bushland Reserve, the Great Desert Wilderness Park and Yarrangook Nature Conservation Reserve (where we climbed a sand dune to a Trig Point that had 360 degree views of the region). Some of us were lucky enough to spot a Hopping Mouse on the first night, most of us saw a Mallee Fowl, and Max found a Thick Tailed Dunnart on the last morning which most of us saw. We had great weather, no mishaps, and appreciated the port-a-loos Sue had organised.

**Claire Ferguson**

## Marine Research Group:

In April the MRG held a lightly attended meeting where Cecilia Power spoke about her research into the detection of ciliate parasite *M.avidus* in Southern bluefin tuna sea cages at Port Lincoln, South Australia using biofouling samples and molecular techniques.

We had four days of field work at Apollo Bay where we surveyed Point Bunbury, Marengo, Blanket Bay and the Apollo Bay boat harbour. Nine Members attended. The number of species observed ranged from 78 at Point Bunbury to 127 at Marengo.

# Fauna Survey Group

## SURVEY—Annuello Flora and Fauna Reserve—Easter 2017

Given the poor weather encountered on our previous trip to Annuello in September 2016 (FNN 271 Feb 2017 p9), it was decided that we would again venture to the mallee, this time concentrating all of our efforts on a smaller section of the reserve. Annuello FFR is quite a large reserve being over 35,000ha and is larger than some of our better known national parks

As this was a joint project with Parks Victoria, we were again accompanied by Dr Mark Antos from PV. This was the 11th joint project between us in the past few years. However this project had a difference, as PV had organised a film maker (Darryl Whitaker from DJWTV) to accompany us and capture the many natural delights of this relatively unknown reserve and our activities across the week. Sally Dakis from ABC Mildura-Swan Hill local radio was also on hand to report on our activities.

The trip was well attended with 20 members coming and going across the week, many of who were not on the previous trip. We continued our participant training program focussing on harp trapping and remote cameras, while those that were not on the September camp also undertook the basic training of Elliott, cage and pitfall trapping.

**Mitchell's Short-tailed Snake *Parasuta nigriceps* *Photo*: J. Harris**

The group broke up into three teams to repeat some of the 20min/2Ha bird surveys that were in the western area of the reserve.

The results were a mixed bag across the week, despite the warm weather, with the usual Mallee Dragons *Ctenophora fordii* being a regular capture. Other captured species included Nobbi Dragon *C.nobbi,* a juvenile Centralian Bearded Dragon *Pogona vitticeps*, Eastern Striped Skink *Ctenotus orientalis,* Grey's Skink *Menetia greyii,* Beaded Gecko *Lucasium damaeum* and a House Mouse *Mus musculus.* The mouse was the only animal caught in 360 Elliott trap nights. Probably the most "awesome" (in the words of one of the group) captures of the week were five Mallee Tarantulas / Australian Whistling Spider *Phlogius (Selenocosmia) stirlingi* in pit buckets at two sites. A couple of these spiders were amongst the biggest spiders that I have ever seen!! The trip is never over until you leave and no better example of this was on the final night, with most of the traps already packed away, a Mitchell's Short-tailed Snake was seen on the track through our camp by one of the group returning to their tent. There was a flurry of chairs around the fire as people rushed for a look. Where else would people rush to see a snake,

*(Continued on page 10)*

**Eastern Striped Skink *Ctenotus orientalis* *Photo:* J. Harris**

*(Continued from page 9)*
rather than run the other way at the mention of one? This snake was the largest of its type that I have seen.

We also repeated our afternoon surveys for Regent Parrots *Polytelis anthopeplus*, by stationing ourselves along two of the roads leading into the reserve and counting the parrots as they flew overhead (literally). While the numbers varied at the three count sites, we were still recording 1400+ birds flying into the reserve in the evening to roost. These numbers back up our surveys from last September and those done in November last year. It was an amazing sight to witness, seeing groups of up to 100 birds belting along the roadside reserves, often only a metre or so above our heads. The Regent Parrots are listed as vulnerable to extinction under Commonwealth EPBC Act and also in Victoria.

Another highlight of the week was observing two Malleefowl *Leipoa ocellata* mounds being worked over. One of the mounds was being excavated in preparation for next breeding season while the other was tended daily, presumably waiting for the eggs to hatch. *Photo above right.*

The Parks Victoria video can be found at FSG Field Trip to Annuello (https://vimeo.com/214781392), while the ABC radio article on our trip can be found at ABC Mildura-Swan Hill (abc.net.au/news/2017-04-17/citizen-scientists-help-study-malleefowl-northern-victoria/8447434).

Thanks once again to Shane Southern and his team from Hattah-Kulkyne NP for their assistance in organising another very successful trip.

**John Harris**

**Setting up camera over reptile drift-net fence** ***Photo:*** **J. Broadberry**

**Beaded Gecko *Lucasium dameum***

**Juvenile Centralian Bearded Dragon *Pogona vitticeps*** ***Photo:*** **J. Broadberry**

**Mallee Tarantula *Phlogius selenocosmia*** ***Photo:*** **J. Harris**

# Marine Research Group

## MRG Fieldwork *4th February 2017*
## Breamlea – Noble Rocks

Nine members and one guest gathered early on a hot sunny day to survey Noble Rocks, which is the second reef past the car park. This is only our second visit to this particular reef, the previous visit being on 19 January 2008 and this is a location worth visiting again.

In total 110 species were recorded on the list. 109 were recorded on 19 January 2008 - the total is now 162 species!
Notable observations on the day included:
The rarely seen stony coral, *Culicia hoffmeisteri* – about 30 individuals under one rock, photographed by John Eichler, with around 22 septa* clearly visible in the photograph enabling identification to species (the other species seen in Victoria is *Culicia australiensis* which has 36 – 48 septa).

**Images - from top**
*Culicia hoffmeisteri*. Photo: John Eichler.
*Lysidice* sp. Photo: Leon Altoff
*Leptochiton liratus*. Photo: Leon Altoff
*Conus clarus*. Photo: Leon Altoff
*Stenochiton*. Photo: Audrey Falconer

What appeared to be a new species of a polychaete worm in the genus *Lysidice*. The coloration of the specimen with red and white bands is very different to the usual one we see which is a brown animal with a white head. The specimen has been lodged at Museum Victoria.
The rare and beautiful chiton *Leptochiton liratus*, only the 7th specimen the MRG has seen.
The very rare *Conus clarus*, only the 4th specimen ever seen. We collected the specimen for Mark Phuong of the University of California who is researching worldwide *Conus* and visited Australia in 2014 to collect *Conus* species but failed to collect this species. The specimen has now been sent to Mark for inclusion in his research into a full phylogeny of worldwide cone shells.

A wide range of *Stenochiton* in a range of sizes (from 0.35 mm to 12 mm) were collected from the weed sample (none were collected directly in the field) and these specimens have been sent to the world chiton expert, Doug Eernisse at the California State University, Fullerton. Doug is interested in whether our Stenochitons represent one or two species and having a large range of sizes of specimens will help him determine this. At present it looks like we have one species which changes body form when it migrates from living between the leaves to living on the stems of *Amphibolis antarctica* – it changes from being small and flat, to being elongate and tall. Doug is processing DNA and also disarticulating specimens to examine and analyze the teeth on the edges of the valves.

I would like to thank Platon Vafiadis for preparing the MRG page in the FNN for so many years – your work in reporting on all our activities has been very appreciated!

*"septa" at the ribs on a stony coral, much like the gills of a mushroom. ‘

**Audrey Falconer**

# FNCV AGM Sunday 7th May 2017

Twenty nine members and two visitors attended the recent annual General meeting. When completed, the minutes of the AGM will be published in FNN. Below are a few items of interest.

**Congratulations to the newly elected 2017/18 FNCV Councillors**

| | |
|---|---|
| President: | Maxwell Campbell |
| Vice President: | Philippa Burgess |
| Secretary/Public Officer | *currently vacant* |
| Treasurer: | Barbara Burns |
| Correspondence Secretary: | Andrew Brentnall |
| Councillors: | John Harris, Audrey Falconer, Ken Griffith, Judith Sise |
| ***SIG Representatives*:** | |
| Botany: | Sue Bendel |
| Day Group: | Joan Broadberry |
| Fauna Survey: | Su Dempsey |
| Fungi: | Geoff Lay |
| Geology: | Ruth Hoskin |
| Juniors: | Patricia Amaya |
| Marine Research: | Leon Altoff |
| Microscopy: | Philippa Burgess |
| Terrestrial Invertebrates: | *currently vacant* |

**Special Resolution Carried:**
Council recommends the following membership rates, from 1/7/2017:

| | |
|---|---|
| Single | $84 |
| Family | $109 |
| Single Country/Concession | $63 |
| Family Country/ Concession | $84 |
| Student | $38 |
| Junior Family | $50 |
| Junior additional | $17 |
| Schools/ Clubs | $96 |
| Institutional | $167 |
| Institutional overseas | $180 |

Anne Morton was thanked by President Max Campbell, for her work on the *Victorian Naturalist* editorial team, including acting as Executive editor from 2003 to 2016.

**Photo:** *Barbara Burns*

David Cheal (left) accepts his long-term member's certificate. He also gave the address. "*Can we restore what we've lost? Mammal reintroductions in the Mallee"*

**Photo:** *Barbara Burns*

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