



Understanding
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Field Nats News No.271



Newsletter of the Field Naturalists Club of Victoria Inc.

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February 2017

From the President

Another year rolls in and we commence another great year of FNCV activity. Welcome to FNN for 2017 and may I wish everyone a productive and happy new year. Once again we celebrated the end of the year with a very enjoyable FNCV Christmas Party and I would like to thank everybody who assisted in the preparation and running of the evening.

Last year we had an excellent series of SIG presentations and ran two first-rate symposia. There is already a good line up for this year so make every effort to take advantage of them. The Marine Research Group ended 2016 with an excellent members' night in December. Members presented brief accounts of their research and activities. John Eichler showed some of his excellent photographs and, in particular, a superlative image of *Glaucus sp.* (photo right), a nudibranch mollusc that preys on hydrozoans such as *Velella*, *Physalia* and *Porpita*. It has the remarkable ability of being able to recycle the nematocysts of its prey for its own defence, without discharging them or harming itself in the process. The colour and pattern help camouflage it from predators such as birds out in the open sea.

The warm weather and rain has led to a lot of plant growth and seemingly many insects which has resulted in a bumper population of spiders. In particular, I have been photographing and studying over 30 beautiful, female St Andrew's Cross spiders (*Argiope keyserlingi*) (photo below) and their tiny consorts in my garden. It gave me an opportunity to record the mating behaviour of the spiders. The males initially build webs some distance from the females. The little male moves closer and eventually spins a little web a few mm from that of the female and often hovers, suspended over her ventral side (Photo below). He places strategic communication threads into her web. He then picks his opportunity carefully, often after she has been feeding on a large prey item for some time. He moves closer and strums her web via the connecting thread with a series of delicate pulses mostly using his four middle legs. She stops feeding and approaches him and he backs away a little. She then extends her ventral side towards him. He dashes in and touches her abdomen with his palps and quickly retreats. In consequence she stretches out more



Argiope keyserlingi
Photo: Max Campbell.

The deadline for FNN 272, March 2017 will be **10 am on Tuesday 7th February**. FNN will go to the printers on the 14th with collation on Tuesday 21st February.



Glaucus sp. Photo: John Eichler

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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.

February 2017

Saturday 4th - Marine Research Group Field work: Breamlea - Nobel Rocks
Meet at 9:45 am at the Bancoora Surf Life Saving Club (Melways map 495 B7).
Contact: Leon Altoff 9530 4180; 0428 669 773

The views and opinions expressed in this publication are those of the authors and do not necessarily reflect those of the FNCV.

Monday 6th - Fungi Group No Meeting

Tuesday 7th - Fauna Survey Group Meeting: *Terrestrial vertebrates in mangroves along the East Coast of Australia - discussion of a novel field design and findings* Speaker: Stefanie Rog, PhD Candidate, Monash University. Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

Saturday 11th – Secondhand Booksale 9.30 am to 3 pm. **Volunteers urgently needed. See FNN p5.**
Good quality books can be left in the hall from January 9th. No magazines or periodicals please. Come early and grab a bargain! We will have amazing books: fiction and non-fiction. Prices from only 50 cents to \$10

Monday 13th - Marine Research Group Meeting: *The great white shark* Speaker: Kent Stannard from Tag for Life who will be talking about their current research. Contact: Leon Altoff 9530 4180; 0428 669 773

Wednesday 15th - Microscopy Group Meeting: For details contact Philippa Burgess 0409 866 389

Thursday 16th – Botany Group Meeting: *When predators go missing: native mammal herbivore imbalance in South-east Australia.* Speaker: Dr Jeff Yugovic, Contact: Sue Bendel 0427 055 071

Friday 17th to Sun 19th - Fauna Survey Group Survey: *Beaconsfield Reservoir.*
Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

Sunday 19th – Juniors' Group. Excursion: *Rickett's Point Beach Day.* We will be looking at rock pools.
Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

Tuesday 21st - Collate FNN 272. Starting about 10 am. Contact Joan Broadberry 9846 1218

Wednesday 22nd – Geology Group Meeting: *Oamaru Limestone*
Speaker: Mary Chapman, Landscape Architect & Project Manager with Melbourne City Council
Contact: Ruth Hoskin 9878 5911; 0425 729 424; rrhoskin@gmail.com

Friday 24th – Juniors' Group Meeting: 7.30 pm. *Single celled animals.* Speaker: Max Campbell, our President. Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

Monday 27th—FNCV Council Meeting: 7.30 pm sharp. Agenda items and apologies to Wendy, 98779860 or admin@fncv.org.au

Tuesday 28th – Day Group 10.30 am *Associations between birds and plants.* Speaker will be Janet Hand from Birdlife Australia. Meet at 10.30 am for coffee and a chat. Speaker at 11 am. Contact Joan Broadberry 9846 1218



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 Welcome

Warmest greetings to these new members who were welcomed into our club at the last Council meeting:

**Jade Craven, Luke Haraida, Sarah Branton,
Jason Yuen, Yan Yan Mak, Helena Woollett, Stuart Woollett,
Sally Woollett, Wendy Leavesley, Marty White and Tim Baker**



Rob Hamson

Rob Hamson found what he believes may be a Common Garden Skink *Lampropholis guichenoti* under the wheelie-bin at his home in McKinnon. He writes that he is a long way from native bush reserves and this is the first skink of any sort that he has seen in his garden or the local area in the 26 years he has lived there. Interestingly he tells us Marbled Geckos turn up all the time. More information welcome.



Virgil Hubregtse

Virgil Hubregtse has photographed a Daddy Long-legs Spider with its prey, another spider.

remained close to the female. You have to admire that level of bravado and dogged persistence.

(Continued from page 1)
invitingly so he then dashes in and wraps himself across her abdomen whilst pumping the tips of his palps as fast as he can. She appears to hang limp for about a minute or so and then comes out of her trance and instantly whirls like a dervish and envelops him in a hug of death. She wraps him up in web and returns to her original meal.

On closer examination it often proves to be one of his legs that she has wrapped in silk. When I analysed the video I had taken it was clear that he had escaped, parting with his 4th left leg, disappearing out of the bottom of the screen. It took him only 2 x 1/25 sec frames to vanish. He was moving like greased lightning (a blur in fact) and seeing the female in full fury with her fangs out I am not surprised. A couple of minutes later he appeared back at the edge of her web, clearly minus his back left leg but also ready for more adrenaline rush activity. I wondered about how many legs he would lose before he is finally eaten by the female. I noted that several males had been reduced to four legs (photo right) after several mating efforts and still



Max Campbell

It raises an interesting question about the way the tiny spider's cerebral ganglia are programmed to strum the web in a seemingly complex way and its ability to continue to function normally as legs are lost. Some males were killed instantly when the wind bumped the webs together and the male wasn't fast enough to escape. The females are superlative predators and they seem to actively hunt one another as well. They do not tolerate other females whose webs encroach too closely. I observed several cases of outright aggression and cannibalism. This may be related to the large numbers of spiders and their forced proximity in this instance. About half of the females disappeared over several weeks, leaving undamaged webs; their silk wrapped bodies sometimes appearing in a nearby web. When the spiders are taken by birds the webs are usually destroyed. I was also able to successfully translocate females to vacated webs and observed others wandering freely over shrubs at night away from their webs. Translocated females had moved to the centre of the new web within 24 hours and changed the stabilimentum to what they had in their original web. For example, when I moved them from a web with a single stabilimentum arm to a web with four arms it was converted to a single arm within 48 hours. Clearly there is a lot more to these animals than first meets the eye. I will keep adding to the observations and over 1000 images and videos to date.

Max Campbell, President

Extracts from SIG reports given at the last FNCV Council Meeting

Botany Group: Meeting

On Thursday 24 November, 20 people enjoyed a fascinating presentation by PhD candidate, John Patykowski, on understanding the functional role of rare plants. Rare plants are important. In Canada there are 50 high priority rare plants for potential economic importance. Not only can plants be rare, based on locality or number, but can be functionally rare. *Pultenea gravitate* is rare and is important as the only nitrogen fixer in box ironbark ecosystems. *Equisetum* is rare in wetlands in Canada and is the only deep rooted plant which is required in the ecosystem as it brings up nutrients. Rare species support vulnerable functions in high diversity ecosystems. Rare plants have unique functions that are lost if they disappear.

Excursion: On Sunday 27th November the botany group was joined by the Juniors and capably guided by Brett Mifsud' to see several giant trees in the Powelltown, Three Bridges area. The trees were magnificent, between 60-83 metres tall and about 350 years old. The last was Long John Silver with a height of 80m, a girth of 13m and a huge cathedral arch. A most impressive tree. The first tree we saw was Velvetreen with moss growing on her buttresses. A great day was had by all 26 of us. *Photo right.*

Geology Group: Meeting, October 26th:

Associate professor Andy Herries from the Dept. Of Archaeology and History, LaTrobe University, spoke to the Geology SIG on October 26th. The topic of his talk was "Palaeomagnetic Dating of Marsupial Fossil Evolution in Australia". Prof Herries uses this particularly interesting method to date the age of fossils by correlating the known evidence of previous reversals in the earth's magnetic field with the reversal pattern shown in the rocks which replace the bones of animals over time. He uses these dates to check with other dating methods for more specific measurements.

Professor Herries is an archaeologist and geophysicist who has had extensive experience in early hominid discovery and dating in Central Africa. As an experienced caver, he is particularly interested in fossil deposits found in caves such as the Wellington caves in NSW, or the Parwan deposits at Bacchus Marsh. However, many of these fossils are fragmented because they are remains of meals of the carnivores which used these caves as lairs. Other difficulties of dating Australian fossils were discussed which led to a most interesting talk. He also donated a 3D model of a skull of a three year old early hominid – *Australopithecus Africanus*. (It's the orange skull on top of the bookcase in the hall. Do have a look at this - it's amazing what 3D printing can do).

Meeting, November 23rd:

Christian Wallis, our speaker for the Geology SIG meeting held on the 23rd November, is the Principal Environmental Scientist at CDM Smith, a company which provides consulting services relating to environment and water. Christian is an EPA approved expert in the field of soil science and hydrogeology and has had over 20 years' experience providing consulting services regarding acid sulfate soils and contaminated land projects in Victoria. He did extensive work on the proposed Metro Rail Tunnel and is now working on the chemical contamination of the massive Fishermans Bend site.

He talked about the main sources of contamination being from mining, industry, carbon based energy sources and transport (e.g. leakages from petrol stations – he stated up to 60% of stations have leakage problems) and weathering of the family home where lead, asbestos and other chemicals may be a problem and which is certainly not rigorously monitored. He stressed the importance of legislation to ensure all aspects of pollution are covered. Methods of collecting data on the amount and type of site contamination were discussed, as well as remediation methods available to clear a polluted site. Christian felt that the legislation for big industrial site remediation is good, but other areas when contamination is present are not good – such as soils in food

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Photo: J. Broadberry



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production areas. He stressed that rich agricultural land should be protected against any redevelopment as they are essential and especially as it is extremely difficult to restore land to food growing potential after it has been used for other purposes.

A most interesting lecture which raised many questions.

Juniors' Group: October meeting:

Dr Jenny Martin (Mebourne Uni) presented a fascinating talk about her fauna research trip up in Cape York, far north Queensland, that she went on for 3 months with her family last year. They drove from Melbourne to Cape York then back via Central Australia – a lot of kilometres!

Dr. Martin spoke about the animals she and her family encountered on their holiday and the intention of her expedition, which was to monitor the Antilopine Wallaroo population compared to what it was when Jenny, and her husband (Euan Ritchie), researched their numbers over 10 years ago. She said that every day at dawn and dusk they would go out to see if they could spot the wallaroos and count how many they would see, because at those times they were most active. Dr. Martin also spoke about the camera traps and sand mats they set up around the areas they went to. They would attach cameras to trees and set up bait to attract wallabies, kangaroos/wallaroos and other animals, and rake areas of sand to see what footprints would be found.

Thankfully their research concluded that the Antilopine Wallaroo population is doing well and the Wallaroo scats they brought back will be studied to find out more about what food they eat. *Bridie and Claire*

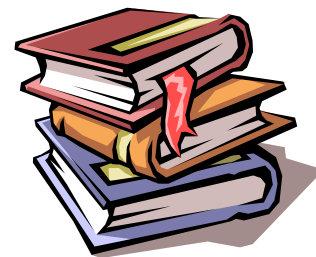
November camp:

Over Cup weekend we had a group of 23 camp at an FNCV member's property 1 km from 12 Apostles between Princeton and Port Campbell. We had great variety of weather from warm, calm and sunny to cold, windy and raining. Thankfully we had the use of the house which had a log fire, toilet, full kitchen and a full bookcase. We enjoyed exploring the major attractions, ponding, rock pooling near Gibson's steps, birding, roasting marshmallows, eating Dennis' yummy BBQed Dim Sims and Paula's lemonade scones with cream and jam, walking a short section of the Great Ocean walk and Port Campbell cliff top, and our most popular finds were a juvenile tiger snake and a metallic sun orchid in full bloom. *Photo above.* Thanks to the Tovey family for their hospitality!



Photo: C. Ferguson

Field Naturalists Club of Victoria SECOND-HAND BOOK SALE



Saturday 11th February, 9.30—3 pm.

FNCV Hall, 1 Gardenia Street, Blackburn (Mel 47 K10)



Assistance is urgently needed for this important biannual Club fund raising event. Preparations a few days beforehand will include unpacking and sorting boxes of books, pricing and setting up. Several helpers will need to be attendance on the sale day. If you can assist, please let Wendy know as soon as you get this newsletter. All help appreciated.

Donations of clean, good quality books of all types - novels, non-fiction, children's - can be left in the hall from 9th January 2017 when the office opens for the year. **Please no magazines or journals.**



Day Group

The Conservation & Monitoring of the Rakali, (Australian Water-rat) Speaker: *Geoff Williams*

Hydromys chrysogaster, Australia's predominant aquatic native mammal, is commonly known as the Water-rat. As the name 'rat' is associated with the introduced pest species, many of us now prefer to call it the Rakali, one of the aboriginal names for the animal. The Rakali's ancestors are believed to have arrived in Australia around 5-10 million years, after swimming (or possibly rafting) from New Guinea.



Rakalis are found in all states and territories, occupying a greater range than the Platypus (see above). The body measures up to 35 cm with a long tail. Males weight up to 1.30 kg, females are smaller. The head and back are dark brown with golden-yellow belly fur. Water-rats have many otter-like features, including a thick coat of soft fur, a blunt, densely whiskered muzzle and partially webbed hind feet. On average 40% of their tail is white making this a conspicuous identifying feature(see arrow below).



Water-rats are predators that eat aquatic insects, yabbies, mussels, shrimps, frogs and scavenge things like pet food.

Their sharp teeth can also be used to kill fish, tortoises and water birds. They emerge from the water to feed and leave behind their tracks and feeding tables of detritus such as shells, which are often the best clues that the species is present. Water-rats are unable to maintain their body temperature in water temperatures below 25°C and consequently need to exit cold water at regular intervals in order to warm up.

Rakalis are intelligent animals that seldom go into cage traps and are therefore difficult to research. The Australian Platypus Conservancy (APC) has been able to study them as they are frequently caught during Platypus surveys. At about eight months, young Rakalis are ready to breed. They use burrows or hollow logs. They are thought to produce two or more litters a year with three or four offspring which become independent after two months. They only live for 3-4 years, (c/f Platypus which lives up to 20 years)

The Water-rat makes its home in swamps, ponds, lakes, rivers and creeks. A favourite place is irrigation channels. They are curious and adaptable and do well in urban areas and also in salt water such as around Port Phillip Bay or Sydney Harbour. Rakalis can be active during the day, especially in the cooler months, as well as by night. They are most often seen swimming on the surface in the evening or early morning.



The species faces a number of dangers. In years gone by many thousands were hunted for their thick fur. They are predated by foxes and cats. Submerged traps set for crayfish or yabbies are a major problem. The lining of irrigation channels with plastic to reduce water loss is another big issue. Rakali populations can crash dramatically during drought years. On the positive side they benefit from the creation of artificial wetlands. However there is considerable evidence that numbers have declined in many areas.

The APC is asking the public to help with the monitoring of Rakalis by reporting all sightings (including a dead animal). Email the date and location of any sightings to platypus.apc@westnet.com.au or phone 03 5157 5568. Sightings from the past and reports from outside Victoria are also welcome.

On behalf of the day group I would like to once again thank Geoff for an excellent presentation. The Rakali is a beautiful but undervalued Australia endemic mammal. It was wonderful to learn so much about it from someone so well informed. *NB. In writing up this talk I have borrowed heavily from the APC's excellent website including the photos and map.*

Joan Broadberry.



Fungi Group

FNCV FUNGI FORAY 17th JULY 2016 Jumping Creek Reserve, Warrandyte State Park

The frosty morning turned into a clear sunny day and while numbers of fungi were past their best we did have a successful foray. A group of small cinnamon-brown *Coltricia cinnamomea* showed the concentrically zoned caps, with radially arranged fibrils giving them a silky appearance above a shortish stem. The lower surface had small brownish pores. On lots of pieces of dung, especially deer dung, were the tiny

orange discs with margins of pale hairs - *Cheilymenia ? rarapila*. It was very sad to see the amount of damage that the deer have started – the breaking down of the undergrowth, and the making of mud tracks, especially down to the water courses. It won't take long for them to completely change the habitat in this area.

An almost perfect example of the Vermilion Grisette *Amanita xanthocephala* had all the typical characteristics – orange cap with yellowish patches of veil remnants, white gills and a pale yellow stem, no ring, but a brilliant orange rim at the top of the volva, and a perfect specimen of *Amanita farinacea* (photo above). The white, convex cap was covered with a thick white layer of powdery meal and prominent soft conical warts. Around the cap margin are pendulous fragments of broken tissue. The ground beneath was covered with white mealy tissue.

On a small dead branch was the Orange Fan *Anthraco-phyl-lum archeri* with its fan-shaped, orange-red cap and widely-spaced gills. Several very small (cap diameter 30 mm), red-dish-capped boletes were seen, also a few larger ones, and some were more red than others. These boletes were *Boletus barragensis*, which has a reddish-brown convex cap, a reddish stem with a reticulated surface and yellow tubes with red pore openings which bruise blue-green and the flesh which bruises red. A second bolete species, the Marshmallow Fungus *Fistulinella molli*, had a pale fawn convex cap, and was recognised by its soft creamy-pink pores. Alongside

the road was a young Horse-dropping Fungus *Pisolithus marmoratus* (previously *P. tinctorius*, then *P. arhizus*, neither of which occur in Australia), which had a brown, shiny skin and mottled dark pattern.

Immature fruit-bodies of coral fungi posed difficulties for identification as they may bear little resemblance to mature specimens. This was evident in a large group of corals where there were numbers of small white branched fruit-bodies together with larger, densely-clumped and irregularly-branched specimens. Initial thoughts were that the white ones were the White Club *Clavulina subrugosa* and the others the Ash-grey Coral *Clavulina cinerea*. However, further investigation on the internet (Google - under *C. cinerea*) showed that young fruit-bodies of *C. cinerea* start out

whitish and only gradually develop the ash-grey colour. This was proven microscopically by the smooth, globose to subglobose spores with dimensions matching published data and our results from earlier foray material. The other commonly seen coral was *Clavulina vinaceocervina*, a pink to fawn branched coral always with tips going dark. Notice that the tips of *C. cinerea* often go black, but can be differentiated from *C. vinaceocervina* by the structure of the branches. The Nature Trail provided several interesting fungi. A brilliant example of the Pink-tipped Coral *Ramaria botrytoides* had pinkish branch tips with blunt protrusions over long, white to buff branches.



Amanita farinacea Photo: Torbjorn von Strokirch

Three examples of the Small Dung Button *Poronia erici* with flattened whitish discs to 3 mm diameter and

the distinctive black ostioles were apparently growing on the ground but when dug up were found to be on decayed marsupial dung. Much interest was shown in a group of steel-blue fungi. They had convex caps, the largest to 20 mm diameter, and stems to 15 mm long and 5 mm wide. Both cap and stem were steel blue but the gills were still hidden by the white cortina which had not broken. These were tentatively identified as a *Cortinarius* sp. One thought was that they were young Elegant Blue Webcaps *Cortinarius rotundisporus*, but there was no yellow umbo developing on the cap although the caps were slimy. However, as there were a lot more mature *C. rotundisporus* nearby, it seems they might be very immature *C. rotundisporus*. It was exciting to see one fruit-body of the 'purple zoned' *Cortinarius* sp. Fuhrer 60. Bruce Fuhrer only noted it in Warrandyte (*A Field Guide to Australian Fungi* 2011). Most of the purple colour had faded from the cap, but some still remained, and the zoning remained distinctive. The habitat was in moss in the *Kunzea/Eucalyptus* woodland. There were also lots of brown *Cortinarius* species - small tan-coloured, red-brown with pointed umbo, brown-brown and so on.

On rotting wood was a resupinate pored fungus with gold-brown reticulate pored fertile surface and a paler yellow-gold to white margin. The pore size (2-5 per mm) and reticulate shape indi-

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cates that the species may be *Gloeoporus taxicola* (not the incorrectly named *G. taxicola* mentioned by Fuhrer no 432 which does not have pores, *A field guide to Australian fungi* by Bruce Fuhrer 2011.). Further microscopical work has confirmed there were clamp connections on the hyphae which eliminates *G. taxicola*, and points to *Ceriporiopsis merulinus*.

On a log near the end of the track we saw *Mycena carmeliana* in all stages of growth: very young with a large orange disc topped by a white translucent blob, which will later become the cap and stem; on the next specimen, the stem has emerged and the cap is forming; finally the mature specimen. The orange colour of the disc is a distinctive character. On the same



Clitopilus fuliginus Photo: Virgil Hubregtse

log we saw *Mollisia cinerea*, blue-grey, sessile discs, 1–3 mm diameter, forming a group on the rotting wood. J Breitenbach/F Kränzlin, in the description for *Mollisia cinerea* (no 274), mention that “This species is very often difficult to separate from others, especially from *Tapesia (Mollisia) fusca* (no 266), *Mollisia melaleuca* (no 278), and *Mollisia ligni* (no 277). The last two are distinguishable primarily by their different colour nuances – the former, whitish to yellow-whitish, outer surface black-brown, the latter smooth dark gray, outer surface dark brown with fine down.” The description of *M. cinerea* is “Gray to gray-ochre, margin often whitish in young stages, outer surface with fine down and gray brownish” and *Tapesia fusca* “blue-gray to ochre-grey, smooth, outer surface the same, rests on a black-brown felty hyphal network,” (*Fungi of Switzerland* (1984), vol 2 Non-gilled Fungi). The distinguishing field characteristic seems to be the ‘resting on a black-brown felty hyphal network’.

In the afternoon other members of the group found Rose-pink Waxcap *Hygrocybe cheelii* – a very distinctive pink species. “Caps are bright pink and funnel-shaped with a wavy margin and felty texture. The pale pink gills are thick, widely-spaced and extend well down the pink stem which has a yellow base” (*Fungi Down Under: the Fungimap guide to Australian fungi* by Pat Grey and Ed Grey. 2005, p 39

Virgil Hubregtse has been able to identify one of the fungi she brought home from Jumping Creek Reserve: *Clitopilus fuliginus* (photo below). “I sent photos of the fruit-bodies and microscopic features to Genevieve Gates, after noting that the microscopic features were a close match to *C. fuliginus* as described in her book, *The Entolomataceae of Tasmania*. Genevieve says that’s what it looks like to her.” The diameter of the broadly convex cap with depressed centre is 21 mm and dark grey-brown with buff patches plus a downturned margin. The gills are decurrent, brown and some are bifurcate, with occasional interveining present, and the stem is 30 mm long, dark grey-brown with white basal mycelium. It has a pink spore print and a fruity smell (VH - my specimen didn’t smell at all). Here is another ‘new’ species to add to the group’s list.

Thanks to all the forayers for hunting and photographing the species we found. Thanks to Cecily Falkingham and Torbjorn von Strokirch for providing lists. Thanks to Sue Forster, Pat Grey, Virgil Hubregtse, Richard Hartland, Carol Page and Torbjorn von Strokirch for their contribution of many wonderful photographs. Thanks to Virgil Hubregtse for her microscopical identification of a species and for checking the report and species list.

Pat & Ed Grey

WANTED– VOLUNTEER PUBLICITY OFFICER FOR THE FNCV

It would be a big advantage for the Club to have a publicity officer to promote its program of special events e.g. Australian Natural History Medallion, book sale, seminars, symposiums etc.

It would seem to be important that the Publicity Officer is comfortable in dealing with social media and the press. However, there are many possibilities as to how this role could be carried out and we would welcome your ideas.

If you are interested in taking on this role, or would like to contribute your thoughts, please contact John Harris 0409 090 955 wildlifeexperiences@gmail.com or the office.

Thanks to the editorial and layout team who put together FNN 271

Joan Broadberry
Wendy Gare
Sally Bewsher

Many thanks to those who helped collate and label FNN 270

Joan Broadberry
Andy Brentnall
Edward Brentnall
Hazel Brentnall
Cecily Falkingham
Keith Marshall



Fauna Survey Group

FSG Training Workshop at Annuello Flora and Fauna Reserve

As part of our ongoing partnership with Parks Victoria, the FSG headed up to Annuello Flora and Fauna Reserve in late September. Annuello is south of the Hattah-Robinvale Road, south east of Hattah-Kulkyne National Park and is one of the largest blocks of mallee in Victoria's north-west that is not fully protected as a national park.

It was decided that we would make this field trip a training workshop for our members, both permit holders and others, so that we become familiar with and "trained-up" in some of the techniques that are covered by our Standard Operating Procedures and Scientific Procedures Licence. It was also thought that it would be a good opportunity for members to hone their fauna identification skills, especially of reptiles. Peter Homan and I organised the training with Peter providing many useful resources and training criteria that he had used as a TAFE trainer.

A total of 20 members attended the workshop over the week, despite the heavy rain during the previous weeks and a forecast of more. And yes it did come down. We received about 30mm, making the already slippery tracks and wet camping ground even more so.

After the training session the members set about establishing six pitfall lines with buckets and funnel traps, in various parts of the reserve as well as using Elliott and harp traps. A total of 600 trap nights for the week yielded very low results with only five species of reptiles, a frog and a microbat captured. This was certainly due to the wet weather and cloudy overcast skies. We also recorded a number of species of reptiles and frogs around our base camp Lake Hattah camping ground with six species of frogs alone: Plains Froglet *Crinia parinsignifera*, Eastern Banjo Frog *Limnodynastes dumerilii*, Spotted Marsh Frog *L. tasmaniensis*, Peron's Tree Frog *Litoria peroni*, Common Spade-footed Toad *Neobatrachus sudellae* and Mallee Spade-footed Toad *N. pictus*.

The species trapped or captured at Annuello FFR included:



Preparing pit-line Photo: J. Harris

Nobbi Dragon *Diporiphora nobbi*, Red-tailed Worm-lizard *Aprasia inaurita*, Western Bluetongue *Tiliqua occipitalis*, Marble-faced Delma *Delma australis* and Chocolate Wattled Bat *Chalinolobus morio*.

Apart from the trapping, 26 bird survey transects were also undertaken with a good range of mallee specialties and other more widespread species. The mallee specialties included: Mulga Parrot *Psephotus varius*, Shy Hylacola *Hylaola cauta*, Crested Bellbird *Oreoica gutturalis*, Yellow-plumed Honeyeater *Lichenostomus ornatus* and Chestnut Quail-thrush *Cinclosoma castanotum*.

However, most pleasing of all of the bird records were the significant numbers of Malleefowl *Leipoa ocellata*, with at least eight birds and several active mounds found, and a HUGE number of Regent Parrots *Polytelis anthopeplus* recorded both incidentally and from surveys.

An incidental observation of large numbers of Regents heading into the reserve one afternoon led a few of us to thinking out how we could survey them. Two teams (Mark Antos / Glen Jamison and Katarina Stenman / Mark Smith) headed out



Regent Parrot Photo: Mark Smith

one afternoon to count the parrots at two road reserves heading into Annuello FFR. The birds were observed flying from the direction of the Murray River into the park using the road reserves as flight corridors. Over 1500 birds were counted in an hour and a half crossing the Robinvale road into the reserve. This was extremely significant for these Federally and State listed (under the EPBC Act) species as population estimates for Victoria were around 500 birds. Subsequently these findings have been written up and spoken about in local papers, on radio and the internet.

A total of over 50 birds, 10 reptiles and one frog were recorded at Annuello FFR for the week. We are heading back there again in April this year to undertake a further survey for all fauna, so we are hoping that the weather will be a little kinder and that our species list for Annuello increases.

Despite the bad weather, nobody was flooded out of their tent or had their vehicle bogged.

(Continued on page 10)

(Continued from page 9)

Thanks to all those who attended and especially to Shane Southon (Parks Victoria Team Leader, Hattah-Kulkyne NP) for his assistance. *Photos below by John Harris.*

John Harris, Fieldtrip Organiser



Mallee Fowl



Red-tailed Worm-lizard



Nobbi Dragon

LIBRARY NEWS



Books recently acquired

The following volumes have been accessioned and catalogued recently and may be borrowed. They have been acquired through a variety of means including purchase (thanks to Kathy our Booksales Officer) as well as donation, from members and book reviewers.

- Brooker, M, Ian H; Kleinig, David A (1990) *Field guide to eucalypts. vol 1: south-eastern Australia* [583.16 FIE]
 Farrow, Roger (2016) *Insects of south-eastern Australia: an ecological and behavioural guide* [595.7 FAR]
 King, Robert J (2013) *Field guide to Royal National Park* [919.446 FIE]
 Mallett, Katy (2005) *Flora of Australia, v.44B: Poaceae 3* [582/94 FLO]
 Priest, Michael (2006) *Fungi of Australia: septoria* [589.2 PRI]
 Read, Cassia and Bernard Slattery (2014) *Mosses of dry forests in south eastern Australia* [588 REA]
 Robinson, Martyn; Thomson, Bruce (2016) *Australian wild-life after dark* [591.994 ROB]
 Slattery, Bernard; Perkins, Ern; Silver, Bronwyn, (2016) *Eucalypts of the Mount Alexander region* [582.16 EUC]
 Smith, Roger, (2015) *The redwoods of the Otway Ranges* [333.75 SMI]
 Swanson, Kerry (2012) *Bacteria, fungi, lichens & plants* [586 SWA]
 Wheelwright, HW; Chisholm, AH (Foreword) (1979) *Bush wanderings of a naturalist* [591.994 WHE]
 Williams SG; Marshall A; Morgan JW (2015) *Land of sweeping plains: managing the native grasslands of south-eastern Australia* [584.9 LAN]

Digital journals

Increasingly, journals and newsletters to which FNCV subscribe are being produced only in an electronic format. This drift to digital delivery can pose a problem for those users who do not have ready access (or familiarity) with digital equipment. To go some way toward addressing this issue, where periodicals held by the library are now received only in digital form (usually in PDF), the Librarian has created a folder with the appropriate name on the desktop of the 'Vic Nat/Library' computer in the FNCV office. To date this includes folders for the following periodicals Newsletters of the FNCV Juniors, the Ballarat FNC, the Mornington Peninsula FNC and Western Australian FNC.

In order to access any of the newsletters, the process is as follows:

- ⇒ Turn on the VicNat/Library computer;
- ⇒ Click on the 'Library' icon, to open the desktop;
- ⇒ Double click on the folder titled 'Newsletters';
- ⇒ Double click on the folder with the title of the desired newsletter;
- ⇒ Double click on the particular issue you wish to read.

The newsletter will open, by default, in the Adobe Reader.

Gary Presland
Honorary Librarian



Marine Research Group News

MRG meeting Monday 10 October, 2016: Dr. Tim O'Hara from Museum Victoria spoke on the Ophiuroid Project (being done in con- junction with Andrew Hugall, Skipton Woolley, Kate Naughton & Lupita Bribiesca- Contreras).

Ophiuroids are brittle stars. They belong to the Echinodermata, as do the asteroids (sea stars), echinoids (sea urchins), holothuroids (sea cucumbers), and crinoids (feather stars). The name 'ophiuroid' is derived from the Greek words *ophis* (meaning snake) and *oura* (meaning tail). Study of ophiuroids is important in order to map their distribution and to understand their evolution, ecology and conservation. Ophiuroids are present in many marine samples from the equator to poles, from the coast to the deepest trenches. There is an abundant microfossil record, even in sediments that are regarded as lacking megafauna. The taxonomy of the group is reasonably well known.

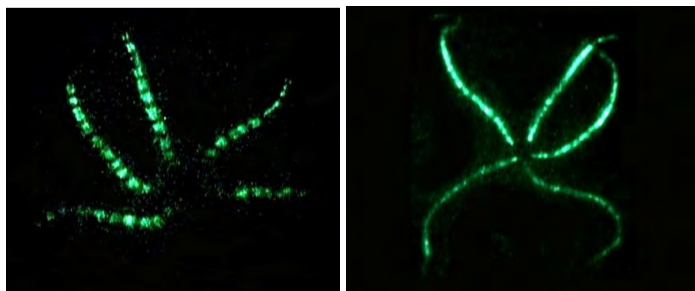
Tim discussed the differences between ophiuroids and asteroids, the former often having longer, more mobile arms with closed ambulacral furrows. The structural components of their aboral (dorsal) and oral (ventral) aspects, were discussed and illustrated.

Ophiuroids are only found in marine waters, ranging from shallow water (intertidal) to the deepest trenches (8135 m), and are found from Antarctica to the tropics. Their benthic habitats include reefs, sand and mud, and many are epizoic.

Feeding mechanisms include suspension feeding, deposit feeding, scavenging and predation. Youtube references showing 'basket star' ophiuroids using their branching arms to capture planktonic organisms (see: <https://www.youtube.com/watch?v=83-FHWS-DUI>) and deep sea ophiuroids fighting over a dead shrimp (see: <https://www.youtube.com/watch?v=Myhp8ifW6ig>) were provided.

Reproductive strategies were discussed, with most species being dioecious and broadcasting spawn into the plankton, although brooding and fissiparity are known. Sexual dimorphism does exist in some species. Hermaphrodites exist and self-fertilisation has been shown for at least one species, *Amphipholis squamata*.

Some species exhibit bioluminescence, including the southern Australian species *Ophioneis schayeri*.



Ophioneis schayeri exhibiting green bioluminescence
(Photos: Jerome Mallefet)

Tim then discussed ophiuroid classification including important morphological characters such as jaws, oral and dental

papillae and oral teeth, illustrating how they differ amongst major ophiuroid families. Morphology-based phylogenies are given in Martynov (2010) and Thuy & Stohr (2011). However, information from emerging genetic studies will result in changes to ophiuroid phylogeny.

Ophiuroids are an 'old' evolutionary group, and are morphologically conservative (morphological stasis). Many 'morphological' species are known through genetic studies to actually be species complexes. For example, *Ophioneis schayeri* is a complex of five species, *Clarkcoma canaliculata* is a complex of four species, and *Clarkcoma bollonsi* is a complex of four species.

Tim then looked at the global biogeography of the Ophiuroidea, giving a global overview the diversity of species and noting that roughly similar numbers of species occur at shelf depths and bathyal depths, but their constituent species are generally different. A reliable biogeography is fundamental to establishing a representative network of marine reserves across the world's oceans. Species richness and phylogenetic diversity is greatest along the tropical upper slope, a habitat not emphasised in marine conservation strategies (see also further reading below). Some key evolutionary questions include: Where and when did the deep-sea fauna originate? What is the relationship between the faunal regions? Does evolution proceed differently in cold or deep environments?

Tim also discussed the new book coming out from CSIRO Press in 2017 entitled 'Australian Echinoderms: Biology, Ecology and Evolution', which will be co-edited by M. Byrne and T. O'Hara and which we look forward to. As an additional item of interest, the recent discovery of living samples of the unusual creature *Dendrogramma* from a deep sea voyage in the Great Australian Bight in late 2015 allowed molecular analysis (done at Museum Victoria) to finally determine where in the animal kingdom it belonged—it is a type of cnidarian called a siphonophore; see: O'Hara et al (2016) and also theconversation.com/solved-mystery-of-the-deep-sea-mushroom-just-raises-new-questions-60180

We thank Tim for an informative presentation and wish him and Museum Victoria well with their ongoing research. Also best wishes for the New Year to all.

Further reading:

- Martynov A (2010). Re-assessment of the classification of the Ophiuroidea (Echinodermata), based on morphological characters. I. General character evaluation and delineation of the families Ophiomyxidae and Ophiacanthidae. *Zootaxa* 2697: 1-154.
- O'Hara TD, Rowden AA, Bax NJ (2011). A southern Hemisphere Bathyal fauna is distributed in latitudinal bands. *Current Biology* 21: 226-230.
- O'Hara TD, Hugall AF, MacIntosh H, Naughton KM, Williams A, Mousalli A (2016). Correspondence: *Dendrogramma* is a siphonophore. *Current Biology* 26: R457-R458 (available online via ResearchGate).
- Stohr S, O'Hara TD, Thuy B (2012). Global diversity of brittle stars (Echinodermata: Ophiuroidea). *PlosOne* 7(3): e31940 (14 pages)
- Thuy B, Stohr S (2011). Lateral arm plate morphology in brittle stars (Echinodermata: Ophiuroidea): new perspectives for ophiuroid micropalaeontology and classification. *Zootaxa* 3013: 1-147.

Platon Vafiadis

FNCV CHRISTMAS PARTY

Once again we enjoyed a wonderful function which enabled club members from all SIGs to meet together and celebrate a great year. Thanks are due to the many who contributed to the evening: Max, Faye and Joan who came early and set up the BBQ and the hall; Andy and many others who brought delicious food; Gary for setting up a slide show of the year's activities; John who capably ran the raffle; and Sue, Philippa and all those who generously donated a host of prizes. Most importantly thanks must go to the many willing volunteers who cleared up, washed and dried dishes, took linen home to wash etc etc. Well done all, it was a true co-operative effort.



Photos and
report:
Joan
Broadberry



Field Nats News 271



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