



*Understanding
Our Natural World*
Est. 1880

Field Nats News No.269

Newsletter of the Field Naturalists Club of Victoria Inc.

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November 2016

From the President

The last month has been a veritable banquet of excellent and informative presentations. Marsupial fossils, protozoa, microscopy of pond water, brittle stars (the splitters have been busy here) and vegetated linear strips were some of the topics covered. To top it all off we had the FSG's Reptiles and Amphibians Seminar which comprised 17 first rate presentations. The FSG team are to be congratulated for an excellent and high calibre event, which has once again show-cased the competencies of the FNCV as an organisation. There have been many new developments in conservation, disease control, taxonomy and environmental management. Attending presentations and seminars is a great way to keep abreast of those advances. Make the effort to attend as many as you can; they are always worth the effort. A detailed report will be in FNN 270.

Hover flies
feed on flow-
ers; the larvae
are not so
innocuous.

Photo:
M. Campbell



You will have noticed that aphids are increasing in numbers at the moment and hover flies, coccinellid beetles and lacewings are appearing to take advantage of the food resource. This is an annual, cyclical event and worthy of closer examination. Hover fly larvae are hatching to feast on aphids as are the other predators. Small wasps will be ovipositing in them as well so the classic, brown, mummy-like aphid bodies will be all over the roses and other garden plants. It is not a good time to be an aphid but most entertaining for naturalists.

Above:
Max Campbell
opening the FSG
Reptile
Symposium.

Photo:
John Harris

The deadline for FNN 270 December/
January 2017 will be **10 am on Tuesday
1st November 2016.**

FNN will go to the printers on the 8th
with collation on Tuesday 15th
November.

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Max Campbell



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.

November

Saturday 29th Tuesday 1st November - Fauna Survey Group. Excursion: *Fauna survey, checking and maintaining nest boxes at Rushworth Forest.* Prior registration essential. Contact: Ray Gibson 0417 861 651

Monday 7th - Australian Natural History Medallion. Dinner 6.30 pm & Presentation at 8 pm.

The 2016 Medallionist is entomologist Max Moulds. Following the presentation he will address the meeting on his study of cicadas. Two course buffet, cost \$22. Please book at the FNCV office by Monday 31st:October—9877 9860; admin@fncv.org.au No need to book if attending the presentation only.

Monday 7th – Fungi Group . No Meeting.

Tuesday 8th - Fauna Survey Group Meeting: *How did the bat cross the road? Evaluating the impact of roads and night-time lighting on bat behavior.* Speaker: Manisha Bhardwaj, PhD Candidate, University of Melbourne.

Contact: Robin Drury 0417 195 148

Monday 14th - Marine Research Group. No Meeting.

Tuesday 15th—Collate FNN. Starting about 10.00 am. Some folk come earlier. Contact Joan Broadberry 9846 1218

Wednesday 16th - Terrestrial Invertebrates Group Meeting:

For details contact Max Campbell 0409 143 538; 9544 0181; mcam7307@bigpond.net.au

Saturday 19th - Fauna Survey Group Excursion: *Reptile survey in Eastern Melbourne Parks.* Prior registration essential.

Contact: David De Angelis 0409 519 829; d.deangelis@latrobe.edu.au

Tuesday 22nd – Day Group Meeting (11. am) *The conservation and Monitoring of Rakali (the Australian Water-rat)*

Speaker: Geoff Williams from the Australian Platypus Conservancy. Meet at 10.30 am for coffee and a chat. Speaker at 11 am.

Contact: Joan Broadberry 9846 1218

Wednesday 23rd – Geology Group Meeting: Melbourne's early industrial environmental legacy.

Speaker: Christian Wallis, Principal Scientist & EPA appointed Auditor (Contaminated Land), Golder Associates Pty Ltd.

Contact Ruth Hoskin 9878 5911; 0425 729 424; rroskin@gmail.com

Thursday 24th – Botany Group Meeting: *Understanding the functional role of rare plants.*

Speaker: John Patykowski. Contact: Sue Bendel 0427 055 071

Friday 25th – Juniors' Group Meeting: 7.30 pm. *Geology.* Speaker: Dr Doug McCann.

Contact: Claire Ferguson 8060 2474; toclairaf@gmail.com

Diary Date:

Sat. 10th Dec.

FNCV Xmas Party

Saturday 26th - Fauna Survey Group Excursion: *An evening survey to look for Leadbeater's Possum, gliders, owls and other nocturnal wildlife.* Contact: Ray Gibson 0417 861 651

Sunday 27th – Botany Group Excursion: *Baroness Bertha, Sniggles, Snaggles, King Kobiolke, Long John Silver, Fireline Beauty & Ada Tree* Tour of the above giant trees round the Powelltown district. Meet at 10 am in car park behind Professionals Real Estate Agents, Yarra Junction. 37°46'55.6"S, 145°36'50.6"E

Contact: Sue Bendel 0427 055 071

Monday 28th - FNCV Council Meeting - 7.30 pm sharp. Agenda items and apologies to Wendy, 9877 9860 or admin@fncv.org.au



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.



FROM THE OFFICE

Thank you to the members who responded to my request for extra hands for the last Field Nats News collation and mailing. We had a great turn-out which made the whole thing very quick and easy. Everyone seemed to have fun judging on the amount of laughter and camaraderie, not to mention the mini-mudcakes for morning tea.

Our members' database is still being worked on to make sure we're making best use of the new features which are now available with the software update. I've started to email all receipts for membership fees, which is saving the Club a lot in postage costs. If you haven't given me your email address, please would you send it to me now?

Send it to admin@fncv.org.au - thank you!

Your renewal notice has been improved with the addition of a box showing which membership category you are currently in, for example "Family" or "Student". This should help you to choose the correct amount to pay. I'm hoping to be emailing all of the renewal notices soon as well, but that's a work in progress currently.

I've had a huge amount of voluntary help from one of our members, Rhys Freeman, with the database functions which he seems to fix like magic! Rhys works on MS Access databases, computer networks, rare fruits, bush foods and energy audits. If you need a specialist in any of these areas, you can contact him on 0409 536 995 or email info@rhysfreeman.com.au or check out his website at www.rhysfreeman.com.au

As there was no September FNCV council meeting, new membership approvals will be held over to October.

Wendy Gare,
Administration Officer

We have enjoyed a wonderfully wet winter and spring. At times we may have grumbled a little but the months of soaking have produced a brilliant wildflower season. I recently spent four days in the Grampians and Black Range area revelling in the extraordinary floral displays. Any low lying area was flooded, (photo below). I was able to find thirty-three species of native orchids. Top left, clockwise: *Caladenia fulva*, *Caladenia versicolor* and a hybrid between *Thelymytra rubra* and *Th. Megcalyptra*, (?).



There is still a lot more of the season to come. The Chocolate lillies were not yet out.

Joan Broadberry



Extracts from SIG reports given at the last FNCV Council Meeting

Fungi Group: The Fungi Group held one meeting this month. This was a members' night, where members showed their photos of fungi, many of which remain a mystery to us when it comes to identification. As one member remarked, we will never run out of fungi to puzzle over. Twelve members and one visitor attended.



Geology Group: Approximately 30 members and visitors attended the August meeting. Our speaker was Dr Peter Jackson, who many know as geology tutor with U3A Nunawading. Peter has many years' experience as a geologist in industry and teaching. The subject of the talk was 'The Geology of North West Tasmania'. NW Tasmania has a long, varied and complicated geological history since the early Neoproterozoic. Its history has been punctuated by periods of intense deformation, particularly in the Cambrian and Mid-Devonian. NW Tasmania is home to many varied types of mineral deposits. Many, such as Mt Lyell, Renison Bell, Zeehan, and Savage River became the economic saviours of the state. On the down side, the environmental consequences of mining these deposits is still with us today. Time and geological processes have combined to create the building blocks of the wonderful landscape of Tasmania; the details are beyond this short report. Finally I would like to thank Peter for presenting this talk. It has given me more to ponder on my next trip to the island.

We also had a short talk on 'Harlequin Stone', a rock formed by metasomatic alteration of carbonates. A colourful decorative stone it is found only in Wallaroo on the York Peninsula in South Australia.



'Woolly Bears' on the Forest Floor

Have you ever been walking along a bush track – especially after rain - and seen lots of small, 1 – 2cm dark brown, hairy, caterpillar-like creatures walking around?

You look closer and find they are not caterpillars but have six legs?? You also find that they are associated with dead gum leaves and in fact, you find they are eating the surfaces of the dead leaves but leaving the veins. The beautiful skeletonised leaves can be seen all around.

The creatures are beetle larvae of the Honeybrown or Brown Darkling Beetle - family Tenebrionidae, *Ecnolagria grandis*,

I took some of the larvae home to keep in a terrarium with bush moss and dead gum leaves and photograph them at my leisure. I intend to grow them up to watch them pupate and turn into beetles. Then I can photograph the adult too. When I first saw these beetle larvae, they were in huge numbers at the LaTrobe Uni Bush Reserve. I was informed that they can stay in the larval stage for many years. I haven't been able to confirm this information, so if anyone can support or contradict this information, I would be grateful. I have observed that when these very common beetles emerge as adults, it is often in very high numbers.

Wendy Clark



Honeybrown Beetle



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is printed on
recycled paper.*

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



Fungi Group

FUNGI GROUP FORAY 12 June 2016 Dom Dom Saddle, Upper Yarra Ranges

Apparently it had snowed on the previous day, but we had a fine, if cold day, and welcomed Dr Tom May (Senior Mycologist at the RBG) to our foray. Torbjorn von Strokirch said that “The area around the Dom Dom Picnic area contains a variety of different environments and therefore different fungal habitats. These range from the wet tree fern gullies to open sclerophyll forest and also a large regrowth area, previously a pine plantation. The recent rain meant the *Mycena* genus was out in force with almost every tree and log having a population. There were also quite a few entomopathogenic fungi (such as *Cordyceps*) and other oddities including *Cymatoderma elegans*, not normally seen in the hills.” The Leathery Goblet *Cymatoderma elegans* is a sturdy leather type fungus with a brown, funnel-shaped cap and brown woody stem. The cap has concentric zones of white, yellow and brown and is vertically ridged, while the shallowly-ridged lower surface is white to cream.

One outstanding feature was the massed displays of three species. The first, the introduced Wrinkled Coral *Clavulina rugose*, was growing in large numbers in the grass under a spruce tree in the car park. All forms of this white coral were present – tall unbranched, sparsely branched, contorted, smooth and wrinkled. We had found these in 2012, but the numbers of fruit-bodies had greatly increased. Later two other somewhat similar species were found, the white single to sparsely branched smooth clubs of White Clubs *Clavulina subrugosa* and the white Spiky Coral *Clavulina coralloides* with crested tips to the branches. In contrast to the introduced *C. rugose*, both these species are always found in native forests. The second, in deep litter among Blackwoods, prickly Currant Bush and Hop Goodenia, was large numbers of the Pale Buff Coral *Ramaria filicicola* (*gracilis*). These typically showed the upright buff branches with pale whitish tips and white rhizomorphs around the woody litter. *Mycena* species were consistently found on the foray, but in particular we were treated to masses of *M. subgalericulata* (the third display) growing on the bark of Alpine Ash (Woollybutt) *Eucalyptus delegatensis*. This is not an unusual substrate, but what was amazing was that fruit-bodies were growing up the full extent of the bark (sometimes to 15 m high). Perhaps this was a result of the welcome rain we have recently had.

Virgil Hubregtse noted that “It was great to be introduced to *Laccaria* sp. D. We should be O.K. with this one now that Tom has explained its characteristics.” At last, the group can now identify one *Laccaria* sp. in the field. *Laccaria* sp. D is large (to 49 mm cap diameter), with an orange-brown cap that has a tiny papilla in the centre while the cap rim is hoary. The gills reddish pink and the stem (to 72 mm long) white and fibrillose (almost silky), basal mycelium white. It is often found in association with planted native trees. CA Grgurinovic had this to say “*Laccaria* sp. D is the most distinct and the rarest of the Australian species of *Laccaria*. Macroscopically the papillate pileus and usually white fibrillose stipe are distinctive. The spores and basidia are larger than

those of any of the other 4-spored taxa. *Laccaria* sp D has mainly been collected from cool temperate rainforest, but is known from outside this habitat” (Larger Fungi of South Australia 1997, p 304).

Tom also confirmed another species that we were not sure about, *Rhizochaete filamentosa* an odd sort of fungus that consists of a flat pale yellow surface, with some thick, strong yellow strands. It is found on wood under bark. Genevieve Gates and David Ratkowsky describe it thus: “This species is most commonly seen as thick yellow strands running along the wood. Sometimes it forms a thin yellow membranous fruit-body (ca 10 cm long).” (*A Field Guide to Tasmanian Fungi*. 2014, p 210). Apparently the hyphal cords turn purplish pink in a KOH solution.



Cordyceps robertsii infected with the white *Cordyceps cranstounii*
Photo: Reiner Richter

One little patch near a roadside provided particular photographic interest. The first find was several fruit-bodies of the Fairy Club *Macrotyphula juncea* growing on *Pomaderris aspera* leaves. The thin whitish head, tan stem and white disc attachment to the leaves were all visible. There was also a massed display of Fairy Clubs in the ladies toilet (Ed didn't see these!).

Then, some sharp eyes found a good example of the dark brown *Cordyceps robertsii*. This was branched (6 branches) and interestingly had the off-white *C. cranstounii* growing on it (photo above). A second fruit-body, also with *C. cranstounii*, had two simple unbranched stalks. J H Willis said “It is worth noting there is some evidence that *C. robertsii* is co-specific with the much larger *C. taylori* – depending on the size (food available) of the host larva, usually an *Oxycanus* sp (Australian Species of the Genus *Cordyceps*. *Muelleria* 1, 1959, p 85). In this instance *C. cranstounii* was infecting *C. robertsii*, but this species does occasionally fruit on its own as a short yellow fertile head, ht to 20 mm with conspicuous ostioles. John Eichler separately found *C. robertsii* at a different site together with the Fawn Vegetable Caterpillar *C. hawkesii* where the sharp demarcation between the stem and the pale fawn fertile head was apparent. Across the main road, on ground under a mature *Acacia melanoxylon*, the sturdy creamy-brown head of a *C. hawkesii* had been damaged at the demarcation of the head and stem. Torbjorn von Strokirch was able to pull the fruit-body and most of the parasitised caterpillar out of the ground, the insect was huge. The host for all these *Cordyceps* is usually *Oxycanus diremptus* larvae (Swift Moth). The larvae of all Hepialidae are concealed

(Continued from page 5)

feeders, and this particular species lives in vertical tunnels in the soil beneath Acacia trees. At night they come to the surface to feed on leaf litter and other detritus. If not parasitised by *Cordyceps* the adults emerge between March and May after pupating in the tunnel. (P Grey & R Barker. 1993. *Cordyceps* or Plant eats Animal! *The Victorian Naturalist* vol 110 (2), p 98ff)



Rossbeevera vittatispora

Photo: John Eichler

Mike Forster on his longer foray found a red *Hygrocybe* sp. It had a red convex cap with a yellow margin and a red stem, slightly yellowing at the base and growing in bare soil. Red *Hygrocybe* species are difficult to separate – *H. miniata* dry scarlet red cap which often fades to pale orange, sometimes felty, especially at centre margin sometimes slightly inrolled and crenulate; stipe concolorous; gills yellowish scarlet to pale pinkish. *H. firma* looks similar, but with pink gills and even cap margin. *H. kandora* is somewhat stouter with a viscid cap (although this is not always obvious). According to A.M. Young, the photo labeled *H. coccinea* in F113 is probably *H. miniata* or *H. kandora*. So there are lots of names to choose from (*Fungi of Australia: Hygrophoraceae*. 2005, p.148).

At lunch John Eichler showed us part of the Fungi Group's new uniform.

John Eichler said that "The truffle with the blue tinges that we saw in the afternoon reminded me of the genus *Rossbeevera* sp. However, its internal structure doesn't look right." We decided to contact Teresa Lebel. (Mycologist RBG) who after seeing the photos said "I agree, that's a very young *Rossbeevera vittatispora*; very few other fungi have this texture, colour and blue staining. The gleba or spore bearing tissue will darken as the spores mature to brown." (photo above). Here is what Teresa wrote in her article "Basidiomata hypogaeal, 10-30 mm diam, irregularly globose, subglobose, or pyriform. Pileus thin, dry, smooth, white to pale greyish to buff with a silky lustre, barely staining

greenish-yellow to greenish-blue or indigo in patches or eventually greenish-blue overall. Hymenophore white then pale tan, maturing to rusty brown or dark brown, firm becoming subgelatinous and rubbery, loculate to labyrinthine, chambers minute, becoming slightly greenish around insect damage. Stipe-columella absent or present as a small, inserted basal pad, 1-3.0 x 1-2.0 mm, white to translucent, sometimes turning blue-green when cut or exposed to air; sometimes a

single white rhizomorph at base. Odour becoming stronger as sporocarp matures, of natural gas or kerosene with hints of fermenting fruit, unpleasant." (Lebel, T.; Orihara, T.; Maekawa, N. 2011. The sequestrate genus *Rossbeevera* T. Lebel & Orihara gen. nov. (Boletaceae) from Australasia and Japan: new species and new combinations. *Fungal Diversity*. 52(1):49-71).

Thanks to all the forayers for hunting and photographing the species we found. Special thanks to Virgil Hubregtse, Reiner Richter and Torbjorn von Strokirch for sending in their contributions to the report. Also thanks to Sue Forster, Mike Forster, Pat Grey, Richard Hartland, Virgil Hubregtse, Bill Leithhead, Reiner Richter and Torbjorn von Strokirch for their contribution of many photographs. Thanks to Virgil Hubregtse for checking the report and species list.

Pat & Ed Grey

FNCV FUNGI GROUP FORAY 19th June 2016 ROYAL BOTANIC GARDENS CRANBOURNE, STRINGYBARK PICNIC AREA

Our first foray to this area revealed a wealth of fungi in the car park and around the paths to picnic areas. Ivan Margitta had this to say "Although I visit these gardens frequently, this foray surprised me by the number of fungi species sighted. The timing with respect to rainfall, or the greater number of eyes (or both) certainly helped."

Interestingly most of the fungi were growing on the ground compared with our earlier forays where wood-inhabiting species dominated. However, the first fungus to attract attention was a small whitish bracket growing on the bark of a Stringybark in the car park. This had large, thick-walled irregular pores, although the upper surface had not developed. Later in the day John Eichler found a more mature specimen in the Manor Gum Track. We were able to identify these to genus level as *Hexagonia*, and later to

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H. vesparia (photo below) by the pale cap becoming zoned brown with age and very large thick-walled pores. There are some 16 species world-wide, and in Australia *H. vesparia* and *H. tenuis* (shallow thin-walled pores) are the most frequently reported (Atlas of Living Australia).



Hexagonia vesparia Photo: John Eichler

Cortinarius species were widespread and common. Those we could identify included the greenish caps and yellow gills of *C. austrovenetus*, the flattened yellow-brown *C. abnormis*, which we are seeing regularly this season, the yellow-orange *C. sinapicolor* with its accompanying thickly slimy cap and stem, and *C. phalaris* with a white patch on the brown cap and a saccate volva at the base of the stem. We frequently saw a small mauve species, a bit like *C. rotundisporus*, only a lot smaller, and not blue or viscid, although it did have a brown-yellow umbo on the cap. A long-dead eucalypt branch showed the life history of *Hypoxylon howeianum* – from tiny young red-brown balls to the mature (to 8 mm diameter) softish red-brown cushions and finally the very old hard black specimens. Interestingly, the ropey, fawn strands of the conidial (asexual) stage were also present on both young and mature fruit-bodies.

Amanita species included *A. farinacea* (photo right) - white cap pointed warts in centre with white veil fragments hanging from the margin and the stem was covered with white mealy fragments while the mealy fragments were seen on the ground below. The following is a description from the web for *A. farinacea* – “Cap to 60 mm in diameter, broadly convex and white. It is initially covered with mealy white veil fragments that remain in ragged fringes hanging from the margins. These gradually fall off in the form of flour-like granules that litter the ground below leaving the cap smooth and silky. Gills are closely spaced and are also white but become pale yellow; white stem is shortish, equal, covered with floury veil fragments and has a rather thick, volva rim at the top of a rounded bulb”. Further information states that Bas placed the present species in his stirps Grossa and felt that *A. farinacea* might be a synonym of *A. ananiceps* (Berk.) Sacc. He could find no microscopic difference between the two taxa. Indeed, all but one specimen of the type of *A. ananiceps* has a distribution of volval material on a smooth (nonaereolate) pileus that is quite reminiscent of *A. farinacea*. Because the former species’ original description lacks description of colors and because the bulb of the latter is badly damaged in its type, Bas hesitated to propose synonymy of the two names. It is not clear to me whether Cleland, Gilbert,

Wood, etc. have redescribed the same species.—R. E. Tulloss (from the web).

In the litter under the Stringybark/Tea-tree overstorey were numerous very small unidentifiable *Marasmius* spp. throughout the area. One type was a brown orange-capped species (cap diam to 8 mm) with a fairly short (length to 10 mm) dark horse hair stem and white moderately-distant gills, to which we propose to give the field name *Marasmius* sp. ‘orange-cap/horsehair stem’. The other type was white-capped with a horse hair stem. One outstanding find was the bright lemon-yellow bracket form of an *Antrodiella citrea*. This protruded to 20 mm and the white lower surface had typically small pores. This species occurs both in a resupinate form as well as the bracket form of our specimen (*A Field Guide to Tasmanian Fungi*. 2014. by Genevieve Gates and David Ratkowsky, p. 203).

Other interesting finds included a huge bolete whose cap diameter measured 110 cm and was brown with cracked surface, but seemed to have red tinge. The deep brown-yellow stem was thick and stubby (60 cm long x 30 cm wide) and the pale pores immediately stained blue. One forayer spotted a fine example of *Resupinatus cinerascens*. Virgil Hubregtse had this to say “one form was flat on the twig, the other was angled out, the cap was



Amanita farinacea Photo Torbjorn von Stokirch

very dark grey but lighter at margin, clothed with a hoary tomentum that becomes less obvious when mature. It was shaped rather like half a bell”. Sue Forster found some very dark small discs with a hint of green on the bark of a dead branch. The discs were firm to touch, to 10 mm across and dotted with dark ostioles, inside they were white. Ivan Margitta photographed it and thought that it might be *Bulgariella pulla* but this is what PI Thompson had to say:- apothecia consists of gelatinous dark green to blackish hymenium when fresh, and exteriors which are concolorous. They grow individually and gregariously without stalks. Size up to 3 mm diameter (2013. *Ascomycetes in Colour*, Xlibris publishing, UK). Therefore, it is not *B. pulla* which is a much smaller species. Thompson does not mention the ostioles or white colour of the inside. These characters are suggestive of an *Hypoxylon* sp.

Slime moulds were abundant and Ian and Torbjorn photographed a number of them. Unfortunately we could not name them (except the white, Snow-flake *Ceratiomyxa fruticulosa*)!

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Thanks to all the forayers for hunting and photographing the species we found. Special thanks to Virgil Hubregtse and Ivan Margitta for sending in their contributions to the report. Thanks to Ian Bell, John Eichler, Sue Forster, Pat Grey, Ivan Margitta and Torbjorn von Strokirch for their contribution of many photographs. Thanks to Virgil Hubregtse for checking the report and species list.

Pat and Ed Grey

FUNGI GROUP FORAY

26th June 2016

BLACKWOOD, JACK CANN RESERVE

After a fall of snow on Friday, the sun shone on a frosty morning for our foray in the Wombat Forest at Blackwood this year. As often happens on fungi forays, we did not leave the car park before we saw some fungi species. Reiner had found some cup fungi *Peziza vesiculosa* on a large piece of half rotten bark. The fruit-bodies are smooth, gelatinous, light brown cups about 16mm across. The older, larger cups were more oblong with inrolled margins. Virgil Hubregtse showed us a specimen of an exotic *Russula integra* that had been up-ended under some pine trees. The 50mm shiny cap was a purplish-brown. The gills were yellowish and the stem whitish.

We headed south from the garden of St Erth carpark. The Fly Agaric and Slippery Jacks near some pine trees added to the list of exotic species seen. The Green Skinhead *Cortinarius austrovenetus* was one of the first endemic species seen. Other *Cortinarius* seen on the way to the Whipstick track were the Slimy Yellow *Cortinarius sinapicolor*, the very dark brown *Cortinarius clelandii*, the Emperor Cort *Cortinarius archeri* and the red *Cortinarius erythrocephalus*. The last species is smaller than the more robust *Cortinarius persplendidus* but has a similar colour for the cap and gills. There were other brown *Cortinarius* that we could not give a species name.

The grey conical-capped *Mycena austrofilopes* was the first *Mycena* species seen. Also seen was the larger *Mycena vinacea* with mauve cap with a darker umbo and purplish stem. On an old Messmate were some *Mycena epipterygia* with bright yellow sticky stems. The dainty blue Pixies Parasols *Mycena interrupta* were seen in several spots in small numbers. After some looking we found some fruit bodies of the white-spotted black-capped *Mycena nargan* on the underside of a log where it had been seen on previous years. The white spots were on all fruit bodies including the larger conical caps of a mature specimen. *Mycena nargan* is the only fungi species I know that has an aboriginal word, except a place name, for its species name. John Walter, writing on *Mycenas* in the Wombat forest in the June 2016 edition of the Wombat Forestcare newsletter, has several different ideas about what the word *nargan* means.

Several members of our group decided to look along the Great Dividing Trail lower down the hill along Back Creek. The Burgundy Wood *Tubaria rufofulva* with its wine red caps, gill and stem was seen here. Along this trail I also noticed two *Amauroderma rude* fruit bodies. I have seen plenty of old

black specimens of this species this year, but these fresh fruit bodies still had the white under surface that stained blood red when marked. There were colourful displays of the Rainbow Fungus *Trametes versicolor* on sloping trunks of small trees. Under an old log were masses of the tiny orange-brown caps of *Xeromphalina leonina*.

Back on the Whipstick track near the fenced off mine shaft, there was a large group of the Purple Jelly fungus *Ascocoryne sarcoides*. All along both sides of a dead stick from a Daisy Bush *Olearia sp.* were clumps of purple gelatinous discs. Nearby a group of puffballs *Lycoperdon perlatum* were seen on a bank. The bright yellow discs of *Bisporella citrina* on wood and the flat yellow discs of *Discinella terrestris* on soil were also seen. Several coral fungi were seen on the foray. First was *Clavulinopsis amoena* with bright yellow coral clubs up to 75mm tall. On a small log under a large fallen trunk was *Artomyces colensoi*. The small delicate fawn branches on this coral were only about 25mm tall.

Ed Grey added – “Reiner was good enough to photograph this tiny Horsehair Marasmius *Marasmius crinisequi* (no more than 1mm diameter). Seen at this site last year as well, it shows the early development stage of this fungus. Note the enormous pimple compared to the cap size.”

After lunch we first had a look along a track toward some pine trees above the upper car park. Another exotic species, the Saffron Milk Cap *Lactarius deliciosus* was present with a few fruit bodies. Under some pine trees there was a seven metre wide ring of Slippery Jacks *Suillus granulatus*. Some of the fruit bodies were up to 200mm across. I wonder how many years it takes for a fungus to form a ring of this size. On a fallen pine log was a small Artists Conk *Ganoderma australe*. Under a large pine tree were the golden-brown caps of the Spectacular Rustgill *Gymnopilus junonius*.

Along and above the Heritage track there were several groups of the yellow coral *Ramaria capitata var capitata*. The tips on the branches of this coral are rounded. One patch had only just erupted from the soil. It was only about 15mm tall. We added



Cortinarius austrocinnabarinus Photo: Torbjorn von Strokirch

(Continued on page 12)



Fauna Survey Group

Checking Nestboxes

The FSG headed to Long Forest Nature Conservation Reserve and Djerriwarrh Reservoir to check nestboxes on the 13th of August. Eleven members attended, including some new faces which is always good. This enabled the group to be divided into two teams, with one team checking the boxes in the Long Forest NCR (Djerriwarrh and Coimadi blocks) and the other team checking the boxes within the grounds of the reservoir. The Long Forest boxes had been checked pre-

viously in February 2015, but those in the reservoir hadn't been checked since they were installed several years ago.

Of the 19 boxes in the Long Forest blocks, only two boxes had animals in them. One box had a pair of Sugar Gliders *Petaurus breviceps* and another box had two Lesser Long-eared Bats *Nyctophilus geoffroyi*. While this was lower numbers of gliders

than last year, what was pleasing to note was the presence of Brush-tailed Phascogale *Phascogale tapoatafa tapoatafa* scats in one of the boxes.

The 40 boxes in the reservoir were a different story with 21 boxes having Sugar Gliders in them, totalling 70 animals at least. It is difficult to get an accurate count when the gliders are "packed" into the box, so the 70 could possibly be an underestimate. The first photo shows one of the boxes, with at least nine



gliders in it. There were also signs of at least two boxes being used by phascogales, with their distinctive scats, as shown in the second photo. Also of interest was a box that had no hole in it, (how did that happen?) but where the lid had warped to form a small gap, was full of an abandoned feral honey bee hive.

It was very pleasing to see these boxes, that were purchased with the help on an FNCV Envirofund Grant, being used by our native fauna. The hope for the next trip is to find a phascogale in one, which was the ultimate reason the boxes were put up in the first place.

John Harris



The capture and handling of all animals on FNCV field trips is done strictly in accordance with the Club's research permits.

Friends of Royal Botanic Gardens Cranbourne Spring Plant Sale

Plant sale dates: Saturday and Sunday 22nd and 23rd October, 2016

Times: 10:00 am – 4:00 pm on both days

A wide range of Australian plants in tubes and larger pots will be for sale – priced from \$3.

Advertising in the Field Nats News

VERY REASONABLE RATES

Contact Wendy in the Field Nats Office

admin@fncv.org.au

9877 9860

(Mon –Tues 9.30–4)

If you find injured wildlife:
Wildlife Victoria

1300 094 535

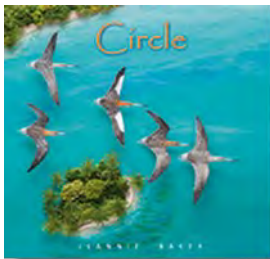
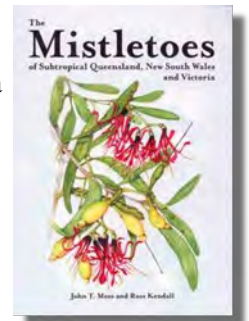
or contact your local vet or
nearest wildlife shelter
**PUT THIS NUMBER IN
YOUR PHONE NOW**

**Ps. The help for wildlife number
we advertised previously is not
longer operating**

NEWS FROM THE BOOKSHOP (November 2016)

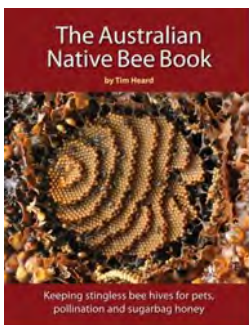
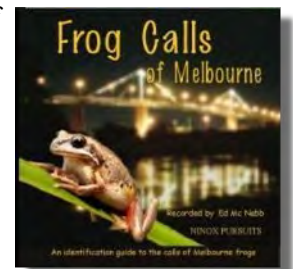
Two of the titles presented this month are associated with the recent FNCV 'Reptiles & Amphibians of Victoria' seminar. Once again copies of the CD on frog calls of Melbourne are available to members, while the topic of reptiles in captivity is new to the bookshop. *A Guide to Frogs in Captivity* is one of 5 titles that have recently been added to the bookshop specifically for the seminar and to see if there is any interest from the members. A new and interesting book on Mistletoes has been released with copies available on the shelf that is worth a look, along with a book all about our native bees and how to harness them for pollination instead of the introduced honey bee. The popular weed book has been updated and copies of the third edition are available. To order or inquire about a book, please send me an email to, bookshop@fncv.org.au and I will reply as soon as I can. If you don't have access to email, the FNCV office will forward your message. Happy reading! **Kathy Himbeck**

***The Mistletoes of Subtropical Queensland, New South Wales & Victoria* (J. Moss & R. Kendall)** is both a reference book and field guide to all 46 species of mistletoe known to occur in subtropical Qld, NSW & Vic. The book provides a detailed introduction to mistletoes, their biology and current information on the roles they play in various ecosystems. Each species is illustrated by colour photographs supported by detailed plant descriptions, information on habitat and host plants. It also provides details of the 24 butterfly and 3 moth species that use various mistletoes as hosts. (PB, 134 pp., 2016) RRP \$30.00 Members \$25.00



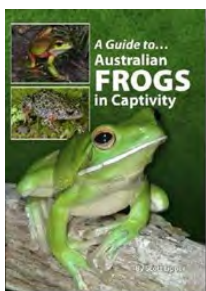
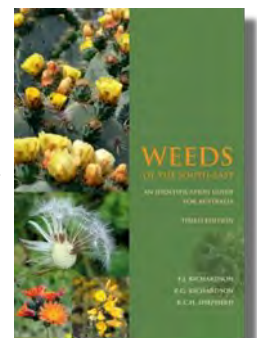
***Circle* (J. Baker)** is a lusciously illustrated children's book about the tiny Bar-tailed Godwit and their 11,000km migratory flight, flying invisible pathways from Alaska, across the Pacific Ocean to Australia or New Zealand. These little known birds face hunger and treacherous conditions to reach their destination, their flight is one of bravery, tenacity and strength. The mixed media collages are inspired by the spectacular landscapes of Alaska and China and will take readers on an extraordinary visual journey to the corners of our Earth. (HB, 48 pp., June 2016) RRP \$27.99 Members \$22

***Frog Calls of Melbourne* (E. McNabb)** is an identification guide to the advertisement calls of frogs of Melbourne. The CD contains samples of the calls of the 16 species of frogs that have been recorded in the Port Phillip and Westernport catchment area including the introduced Eastern Dwarf Tree Frog. Many species are represented with a sample of the chorus as well as the call of an individual. (CD, 232 pp., August 2016) RRP \$27.50 Members \$25.00



***The Australian Native Bee Book* (T. Heard)** is a complete guide to native stingless bees, written by Australia's foremost expert. This comprehensive guide also covers bee biology, behaviour, nesting, social life and foraging; how to build a native bee hive; how to transfer a bee colony to a hive box and propagate hives; all about sugarbag honey, including how to extract it from hives, hive management; identifying and dealing with pests; using stingless bees for pollination. It includes a complete list of Australia's stingless bee species and how to identify them. The book was recently awarded the 2016 Whitley Award Commendation for Practical Zoology. (PB, 256 pp., 2016) RRP \$35.00, Members \$27.00

***Weeds of the south-east: an identification guide for Australia* (Richardson, Richardson & Shepherd)** is the third edition of this popular title and has been fully updated and re-organised to recognise recent taxonomic changes. It also includes additional species, many new photographs and the latest distribution information. Written in easy-to-understand language and beautifully illustrated, this is a field guide for anyone interested in the identification of pest plants and the preservation of our native flora. Covers weeds of agriculture, bushland, waterways, gardens, roadsides, wasteland and amenity areas. (PB, 522pp., August 2016) RRP \$79.95 Members \$64.00



***A Guide to Australian Frogs in Captivity* (S. Eipper)** provides detailed information on all aspects of captive husbandry relating to the most commonly kept species of Australian frogs. The 175 full colour images support information on general management including pet qualities, social behaviour & habits, selection, handling, transportation, housing, feeding, breeding and tadpole requirements. Included is an essential overview of health and diseases presented by Dr R. Johnson. (PB, 152 pp., 2012) RRP \$55.00, Members \$42.50



Marine Research Group News

MRG meeting Monday 12 September, 2016: Michela Mitchell, Anemone taxonomist and PhD Student, Monash University, spoke on the topic: "With fronds like these who needs anemones?": venoms are your friend.

Definitions—venom versus poison: a venom is injected (eg. poisonous snake bite), a poison is absorbed or digested (eg. frogs with toxins in their skin causing harm to predators who ingest them). The active components of venoms are toxic proteins.

Evolution of venomous animals: 730 million years ago (mya) venoms appeared in the cnidae of jellyfish and sea anemones; 430 mya venoms began to be delivered via stinging mechanisms (as in scorpions and centipedes); 380-360 mya, fangs or beaks appeared (as in spiders and poisonous octopuses, respectively); 140-160 mya saw more refined fangs (as in snakes); 100-60 mya saw the appearance of venom spurs (as in the platypus).

Venom delivery strategy – sea anemones: True sea anemones (Cnidaria: Actiniaria) use venom through cnidae to capture prey to feed, and also in defence and intra-species aggression (species of *Actinia* can defend their patch of substrate aggressively against other encroaching *Actinia*).

Venom delivery strategy – cone snails: Cone snails hunt worms, other molluscs or fish, using a toxin-loaded, arrow-like radular tooth shot into the prey ('hook and line' method), or via a wide expansion of the mouth to engulf prey (the 'net' method), which is subsequently 'harpooned' within the mouth. They can also release toxins in the water in the vicinity of their prey. Research in 2014 showed that *Conus geographus* (a 'net' method feeder), uses a form of insulin to stun its prey.

What effects do these venoms have in humans? Venom effects vary from mild (eg. skin rashes from *Edwardsia* 'sea lice' larvae) to severe (eg. severe pain, metabolic failure and potential death from the 'hell's fire anemone' *Actinodendron plumosum*; severe pain, welts and potential death from the box jellyfish *Chironex fleckeri*).

Use of venoms in medical research: Michela discussed the role that venoms have played in the discovery of anaphylaxis by Charles Richet, who won the Nobel Prize in Physiology or Medicine in 1913 for his work in this field. He used diluted venoms from *Physalia* and then from the anemones *Actinia equina* and *Anemonia sulcata* to demonstrate sensitisation in dogs over time.

Venoms that are immunogenic can also be used in low doses to raise antibodies against them which can subsequently be collected and used as antivenoms (or antivenenes) to treat acute envenomation. Michela briefly outlined some of the milestones in the history of antivenom research in Australia.

Michela then presented a number of pharmaceutical drugs derived from venom peptides, including the antihypertensive agent captopril (derived from the pit viper *Bothrops jararaca* and approved in 1981) and the antidiabetic agent exenatide

approved in 2005).

Following this was a brief discussion of the structure of the toxic peptide Delta-actitoxin-Avd1c 1 (a sodium channel blocker) from the sea anemone *Anemonia viridis*, before Michela moved to the focus of her current PhD studies:

Case study - toxin composition in the tentacles of the Australian cold temperate sea anemone, *Oulactis* sp.

Background: Sea anemones have proven potential for pharmaceutical use, with a protein discovered in 1995 from the species *Stichodactyla helianthus* currently in therapeutic trials for autoimmune diseases.

Australian anemones have been overlooked in venom studies in terms of searching for bioactive molecules with therapeutic potential, and also for inclusion in toxin evolution studies.

Study aim: To identify the toxin composition within tissues in the endemic Australian sea anemone *Oulactis* sp. (which she must also describe) and to establish a library of peptides for function, structure and toxin evolution studies.

Study species: *Oulactis* sp. (SA—central Vic); *Oulactis muscosa* (central Vic— southern Qld).

Methods: transcriptome analysis, peptide protein analysis and also toxin distribution analysis in different tissues of the anemone (eg. tentacles, column, acorngagi, actinopharynx, mesenterial filaments).

Mass spectral studies of discrete tissues has shown some common but also some varying toxins between the different tissue types.

Summary & future directions: This work has provided:
a/. The first transcriptome of an endemic Australian species – *Oulactis* sp. and
b/. identified novel sequences representing 7 toxin families.

It aims to: synthesise / recombinantly express selected toxin sequences for structure and function studies; to further explore toxin distribution in remaining tissue regions of *Oulactis* sp.; and to compare these novel toxins with other Australian and northern hemisphere anemone species.

We thank Michela for her very interesting work and talk, and wish her well with her studies. She has also kindly made available her powerpoint presentation to assist with the compilation of this report.

Further reading / viewing:

Video of Irukandji jellyfish firing cnidae (Tropical Australian Stinger Research Unit of James Cook University): https://www.youtube.com/watch?v=6zJiBc_N1Zk

Nobel Prize lecture of 1913 by Charles Richet: http://www.nobelprize.org/nobel_prizes/medicine/laureates/1913/richet-lecture.html

Ruppert EE, Barnes RD (1994). *Invertebrate Zoology* 6th Edition. Saunders College Publishing

Platon Vafiadis

(Continued from page 8)

another *Cortinar* to our list with the Australian White Webcap *Cortinarius austroalbidus*. We could not smell the curry odour that drier specimens of this species have.

More *Cortinars* species were found along the Great Dividing Trail below the Lerderderg river road. There was the *Cortinarius austrocinnabarinus* (photo p8) with its orange-red cap and rusty brown gills. A *Cortinar* that had us puzzled was one that had a dry yellow 75mm cap and brown spores covered the ring on its stem like the one seen on *C. australiensis*. Nearby were some Elegant Blue Webcaps *Cortinarius rotundisporus*. These have a bluish glutinous cap with a yellow centre. We saw several other *Cortinars* with colours from pale mauve to deep violet. One was the dark purple *Cortinarius sp. aff. violaceus*. Another *Cortinar* had a mauve 40mm cap and stem. Several *Tricholoma* species were seen on the foray. One was the pinkish-buff *Tricholoma eucalypticum* which formed clumps of overlapping caps. Among the thick piles of bark at the foot of two old Manna Gums were the caps of *Leucopaxillus eucalyptorum*. A scratch among the bark revealed masses of white mycelium associated with this species.

Other interesting species included the Cannonball Fungus *Sphaerobolus stellatus* (photo right) This was a new species for me. The tiny 1.5mm star-shaped fruiting bodies have a remarkable spore dispersal mechanism. At maturity one 1.0 mm peridiole containing the spores is shot out up to five metres from the cannon-shaped fruiting body. A blue-green stain on some rotting wood suggested the presence of the fungus *Chlorociboria aeruginascens*, but we could not find any discs of the fungus. There were numerous other species seen but not mentioned in this report, so we had a good foray again at Blackwood this year.

Thanks to all the forayers for hunting and photographing the species we found. Thanks to Ian Bell, Carol Page, Reiner Richter and Torbjorn von Strokirch for their contribution of many photographs. Thanks to Virgil Hubregtse for checking the report and species list.

Pat & Ed Grey



Sphaerobolus stellatus

Photo: Reiner Richter

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