Field Nats News No.258

Newsletter of the Field Naturalists Club of Victoria Inc.
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Understanding Our Natural World
Est. 1880

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Founding editor: Dr Noel Schleiger

Reg. No. A0033611X

Office Hours: Monday and Tuesday 9.30 am - 4 pm.

November 2015

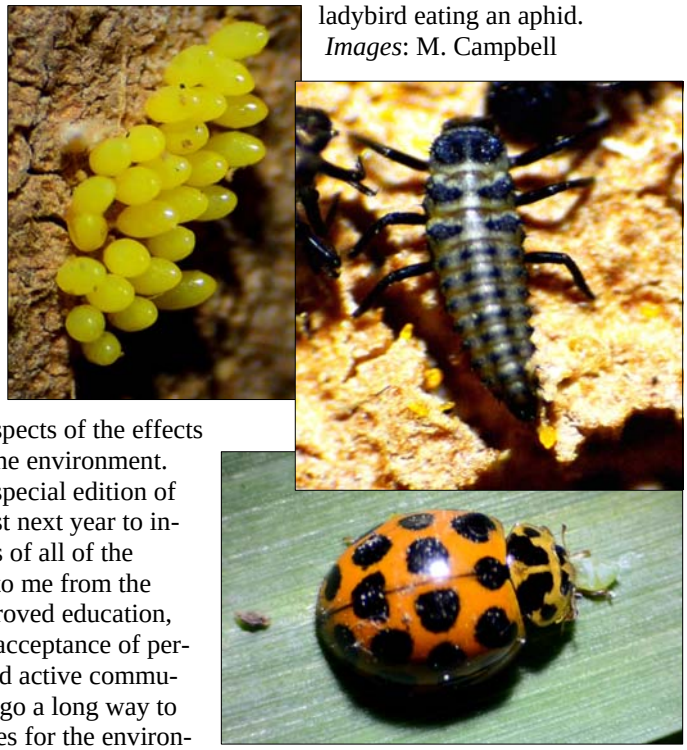
From the President

Biodiversium Symposium

From all accounts the Symposium was very well received and there was a lot of positive feedback from both the speakers and the delegates. The sixteen speakers all delivered excellent and challenging presentations on various aspects of the effects of human activity on the environment. We hope to publish a special edition of the Victorian Naturalist next year to include the contributions of all of the speakers. It was clear to me from the presentations that improved education, public awareness, the acceptance of personal responsibility and active community involvement may go a long way to improving the outcomes for the environment and for us as a species. The way we choose to live and the decisions we make as consumers clearly impact at many levels. There were some positive themes but the overall message was cautionary and the facts presented are cause for concern if not alarm.

I am thinking about next year's symposium and would appreciate any ideas for the next theme. The symposium is an excellent forum for presenting current and topical subjects to the membership of FNCV and the interested public. It is important to have presentations from both FNCV members and external experts. It also provides a venue for showcasing the professionalism and skills of our organisation.

The Symposium was only possible because of teamwork and the contribution of many people. In particular I would like to thank and acknowledge the contribution made by Su Dempsey, Wendy Gare, Philippa Burgess, Barbara Burns, Kerryn Dempsey, Peter Dempsey, Alex Sterpin, Andy Brentnall, Sue Bendel, John Harris, Ruth Hoskin, Kathy Himbeck, June Anton and Faye Campbell.



Clockwise— Ladybird's eggs, freshly emerged Laydbird lavae, ladybird eating an aphid.
Images: M. Campbell

Biological control in the garden

The aphids in my garden are suffering the depredations of parasitic wasps, ladybird beetles, brown lacewings and hover flies. All of this is a good reason to avoid the use of pesticides in the garden to avoid killing the beneficial organisms. Tiny braconid wasps lay their eggs in aphids which become bloated and brown as the larvae eat them from inside. The "puffed" brown aphid bodies can be seen all over the leaves of the plants on which the aphids are feeding. Some have circular holes in them; escape hatches for the adult wasps as they break out. The bodies often bear a small puncture mark where the ovipositor of the wasp delivered its fatal wound. The ladybird beetles can be seen to virtually "hoover up" the aphids as they pass over them with their mandibles and palps vibrating as they go. The larval beetles also consume large numbers of aphids from the time they hatch.

The brown lacewings lay their eggs close to the groups of aphids and the larvae are extraordinarily aggressive in their predation. The speed with which the aphids cease to move after the young lacewing inserts its mandibles suggests to me that there may be a venom involved. I have observed hundreds of such attacks over the years.

Maxwell Campbell

The deadline for the December/January 2016 issue of Field Nats News will be **10 am on Tuesday 3rd November** FNN will go to the printers on Tuesday 10th with collation on 17th.

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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.

November

Saturday 31st October—Tuesday 3rd November. ***Fauna Survey Group, excursion.*** There has been a change from the advertised location for the FSG Melbourne Cup weekend. The trip will now be to private property at Minimay, approx. 10km south of the Little Desert NP. Minimay is approx. 400km west of Melbourne, via Horsham. **Prior registration is essential!** Contact John Harris - 0409090955 for more information.

Monday 2nd – Fungi Group. No Meeting.

Friday 6th to Sunday 8th – Juniors' Group—Excursion: ***Camp Cormorant, Paynesville.***
Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

Monday 9th - Marine Research Group. No meeting due to Australian Natural History Medallion.

Monday 9th - Australian Natural History Medallion—*Dinner & Presentation.* Congratulations to the 2015 Medallionist, Margaret MacDonald OAM. Reception, 6.30 pm two-course buffet, cost $22. Please book through the FNCV office by 23rd October. Presentation 8 pm., booking not necessary. Following the presentation Margaret will speak on. ***"Terrestrial orchids and the beauty of the Anglesea district, including the O'Donohue Heathlands."*** All welcome. Invitation FNN 257 page 12.

Tuesday 10th - Fauna Survey Group—Meeting: ***Animal encounters around the world.*** Speaker: Dr Maria Gibson, Deakin University. Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

Saturday 14th – Fauna Survey Group—-Excursion: ***Reptile Survey in the parks of Eastern Melbourne.***
Contact: Robin Drury 0417 195 148; robindrury6@gmail.com

Monday 16th - FNCV Council Meeting - 7.30 pm sharp. Agenda items and apologies to Wendy, 98779860 or admin@fncv.org.au **NOTE EARLIER DATE.**

Tuesday 17th—Collate FNN. Starting about 10.00 am. All welcome. Contact Joan Broadberry 9846 1218

Wednesday 18th - Terrestrial Invertebrates Group—Meeting: Advertised speaker unavailable. This will now be a members' night. Bring along photos, videos and specimens for identification. Max Campbell will present an overview of the Arthropods. Contact: Max Campbell 0409 143 538; 9544 0181 AH; mcam7307@bigpond.net.au

Thursday 19th – Botany Group—Meeting: Speaker: To be advised. Contact: Sue Bendel 0427 055 071

Tuesday 24th – Day Group—Meeting: ***Down the Cooper toLake Eyre*** Adventure with Maria down Coopers Creek to Lake Eyre. Speaker: Maria Gibson. Meet at 10. 30 am for coffee and a chat. Speaker at 11 am**.** Contact: Joan Broadberry 98461218

Wednesday 25th – Geology Group—Meeting: ***Paleo-ecology, poo and people: A study of a small South Pacific Island.*** Speaker: Tessa Smith, Honours Degree in Science 2014, Monash University. Contact: Ruth Hoskin 9878 5911; 0425 729 424; rrhoskin@gmail.com or Ruth Robertson 9386 5521; rutherob@hotmail.com

Diary Date:
FNCV Christmas Party, Saturday 12th Dec.

Friday 27th – Juniors' Group—Meeting 7.30 pm: ***Our Native Wildlife and Us.*** Speaker: Adriana Simmonds, Wildlife Carer from *Human Seeds*. Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

Saturday 28th – 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

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

Members' news, photos & observations

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

Welcome

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

Rish Benda, Bradley Hewitt, Samuel Hewitt, Maree Kennedy, Charlotte Friede, Naomi Friede, Bridget Friede, Alan Friede, Arimbi Winoto, Rose Simkin, Amber Simkin, Paul Simkin, Craig Lawton, James Lawton, Kate Milkins, Irene Cassettari, Richard Boon, Roslyn Savo, Faye Chapman, Andrew McCutcheon.

VALE, DICK SOUTHCOMBE

Dear SEANA Members. It is with great sadness that I must report that Dick Southcombe passed away early Monday morning, 14th September 2015.

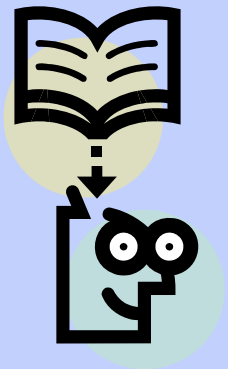
Dick had contributed an enormous amount to the South Eastern Australia Naturalists Association, (SEANA), its predecessor association the VFNCA and to the Australian Naturalists Network (ANN) over many years. He served continuously on the management committee of VFNCA/SEANA for over fifteen years and held the office of president for much of that time, including the years 1997-1999, 2002-2005 and 2010. He was a passionate advocate for the study and protection of our natural environment. Dick's efforts in initiating the concept of an Australian Naturalists Network and serving as its coordinator from its inception were outstanding. He was awarded the Medal of the Order of Australia (OAM) in 2004 for service to conservation and the environment.

Dick was also a highly-respected and admired leader of the Geelong Field Naturalists Club for many years, being president for five years and being awarded a Life Membership in 2007. His drive and enthusiasm were behind many of the achievements of the GFNC, including a number of memorable SEANA campouts.

Dick had been unwell for some time and a recent deterioration in his health saw him moved into care at Grace McKellar late last week. His family were able to visit him over the weekend. We have passed on the condolences and sympathy of the GFNC and SEANA members to Shirley and the Southcombe family.

Deborah Evans, SEANA President

bookshop@fncv.org.au



It is almost that time of year again, where sharing gifts and thinking of others almost takes over our lives. Books are a great gift for Christmas, birthdays and to be honest for no reason at all. The FNCV Bookshop also offers gift vouchers if choosing from the extensive collection is too daunting. We have a wide range of titles covering a variety of topics in stock, but if the book you are after is not on the shelf, send me an email and I will endeavour to order it in for you— just let me have a little time.

Our titles include two children's books that are based locally, *Josh Saves Joe-Joe* and *Larry the Lorikeet of Blackburn Lake Sanctuary.* Sales of both help to support worthwhile community groups. There are books on mammals, birds, reptiles, plants, insects or all kinds, fish, sponges, trees, mistletoes, fungi and mosses to name just a few. There are titles that provide an insight into various parts of Victoria and books looking at what Australia was like many years ago. You can learn about camera trapping, how to manage grasslands, animal reintroductions, restoring wetlands and how to improve biodiversity on farms and your backyard. A wide range of books that have been heavily discounted are still available, but get in quickly because these bargains are only available while stocks last.

Have a look at the latest bookshop catalogue on the FNCV website or come into the club rooms and browse the books on the shelves, (you will find a paper copy of the catalogue there). Please send me an email, bookshop@fncv.org.au or fill in an order form (available on the website), and email it or post it to: FNCV Bookshop, P.O. Box 13, Blackburn 3130. Remember purchasing a book through the FNCV is also fundraising for the club. I look forward to receiving all your orders.

Happy reading, Kathy

Fungi Group

FNCV FUNGI GROUP FORAY
14th June 2015
MORTIMER RESERVE, BUNYIP STATE PARK
Riparian Forest and Scrubby Foothill Forest.

We were pleased to welcome to our group Kim and Gerard, Sharon of lichen fame and Sapphire of Fungimap fame. As always we started slowly along the bank leading down to the picnic area. Here interest was sparked by a group of *Cortinarius austrovenetus (Dermocybe austroveneta*) whose caps ranged in colour from green to almost black (evidence of the cold?). Our first puzzling fungi, and we hadn't even got out of the car park, had a large (to 100 mm diameter) brownish cap, gills slightly sinuate, moderately close cream gills, some spotted brown, and a white stem covered in brown fibrils. The spore print showed white on lower caps. After a home study, Virgil Hubregtse determined that it was *Tricholoma eucalypticum* (we were fooled by this one again!). Janet McClean spotted a black earth tongue with a smooth, rather viscid top *Glutinoglossum glutinosum* (formerly *Geoglossum glutinosum*) (photo right), in the picnic ground, just down from the cars. Jurrie Hubregtse had this to say about new research: "Recent phylogenetic analysis puts the genera *Geoglossum*, *Glutinoglossum*, *Nothomitra*, *Sabuloglossum*, *Sarcoleotia* and *Trichoglossum* into the family Geoglossaceae, (Hustad et al. 2013) while Species Fungorum (http://www.indexfungorum.org) does not recognise *Nothomitra* but still has *Microglossum* in Geoglossaceae. Ref. Hustad VP, Miller AN, Dentinger BTM, Cannonn PF (2013) Generic circumscriptions in Geoglossomycetes. Persoonia Vol. 31, pp. 101-111." From *Fungi in Australia* by Jurrie Hubregtse (in prep.). Earth tongues "*Glossums*" (tongues) have been divided into three main genera: *Microglossum* (small tongue), *Geoglossum* (earthtongue) and *Trichoglossum* (hairy tongue). *Microglossum* fruit-bodies are more coloured, tending to green or a greenish hue (see B. Fuhrer A field guide to Australian fungi, 2011, no. 510), than *Geoglossum* or *Trichoglossum* which have black/dark brown fruit-bodies. They are all recognised by their club-like shape. In the field *Trichoglossum* can be distinguished from *Geoglossum* by the minute hairs (setae, brown lance-shaped cells) that protrude from the surface of the fruit-body giving it a finely bristly texture. *Geoglossum* species have no (hairs) setae in the fertile head or stem and the texture varies from smooth to viscid or only slightly velvety. The fruit-body is club-shaped to spatulate with a fertile, flattened head, often twisted and grooved, that can be distinct from the stalk or merge into it without a sharp differentiation.

Further on, around the three tall *Eucalyptus viminalis* at the start of the picnic area, were numbers of the Wood Blewit *Lepista nuda* where we have seen them on most forays. When young it has an intense mauve or violet cap, gills and stem, but as it matures the cap darkens to brown from the centre and the gills become browner, while the stem does change in colour it always retains some violet. In the moss were three tiny species: a brown-capped *Conocybe filaris* easily distinguished by the large pleated ring on the stem; the tiny, bright yellow/orange Little Pin *Rickenella fibula* and, nearby, a single, seldom seen, *Rickenella swartzii* (*setipes*) (*photo below)* which Jurrie Hubregtse researched when

Glutinoglossum glutinosum
Photo: Eileen Laidlaw

we first saw it at the 2013 foray and found that the California Fungi web site said that *R. setipes* is a misapplied name, and the name is actually *R. swartzii*. In contrast to *R. fibula* with a cap diameter of 3 mm, the cap diameter of *R. swartzii* is 10 mm. The cap is flat with a black/brown depressed centre gradually becoming paler towards the margin where it is whitish. White gills run down the yellow-brown stem. Virgil Hubregtse said "This species hasn't been seen at Bunyip before (2013), but it is quite distinctive and we should keep an eye out for it", but we didn't see it last year.

The pale discs of *Hymenoscyphus* 'olive green with black rhizomorphs' erroneously named *Cudoniella pezizoidea*, were again in abundance on rotting wood and twigs. The field name of this species describes it perfectly. We also saw *Campanella olivaceonigra*, tiny shells with a thin definite stem on pieces of small twig and a grass stem. The cap is whitish with visible blackish to bluish green colours and a pruinose (powdery) surface. The main white gills are few but there are numerous cross gills which is a distinctive characteristic of this species. Another similar-looking white shell was found, growing on a fern stem and fronds. There was a greyness to the pruinose white cap, but it had more large gills which were sometimes forked and fewer cross gills than *C. olivaceonigra*. It looked like a *Campanella* sp. *C. tristis* in AST p29 (Australian Subtropical Fungi (2014) by S McMullan-Fisher, P Leonard, Frances Guard), looks somewhat similar macroscopically – cap kidney-shaped, whitish sometimes grey tinted with a distinctive short lateral stem with a basal disc; gills sometimes forking with smaller cross-veins, but I didn't see the disc at the stem base and this species grows on wood, not on a fern stem as it did at Mortimer Reserve. Apparently having a conspicuous stem is one of the main identifying features. However AST p 29 notes that *C. olivaceonigra* has an indistinct stem and Genevieve Gates and David Ratkowsky p37 'with a much reduced or absent stipe' (A Field Guide to Tasmanian Fungi (2014) but the ones that we have seen all have a thin lateral stem, note Reiner Richter's photo and the one in B Fuhrer no 28 (A field guide to Australian fungi, 2011).

An old friend the Artists Conk *Ganoderma australe* was still growing on the large fallen log at the beginning of the nature trail. This year it had grown huge. Further along the trail Eileen Laidlaw found a group of unusual thin-stalked, often branched fungi with white powdery tips and which looked like a *Xylaria* sp., then

Rickenella swartzii
Photo: Torbjorn Von Strokirch

(Continued on page 5)

Reiner Richter found a second group. On previous forays we have seen *Xylaria filiformis* which has thin stalks with white powdery tips, but grows on litter. These specimens were growing on eucalypt branches. The thinness of the fruit-body is similar to *X. filiformis*, although they usually only grow as a single, simple stem with occasional forks, and not so 'spiky'.

Along the nature trail, John Eichler found *Gymnopus* sp. 'pink furry', similar to the one that Richard Hartland found at the Ada Tree, and Jurrie Hubregtse went with him to make a collection for the RBG Melbourne. They have a brown, sometimes centrally depressed, very fibrillose cap, whitish gills and a light brown, fibrillose stem. On viewing it at home, Virgil Hubregtse noted that "These specimens were smaller than those seen in the same place in 2013 - only 7 mm across, and had no hint of pink in them." Richard had said that only the very young specimens had pink on them. In 2013, Virgil emailed a description and photo to Dr Tom May (Senior Mycologist RBG Melbourne) who noted that: "I am familiar with this species, which prefers eucalypt bark, and occurs in SA and Tas as well. It is a member of the Omphalotaceae, either *Rhodocollybia* or *Gymnopus*, and perhaps intermediate between the two. Spores are dextrinoid in Melzers Reagent, which is only found in *Rhodocollybia*, but the hairy cap is much more typical of *Gymnopus*."

Numbers of coral fungi were seen on the day and Soft Tree-fern trunks *Dicksonia antarctica* again provided habitat for *Ramariopsis crocea* which is delicate, yellow and branched and *Ramaria filicicola* which is white, branched and has a mass of white mycelium at the base of the stem. These corals also grow on the ground, so the texture and form of the Soft Tree-fern trunk must contain soil-like substances and not wood. In the afternoon in the scrubby forest we saw several other corals including *Ramaria botrytoides*, *Clavulina cinerea* and *Clavulina coralloides* which had typical spiky ends to a number of its white branches.

At lunch time, Sally Green showed us her latest display of skilfully crocheted fungi: in a grassy nature strip a group of fairy ring Champignon (*Marasmius oreades*) surrounding Egg-yolk Fieldcaps (*Bolbitius vitellinus),* an earthstar and purple-people-eaters.

Up in the scrubby hills vegetation, on a log we saw a tough leathery black-capped polypore with a short, tough black stem that I said was *Polyporus melanopus*, but on looking at my notes and photos, the large size of the cap (to 100mm across), its smooth shiny surface undulating and pliable like thick kelp as well as the minute pores indicated that this was *P. badius* . One sure way to quickly distinguish the two in the field is by the number of pores per mm, *P. melanopus* has larger pores 3-4 per mm, while *P. badius* has minute circular pores 6-8 per mm.

Thanks to Virgil Hubregtse for her contribution - notes and comments, which add to our knowledge of the species, and her checking of the species list.

Thanks to the photographers Eileen Laidlaw and Torbjorn von Strokirch.

Pat & Ed Grey

FNCV FUNGI GROUP FORAY

21st June 2015

WANDERSLORE, SANCTUARY, LAUNCHING PLACE

Wanderslore is a Trust for Nature Property consisting of 10.05 hectares. It consists of a dry ridge running N-S, on the east is a permanent stream gully, on the west a stream runs through the gully after rain, and the vegetation includes Manna Gum, Mountain Grey Gum, Red Stringybark, Brown Stringybark, Messmate, Common Peppermint, and Soft and Rough Tree-ferns.

We were greeted by Geoff Durham of the Friends of Wanderslore. This area has always provided a good variety of fungi, in part due to the combination of wet gullies and drier slopes. Near the Studio (Friends Shed) were three examples of *Descolea recedens* with some yellow scales still on the brown caps and a distinct brownish ring. Also here was the dead Hakea covered with *Hypoxylon diatrypeoides* – all of which were very old with no fresh material!

The morning was spent on the Western Loop Track. We had only just started when Paul George found *Inocybe violaceocaulis* (photo above) at the side of the track. It is the second time that Paul has seen this rare species, the first was in May 2009 at FNCV Fungi Group Foray at Mortimer Picnic Ground, Bunyip. This is what he had to say about it then "Another unusual find was a small mushroom with a lilac cap and stem, found in the bare soil underneath a footbridge. It had a silky fibrillose cap with broad shallow umbo and a very light wispy cortina attached to the margin. The gills were pallid with a hint of violet. The stipe was thin and swollen at base. At first glance this looked like one of the many small lilac/mauve Cortinarius that seem impossible to identify to species. However, no rusty brown spore deposit was visible. Something about the pallid gills and the fibrils on the cap reminded me of an *Inocybe* that I had seen in South Australia last year, so I decided

Inocybe violaceocaulis, Photo: Paul George

to collect a specimen. When I examined the spores under the microscope the spores were smooth and ellipsoid – clearly this was not a *Cortinarius* (which has rough spores). When put in KOH the spores were dextrinoid (i.e. they stained an orange brown colour). The final proof was that the cystidia had crystals on top. This was *Inocybe violaceocaulis*, a species recently described from W.A. by Matheny and Bougher in 2005" (A new violet species of *Inocybe* (Agaricales) from urban and rural landscapes in Western Australia. *Australasian Mycologist* 24: 7-12). P Catcheside and T May (*Inocybe violaceocaulis* in SA, *Fungimap Newsletter* 40, 2010, pp5-6) who found it in 2008 at the Stringybark Walking Trail, Deep Creek CP, noted "*I. violaceocaulis* is very distinctive because it is the only native species with a purple pileus and stipe. It could be confused in the field with small species of *Cortinarius*, but these usually do not have a radially fibrillose pileus".

Reiner Richter said (*see photo p12*) showcases how gruesome nature can appear with a "parasitic fungus *Bauvaria bassiana* having comsumed a mantid from the inside."

Cortinarius spp. were found throughout the day although many could not be identified. They ranged in cap colour from brown (lots, mostly unidentified, apart from *C. phalarus* which had a white patch on a brown cap, and a saccate volva at the base of the stem) to blue (Elegant Blue Cort *C. rotundisporus*), green (Green Skinhead *C. austrovenetus*), yellow (Slimy Yellow Cort *C. sinapicolor*) , red (*C. kulus*), purple (Emperor Cort *C. archeri*) to almost black (*C.* sp.)

Coral fungi were again widespread, with the red clubs of *Clavaria miniata* and yellow

(Continued on page 12)

Terrestrial Invertebrates Group

"Saving Lives in the Yarra"

Presentation by

***Ian Penrose*, (former Yarra Riverkeeper)**

16th September 2015

River Life

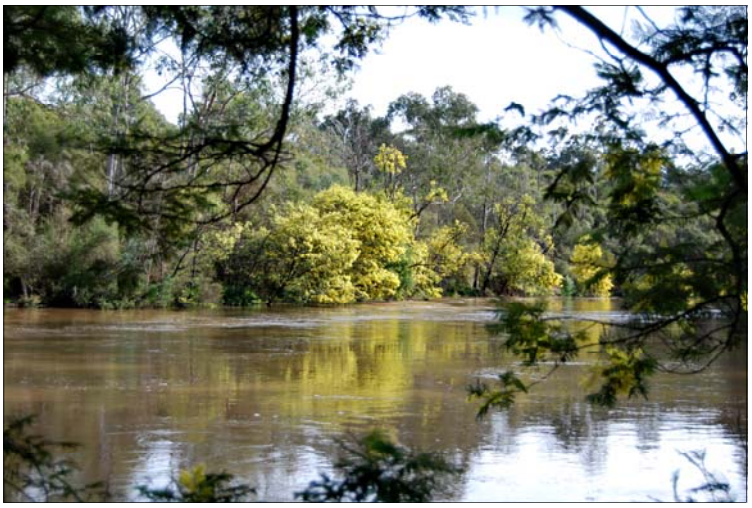
The Yarra River, Melbourne's major waterway, is home to much interesting and little known wildlife. The species that has the largest biomass of all the river's fauna is the short-finned eel. Whilst not an attractive fish, it has a truly amazing story - venturing out of the river once in a lifetime to swim to the Coral Sea north of Australia to lay its eggs, after which the little hatchlings, or elvers, float back down the East Coast, some finding their way into the Yarra.

Other river-dependent fauna include the Australian Grayling, whose numbers have drastically reduced since Melbourne's settlement; the Yarra crayfish (please don't eat them, they are precious); water birds (eg. cormorants, darters); the iconic platypus; and the rakali which has earned less respect because its common name is water-rat.

The flora along the river are just as appealing, from the large silver wattles with their brilliant yellow display to the tiny ground orchids, whose small stature means their beauty is often not appreciated.

Historic Human Impacts

What has been the impact of human settlement on the river and its wildlife? Its fresh flowing waters and richly vegetated banks were the lifeblood of aboriginal communities for millennia. They were also factors attracting the first Europeans. But since European settlement humans have dramatically changed the river.



Silver wattles in bloom at North Warrandyte *Photo: Ian Penrose*

During the nineteenth century gold-seekers diverted the river channel to mine its bed. Later engineers straightened many of its bends and lined its banks in stone in attempts to manage flooding and erosion. Before Melbourne was sewered at the turn of the century, human effluent and waste from abattoirs and other riverside industries made the water so putrid that the city earned the nickname, "Smellbourne".

During the twentieth century, water quality improved dramatically but the need to provide the growing city with a reticulated water supply led to the damming of the river's upper reaches.

River Health Today

What is modern Melbourne's impact on the Yarra? According to the State Government, only 12% of the river system is in good or better health! There are three major reasons for this. Firstly, water quality is generally poor, except in the forested catchment. Some sewage still leaks into the urban reaches, but the major source of today's pollution is stormwater run-off. Every time it rains, the litter and chemicals on our streets and hard surfaces are washed into the river. One growing concern is the impact of micro-plastics on aquatic animals.

Yarra Riverkeeper undertaking survey (by trawling) for micro-plastics in Lower Yarra *Photo: Ian Penrose*

Secondly, in a typical year almost half of the Yarra's water is diverted to supply Melbourne with fresh water. This has reduced flows and altered their seasonal pattern, both vital to its wildlife. Since 2011 environmental flows (seasonal water pulses) have being provided to re-establish some of the natural flow pattern. However, until Melbourne starts to seriously recycle its water and capture stormwater for use, the river will not be safe from over-extraction.

The third impact is the loss of bankside vegetation due to encroaching development in the urban areas and stock-watering in the rural areas. This reduces not just the natural habitat but also the amenity of the riverine landscape. State land-use planning controls have proved inadequate but attempts are underway to rectify that, such as with the government's recent commitment to a Yarra River Protection Act.

How People Can Help

- Enjoy the wonders of our wonderful river, since "people protect what they love".
- Support the Yarra Riverkeeper Association, which successfully advocated for the river's environmental flows, and continues to advocate for better controls over encroaching buildings and water pollution.
- Challenge your local councillor and state parliamentarian about what they are doing to help the Yarra.

The Yarra Riverkeeper Association can be contacted at info@yarrariver.org.au or 0434 892 772.

Ian Penrose

Day Group

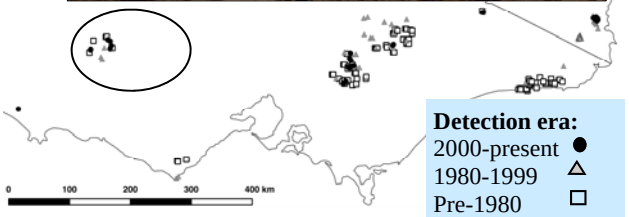
Where there's fire, there's Smokies.

Smoky Mice in the Grampians-Gariwerd National Park

Speaker: Phoebe Burns

The Smoky Mouse – *Pseudomys furneus* (*Right*)

- Omnivorous
- Nocturnal
- Endangered
- threats include: cats, foxes, habitat loss, shifting fire regimes
- 3-4 young in 1 or 2 litters per annual breeding season
- 'boom-bust' population fluctuations



Detection History Grampians-Gariwerd:

Silverband Falls: 1960s, 1970s, Mirranatwa Gap & Mt Frederick:1980s, Victoria Range:1970s, 2000s, 2010s, Mt William:1970s, 1980s, 2000s, 2010s

Most of the Park has been burnt in the past decade**.** Victoria Valley historical sites extensively burned leaving virtually zero ground cover**.**

Phoebe set out to research:

* whether the Smoky Mice had survived the Victoria Valley fire?

* has the species distribution changed since the 1970's?

* what habitat are Smoky Mice using in the Victoria Range?

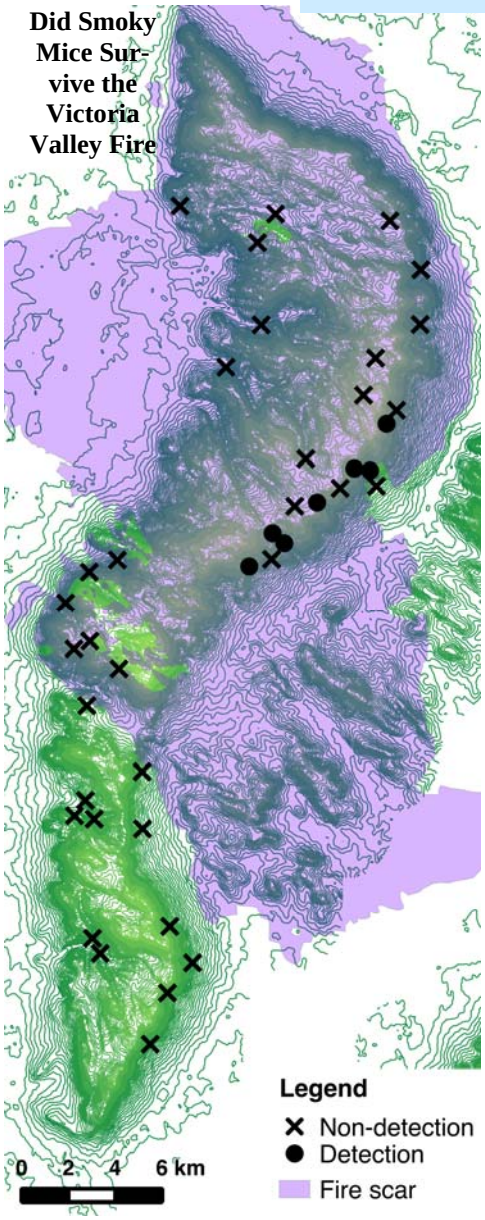
Results:

- Detected at five burned sites
- All individuals within normal weight range
- Survived fire in situ
- Breeding in burn scar
- 2 sites no longer occupied
- Strong confidence in absence (96%)
- 5 new sites
- detected on both ridgelines & gullies
- More common along gullies ($p < 0.05$)
- Very different to habitat associations elsewhere

Conclusions:

- Smoky mice persisted through the fire *in situ*
- Resident populations in gullies
- Recent trend – natural low or unsustainable decline**?**

Did Smoky Mice Survive the Victoria Valley Fire



Where are they now?

Changes in the occupancy of the Broad-toothed Rat Mastacomys fuscus across Victoria

Speaker: Stella Shipway

Climate Change in Australia

- Climate change predicts species will move to higher elevations of higher latitudes
- Rise of 0.9° C since 1910
- Millenium drought 1995-2010
- A warming of 4 ° C above pre-industrial levels could result in 1 in 6 species, 16%, being at risk of extinction from climate change.

The Broad-toothed Rat *(photo below)*

- Victoria, Tasmania, New South Wales and Australian Capital Territory.
- Herbivorous
- High rainfall (>1000 mm), high elevations & low temperatures.
- Ground cover of grasses or sedges with some shrubs.
- Mainland population listed as 'vulnerable'
- 3°C increase could decrease the range size by 75% (*Brereton, Bennett & Mansbergh, 1995*)

Hypothesis:

If climate change is driving occupancy changes, then disappearances will be more likely to occur at historical localities that are:

Low elevations
Have high temperatures
Have low annual precipitation

Site Selection

- 109 historical records (pre 1990) from:

1.Victorian Biodiversity Atlas (VBA)
2. Atlas of Living Australia (ALA)

- Each locality was geo-referenced and given a centroid and extent based on the verbatim locality and latitude and

(Continued on page 8)

(Continued from page 7)
longitude data available.

- Excluded localities with high geo-referenced uncertainty (>5km), any sites within 0.5km of each other, inaccessible sites and sites with low confidence.
- 68 sites surveyed and included in analyses

Survey Methods:

- Indirect survey method, looking for scats and runways
- Located the best possible habitat within geo-referenced extent.
  - 6 searches at each site.
  - Max of 10 minutes or until detection.

Very distinctive and abundant scats (both old and new) made this the preferred method of detection

Time frames:

1. 1995-2009 (Drought)
2. 2010-2014 (Recovery)

Variables:

1. Annual mean temperature
2. Maximum temperature of the warmest month
3. Minimum temperature of the coldest month
4. Annual precipitation
5. Elevation

Results:

*Detection at 32/68 sites =47.06% *A great amount of detail from regions has been covered here)*

Conclusions:

Mastacomys fuscus was **not** detected at 52.94% of the historical sites

Trend suggests higher likelihood of absences at:
- lower elevation sites
- sites with high temperatures and in particular high minimum temperatures
- sites with low annual precipitation

This survey provides a benchmark for future monitoring and management efforts

JB

Editors note:

Phoebe Burns completed her Masters degree with Melbourne University and Museum Victoria on Smoky Mice, *Pseudomys furneus* in 2012. She is now undertaking research for a PhD thesis: 'Testing the decline and predicting the rarity of the New Holland mouse, (*Pseudomys novaehollandiae*).' Phoebe spoke briefly to the Day Group about this project and it was particularly interesting to hear about the method of surveying wildlife using movement sensitive cameras.

Stella Shipway has undertaken her Masters degree at Melbourne University and Museum Victoria on the Broad-toothed Rat *Mastacomys fuscus* .

Both Phoebe and Stella were kind enough to allow FNN access to their presentations via memory stick. Limited space has permitted only a much reduced summary of their material and I am aware that this fails to do justice to their highly professional and detailed research.

On behalf of the Day Group I would once again like to thank them both for speaking to us and wish them every success with their future studies.

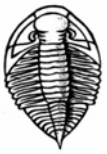
Joan Broadberry

Extracts from SIG reports given at the last FNCV Council Meeting

Fauna Survey Group: Presentation by Zac Lewis:

Zac Lewis is Development Executive of the Australian Wildlife Conservancy (AWC) and he spoke to us about the work of that organisation. The AWC manages land for conservation. It currently manages 23 sanctuaries with a total area in excess of 3.13 million hectares. The sanctuaries are home to 83% of Australia's terrestrial birds and 70% of its terrestrial mammals. Its work is seeing an increase in many endangered species. Feral herbivore control, fire management and the reduction of the impact of feral cats are key thrusts in this work.

Geology Group: August 26th: Julie Boyce, Research Associate, Monash Volcanology Research Group



presented a brief summary of the volcanoes of the Western District Volcanic Plain concentrating particularly on the Hamilton area. This was followed by a microscopic inspection of the different rock types from the volcanoes. A very interesting demonstration of a complex volcanic history. Many thanks to Max Campbell for organising the microscopes. 38 attended.

September 23rd: Assoc. Prof. Perran Cook, Monash School of Chemistry gave a most intriguing talk on the unique cable bacteria found in one section of the Yarra River. These bacteria have evolved to transfer oxygen from the surface water to the oxygen depleted muddy river bed and vice versa. His descriptions of the chemical reactions involved in this only recently discovered process were clear - even to a non-chemist like me! It was a fascinating talk which ranged far wider than the original title. Attendance: 28

Juniors' Group: Sept 27th, excursion to Brisbane Ranges.

A group of 16 adults and children met up with Cathy and Ron Powers at Bert Boardman Recreation Area where they led us on a beautiful wildflower walk full of colour and a variety of orchids, acacias, lilies, sundews, bush-peas, banksias, goodenias, heaths, etc. Cathy is very involved in Australia's plant scene and monitors flowers in the Brisbane Ranges where she lives. She gave us all Indigenous Plant brochures which we used to identify and remember what we had seen. Along our walk Cathy took down GPS coordinates for a mint bush and two spider orchid species that she was tracking. After lunch we followed Cathy in our cars to a second wildflower walk on nearby Butcher Road which had a different soil type and had been burnt at a different time where we found a few new plants. We then said "Thank you" and "Goodbye" to Cathy and Ron and headed to Stony Creek Picnic Area for a snack and a short walk to the reservoir which was brimming with life – frogs, birds (lots of grey fantails) and insects all calling out and enjoying the water.

Fauna Survey

Wilsons Promontory Survey

20th-22ndMarch, 2nd -6th April 2015

The New Holland Mouse *Pseudomys novaehollandiae* is one of Victoria's rarest mammals with populations recorded from only five broad areas; the Anglesea Heath, northern Mornington Peninsula, northern Wilsons Promontory and the Gippsland Lakes and hinterland.

The aim of this survey was to find NHM at historical monitoring sites, search other areas of potentially suitable habitat and to collect data on other mammals during the survey. Two trips were made, the first to set up remote cameras on 20-22 March 2015 and the second during Easter on 2-6 April 2015 to retrieve the cameras and conduct trapping surveys in localities of past occurrence.

Group, processing bats Photo: J B.

On the first survey, spotlighting was done and on the second survey, camera photos were reviewed with the aim of doing extra trapping in areas where the camera results indicated New Holland Mouse may be present.

A total of 13 native mammal species were recorded with trapping and camera methods and 6 species were seen spotlighting or general observation, making a total of 15 native mammals and 3 introduced species.

No New Holland mice were recorded by any method during this survey. No mammals were caught in pitfall buckets. Three species were caught in Elliott traps, Bush Rat, Swamp Rat, and introduced House Mouse and three species of bats were caught in harp traps, Large Forest Bat, Little Forest Bat and Chocolate Wattled Bat. Some mammals that were only recorded with cameras were Echidna, Agile Antechinus, Southern Brown Bandicoot and Wombat. Spotlighting was done on the first trip and Brushtail Possum, Ringtail Possum, Sugar Glider and a Pygmy Possum were seen. Day and night sightings of Eastern Grey Kangaroo and Black Wallaby were also made.

On Sunday we were treated to a lecture by Jim Whelan on the vegetation of the Yanaki Isthmus and the methods used to restore heathland that has been overtaken by old Coastal Tea Tree scrub. The window of opportunity for control burning of the Coastal Tea Tree scrub is quite narrow when considering the weather conditions, dryness and minimising seed fall from the burnt Tea Tree.

Andrej & Ruby Photo: J.B.

This survey was our third collaborative project with Parks Victoria. Thanks to Mark Antos, who planned the survey, and to PV staff, Emily Green, Scott Griggs and Brent Moran.

Below: Su and Ray setting up camera and bait station. Image: *Anders Wennstrom*

Ray Gibson

Fauna Survey in the Grampians area

4th—6th September 2015

In early September FSG visited the Lonsdale Nature Conservation Reserve adjacent to Lake Lonsdale, just to the east of the Grampians. This survey and the one in late September/early October in the Heatherlie area of the Grampians National Park, is part of a larger effort to establish the presence of threatened arboreal mammals in the area.

Heatherlie is a fairly recent addition to the Parks Victoria estate. In a survey some 12 months ago in these two areas we discovered the hair of the Brus,h-tailed Phascogale. At Heatherlie we recorded a Squirrel Glider on one of our cameras.

These two surveys will see the deployment of more cameras and some catch and release will be carried out at Heatherlie. Our survey at Lonsdale consisted of two nights spotlighting and the deployment of 28 remote cameras. The spotlighting revealed a few Brushtail Possums and Sugar Gliders, but no threatened species.

The Lonsdale Conservation Reserve cameras were collected on our subsequent trip to Heatherlie, (26th September –2nd October) and redeployed in the Heatherlie area. The images are still being studied.

Robin Drury

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New Zealand South Island Wildlife & Wilderness Expedition

15 Day Accommodated Tour – Departs 13th February 2016

This unforgettable tour looks at the natural history of the breathtakingly beautiful lower South Island, Stewart Island plus three of the countries national parks and the unspoilt coast of the Catlins region and the Otago Peninsular.

Sri Lanka Wildlife, History & Culture

18 Day Accommodated Tour – Departs 14th March 2016

Highlights: Yala and Bundala National Parks, Kitulgala and Sinharaja Rainforests, historic Sigiriya and Polonnarawa. This trip has it all a diverse array of mammals from Whales, elephants to squirrels plus each year we record sightings of over 200 species of birdlife. When you add this to the local culture, food and wonderful historic sites plus being lead by one of countries top naturalist guides then this a trip not to miss.

Pilbara Reef & Ranges Expedition

15 Day Camping tour – Departs 5th April 2016

Experience Ningaloo Reef, Abrolhos Islands & Karijini National Park. Join us as we explore the wildlife of the Western Australian coast including the Abrolhos Islands, Shark Bay and the Ningaloo Reef before travelling in land to experience the spectacular Karijini National Park.

Kimberley Discovery

15 Day Camping / Accom Tour – Departs Broome 4th June 2016

Enjoy a wonderful outback experience as we discover the Kimberley's wildlife, spectacular outback scenery, and many wonderfully refreshing waterholes as we explore Purnululu N.P, the many gorges of the Gibb River Rd, El Questro and Mornington Stations.

Kimberley Wonders

12 Day Camping Tour – Departs 25th June 2016

A different twist on the Kimberley, we include the best of the Gibb River Road but add a visit to the Mitchell Plateau. On the plateau experience the spectacular Mitchell and Mertons Falls plus great examples ancient rock art along with the regions wonderful flora and fauna.

Kununurra to Alice Springs Expedition

14 Day Camping Tour – Departs Kununurra 14th July 2016

This trip is packed with highlights including a Lake Argyle cruise, the Keep River National Park, Duncan Highway, Wolf Creek Crater, Lake Stretch, the Tanami Road, New Haven Sanctuary and the West MacDonall Ranges.

Rudall River Expedition

15 Day Camping Tour – Departs Perth 30th July 2016

Join us as we head to the very remote, harsh, yet beautiful Rudall River National Park. Experience the wildlife that the very remote, harsh yet beautiful Rudall River National Park has to offer. Situated approximately 400 Km east of Newman in Western Australia's Great Sandy Desert this is truly one of the most remote wilderness areas in the world.

Lake Eyre Basin and Flinders Ranges Expedition

15 Day Camping Tour – Departs Alice Springs 3rd August 2016

This tour covers some of South Australia's most historic outback locations in the Lake Eyre Basin and the spectacular Flinders Ranges. Both regions offer vastly different examples of our great country and offer an opportunity for a wide range of wildlife sightings.

W.A.'s Mid West Wildflowers

10 Day Accommodated Tour – Departs Perth 3rd September 2016

See botanical hot-spots north of Perth during wildflower season. The trip covers a diverse array of landscapes with the farm lands of the wheat belt, the station country around Mt Magnet and Yalgoo before covering the highlights of the Kalbarri National Park and the northern sandplains around Eneabba, Badgingarra and the Mt Lesueur National Park.

Great Western Woodlands and Helena Aurora Ranges

12 Day Camping Tour – Departs Perth 17th September 2016

Join us and experience the divers wildlife and spectacular wildflowers of the world's largest temperate woodland, including the historic woodlines (where timber cutters operated from 1899 to 1964) and the ironstone Helena Aurora Ranges which are currently under threat of being mined.

South West Birds & Botany tour

15 Day accommodated Tour – Departs Perth 9th October 2016

Experience one of the worlds flora hot spots during Western Australia's spectacular spring wildflower season. The birdlife that is attracted to the region is plentiful and varied.

Lord Howe Island

8 Day accommodated Tour – Starts 29th October 2016

Experience one of the worlds most fascinating natural history destinations.
The island's many and varied walks plus the Balls Pyramid boat trip just add to the enjoyment.

Christmas Island

8 Day Accommodated Tour – Departs Perth 19th December 2016

The Islands birds, crabs and rainforest walks make this a naturalists wonderland.

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Marine Research Group News

Report on MRG meeting Monday 14 September, 2015: Phoebe Lewis, of RMIT University, spoke on the topic "Persistent organic pollutants and plastic ingestion in flesh-footed shearwaters of Lord Howe Island".

Phoebe is currently an honours student in applied sciences at RMIT University and introduced the topics of persistent organic pollutants and plastic pollutants, and also her current research work, which aims to investigate the relationship between the persistent organic pollutants body burden and plastic ingestion on a species of seabird, the flesh-footed shearwater *Puffinus carneipes* from Lord Howe Island.

Locality of Lord Howe Island. Although well south relative to Brisbane, it has coral reef habitat. Some of the landscape features are shown below.
Map & photos: Phoebe Lewis.

The marine biologist Rachel Carson, who wrote *'The sea around us'* and '*The edge of the sea*' in the 1950s, raised concerns about the use of synthetic chemicals in her 1962 book *'Silent spring'*, from which Phoebe quoted: "For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death."

Persistent organic pollutants have the capacity for:

- persistence in the environment,
- long-range atmospheric transport,
- bioaccumulation, and
- biological toxicity.

These include industrial chemicals (polychlorinated biphenyls), pesticides (aldrin, dieldrin & DDT—dichloro-diphenyl-trichloroethane) and by-products (DDT metabolites, dioxins, furans). Worldwide industrial chemical production rose about sevenfold from 1970 to 1998.

A 2006 study on aquatic and terrestrial predatory birds (the grey heron, barn owl, long eared owl, common buzzard, sparrowhawk and kestrel) found persistent organic pollutants within the liver and muscle tissues of those species.

Phoebe noted that the 2004 Stockholm Convention on protecting human health and the environment from persisting organic pollutants was ratified by Australia on 20 May 2004 and it became a party to the convention on 18 August 2004.

Plastic pollution is also becoming an increasing problem. Plastic persists in the environment and is therefore becoming increasingly abundant. It is also ingested by marine organisms and seabirds, and is a vector for persistent organic pollutants.

A disturbing estimate is that by the year 2050 almost all seabirds will have plastic in their intestinal contents.

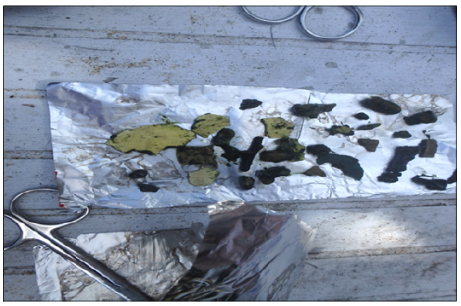
Flesh-footed shearwaters *Puffinus carneipes* are colony breeders. There are two main breeding areas—the southwest Pacific Ocean including Lord Howe Island, and the west coast of Australia. They are classified as 'near threatened' in Australia and 'nationally vulnerable' in New Zealand.

Phoebe's work involves analysis of plastic ingestion, presence of persistent organic pollutants, population genetics and assessment of disease in this species.

Sampling was of dead specimens (roadkill) or beach-washed specimens. Liver, kidney, brain, pectoral muscle and adipose tissue and blood samples were collected if present, as well as feathers (primary or wing feathers, body feathers and tail feathers). Stomach content analysis was performed via direct dissection.

The latter sometimes revealed the presence of multiple pieces of plastic including balloon plastic. Balloons themselves pose a major risk of ingestion to seabirds and there have been calls for the banning of release of helium filled balloons into the air.

Above and below: Dissection to retrieve stomach contents (multiple pieces of plastic), the latter shown below.
Photos: Phoebe Lewis.



Phoebe also showed slides and maps of Lord Howe Island and its intertidal and subtidal coral reef habitats. Highlights of her work also included being involved in the rehabilitation of injured or sick seabirds.

A species of giant clam *Tridacna* at low tide, Lord Howe Island.
Photo: Phoebe Lewis.

Phoebe's studies are ongoing. We wish her well with her work and thank her for an interesting talk and for making her presentation available for the compilation of this report. She has also provided the following 'youtube' reference highlighting the plastic threat to *Puffinus carneipes* on Lord Howe Island: https://www.youtube.com/watch?v=SCC2cZnMieY

Platon Vafiadis

(Continued from page 5)

clubs of *C. amoena* seen frequently – although the fruit-bodies were quite small (to 25 mm high) on this track. However, in the drier area during the afternoon they were much taller. Several groups of the pale buff coral *Ramaria filicicola* were growing in the litter and it was possible to show at the stem base the distinctive white mycelial mat and rhizomorphs attached to woody litter.

We noticed that there were not a lot of wood-inhabiting fungi possibly due to the drier areas or the wood species? However, unfortunately, the invasive weedy, orange brackets with orange caps and large orange pores of *Favolaschia calocera* were found on twigs and fallen wood. In the wet gully were troops of *Coprinellus disseminatus* around fallen logs. All stages were present from the creamy-yellow capped young ones through grey to black. On an upper slope was a fine example of Plums and Custard *Tricholomopsis rutilans*. The yellowish cap appeared red-brown due to the reddish fibrils on the surface were also seen on the yellow stem. The bright yellow gills provided a contrast in colour. It appeared to be growing on the ground but must have been growing on buried wood.

Lunch was spent around a fire thoughtfully provided by Geoff who also turned on some much appreciated fresh beer damper and fruit – many thanks Geoff.

Bauvaria bassiana Photo: Reiner Richter

After lunch the group went along the Eastern Loop Trail where we saw *Geastrum triplex* in a similar place to that seen last year. The red-brown cushions of H*ypoxylon howeianum* growing on a fallen eucalypt log together with masses of the brown ropey strands of its anamorph (asexual stage). We also saw other interesting ascomycetes on wood: the blue-green mould-like coating *Trichoderma viride* which is the conidial stage of the larger *Hypocrea rufa* a species which produces small brown individual cushions with dark ostioles; *Hypocrea victoriensis* forms bright yellow cushions or patches on which ostioles are clearly visible and is the anamorph of another *Trichoderma* sp.; fairly close together on the same large fallen log were *Cosmospora episphaeria* (*Nectria episphaeria*), minute red balls, clustered together in groups and *Bisporella sulfurina*, minute yellow discs (to 1 mm diameter). Both of these species were growing in close association with the same black pyrenomycete.

Paul George was also able to identify a slime mould we found "this slime mould is *Comatricha typhoides*. The silvery film on the stalk is typical. The thin silvery peridium (outer covering of the spore mass) is evanescent, revealing a network of pale brown threads (capillitia) that encase the brown spore mass. The ends of the capillitia are loose and free which distinguishes *Comatricha* from *Stemonitis*, which has a well-defined surface net at the periphery".

Later, on the ridge, John Eichler noted "In a couple of sheltered spots on the mid slopes there were some nice patches of *Hygrocybe chromolimonea* and *H graminicolor* was abundant in places in the open vegetation on the mid slopes. A surprise find was one largish specimen of *Humidicutus lewelliniae*". Reiner Richter had this to say "I was amazed how many of the bright yellow *Hygrocybe chromolimonea* there were — I had only previously seen a few isolated small colonies but here there may have been over 50 individuals in scattered colonies. There were at least as many of the related green *H.graminicolor*. They are known to be variable in colour from this greeny-brown (that all of them featured here) to the bright green of when I saw them for the first time earlier this season (on another trip with the Field Nats). The largest cap that I measured was 51mm in diameter". And for the first time this season, the Horse-dropping Fungus *Pisolithus arhizus* was seen looking very much like its field name.

Thanks to the photographers John Eichler, Paul George, David Lockwood, Reiner Richter,and Torbjorn von Strokirch. Thanks to John Eichler, Paul George, Jurrie Hubregtse and Reiner Richter for their contributions. Once again, thanks go to Virgil Hubregtse for her contribution - notes and comments, which add to our knowledge of the species, and her checking of the species list.

Pat & Ed Grey

Thanks to the editorial and layout team who put together FNN 258

Joan Broadberry
Wendy Gare
Sally Bewsher

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Barbara Burns, Joan Broadberry, Andy Brentnall, Keith Marshall, Margaret Brewster, Ray Power Wendy Gare

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