



Understanding Our Natural World
Est. 1880

Field Nats News No.257

Newsletter of the Field Naturalists Club of Victoria Inc.

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Patron: Governor of Victoria

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October 2015

From the President

Spring is with us again and for me as a naturalist, it's the beginning of the exciting seasons of insects. The mycologists are now in partial hibernation but entomologists emerge for the warmer months. The aphids are populating the plants in my garden (*photo below*) and it won't be long before the lacewings, ladybirds and hover-fly larvae appear and start eating them. The mantid *oothecae* will soon be pouring forth the next generation of little mantids (*photo right*) and the huntsmen egg cases (*photo, far right*) will also be hatching.

Last year at this time I saw little jumping spiders wandering about carrying newly hatched spiders and mantids. Life is certainly tough in the world of terrestrial arthropods.

Mantids hatching



microscopy sessions, volcanoes, wildlife conservation and a birthday party for the Junior Naturalists that included fried crickets in the fare. There were plenty of possums, kangaroos and other vertebrates represented amongst the costumes of the juniors.

The new computers have been ordered for the office. It is very timely since one of the old computers is already heading towards a meltdown. It was most disconcerting to have the main administration computer fail during the symposium registrations. Nevertheless at the time of writing the attendance is looking good; so good in fact that the presentations will be held in the Manchester Unity Hall in Main St. Many people have contributed to the organisation of the symposium and I thank them all.

A dedicated subcommittee of Council is identifying the risks that we may face as an organisation and is developing strategies to effectively manage them. We need to ensure that all of our activities are carried out in the safest way for both FNCV members and the public. It is a difficult and time consuming task but will be worth it in the long run. Everyone will share the responsibility for maintaining safety and reducing risk.

Max Campbell

The deadline for the October issue of Field Nats News will be **10 am on Tuesday 6th October**. FNN will go to the printers on Tuesday 13th with collation on 20th Oct.



Huntsman and egg-case

Aphids



The SIG meetings this month have embraced Antarctic marine invertebrates,

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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.

OCTOBER

Monday 5th - Fungi Group, meeting: *Planning for 2016*. Contact: Virgil Hubregtse 9560 7775

Tuesday 6th - Fauna Survey Group, meeting: *Smoky Mouse in the Grampians and Broad-toothed Rat*
Speaker: Phoebe Burns and Stella Shipway, University of Melbourne. Contact: Robin Drury 0417 195 148;
robindrury6@gmail.com

Monday 12th - Marine Research Group, meeting: *Whale Rescue Training*. Speaker: Katrina Cook.
Contact: Leon Altoff 9530 4180 AH; 0428 669 773

Thursday 15th – Botany Group, meeting: *Flora of the Brisbane Ranges*. Speaker: Cathy Powers.
Contact: Sue Bendel 0427 055 071

Sunday 18th – Juniors' Group, excursion: *Orchids at Baluk Willam Nature Conservation Reserve, Belgrave*
Leader: Wendy Clark Meet at 10.30 am in the carpark. Contact: Claire Ferguson 8060 2474; toclairf@gmail.com

Tuesday 20th—Collate FNN. Starting about 10.00 am. Please come and help. Contact Joan Broadberry 9846 1218

Wednesday 21st - Microscopy Group, meeting: *Members' Practical Activity Night* Our vast collection of microscopes will be set up with our extensive slide collection and a huge array of marine and botanical specimens for viewing. Members are encouraged to bring along any specimens they have collected for viewing, sharing and identification. Contact: Philippa Burgess 0409 866 389

Monday 26th - FNCV Council Meeting - 7.30 pm sharp. Agenda items and apologies to Wendy, 98779860 or admin@fncv.org.au

Tuesday 27th – Day Group, excursion. *Wildflower and orchid walk in Chaim Court bushland, Donvale*
Leader: Cecily Falkingham. Meet 10.30am, Chaim Court off Craig Road, Mel.49 C6. Plenty of parking (No toilets)
Optional picnic lunch (BYO) in Antonio Park, Mitcham Mel 49 C8, off Deep Creek Road (Toilets available) Chaim Court is part of Melbourne's precious bushland saved by building the Eastlink tunnel.
Contact: Joan Broadberry 03 9846 1218

Wednesday 28th – Geology Group, meeting: *The Rosetta Space Mission; Did life on earth begin as space debris from Meteorites?* Speaker: Alex Codoreanu, Swinburne University, Centre of Astrophysics.
Contact: Ruth Hoskin 9878 5911; 0425 729424; rrrhoskin@gmail.com

Friday 30th – Juniors' Group, meeting: 7.30 pm. Speaker: Wendy Clarke, 'Spiders'
Contact: Claire Ferguson 8060 2474; toclairf@gmail.com

Saturday 31st October—Tuesday 3rd November – Fauna Survey Group, excursion: *Fauna Survey, Little Desert Region of Victoria*. (Melbourne Cup weekend) *Prior Registration essential.* Contact: John Harris 0409 090 955

Diary Date:

FNCV Christmas
Party, Saturday
12th December



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

Members' news, photos & observations

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

Welcome
Welcome

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

Katarina Stenman, Sara Stenman, Anders Wennstrom, Lisa Kennedy, Geoffrey Smith, Melanie Barter, Ian Temby, Romana McGlashan, Perry McGlashan, Ella McGlashan, Leonie McGlashan, Brian McGlashan, Mike Haves, Jessie Knott, George Coutts, Elinor Ebsworth, Helen Smith, Donna Gibbs and Cutout Environmental.

FNCV PATRON

The FNCV has a long tradition of having the Victorian Governor as our patron. Beginning in August 1950, the Governor of Victoria, Sir Dallas Brooks agreed to become patron of our Club. Since then, for over 60 years, with one exception, all Victorian governors have generously continued to act in this capacity.

Her Excellency, the Honourable Linda Dessau AM was sworn in on July 1st as the 29th and first female Governor of Victoria. The FNCV Council recently contacted her office requesting that she accept the role of patron.

The Council are delighted to announce that we have had a reply.

It says **"The Governor is happy to accept the appointment during her term of office and looks forward to her future association with your organisation in this capacity."**



The Rare Stick Bird.

(This walk took place some time ago as part of the BOC program, "Wednesday Wanderings", led by Celia Browne.)

We wandered an easy upstream walk along the Yarra searching the branches of the ancient Yellow Boxes for birds. A light sprinkle of rain had freshened the air, making it very pleasant walking, and the bird list slowly grew.

Now most bird watchers are familiar with stick birds, their habitat is in the upper canopy and middle canopy of trees, also the shrub layer and sometimes even on the ground. About mid-morning a sharp-eyed member of the group sighted a partly submerged mass of tree branches from where we were standing on a bridge across the Yarra.

A bird stood motionless in the distance in the middle of the river, near the tree branches. Perched as it was it appeared to be looking for food in the water. The feathers on its back were brown to grey and it had a very slim body shape.

The cynics amongst us stated "oh its only a stick bird". A ripple of laughter ran through the group and THEN IT MOVED, just a slight movement of the head. What could it be? We went through the possibilities as it was being photographed. Was it a Nankeen Night Heron? No, colour and shape wrong. Bittern maybe? What a find, the excitement escalated.

We decided to get a closer look, leaving the bridge and the track, we scrambled down a slight incline right opposite the bird.

Only very experienced birdos get to see the rare Yarra River stick bird! We could only assume a droplet of water had moved along its "head" and in the weak sunshine some of us were convinced of movement.

No one could ever accuse bird watchers of not having vivid imaginations and a sense of humor.

Cecily Falkingham

Correction and apology: FNN 256, p3 VISITORS, line 3, should have read..."with her daughter and son-in-law Leo Lubransky."

This newsletter 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.



Geology Group

GEOLOGY GROUP EXCURSION

Saturday 15 August
**Melbourne's World-class
Fossil Site-Beaumaris**

This excursion was led by Professor John Buckeridge of RMIT University, one of a number of eminent scientists working with the Sandringham Foreshore Association to protect this important site which dates from the late Miocene (some 5 million years ago). The most immediate threat comes from the proposed expansion of the Beaumaris Motor Yacht Squadron. Museum Victoria has published a booklet "*Fossils of Beaumaris*" by Erich Fitzgerald and Rolf Schmidt where the importance of the Beaumaris Local Fauna can be gauged from this list given in the introduction: "...sharks and rays, bony ray-finned fish, penguins, *Diomedeid* and *Pelagornithid* seabirds, dugongs, *Phocid* seals, baleen whales, toothed whales, rare remains of land-dwelling flightless birds and marsupials, and innumerable invertebrate fossils." (*Diomedeids* are albatrosses, petrels etc; *Pelagothornids* are extinct bony-toothed seabirds, often of a very large size.) Dr Fitzgerald has also pointed out that the more than 3000 Beaumaris vertebrate fossils in the Museum Victoria collection represent 31 families of fish, mammals, reptiles and birds and at least seven of these families have their only fossil record in Australia at Beaumaris.

Our group met at Rickett's Point where Professor John Buckeridge gave a clear overview of the significance of the site using photographs and specimens.

The marine Beaumaris Sandstone rests on the Gellibrand Formation which was not to be seen today as access to this relatively small outcrop is restricted by the tides. At the base of the Beaumaris Sandstone is a phosphatic nodule bed about 20cm thick that contains the important vertebrate fossils referred to above. For some reason very little sediment was being deposited at this time - perhaps for as long as 100,000 years - so animal remains accumulated, usually in an abraded state as they were rolled about on the sea floor. This layer is

brought up by a slight monocline to lie at about low tide mark near Keefers Cove. Here the overlying Beaumaris Sandstone is about 15m thick and forms the cliffs along this stretch of the Bay. The lower 6.7m contains abundant marine fossils and the upper 8.5m has no carbonate but remains of burrows and fossil wood.



Branching fossil burrow at Ricketts Point. The burrow is the darker line, not the modern shells in cracks.

John took us out on Rickett's Point to see the large branching burrows believed to have been constructed by a mud lobster. This trace fossil or ichno fossil has been named *Ophiomorpha beaumarisensis* (see FNN 250 March 2015 p.3). Closer to the shore we could see recently cemented beach rock coating the Beaumaris Sandstone around some more burrows. By 'recently' we mean hundreds to thousands of years old.

We next walked to the Sea Scout Jetty near Table Rock Point. Here there are several fossil logs embedded in the



The group examining the fossil log

sandstone. The eucalypt logs would have been washed out to sea in a storm and become waterlogged and sank, as we could see fossil marine molluscs upon them. The casts of the trees are preserved as hydrous iron oxide, goethite, FeO.OH. The burrows we saw earlier are also preserved in this material. Goethite was named in 1806 for Goethe, the German poet, who had a keen interest in minerals.



Fossil log near the Sea Scout Jetty

Our final stop was Keefers Cove. The cliff-face here is studded with abundant fossil echinoids: especially *Lovenia woodsii*. These survive as they were burrowing creatures and so protected



Lovenia woodsii - the common echinoid at Keefers

from the currents. Conversely the bivalves on the sea floor were concentrated by water movement into what are called lag deposits and we could see two of these in the cliff. Phosphate nodules washed out of the nodule bed could be picked up on the beach. The general rule is that one can pick up loose fossils
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for one's own interest but report anything unusual to the Museum. It is not acceptable to excavate for fossils. This has happened here recently and the Council has erected a barrier around the spot with notices warning of a \$2000 fine for anyone caught doing this.

It was a very successful morning with perfect weather. Our thanks to Professor John Buckeridge for leading us on such an interesting excursion.

Rob Hamson

**All photos: R Hamson*



Shell lag deposit from Keefers Cove

Monash Earth Sciences Garden

The first of its kind in Australia and the most comprehensive worldwide, the Monash Earth Sciences Garden establishes a brand new, hands-on approach to studying geology, physical geography and atmospheric sciences.

Based on the geology and geomorphology of Victoria, the 120m by 30m garden comprises a stunning arrangement of nearly 500 rock specimens, laid out to form outcrops of rocks in a geological map and is set amongst beautiful native trees and plants.

Monash.edu/earth-garden

**Thanks to Kaye Oddie for this item.*



Day Group

AN INTRODUCTION TO MICROSCOPY

On Tuesday 25th August the FNCV Day Group was privileged to enjoy a session lead by the Microscopy Group convenor Philippa Burgess and FNCV President Max Campbell.

These two hard-working and knowledgeable microscopists had gone to a great deal of trouble, coming into the hall early to set up 20 microscopes for our use. These ranged from very sophisticated models to low cost, simpler technology.

Max started us off with a short talk on the equipment. In general microscopes are described as either compound or dissecting. The former may be monocular or binocular and use a single set of objectives and can produce magnification of up to 1000X or more. Dissectors are usually binocular but are in effect two separate microscopes, allowing each eye to see a slightly different view of the subject. Hence they are often called stereo microscopes because they allow us to see the subject in 3 D. They usually have a range of magnification up to 100X or more. Microscopes may be adapted or specifically designed for other, specialised uses such as mineralogy, tissue culture, metallurgy and forensic applications.

We were using simple dissectors, monocular microscopes and more sophisticated, binocular research compound microscopes. (Max brought 8 of his own). One microscope was set up with an adaptor and camera for macro photography. Max then shared with us some of the dramatic images and

videos he had recorded under the microscope over the years. These included:

An Ant-lion throwing sand at ants so that they would fall into its pit, various species of pond life, a Hover-fly larvae sucking the juices out of an aphid (photo page 6) and native pseudo-scorpions.

An absolute highlight was viewing the movement of retina and associated rods inside the anterior eyes of a small jumping spider. The spider was barely three



Photos: J. Broadberry



millimetres long. Max pointed out that it may take 5 to 10 hours to get 5 minutes of useful footage.

It was then time for practical work at whatever level participants needed. Fresh pond water containing tiny, live animals was available to us, as was Philippa's fascinating collection of beach-washed marine specimens.

We were fortunate to be able to have virtually one-to-one attention and an open-ended time frame. Some folk brought along their own specimens for viewing.

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NEWS FROM THE BOOKSHOP (October 2015)

There have been a number of interesting new titles that have been released in the last couple of months and some of these have been described below. The bookshop is not able to provide a copy of every interesting title to be displayed on the bookshelf, but titles like the ones included this month are able to be ordered in at any time. Below is a range of new titles from CSIRO publishing that offers interest to a range of different age and interest groups. These titles will be included in the new catalogue to be posted on the website soon. Also, this is a great time to think ahead for Christmas and let me know what books you would like to give as presents for your loved ones. Sometimes it can take a while for books that have been ordered to arrive. For these titles and any others that might interest you send me an email and I will get back to you as soon as I can. To submit an order or inquire about a book, please send me an email bookshop@fncv.org.au

Kathy Himbeck

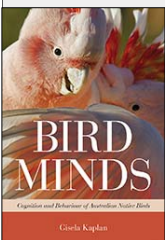


Phasmid: saving the Lord Howe Island Stick Insect (Cleave & Tulloch) is an amazing true story of a stick insect that was thought to be extinct for nearly 80 years. The rediscovery of the phasmid on Balls Pyramid made headlines around the world, prompting an extraordinary conservation effort to save this remarkable invertebrate. This hardback book features captivating narration and stunning watercolour illustrations and is a positive story about one species' incredible survival in a time of worldwide species decline. This book is ideal for parents and young readers aged 4-7.

(HB, 32 pp., Sept 2015) RRP \$24.95, Members \$20

The Dingo Debate (Smith) explores the intriguing and relatively unknown story of Australia's most controversial animal – the dingo. The book traces the story of the dingo from its beginnings as a semi-domesticated wild dog in South-east Asia, to its current status as a wild Australian native animal under threat of extinction. It describes how dingoes made their way to Australia, their subsequent relationship with Indigenous Australians, their successful adaptation to the Australian landscape and their constant battle against the agricultural industry.

(336 pp., Aug 2015) RRP \$39.95, Members \$32.00

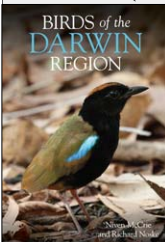


Bird Minds (Kaplan) provides a fresh view of the behaviour of Australia's native avifauna. This book demonstrates how intelligent and emotional Australian birds can be, describing complex behaviours such as grieving, deception, problem solving and the use of tools. The author brings together evidence of many cognitive abilities suggesting plausible reasons for their appearance in Australian birds. *Bird Minds* is the first attempt to shine a critical and scientific light on the cognitive behaviour of Australian land birds.

(PB, 280 pp., Aug 2015) RRP \$45.00 Members \$36.00

The Complete Guide to Finding Mammals of Australia (Andrew) uncovers the best sites for observing Australia's spectacularly diverse and unique mammals. The book describes Australia's best mammal-watching sites state-by-state. It also includes a complete, annotated taxonomic list with hints on finding each species (or why it won't be easy to see); sections on travel and logistics and appendices with hints on finding and photographing mammals.

(PB, 432 pp., Dec 2015) RRP \$49.95 Members \$41.00.

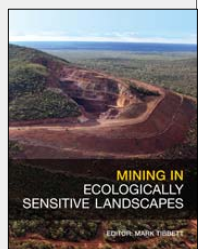


Birds of the Darwin Region (Noske & McCrie) is the first comprehensive treatment of the birds of Darwin, where seasons are defined by rainfall rather than temperature. The book includes descriptions of 258 regularly occurring species and 65 vagrants. Stunning colour photographs adorn the accounts of most species along with distribution maps and charts of the seasonality of each species.

(PB, 464 pp., Sept 2015) RRP \$79.95, Members \$66.00

Mining in Ecologically Sensitive Landscapes (ed. Tibbett) explores the interface between geology and botany, and mining and conservation. This book brings together experts in the field of mining and conservation to grapple with this pressing issue and to work toward a positive outcome for all. Examples of conflicts ranging from threatened floristic endemics to human ecology are included, from Africa, the Americas and Australasia.

(HB, 288pp., Aug 2015) RRP \$120, Members \$99.00



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The time flew by as we asked questions, absorbed information and revelled in the detail and beauty that only a microscope can reveal.

On behalf of the Day Group I would like to express our grateful thanks for the time, effort and generosity Philippa and Max put into this wonderful session.

Joan Broadberry

Right: A still from the Hover-fly larvae movie.

Hover-fly attacking aphids.

Photo: Max Campbell





Fungi Group

FNCV FUNGI GROUP FORAY 31 May 2015, THE BUMP, Near POWELLTOWN

Wet Sclerophyll Forest

Before going to The Bump, we all met at the Powelltown Picnic area. Here we found a clump of *Hypholoma fasciculare* along with *Tricholoma eucalypticum* (that Virgil Hubregtse identified at home), *Cortinarius* sp. (purple), *Russula* sp. and ?*Hydrellium auratile* with a small, flat brownish zoned cap, pale teeth underneath and brownish stem. These features suggested *H. auratile*, although there was a remote possibility that it was *Phellodon niger*, but to make sure we tried to make a spore print, which would have come out brown for *H. auratile* and white for *P. niger*, but with no success. Virgil Hubregtse also failed to get a spore print, but on examining the fungus found globose spores about 4.5 µm across. At first she thought that they were spiny, but on taking another look at her photos, decided that the 'spines' could indeed be tubercles and that the fungus was most likely to be *H. auratile*.

At The Bump morning foray down the Walk into History Trail (towards Powelltown), the fungi were mostly small and needed careful searching. The Fairy Club *Macrotyphula juncea* was found on a leaf and also on a Rough Tree-fern rachis. The two specimens on the rachis were tall to 80 mm, slender and the white, fertile head was clearly seen. Another small species was the stalked disc *Torrendiella clelandii* (disc diam. to 3 mm) growing on a eucalypt twig. Under a hand lens the yellowish disc surrounded by dark hairs stood out.

It was sad to see the enormous amount of damage to the undergrowth and young trees/shrubs caused by deer. Perhaps their trampling had destroyed most of the large ground-dwelling fungi that we had hoped to see. However, Richard Hartland did point out a large black-capped *Strobilomyces* sp. The cap was 75 mm diameter with dark brown clumps of radiating fibrils clinging down on the grey-black surface and the dark woody stem was 100 mm long. Large tan pores stained red brown. Compare the two examples shown in Fuhrer nos 295, 296 (*A field guide to*

Australian fungi by Bruce Fuhrer 2011). The size and pore stain is somewhat similar to Fuhrer 295 (*A field guide to Australian fungi* by Bruce Fuhrer 2011), although the cap fibres do not stand out so raggedly.

Nick Fischer spotted a cream/brown-capped toothed fungus with decurrent teeth growing in the litter. There was some discussion about the ID – *Hydnum repandum* or *Beenakia dacostae*. The habitat, stem not woody and a tooth length ca 10 mm, pointed to *H. repandum*. Trevor often forayed off the track and called us to see specimens or brought them back on their woody substrate.

On a fallen rotting log was the Peppery Coral *Artomyces austropiperatus* and in the ground in front an off-white-buff coloured coral. The fruit body had a height of 50 mm and multiple branches with both pointed and rounded tips. While *Clavulina subrugosa* is usually found in simple club form, the absence of cristate (feathery) branch tips and roughened branch surface indicated this was *C. subrugosa* rather than *C. coralloides*. Last week at Mt. Macedon we saw the introduced species *C. rugosa* growing in its usual habitat – under Pines.



Cyptotrama aspratrum Photo: Eileen Laidlaw

Eileen Laidlaw noticed the bright orange of Gold Tufts *Cyptotrama aspratrum* growing on rotting wood. It was a perfect young specimen (*photo below*): the cap and stem bristled with bright orange pointed tufts. It was exciting to see this species as we don't often see it. Next to two pink-gilled *Laccaria* species were two yellow-orange Apricot Fungus *Cantharellus concinnus* (*photo p8*) fruit-bodies growing in the ground. The apricot decurrent gills helped in the identification and the photo illustrates the characteristic cross-gills. It apparently has the smell of apricots and the European species is good to eat.

The afternoon foray down the track from the High Lead carpark revealed equally colourful fungi. Bright green *Chlorociboria aeruginascens* discs were growing on a log. The disc colour was more green than blue, and the stem, slightly off-centre was a darkish green. The green-blue staining of the wood by the mycelium was not evident. A study done in New Zealand in 2005 commented that "Fifteen species of *Chlorociboria* are reported for New Zealand, including 13 new species and one new subspecies. All occur on decorticated wood and all are associated with blue-green staining of that wood.... *C. aeruginosa* – is associated with soft, rotten wood with extensive internal blue-green staining... although surface may be unstained... This stain becomes externally visible only on older pieces of wood, where the surface layers have been weathered away...

Chlorociboria aeruginascens subsp. *australis* is macroscopically distinctive amongst the New Zealand species, with a well-developed white bloom on the receptacle, and typically with several, often eccentrically stipitate, apothecia arising from a common black, cushion-like stromatic base. The discomycete biota of New Zealand shares many species with Australia, and it is likely that targeted collecting of this genus in Australia will also reveal a high species diversity." (PR Johnson & D Park, *Chlorociboria* (Fungi, Helotiales) in New Zealand. *NZ Journal of Botany* 2005, vol 43: 679-719). Ruth Robertson spotted a Yellow-green Jellybaby *Leotia lubrica*, that was large (head over 25 mm) for the species and growing in the damp litter. It is nail-shaped with a knobbly head and tall, granular yellow to green

(Continued on page 8)

*Cantharellus concinnus*

Photo: Eileen Laidlaw

stem with a smooth, jelly-like texture. Further along the track we noticed the Elegant Blue Webcap *Cortinarius rotundisporus*. The single mature specimen showed the typical blue cap with a yellow umbo and white-blue stem, the others were all very young and had the most wonderful deep metallic blue caps that were difficult to see in the dark litter. Just as the rain came down heavily we finished looking at some bright red *Hygrocybe* sp. growing on the bank beside the steps. They were fairly small (no taller than 30 mm) and later Jurrie Hubregtse identified them as *Hygrocybe siccitatorpapillata*. Prior to today, this had been "Known only from the Lawson and Hazelbrook areas of the Blue Mountains, NSW; in warm-temperate rainforest gullies; gregarious in soil among moss.." (AM Young (2005) *Hygrophoraceae, Fungi of Australia*, pp 18 plate 15, 64-66)..

Thanks to the photographers Eileen Laidlaw and Torbjorn von Strokirch

Ed and Pat Grey

If you find injured wildlife:

Wildlife Victoria

1300 094 535

Help for Wildlife

0417 380 687

Will connect you to your nearest suitable wildlife shelter

PUT THESE NUMBERS IN YOUR PHONE NOW

FNCV FUNGI GROUP FORAY 7th June 2015

The Ada Tree Rainforest Gully and Wet Sclerophyll Forest

The car park was quickly filled and the track became busy with walkers enjoying the cool, windy day. We were pleased to welcome Wendy Clark, Judy Calvert and Max Campbell to the foray. Before we got underway, Reiner Richter produced two interesting specimens. The world of unknown fungi was expanded by a group of small white columns with gluten at the base growing on a very small branch. Then the Two-toned Pin *Chlorovibrissea bicolor* which Reiner found on rotting wood lying in a wet area. This was a great find as we rarely see this species. The green-yellow heads were supported on stiff, scurfy, greenish stems and a collection was made for the Herbarium.

This is what Reiner Richter had to say about his early finds after he had begun exploring a myrtle beech gully: "This is where I found some unusual glutinous cup fungi. From a distance I thought they were *Leucogloea compressa* but when I got close to photograph them I realized they were quite different. They appear as typical white, stalked discs to around 5mm diameter that are however completely surrounded by a clear jelly from which the top of the cup emerges. These were scattered along about three meters of a fallen branch hanging off the ground, probably of a silver wattle *Acacia dealbata*. Then in a boggy seepage leading to a creek on wood atop the water I found some *Chlorovibrissea bicolor* (photo p9) There were two colonies on small pieces of wood about 10m apart. These featured a greenish-black vertical stipe around 25mm long with a globular orange-brown head. They appeared to dry off quickly once I brought them back to the car park as in their original habitat the stem at least was glistening wet. From records available they seem quite rare and are likely only found on soaked wood in *Nothofagus* forest."

Once on the muddy Ada Tree track

we noted lots of white sterile stipes of *Mycena cystidiosa* weaving through the litter but no fruit-bodies, then several groups of the white *M. maldea* with its associated criniform stipes, growing on bark. Further on several fruit-bodies of the Common Prettymouth *Calostoma fuscum* were growing on the ground at the side of the track, near where we saw them last year. The dark gelatinised strands of the stems supported round brownish heads where the 'mouths' were beginning to turn from red to white.

One puzzle was the almost complete absence of medium to large gilled fungi growing in the ground so the group had to resort to looking for minute and small fungi mainly on wood. Reiner had this to say about one of our minute finds "Near the car park was a colony of *Chromocyphella muscicola* growing on the mossy trunk of a Hazel Pomaderris *Pomaderris aspera*. These are minute cups several millimetres across with a whitish outer surface and light brown, smooth inner surface. They are uncommon with few records but that is probably because they are often overlooked". This was a new discovery for me and Richard Hartland showed the description by G.Gates & D Ratkowsky in *A Field Guide to Tasmanian Fungi* (2014) p 170 "...interestingly is a Basidiomycete... associated with mosses..."

When the particularly large group of people pushed Lyn Meredith off the track she was able to see a white *Hygrocybe* sp. on a Tree-fern stem. As Lyn said, it had pure white gills (so not an *Entoloma* sp.) and a split cap, and Richard identified as *Hygrocybe mavis*. Nearby was a group of beautiful *Flammulina velutipes* and the dark velvety stem was very evident and contrasted with the pale gills and bright orange glutinous cap. A Soft Tree-fern *Dicksonia antarctica* held a number of small (to 32 mm tall), yellowish coral fungi. These were dichotomously branched with bluntly pointed tips, dry and typical of the Delicate Yellow Coral *Ramariopsis crocea*.

Richard Hartland found *Gymnopus* sp. 'pink furry' (photo p9) and noted the particularly characteristic scaly brown-pink cap (cap 8-15 mm diameter) in the young stage. The cap appears covered

(Continued on page 9)



Chlorovibrissea bicolor

Photo: Reiner Richter

with white furry layers which often disappear at maturity while the stem is also coated with a white furry layer, curved and attached eccentrically to the bark substrate (G.Gates & D Ratkowsky in *A Field Guide to Tasmanian Fungi* (2014) p85). This species is distinctive and can be identified with certainty when young. Another distinctive fungi to add to our list.

After lunch we walked down the wide Management Road where slashing on both sides made it difficult to find fungi. Some of the Mountain Ash *Eucalyptus regnans* had troops of *Mycena subgalericulata* growing on the rough bark. A small group of the brown-capped *Psathyrella echinata* was growing on a fallen log. The whitish soft spines were still present on some of the young specimens. One surprise was

finding several very large Sulphur Tufts *Hypholoma fasciculare* growing on buried wood at the side of the road. We usually see this species with caps 20-30 mm diameter but these ranged to 70 mm. While the caps varied from dark brown (old ones) to tan yellow, the characteristic green-yellow gills were still evident.

Thanks to all the forayers with their enthusiasm for spotting fungi on a difficult day. Thanks to Reiner Richter for his additions to the report and to the photographers Richard Hartland, Eileen Laidlaw, Reiner Richter.

Ed and Pat Grey

Gymnopus sp. 'pink furry'
Photo: Richard Hartland



Thanks to the
editorial and layout
team who put together
FNN 257

Joan Broadberry
Wendy Gare

From the Office.....



Thank you for a really generous response to the call for provisions for the kitchen, we've had some very delicious biscuits left for us all to enjoy, as well as tea bags and long life milk. If you do donate long life milk, remember that smaller cartons are best, because a litre never gets used up at a single meeting, and once it's been opened, there's no way of knowing how old it is, so it tends to be left sitting in the fridge till it goes off.

Remember to look on the table in the hall where there are items available which may be of use to you. Just leave a small donation in the tin which you think is a suitable amount.

Please feel free to contact me at the office if you need any help or information: you can be certain that I welcome any emails or phone calls from you. If I don't have the answer, I usually know who does, and your query will be referred to them. I'm here every Monday and Tuesday, 9.30am to 4.00pm, and occasionally on Fridays. Phone number 03 9877 8040, email admin@fncv.org.au

Wendy Gare

Many thanks to those who
helped collate and label
FNN 256

Keith Marshall
Cecily Falkingham
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Neil McLachlan
Ray Power
Margaret Brewster
Joan Broadberry

Extracts from SIG reports given at the last FNCV Council Meeting

Botany Group: Heather Eadon presented on collection of indigenous seed from Whitehorse. Heather showed us photos of plants in flower, with their pods or fruits and photos of the actual seeds (taken using a USB microscope). She explained to us at which point in time to collect the seed, often gauged by visiting the site several times to check on the ripeness of the fruit, and how to collect the seed. Heather also showed us the permit for collecting seed and many actual seeds. Thank you Heather, for a most informative talk.



Fungi Group: Unfortunately, the scheduled speaker was unable to attend our August meeting. Jurrie Huregtse showed a presentation that he has given to several community groups, then Richard Hartland and Paul George showed a number of photos of fungi that they had found recently.



Geology Group: Members of the Geology SIG were expertly led by Professor John Buckeridge and Rob Hansom on August. 15th. We firstly explored the Late Miocene geology on the tidal rock platforms at Ricketts Point. As well as seeing the Beaumaris Monocline, we examined fossilised trees and marine fossils. We then explored the Beaumaris fossil cliffs where striking examples of the echinoid *Lovenia Forbesi* were found. A most interesting day in lovely sunshine and with lots of bird and sea life to explore.



Juniors' Group: In July Meaghan Cullen from Birdlife Australia spoke to us about Beach Birds and the Nesting Project. Why do birds live on the beach? For food! There they can find heaps of delicious things to eat such as oysters, clams and mussels.



But it can be a pretty dangerous environment. How can these birds survive there?

The birds use many techniques to make sure their young are kept safe. They lay spotted eggs for camouflage in nests high up on the beach, well out of the way of the high tide line. Some birds can be quite aggressive when protecting their nests, and some even play tricks – such as pretending to have a broken wing in order to distract a predator!

Unfortunately, even after all this, only one in five nests hatch. Why?

This is due to human impact, unfortunate natural causes (such as violent storms), and predators – which includes other birds!

After 28 days, eggs in successful nests will hatch, but it's not over yet! The birds still can't fly for 35 days! At this time they are very vulnerable and an average of only one in six chicks survive. As a result of this, bird numbers have dropped down in many species – but don't worry too much, because we can help!

But how? Well, we can take some really simple steps while we're on the beach by keeping dogs on leashes, staying on the tracks and not wandering off, ESPECIALLY not into fenced off areas, walking along the water's edge to keep clear of any nests that may be higher up and generally just giving nests lots of space if you see them.

Chick Shelters are set up by organisations such as Birdlife Australia. These are designed to protect the chicks from overheating, predators and humans.

Birdlife Australia is working hard to bring bird survival rates up to equal those in remote areas – that is, areas with no human pressure affecting them. Currently they have around 600 volunteers who go out and find bird nests and put up shelters and signs, among other things. If you want to get involved as a volunteer you can go to www.birdlife.org.au/support-us/volunteer/. They also have researchers who monitor bird numbers, breeding success and population demographics and dispersal, and educators who raise awareness about the birds and how to help.

Microscopy Group: Mark O'Laughlin spoke at our August meeting. His talk was about the Eastern Antarctic Marine Survey in which he was involved in 1993. Mark's role was to survey the bottom dwelling invertebrate animals (benthos) in the icebreaker Aurora Australis. The ocean depth ranged from 1000 to 2000 metres (outer depths nearly 5 km). Antarctica is the highest continent, driest continent, windiest continent and the coldest continent. It holds 70% of the world's fresh water.



Methods of sampling are the "grab" and the "Epibenthic sled". Mark was given pre-determined grab and sled sites to survey. Grab jaws are lowered to the ocean floor, sometimes up to 5 km. The sled is dragged along the sea floor. The contents are emptied into a nest of sieves and then the huge sorting task begins.

Mark's area is echinoids - sea stars, feather stars, sea cucumbers, sea urchins and brittle stars. These were all found in plentiful levels along with corals and barnacles (huge), sponges, (put in deep freeze) for bioassay research. Of the 187 sea cucumbers found, 51 were undescribed.

Mark spoke of DNA testing results which produce a "Phylogenetic Tree" of the discoveries, allowing genetic comparisons of specimens of "assumed same species" from different parts of Antarctica.

Mark's career has taken him all around the world, several times it seems! His expertise has been requested by many eminent researchers and institutions with which he has shared his knowledge and assisted many in their work.



Marine Research Group News

Report on MRG meeting Monday 13 July 2015: Dr Rob Jones and Dr Jon Daly of Melbourne Aquarium spoke on the topic: **“The use of reproductive technologies in breeding programs for elasmobranchs in aquaria”**

Aquarium breeding programs have traditionally relied on natural breeding, but mating can be sporadic or non-existent and is not amenable to being controlled. It can also potentially be affected by many factors in captivity. Artificial methods of reproduction enhance the goal of achieving self-sustaining populations, which is the aim of all respectable institutions that display and maintain captive animals. Melbourne Aquarium has had success in breeding of gentoo and king penguins. It is also active in developing techniques to assist in artificial reproduction in elasmobranchs (sharks and rays), with the hope of being able to assist endangered species such as the grey nurse shark.

The first steps involve capture and examination of animals. Melbourne aquarium has developed a method of catching and assessing captive elasmobranchs as well as a behavior score to assess stress levels during this process. Examinations are limited to a maximal period of 10 minutes.

Reproductive technologies employed to assess reproduction capacity include ultrasound, hormone analysis and semen collection. Reproductive technologies employed to control reproduction capacity include artificial insemination, hormonal implants and sperm cryopreservation. Ultrasound is used in female elasmobranchs to monitor folliculogenesis, pregnancy, routine health, and reproductive disease.

Semen has been collected from a range of elasmobranchs including the grey nurse shark, seven-gill shark, white-tip reef shark, brown banded bamboo shark, smooth stingray and sparsely spotted stingaree. Two techniques are employed: a catheter with syringe attached is passed directly into ampulla of the ductus deferens (where sperm are stored), or semen is obtained via gentle massage of the ampulla via the colon. Sperm are activated by seawater and sperm motility is

assessed using light microscopy.

Artificial insemination has been trialled in a number of elasmobranch species: *Raja eglanteria*, *Chiloscyllium plagiosum*, *Scyliorhinus torazame*, *Chiloscyllium punctatum*, *Stegostoma semifasciata*, *Carcharias taurus*, and *Notorynchus cepedianus*. So far it has only been successful in a few species. The process involves insertion of a catheter into the uterine horn of the female, with the semen then deposited, and seawater is used to flush sperm through.

Sperm cryopreservation is currently utilised or being studied in many aquatic groups, such as teleosts (e.g. catfish, zebra fish), mollusca (e.g. oysters, abalone), and also (currently in the preliminary stages) in elasmobranchs.

The program at Melbourne Aquarium has had a number of achievements in the study of elasmobranch reproductive biology. These include:

- the development of a safe and effective shark catch-out and examination technique;
- use of ultrasound to monitor follicle development in female seven-gill sharks;
- collection of semen from a variety of elasmobranchs using different techniques. This has enabled the establishment of an annual cycle of semen production in several species with data available on variations in quantity, quality and motility over the time-course of the annual cycle.
- the accurate study of the reproductive anatomy of several male and female elasmobranch species
- establishing that elasmobranch semen will retain good motility with chilling at 4 C for up to 1 week.



Shark catch-out at Melbourne Aquarium employing strong plastic sheeting. Photo: Drs. Rob Jones & Jon Daly.

The grey nurse shark *Carcharias taurus* (also known as the sand tiger shark or ragged tooth shark) is one of the most

popular aquarium sharks worldwide. However, few aquaria have successfully bred grey nurse sharks. The species is classified as vulnerable (IUCN) and the Australian east coast population is listed as critically endangered (with a population of less than 1500).

Grey nurse sharks give birth to live young. Initially there are up to twelve embryos. The species exhibits uterine cannibalism (adelphophagy), with the most advanced embryos consuming their siblings as well as yolky, unfertilised eggs. The gestation period is 9-12 months and only 2 pups develop to term. Reproduction takes place every second year.

Difficulties with grey nurse shark artificial insemination include:

- greater difficulty in collecting semen due to uro-genital papilla containing four openings (two urinary and two seminal openings) which are not visible; and
- females have small ovarian follicles which only grow to 1.0 cm and so their maturation is more difficult to follow with ultrasound in order to decide when to best inseminate

In terms of the future of aquarium breeding programs, the use of artificial reproductive techniques in large sharks is still in the very early stages of development. It is expected in future to become an integral part of aquarium breeding programs. Aquaria will increasingly need to strive towards sustainable populations of all species in their care. With cryopreservation of gametes, gene banking and genetic management also becomes possible.

Thanks go to the presenters for making their powerpoint talk available and also to Leon Altoff for his notes— these have enabled the compilation of this report.

Further reading:

Daly J, Gunn I, Kirby N, Jones R and Galloway D (2007). Ultrasound examination and behavior scoring of captive broadnose sevengill sharks *Notorynchus cepedianus* (Peron, 1807). *Zoo Biology* 26: 1–13.

Edgar GJ (2008). Australian marine life. The plants and animals of temperate waters. Second Edition. New Holland, Sydney.

Platon Vafiadis



The President & Council of the Field Naturalists Club of Victoria
have pleasure in inviting you to the presentation of the

2015 Australian Natural History Medallion

*Awarded to Margaret MacDonald OAM
for her contribution to botany and conservation*

Monday 9th November 2015
1 Gardenia Street Blackburn 3103

The medallion will be presented by Dr W.D. Birch AM,
President, Royal Society of Victoria

*Following the presentation Margaret will address the meeting,
speaking on: terrestrial orchids and the beauty of the Anglesea district, including the
O'Donohue Heathlands.*

Reception, with two-course buffet, 6.30 pm. Cost \$22
Please book—see below

Presentation of the Medallion — 8 pm.
No need to book if attending the presentation only

RSVP for buffet by 23rd October to
Wendy (03) 9877 9860. email: admin@fncv.org.au



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Reg.No. A0033611X

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