Field Nats News No.264

Understanding Our Natural World
Est. 1880

Newsletter of the Field Naturalists Club of Victoria Inc.
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June 2016

From the President

This past year has gone faster than any I can recall, so I must be having a lot of fun indeed. The Annual General Meeting on May 1st saw the election of a new Council, pretty much the same people as the previous one. There was a reasonable turnout of members who enjoyed an excellent presentation on Fungi by Sapphire McMullen Fisher. There are still a few positions on Council to fill and I would be delighted to discuss them with anyone who would like to contribute to the running of our remarkable organisation.

Another year with plenty of interesting FNCV activity lies ahead including field trips, forays, meetings, workshops and of course the Biodiversity Symposium in October. This year's symposium will be presented by the Fauna Survey Group and will focus on reptiles and amphibians. I have no doubt that it will be heavily subscribed so make certain you have it in your diaries and book your seat as soon as it is advertised. The symposia not only showcase the FNCV's professionalism to the broader community, but provide our members with the opportunity to attend interesting and highly informative forums of the highest standard.

The fungal forays have started again and are an excellent opportunity to participate in traditional, hands-on, naturalist activities. The fungi themselves are also micro-habitats, supporting an assemblage of interesting, microscopic invertebrates. There are numerous specialised insects and other arthropods that live in and on fungi.

When I recently enlarged some images of a *Mycena sp*, I noticed a number of tiny psocids and collembolans sitting on the surface; almost invisible to the naked eye. The places where fungi are found are also home to many other organisms including cryptogamic plants, lichens, protozoa and invertebrates in general. Mosses in particular are interesting micro-habitats.

After the April Botany Group meeting , I took home some mosses that were left over from the evening's workshop. I made up a few live preparations for microscopical examination and spent the next 5 hours recording the protozoa and other small organisms that abound in the roots and substrate. I am still studying the samples over 5 weeks later and finding more organisms and observing their remarkable behaviour. Amoebae, actinopods, ciliates, testate rhizopods, flagellates, tardigrads, gastrotrichs, turbellarians, insect larvae, collembolans, rotifers, ostracods, copepods and tiny oligochaetes are present in considerable numbers. I was able to watch and

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Extraordinary ciliate from sphagnum moss

The deadline for FNN 265 July 2016 will be **10 am on Tuesday 7th June 2016.** FNN will go to the printers on the 14th with collation on Tuesday 21st June.

Elephant trunk ciliate, *Dileptus sp.* from Spahagnum moss.

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CALENDAR OF EVENTS

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

JUNE

Sunday 5th – Fungi Group—Foray: ***Location to be advised.*** Meet at 10.30 am: the destination will be decided closer to the date and all those on the email list will receive prior notification. Contact Virgil Hubregtse 9560 7775

Monday 6th - Fungi Group—Meeting: ***Members' Night.*** Contact Virgil Hubregtse 9560 7775

Tuesday 7th - Fauna Survey Group—Meeting: ***Seaweed - A Critical Resource for Sandy Shores***
Speaker: Briony Hutton, Honours student, Deakin University. Contact Sally Bewsher 9752 1418

Friday 10th to Monday 13th - Fauna Survey Group—Survey: ***Arboreal Mammal Survey at Deep Lead near the Grampians***
Contact Robin Drury 0417 195 148; robindrury6@gmail.com

Sunday 12th – Juniors' Group—Excursion: ***Behind the scenes at Melbourne Museum*** with Patrick Honan. Meet in the lobby at 10 am - Bookings essential as limited spaces. Contact Claire Ferguson 8060 2474; toclairef@gmail.com

Sunday 12th – Fungi Group—Foray: ***Dom Dom Saddle.*** Meet at 10.30 am in car park on Maroondah Highway B360 South of Narbethong in the Yarra Ranges (Mel Ed 37 Map X912 S1) (Vic Roads Ed 8 Map 80 C3). Contact Virgil Hubregtse 9560 7775

Monday 13th - Marine Research Group—No Meeting: ***Queen's Birthday Public Holiday***

Wednesday 15th - Microscopy Group—Meeting: Speaker to be advised. Contact Philippa Burgess 0409 866 389

Thursday 16th – Botany Group—Meeting: ***Aboriginal use and management of plant resources in the Melbourne area***
Speaker: Dr Gary Presland. Contact Sue Bendel 0427 055 071

Sunday 19th – Fungi Group Foray: ***Location to be advised.*** Meet at 10.30 am: the destination will be decided closer to the date and all those on the email list will receive prior notification . Contact Virgil Hubregtse 9560 7775

Tuesday 21st—Collate FNN. Starting about 10.00 am. All welcome. Contact Joan Broadberry 9846 1218

Wednesday 22nd – Geology Group . Meeting: ***Evolution – its role in diversification and extinction in animal lineages***
Speaker: Dr Sanja Van Huet, School of Life & Environmental Sciences, Deakin University.
Contact Ruth Hoskin 9878 5911; 0425 729 424; rrhoskin@gmail.com

Friday 24th – Juniors' Group—Meeting 7.30 pm. ***Australian fungi.*** Speaker: Bruce Fuhrer.
Contact Claire Ferguson 8060 2474; toclairef@gmail.com

Sunday 26th – Fungi Group—Foray: ***Blackwood, Jack Cann Reserve.*** Meet at 10.30 am in Garden of St Erth Carpark, Simmons Reef Road (Mel Ed 37 Map X909 E11). Contact Virgil Hubregtse 9560 7775

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

Tuesday 28th – Day Group—Meeting: ***What's the buzz? A peek into the lives of our native bees: nesting, mating & roosting.*** Speaker: Linda Rogan. Meet at 10. 30 am for coffee and a chat. Speaker at 11 am.
Contact Joan Broadberry 9846 1218.

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

Members' news, photos & observations

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

Welcome

Warmest greetings to these new members who were welcomed into our club at the last Council meeting*: Monique Decortis, Pam O'Sullivan, Su Strafford, Chris Taylor, Melissa Turnbull, Ben Roberts, Tim Bawden and Rosalind Smallwood.*

bookshop@fncv.org.au

for any orders or bookshop queries.

If you don't have access to email, the FNCV office will pass on your message. Kathy will then be in contact with you.

The FNCV would like to thank to those who helped at the working bee on Friday 15/4:

Debb Zinn
Barbara Burns
Max Campbell,
Sue Forster (joined the Club in January)
Anne Marie MacArthur (also joined in January)
Diane Droog.

Great to have new members getting involved.

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

FNCV Facebook =2656 members

Many thanks to those who helped collate and label FNN 263

Sheina Nicholls
Margaret Corrick
Andy Brentnall
Edward Brentnall
Hazel Brentnall
Cecily Falkingham
Keith Marshall
Joan Broadberry

Thanks to the editorial and layout team who put together FNN 264

Joan Broadberry
Wendy Gare
Sally Bewsher

The Otway Black Snail *Victaphanta compacta* is only found in wet forests and cool temperate rainforests in the Otway Ranges, Victoria. It is one of four species of *Victaphanta* in the family Rhytididae, being carnivorous land snails and one of five species of carnivorous land snails found in the Otway Ranges but it is the only carnivorous land snail endemic to the Otway Ranges.

The body of the snail is grey-blue to black; the shell is spherical with four whorls and varies from a glossy dark brown to black with varying tinges of yellow-brown on the inner whorl. The shell has a maximum diameter of 28mm and is positioned towards the tail of the body. The shell is thin, light weight and moderately flexible and comprised mostly of conchin. **J. Broadberry**

CONGRATULATIONS PHIL

Phil Bock has just been awarded the inaugural Ellis Medal at the recent 17th International Bryozoology Conference. The conference was hosted here in Melbourne with pre and post conference trips to Adelaide and Tasmania.

Members are invited to the celebration of: the Club's 20th anniversary in Blackburn; and the launch of a history of the Club.

Understanding our natural world:
The Field Naturalists Club of Victoria 1880–2015
by Gary Presland

Friday, 8 July 2016, 4 pm for 4.30–6.00 pm
FNCV Hall, 1 Gardenia Street, Blackburn
RSVP to Wendy Gare: admin@fncv.org.au; 9877 9860 (leave message)
by **Monday, 27 June 2016**

Light refreshments will be served

EDITOR REQUIRED

On the job training available

Do you have experience or a strong interest in one or more of the following areas?

- Science, biology or natural history;
- Proofreading or editing skills;
- Desktop publishing experience (preferably InDesign);
- Science publishing.

Please phone Gary Presland (9890 9288) or Anne Morton (9790 0711) to discuss joining the editorial team of *The Victorian Naturalist.*

(This is an honorary position)

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record a tiny single-celled actinopod catch and consume a multi-celled gastrotrich over a period of 4.5 hours.

There are few experiences as remarkable as peering into the microscopic world with a good microscope to observe the myriad living things and their dramas as they play out in incredible detail. Sixty years of playing with microscopes has not dampened the excitement and anticipation of what the next sample will reveal. It is seldom disappointing. Fungi, moss mats, lichens and leaf litter support incredible levels of biodiversity. Even an average garden can provide the resources for many hours of pleasant and rewarding investigation. If you own a microscope get it out and have a go.

Max Campbell


Actinopod from moss


Actinopod with gastrotrich


Enveloping the gastrotrich

Fungi Group

FNCV FUNGI GROUP FORAY 17th April 2016

CAMBARVILLE

Wet Eucalypt forest with Mountain Ash and Rainforest of Myrtle Beech (*Nothofagus cunninghamii*). As we came up through the mist to Cambarville, we were hopeful that it would be damp or even wet. It wasn't. But there were quite a number of species although not many of each, apart from *Mycenas, Entolomas, Austropaxillus infundibuliformis* and *Cortinarius* sp. 'khaki brown'. We did find that some fungi had benefited from earlier rain and were over-mature, but others were just coming up, young and fresh.

Around the edge of the picnic area and the start of the Cambarville Walk to the Big Tree, there were a variety of Mycena species, some grey ones on the large fallen log and some in the litter. Those in the litter had a dry cap with a whitish nipple-like umbo. I thought that they were very dried out *M. albidofusca* (brownish cap and distinguished by the translucent 'lens' in the centre), but other forayers thought that they must be *M. austrofilopes* (greyish-pale brown conical cap with a whitish bloom covering the grey-brown) because they didn't look like any of the images in our fungi books, and they were right. Virgil Hubregtse has done the microscopical work on them and confirmed that they are *M. austrofilopes*.

At the start of the track there were a variety of fungi to be seen. On a patch of bare earth Lachlan Tegart saw one small concave disc of the Orange-peel Fungus *A leuria aurantia.* This species is often seen in large groups of caespitose, largish, flattish or undulate discs on the edge of picnic areas or roads. A similar species is the Stalked Orange-peel Fungus *A. rhenana* but is distinguished by having a pale stalk. Two similar-looking gilled species with pale-brown caps were handed to Virgil Hubregtse who was able to determine that one was a Tubaria sp (pale cap, brownish gills and a fibrillose stem) and the other, a Laccaria sp., a pale cap which hygrophanised from the centre to the margin in the dry weather and gills with a pink bloom, which is a sure indication of a Laccaria sp. An example of one of the most delightful *Mycenas*, the blue *Mycena interrupta* was on a small log and showed all phases of development: the immature blue tuft; the blue cap emerging; blue cap on white stem with blue basal disc (photo above). *Austropaxillus infundibuliformis* were just coming up. None of them were very large, but had the typical yellow-brown suede-like cap, pale gills that were forked near the margin of the cap and a sturdy, pale stem.

Further down the track at a more open junction there was a beautiful semi-circle of *Russula* species (photo p 12) in an arc near a tall Mountain Ash. They had red-vinaceous caps, white gills and stems, either white with a pink blush or deep pink all over. There was a discussion as to whether these were *R. clelandii* or *R. lenkunya*. CA Grgurinovic (Larger Fungi of South Australia 1997) had described *R. lenkunya* but did not discus *R. clelandii*. However, Lachlan Tegart, who is doing a masters degree under the supervision of Teresa Lebel in the Herbarium, notes – "My material says that *R. lenkunya* isn't really used (It was used in the book, CA Grgurinovic. *Larger Fungi of South Australia* 69-70, (1997) SA), and we prefer to use *R. clelandii* (which has a really broad description and I suspect that it has a few cryptic species in it)". N Bougher and K Syme (Fungi of Southern Australia 1998, p 144) define the differences "*R. lenkunya* shares many similar fruit body and microscopic characters with *R. clelandii*, but differs in lacking a gelatinised pileipellis and having a cap structure of hairs subtended by cells" Thus *R. clelandii* group is used to cover a complex of species including *R. lenkunya.*

Nearby there were two fruit-bodies of the Spotty Toad *Descolea recedens* in poor shape, but a few yellow scales remained on the caps, and the large

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Mycena interrupta Photo: De'ana Williams

Fungi Group Meeting
4th April 2016

From seashore to snowmelt: fungal tales from the land of the long white cloud

Presentation by

Dr Teresa Lebel, Senior Mycologist, Royal Botanic Gardens Victoria

Dr Teresa Lebel entertained us with some very interesting accounts of her recent research in New Zealand, as the recipient of a 2-year fellowship honouring Dr Ross Beever (mycologist, mentor, naturalist and philosopher) who died in 2010. Teresa said that it was a real honour to be able to complete some of Ross's research, and to provide his data to people working on plant pathogens and viruses, plant physiology, and germination of rare plants. Teresa was involved in a number of projects, and discovered a new genus of truffle and a new species of *Pisolithus*.

Fungal basics

The fruit-body we see is only a small, ephemeral part of the fungal individual: the main vegetative body or mycelium is present in the substrate as microscopic filaments called hyphae, and can be long-lived.

Some fungi fruit multiple times in a year; others may fruit only once in a decade or only when the host or associated plant community reaches maturity, a process that can take more than a hundred years.

Some culturing from soil/ wood/ leaves/ roots is still done, but new techniques for sampling all the DNA from samples (e.g. spores, mycelium, fruit-bodies living and dead, soil, decayed leaves) are providing an extra tool for examining fungal communities in and on various substrates.

Unlike plants, fungi do not photosynthesise; they have an amazing array of enzymes that can break down just about anything, including rock, horn, feathers and lignin. They secrete these enzymes into the substrate, then absorb water and nutrients back across the hyphal wall. Thus they can gain their nutrition/ carbohydrate/ sugars from a range of sources of living or dead organic cells.

Some fungi of special interest

Cordyceps kirkii

This fungus attacks only one of more than 70 species of Weta, the 'Stephens Island Weta' *Deinacrida rugose*, and has been found only twice, in 1922 and 2014. (Teresa witnessed the 2014 collection and helped with the DNA extraction). Both the fungus and the Weta are rare and threatened, but New Zealand is proactive with regard to 'island threatened species recovery': with captive breeding programs and translocations to predator-free islands, the population size and distribution of the Weta is increasing. This could be good news for the *Cordyceps* too!

Claustula fischeri

This rare stinkhorn is known from only two sites in NZ and two in Tasmania. (In fact the NZ fungus may not be the same species as the Tasmanian one.) The NZ site at Fringed Hill, Nelson, was under threat, since it is in a well-known mountain bike trail area where five new trails – three of which would go right through the middle of a hotspot for truffle diversity – were proposed. Teresa had the interesting experience of participating in a meeting where council, mountain bikers, naturalist groups, tramping groups and representatives of the forestry industry came to an agreement: the tracks were realigned to avoid the main vegetation type, a management plan was developed to increase coverage of the vegetation type, and a moratorium on pine plantations in the vegetation type was proposed.

Stephens Island Weta *Deinacrida rugose*

Cortinarius napthalinus

This is a very distinctive species – incredibly gloopy and smelling very strongly of mothballs.

Phytopthora taxon *agathis* (Kauri dieback)

This pathogen kills the magnificent Kauri trees ('lords of the forest'). Other native plants occurring in Kauri forests are not affected.

Pisolithus species

A company wanted to bring a mycorrhizal inoculum from the USA to improve growth of pines in the extensive plantations on both the north and south islands of NZ. As part of quarantine regulations they had to show that the fungi were either already in NZ and/or that they weren't going to be invasive. Teresa was asked to provide a report to the quarantine regulators, with recommendations.

The main ectomycorrhizal fungus in the inoculum was *Pisolithus tinctorius*. Teresa checked all research on pines and ectomycorrhiza, and found that this species does not occur in NZ (nor in Australia). In NZ, *Pisolithus* fruit-bodies are found only in an extreme habitat, the thermal areas, which are acidic and moist, with high mineral sulphurous clay, elevated temperatures and very few plant hosts. Fruit-bodies

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Cordyceps kirkii on Stephens Island

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were found only with native *Kunzea*, none with pines.

Teresa's DNA work confirmed the presence of three described species (*P. albus*, *P. marmoratus*, and one new record for NZ – *P. croceorrhizus*) and one new species, *P. thermaeus*. Although the inoculum was officially approved, it was rejected a few months later.

Tricholomopsis rutilans (Plums and custard)
This saprotrophic fungus was initially thought to be an endemic NZ species, but DNA analysis showed that it is the same as that which grows with pines in USA, and is moving into native forest. (Two USA collections, by contrast, were found to be new species!)

Ileodictyon cibarium (Wrinkled Cage fungus)
In NZ, this fungus grows on beaches and coastal dunes. The Maori name is *tutae kehua* (faeces of ghosts) or *tutae whetu* (faeces of the stars). In this sandy environment the 'eggs' are almost conical rather than spherical, and sometimes three fruit-bodies can emerge from a single 'egg'. Despite morphological and habitat differences, DNA showed that this fungus is the same as that growing in mulch and woodchips in Australia.

Truffle research

Molecular tools have shown that the truffle form has arisen many times over, in almost all major lineages of mushrooms and cup fungi, and also within a family or genus. Therefore it can't be assumed that truffle species sharing some characters are actually closely related. Teresa found that the truffle genus *Weraroa* (pouch fungi) is a somewhat extreme case of convergent evolution of fruit-body form in multiple lineages in the family Strophariaceae: species of *Weraroa* have evolved from at least 6 different genera within this family.

In the case of the genus *Stephanospora*, Teresa found that the truffle fruit-body form has arisen once or twice only and then diversified, remaining truffle-like. The type species, *S. carot-icolor*, along with a species from Puerto Rico and a new species from NZ, are in a separate clade from most other species, and may even be in a distinct genus. While doing this research, Teresa also discovered a new genus.

Australian truffles are adapted to mammal mycophagy. Most, even those with remnant stipes, are hypogeous/buried, and more than 50% have distinctive odours. Although there are some colourful species, most are white, tan, yellow or orange.

New Zealand truffles, by contrast, appear to be adapted to bird and lizard dispersal. (NZ has only one native mammal, a bat, plus introduced possums.) Teresa is collecting data on the number of truffle species with long stipes and colourful fruit-bodies, attractive to birds and lizards. Most NZ truffles, even those with remnant stipes, are emergent, and often fruit at the same time as the plants around them.

New Zealand's rare snow bank truffles occur where snow banks are melting, and have been found only at high elevations, close to the subalpine zone. There are five species, but only one, *Nivatogastrium baylisianum*, was found (for only the second time in 50 years!) during Teresa's stay.

Virgil Hubregtse

Vale Alan Parkin

The FNCV notes with sadness the death of Dr Alan Parkin on 18th April 2016. Alan was elected to the Club in December 1958 and was a member of Council from 1975–76 and 1989–90. He was FNCV Secretary from February to May 1976, and Assistant Secretary from May to September 1990. In the early 1980s it was Alan who handled the sale of FNCV publications for the Club.

Alan was an active member of the Geology Group and also a contributor to *The Victorian Naturalist*. He published a couple of papers in 1962 and a further six between 1992 and 2004.

In 1980, a part of the celebration of the Club's centenary was a picnic for members, which was held at 'Fernleigh' a property owned by Alan and his sister Ruth (also a member) on Bruce's Creek, near Whittlesea.

The President and membership extend their condolences to Alan's family.

This newsletter is printed on recycled paper.

Extracts from SIG reports given at the last FNCV Council Meeting

Botany Group: Kyle McLoughlin, a Canadian arborist was our presenter. His topic was: *From ancient cedars to invasive species: five facts worth knowing about Ontario's forest.* Ontario only has four forest ecosystems for over one million square kilometres, compared with Victoria's many. Kyle described these and spoke about the Niagara Escarpment which is an urban UNESCO world biosphere reserve. An excellent night for me and the six of us who attended on a very wet evening.

Fauna Survey Group:

Parker River, Cape Otway, 25-28th March.

Over Easter, 14 members and visitors carried out a fauna survey at Parker River, near the Cape Otway lighthouse. This was one of our projects with Parks Victoria. We camped in a sheltered area overlooking the mouth of the river. The weather was mild with an occasional shower.

Sugar glider in nest box, Rushworth *Photo:* Su Dempsey

We had four main survey sites where we deployed 320 Elliott traps, 20 cage traps and 19 cameras. We also deployed 3 bat traps over 3 nights and undertook some spotlighting.

The trapping revealed no surprises, with the capture and release of Bush Rat, Swamp Rat and Agile Antechinus. Bat trapping only realised a Chocolate Wattled Bat.

Spotlighting revealed the abundance of Koalas in the area with 12 being spotted along a 500 metre section of road. Along that same section, a Yellow-bellied Glider and a Powerful Owl were also spotted.

The cameras were collected three weeks later and one highlight was the occurrence of rare Long-nosed Potoroos at a few sites, mostly old heathland.

Meeting, 5th April. The meeting was attended by 23 members. The speaker for the evening was Kath Handasyde on Echidnas.
The Short Beaked Echidna is the most widely distributed mammal in Australia and being mostly diurnal, familiar to naturalists.
Most of the talk covered less well known facts on the physiology, food and breeding.

Phascogale in nest box, Rushworth
Photo: Su Dempsey

Rushworth Forest Survey, 23-25th April. This survey camp was attended by seven members. We checked 139 nest boxes, 24 of which contained animals. This compares with three boxes containing animals in the heat of January. Five Brush-tailed Phascogales were present compared to one in January and 24 Sugar Gliders present this time, compared to six in January. Two Squirrel Gliders were in a nest box in Plains Yellow Box woodland habitat.

Geology Group: At the March 23rd meeting of the Geology SIG, Dr Neil Phillips spoke on the formation of gold deposits as well as giving a most informative look at the global economic status of gold mining. I found particularly interesting his statistics outlining the dramatic revival of Australian gold production since 1979, whereas production in South Africa has declined because their old mines now are more costly to mine. His talk reflected Neil's wide ranging experience as a Consultant with Phillips gold Pty Ltd and a Professorial Fellow with the School of Earth Sciences, University of Melbourne.

Annual General Meeting

Welcome Meeting opened at 2.05 pm. Maxwell Campbell welcomed 24 members and one visitor. Six proxy votes were also registered.

Apologies

There were 13 apologies: Audrey Falconer, Leon Altoff, Peter and Su Dempsey, Linden Gillbank, Sarah and Geoffrey Patterson, Annabel and Geoffrey Carle, Sheina Nicholls, Bruce McGregor, Sally Bewsher and Kathy Himbeck.

Minutes of 2015 AGM

Motion: to accept the Minutes of 2015 AGM as true and accurate record of the events.
Moved: Andy Brentnall, Seconded: Ken Griffiths—Motion Carried.

The Annual Report 2015 has been sent via email to all members on line and was distributed at the meeting. If you would like a hard copy, please contact the office.

President's Report

See president's report from Annual Report 2015.
Motion: to accept the President's Report for 2015
Moved: John Harris, Seconded: Claire Ferguson— Motion Carried.

Treasurer's Annual Accounts year ended 31/12/2015

Treasurer presented the annual accounts to the AGM (See annual report p17-20)
The Treasurer reported that 2015 had been a successful financial year with revenue increasing by $3,000 even though no government grants were received. Our membership numbers were up and Ian Kitchen was congratulated for his maintenance of the Facebookiwhich now has over 2,600 followers. Kathy Himbeck was also thanked for her work maintaining the bookshop.
Motion: to approve the Annual Accounts for the year ended 31/12/2015 as presented to the meeting.
Moved: Edward Brentnall, Seconded: Bob Rowlands— Motion Carried.


Barbara Burns, treasurer

Appointment of Auditor

Motion: to accept Susan J Harkin as Honorary Auditor for 2016.
Moved: John Harris, Seconded: Edward Brentnall— Motion Carried.

Notice: Special Resolution

Council recommends the following increase in membership rates, from 1/7/2016:

Single	$82
Family	$107
Single Country/Concession	$62
Family Country/ Concession	$82
Student	$37
Junior Family	$49
Junior additional	$16
Schools/ Clubs	$94
Institutional	$164
Institutional overseas	$176

Motion: That this General Meeting of The Field Naturalists Club of Victoria Inc. approves the increase to the current membership fees to commence on 1st July 2016, as recommended by Council.
Moved: Joan Broadberry, Seconded: Edward Brentnall— Motion carried.

Environment Fund Recipients and Reports

As per Environment Fund report, see Annual Report 20152016 Recipients:

- FNCV Juniors' Group: Replacement of 2 toilet tents and purchase of petrol powered auger for use on the group's regular program of camping trips. A cheque for $600 was presented to Claire Ferguson.
- Phoebe Burns, PhD student, Melbourne University: Phoebe is studying the environmental determinates of Smoky Mouse (*Pseudomys fumeus)* populations in the Grampians-Gariwerd National Park and investigating the potential relationship between soil moisture and rainfall and Smoky Mouse abundance. Her cheque of $460 will be used to purchase a soil moisture probe ($190) and rechargeable batteries and charger ($270).
- The Bairnsdale FNC Juniors will use their cheque of $1,000 to purchase three dissecting microscopes – Model MoticRED20-S at $358.67 each.
- The Sale FNC will use $1,000 to publish 2000 brochures titled "100 Significant Birds of the Sale Common State Game Reserve".


Phoebe Burns


Moira Minty with Max Campbell

Presentation of Long Term Member's Certificates

Five members were awarded certificates of Long-term Membership in recognition of being a member of the FNCV for a continuous period of 40 years. One of them was present to receive her certificate. The five members were congratulated and thanked for making valuable contributions to the club: Lesley ROBERTSON; William TAYLOR; Dr Bruce McGREGOR; Moira MINTY; Professor Rob WALLIS

Moira Minty attended the meeting and was presented with her long term member certificates. Moira described her involvement in the Club and expressed thanks for the many valuable experiences with Club activities over the years.

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Day Group

Wildflowers of the Mojave & Sonoran Deserts.

Speaker: Lynsey Poore

The April meeting of the Day Group enjoyed a wonderful presentation from Lynsey Poore titled, *Wildflowers of the Mojave and Sonoran Deserts.* In early spring last year, Lynsey and her husband Gary, went on a road trip, exploring some of the southwest of the USA. The two areas she spoke about were only a small part of their holiday. Lynsey has a great eye for photography and botanical detail. Her presentation was overflowing with beautiful images and fascinating insights into the wonderland of plants and spectacular scenery they discovered. Lynsey was also kind enough to lend me her notes and allow some of her photos to be included in FNN. Limited space allows me to highlight only a very few of the large number of species and landscapes she introduced us to.

The four major deserts of North America are in the Southwest and each have distinctive rainfall regimes, temperature extremes, soils and characteristic vegetation. The Mojave Desert is the driest and smallest with an average rainfall of 2 - 5 inches falling in winter and spring. The Sonoran Desert is a hot, subtropical desert that ranges from below sea level to 3,500ft and covers 100 thousand square miles has a bi-seasonal rainfall pattern and mild winters. It is famous for the saguaro, legume trees, many cacti, shrubs, perennials and annual wildflowers. Displays of wildflowers depend on rainfall, so if there is not enough, these displays are not present. However, if rain has fallen the desert suddenly blooms into a garden. Lynsey and Gary were lucky that the wildflower season was good. This is very similar to what occurs in Western Australia.

One of the most distinctive plants of the region, dominating the landscape, is the the Joshua Tree (*Yucca brevifolia*). It is found in the higher elevations of the Mojave desert from approximately 2000 – 6000ft and also grows at the edge of the Sonoran desert in northwest Arizona. It can reach 12 metres tall and has many branches. It was named by Mormon Settlers who crossed the Mojave Desert in the mid 19th century, the name deriving from the Biblical story in which Joshua reaches his hands up to the sky in prayer. The wood was used for fencing and fuel so many of these very slow growing trees have been lost. Lynsey and Gary visited the small Joshua Tree National Park in southern California which showcases this tree. (See accompanying map.)

Another iconic species is the Beavertail Cactus, *Opuntia basilari,* common in the Mojave and Sonoran deserts. A photograph of the attractive flowers is below. The cactus, which has large flat, rounded leaves, free from spines, forms low growing dense clumps up to seven feet wide. It was widely cultivated by Native Americans. Poultices were made from the pads for cuts and wounds and as a pain remedy.

The deserts of the American southwest are also home to many reptiles which Lynsey and Gary occasionally sighted opportunistically. The Zebra-tailed Lizard *Callisaurus draconoides* measures about 10cm and moves very swiftly. It seemed to be waving its black and white

(Continued on page 11)


Zebra-tailed lizard

tail to distract predators. *Photo above.*

The Giant Saguaro Cactus, *Carnegiea gigantea is* the dramatic symbol of the Sonoran Desert. Mature specimens are estimated to be up to 250 years of age and they grow very slowly. When they are small, the Saguaros need 'nurse plants' to provide shade. The young Saguaros first develop without branches. Saguaros bloom from May to June. Each large flower opens at night and stays open until mid-afternoon the following day. However, the cactus may take up to 75 years to flower. Their tasty fruit ripen from June to early July. T he native Americans made syrup and jam from the fruit and also ate the seeds. White-winged Doves are the primary pollinators of Saguaros.

The giant cactus are also visited by Gila Woodpeckers. Round holes in the branches are produced by the Gila Woodpecker and Gilded Flickers. The plant produces a hard callous around the hole which then becomes the perfect nest. Other birds such as owls, song-birds and kestrels use the nests, as do bats.

Lynsey's presentation was also a wonderful travelogue, with the aim of showing the plants in their proper environments. We, the audience, journeyed along with her, soaking up her images of America's beautiful landscapes and National Parks. One of the most spectacular was the famous Monument Valley, a part of the Colorado Plateau with towering sandstone buttes and mesas,. It symbolises the American West, largely because Hollywood has used these breathtaking vistas as a backdrop to movies.

Geologically the valley is not really a valley, as the tops of the mesas mark what was once a flat plain. One of Lynsey's photos was a view looking towards the buttes and mesa from the famous Gouldings Lodge, an original trading post and now a museum of the valley's cinematic history. Interestingly, the run off of moisture from the mesas and buttes provides a favourable place for wildflowers. Another image captured a carpet of wildflowers around the skirt


Saguaro Cactus

of a butte.

This presentation was our fabulous Day Group once again at its best. I have had many expressions of appreciation, even after the meeting. Lynsey is a busy person. She and Gary were soon to travel to Japan and amongst many other pursuits, she guides in the Royal Botanical Gardens. I would like to express my personal thanks to her for sharing her botanical knowledge with us.

Joan Broadberry

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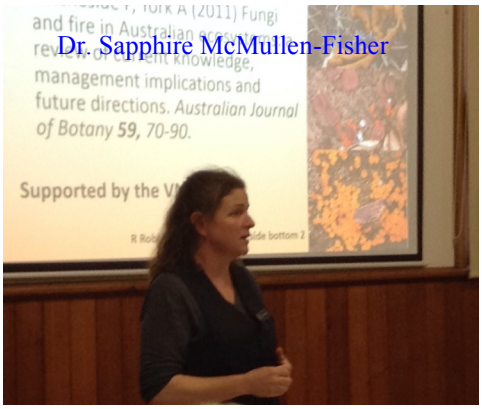
Election of 2016 Council:

President:	Maxwell Campbell
Vice President:	Philippa Burgess
Secretary/Public Officer	Barbara Burns
Treasurer:	Barbara Burns
Correspondence Secretary:	Andrew Brentnall
Councillors:	Joan Broadberry, Su Dempsey, John Harris.
SIG Representatives:	
Botany:	Sue Bendel
Day Group:	Joan Broadberry
Fauna Survey:	Su Dempsey
Fungi:	Geoff Lay
Geology:	Ruth Hoskin
Juniors:	Claire Ferguson
Marine Research:	Audrey Falconer, Leon Altoff
Microscopy:	Philippa Burgess
Terrestrial Invertebrate:	Maxwell Campbell



Dr. Sapphire McMullen-Fisher

It was noted that alternative SIG representative should be found if the representative was also an elected Councillor. This matter is to be discussed by the new council at its first meeting.

Guest Speaker: Dr Sapphire McMullen-Fisher spoke on *Fungal Ecology - Fungal links in our Ecosystems*.
Sapphire hi-lighted the importance of fungi in the ecosystem and detailed their essential role in nutrient recycling and their role as partners in symbiotic relationships. The complexity of the role of fungi has not been well understood and needs to be taken into account in ecological studies.

Meeting closed 3.30 pm and was followed by afternoon tea. ***Thanks to Ruth Hoskin for taking the minutes.***

(Continued from page 5)
pleated ring on the stem identified it. However, this small brown species was seen elsewhere on the foray, in perfect condition. It has a large ring pleated ring on the stem and the caps have distinctive yellow scales.

In the afternoon, the main group went down to the Cumberland Creek rainforest area. Here again it was dry, so no sign of *Cortinarius metallicus* that we found last year. Among the many *Entoloma* species seen on the foray, Richard Hartland recognised *Entoloma albidosimulans*. Another one, found by John Eichler, was black and very tiny (cap to 10 mm). *Entoloma haastii* was confirmed microscopically by Virgil Hubregtse, and described by Genevieve Gates and David Ratkowsky as "a striking species with a purplish brown and indigo –blue umbonate cap (to 50 mm diam), a slender blue-grey stipe (to 80 mm long and 7 mm wide in large specimens) and pale pink gills". One interesting find made by Jurrie Hubregtse was a large number of *Xylaria castorea* Dead Man's Fingers, on a log at his feet. Some were the usual club shape, but others had forked and become thin like pincers.

Thanks to all the forayers who found species and helped identify them and thank you to the photographers (Ed Grey, Richard Hartland, Jurrie Hubregtse, Virgil Hubregtse, Torbjorn von Strokirch, Lachlan Taggart, De'ana Williams) who supplied photos for the report.

Jurrie Hubregtse has uploaded his new ***Fungi In Australia*** e-book to the FNCV website under the Publications tab. It can be easily loaded onto a small tablet or Android phone to use in the field. Here is what he said "*It is a freely downloadable e-book, which consists of 9 parts, is intended to serve as a resource to assist in the identification of some fungi that may be encountered in our native forests. It contains 307 species and over 1500 photographs of fungi, plus references for further study.*"

Pat and Ed Grey

Russula clelandii group Photo: Ed Grey

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