Field Nats News No.233

Newsletter of the Field Naturalists Club of Victoria Inc.
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August 2013

From the President

Well members, we are supposedly more than half way through winter already. It has been a mild winter so far, or at least where I have been. I have spent more than half of winter so far, north of the divide doing further vegetation surveys. Whilst the mornings have been cold, it has been pleasant walking in the sun each day. I have seen, and measured, a wide variety of trees, shrubs and ground cover plants including a River Red Gum *Eucalyptus camaldulensis* that had a dbh (diameter at breast height) of 3.4metres. A eucalypt with a dbh of 80cm is considered a large old tree, so this one must be ancient. Along with the plants I have recorded approximately 50 species of birds, including the endangered Grey-crowned Babbler *Pomatostomus temporalis temporalis*, five species of frogs and a few Yellow-footed Antechinus *Antechinus flavipes.*

Left: River Red Gum with a dbh of 340 cm. *Photo: J. Harris*

Thanks to Jurrie for chairing the June Council Meeting in my absence.

Photographic Competition
It was a pleasure to attend the second FNCV Photographic Competition recently and to view the fantastic photos on display, taken by our members. I would like to congratulate all of the entrants on their impressive photos and thank them for contributing to our competition. The list of awards is on page 4.

Hali Ferguson
As you will read elsewhere in FNN, Hali is resigning as our Admin Officer. While this news is sad for our club, it is fully understandable considering the happenings in her family recently. As a small testament to Hali's efforts on behalf of the club, the Photographic Competition stands out as one of her ideas, providing publicity for the FNCV by showcasing the talents our members
I will dedicate a larger space to her contribution to our club in one of the coming editions of FNN.

Biodiversity Symposium
It is pleasing to announce that our Biodiversity Symposium will take place this year. It was looking for a time that it wouldn't, due to lack of volunteers to organise it. David Cheal, Patrick Guay and June Anton will be our organising team, so many thanks to them. It is looking like the Symposium will be on the weekend of the 16th of November, so keep that weekend free.

John Harris

Due date for FNN 234 will be **10 am Tuesday 6th August**. We will go to the printers on 13th August , with collation on the 20th.

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.

August

Monday 5th – Fungi Group. Meeting - *Fungi – An Arborist's Perspective.* Speaker: Alannah Matheson, Arborist, Yarra Ranges Council. Contact: Virgil Hubregtse 9560 7775.

Tuesday 6th - Fauna Survey Group. Meeting - *New Guinea's 'lost world'*; *a Journey to the Foja Mountains.* Speaker: Paul Oliver, Dept. of Zoology. The University of Melbourne. Contact: Robin Drury 0417 195 148; robindrury@hotmail.com

Saturday 10th - Juniors' Group. Excursion. Museum Tour. Meet at 10 am in museum foyer. Bookings essential. *Full details FNN p3*. Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

Monday 12th – Marine Research Group. Meeting - *Reproductive Strategies in Echinoderms*. Speaker: Mark O'Loughlin. Contact: Leon Altoff 9530 4180 AH; 0428 669 773.

Thursday 15th – Botany Group. Meeting - *The orchids of north-east Melbourne*. Speaker: Paul Piko. Contact: Heather Eadon 0437 541 918

Saturday 17th – Botany Group. Excursion - *Orchids with Paul Piko. (note change of date from four monthly calendar)* 11 am until 1 pm, Ironbark Road Reserve, Diamond Creek. Numbers are limited to 12 to avoid site impact so bookings are essential. Contact: Sue Bendel 0427 055 071.

Tuesday 20th—Collate FNN. Starting about 10.30 am. Some folk come earlier. Contact Joan Broadberry 9846 1218.

Wednesday 21st – Microscopy Group. Meeting – Speaker: Valentina Columbo, PhD Student, Zoology, Melbourne University. Contact: Philippa Burgess 9598 3231 AH.

Wednesday 21 st—*Grey-headed Flying Fox Survey* - Meet at Yarra Bend Golf Course carpark, Mel 2D G7 at 5.30 pm. More information from Rod Van Der Ree (rvdr@unimelb.edu.au), Jo Ainley (j.ainley@unimelb.edu.au) or Ian Kitchen (iankitchen@optusnet.com.au)

Saturday 24th – Sunday 25th – Fauna Survey Group - *Bat weekend/workshop*. Hear the latest research and talks about the bats of Melbourne. FNCV Hall and nearby locations. Registration essential. Contact the FNCV office or Ian Kitchen iankitchen@optusnet.com.au for details.

Monday 26th - FNCV Council Meeting - 7.30 pm sharp. Agenda items and apologies to Hali, 9877 9860 or admin@fncv.org.au

Tuesday 27th – Day Group. Meeting – Meet at 10.30 am for coffee and a chat. Presentation at 11 am**.** ***Birdlife of Macquarie and Heard Islands.*** Speaker: Tania Ireton. Contact Gary Presland 9890 9288

Wednesday 28th – Geology Group. Meeting - *Fossil Marine Birds of Australia: A Fragmentary Tale.* Speaker Travis Park, School of Biological Sciences, Monash University. Contact: Ruth Hoskin 9878 5911;

Friday 30th – Juniors' Group. Meeting - *Party night* Come dressed in an Ocean theme, prizes, games and fun. Contact: Claire Ferguson 8060 2474; toclairef@gmail.com

The policy of the FNCV is that non-members pay $5 per excursion and $2 per meeting, to cover insurance costs. Junior non-member families, $2 per excursion only.

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:

Thomas Westlake, Brock Westlake, Jack Westlake, Jessica Westlake, Christine Walker, Penny Baxter, James Vincent, Ken Turner, Susannah Scott.

I thought this image of a Marbled Gecko with three tips to its regenerated tail might be of interest. I found it in the wood pile at my home in Black Rock today. Regards, John Eichler

Sightings in Western Victoria

A report was received by post from Edna Tenner containing sightings and photos made by her daughter, Robyn Willington on excursions with our sister club, Portland Field Naturalists.

The first report contained observations of Common Brown Butterflies observed during an excursion to Penshurst and district in April. The second (26/5/13) was a series of photographs taken in the Drajurk Forest, near Casterton of - Grey Butcherbird, Correa Reflexa and the Fringed Hair Orchid.

Thanks to those who helped collate and label FNN 232

Ruth Hoskin
Emily Noble
Pieter Boschma
Joan Broadberry
Cecily Falkingham
Ray Power
Keith Marshall
Sheina Nicholls
Margaret Brewster
Margaret Corrick

Assistance Requested with Plant Identification

Alessandro Ossola is an international PhD student in Urban Ecology at the University of Melbourne, Burnley Campus. His focus is on soil and decomposers. He requires botanical surveys of his 30 (20 x 30m) plots. These plots are spread over 5 reserves and 5 golf courses in Dingley Village, Clayton South, Mordialloc, Frankston, Springvale, Keysborough and Carrum Downs.

Alessandro has limited knowledge of Australian plants and would appreciate assistance with plant identification over 3 or 4 days during October. He would also appreciate assistance with millipedes, slathers, earthworms and ants from anyone interested.

Please contact Allesandro at a.ossola@student.unimelb.edu.au if you are able to help.

This newsletter is printed on recycled paper.

Juniors' Group - Melbourne Museum Tour

Behind the Scenes at the "Bugs Alive" exhibition with Patrick Honan - we are lucky enough to be able to go back to where our stick insects came from ☺ There is also a tour of the Dinosaur Walk—600 Million Years and Victoria Evolves - Dynamic Earth exhibitions with Lisa Nink. **Date**: Saturday August 10th **Meet:** 10 am in museum foyer
Cost: Adults $10 museum entry fee, Concession and Children (3 – 16) are free.

Bring: A packed lunch (unless you plan to buy it there). Bags can be left in a museum classroom while we do the tour.
Bookings are essential: Let me know names and ages of those attending and the mobile number you will be using on the day. We can only take 30 people so we have 2 groups of 15. Book ASAP to avoid disappointment.

Claire Ferguson 8060 2474; toclairef@gmail.com

FNCV Photographic Competition 2013
List of Winners

Juniors: Nature Up-close-and-personal

First Prize: Naimh Horobin
"Frozen Grass"

Second Prize: Bridie Bergin
"The Beauty of Nature"

Encouragement Award: Naimh Horobin
"Flowery Lichen"

Open: Nature from a Distance

First Prize: Anne Morton
"Storm Clouds"

Second Prize: Frank Holmes
"Finding a Niche"

Encouragement Award: Ben Blastock
"Conspiring Lads"

Honourable Mention: Frank Holmes
"Folds of Time"
Michael Gage
"Mount Bogong – No cattle in sight"

Open: Nature Up-close-and-personal

Equal First Prize: Scott Ferguson
"Painted Dragon (male)"
Frank Holmes
"Free at last"

Second Prize: Barbara Burns
"Rock platform dream time"

Encouragement Award: Ben Blastock
"A hungry fella"
Suzette Hosken
"Rough Spear-grass"
Ruth Ault
"Wolf spiderlings – Snape's Reserve"
Leon Altoff
"Doriospilla carneola"

Honourable Mention: Erica Gage
"Snake ambush"
Joan Broadberry
"Bidgee Widgee"
Michael Gage
"Alpine trigger plant"
Joan Broadberry
"Silvereye"
Suzette Hosken
"Kangaroo tracks"
Margaret Gottlib
"Firewheel tree"
Leon Altoff
"Sea star scales"

Not really a SIG, but a GIG!
Happy 5th birthday to the Day Group, the FNCV's wonderful Generalist Interest Group

Gary Presland, wearing his archivist hat, announced at the meeting on Tuesday 25th June 2013 that it was the fifth anniversary of the founding of the Day Group. He reminded us that there have been three attempts to establish a Day Group at the FNCV, the other two each lasted for about 18 months. It is very pleasing to report that the Day Group is now thriving.

I would like to acknowledge the continuing hard work that Gary has put into the program and thank him for chairing the meetings. Some simple research identified the details of the inaugural meeting. It was Tuesday 24th June 2008 on *The Natural History of the Whitehorse Area*, the speaker being Gary Presland! Our gratitude goes also to Sheila Houghton who, with Gary, was instrumental in establishing the current Day Group. Sheila gave the second Day Group presentation, her topic being *Treasures of the FNCV*

SOUTH EAST AUSTRALIAN NATURALISTS' ASSOCIATION (SEANA)

SPRING CAMP - Numurkah

Hosted by Broken Creek Field Naturalists' Club Inc.

Friday 11th to Monday 14th October 2013

The camp will be based at Numurkah at the town hall. Participants will arrange their own accommodation in Numurkah, Shepparton (about 25 min drive on the highway) or possibly Nathalia to the west or Strathmerton to the north.

The River Red Gum forests and wetlands of the River Murray are the largest remaining stand of River Red Gums, an area of almost 65,000 ha straddling the border of Victoria and New South Wales. However, the river floodplains, the grasslands and the nearby foothills have been much altered by historical logging and clearing for farming. The network of recently created National and State Parks goes some way to address this issue. We know the role of private landholders in identifying, protecting and enhancing remnant vegetation has been important as well, and we will investigate farms with excellent environmental credentials. Various areas including the Murray River and the Cadell Fault will be investigated. We will offer a cruise on the Murray and the wetlands, a trip to the red gum forest to look at forest giants, guided walks in remnant Grey Box Grassy woodlands, and spend time with the Yorta Yorta people of this area. A full day birding excursion will also be on offer.

To keep costs down, breakfast and the makings of lunch will be provided (for a fee) on the Sat, Sun and Monday mornings at the Town Hall. Tea and coffee will be available at all times. The Saturday Gala Dinner, and a less formal dinner on Sunday, will be held at Numurkah's Shamrock Hotel function room.

Booking form available at the FNCV office.

More information: clrourke@gmail.com or Broken Creek Field Naturalists Club 2959 Goulburn Valley Highway Numurkah 3636

Registration fee $35, plus costs for catering and excursions.

Full payment due by FRIDAY SEPTEMBER 13th 2013.

Geology Group

"Megafauna and Trace Fossils: An Alternative View of the Pleistocene Vertebrate Diversity of Australia"

Speaker: Dr. Stephen Carey
School of Science, Information Technology & Engineering,
University of Ballarat
24 April 2013

Dr. Stephen Carey has quite a range of geological interests, including evolution of Australian landscapes, regolith, sedimentary and stratigraphy of palaeodrainage systems, development of silcrete and palaeobiology and geology of conodonts. It is not only fossil teeth and bones of megafauna that Dr. Carey has researched, his presentation described trace fossils -which encompass footprints, trackways and burrows - from the western volcanic plains of Victoria.

Diprotodon optatum

Above: Sixty metre long fossil trackway of the extinct giant marsupial wombat, *Diprotodon*, from the western volcanic plains of Victoria.
Upper right: Pictorial *Diprotodon*. *Lower right*: Close-up of individual footprints.

Trace fossils can provide a different perception of the past compared to skeletal fossils (e.g. bones, teeth, shells). Trace fossils are essentially sedimentary structures involving animals and surrounds and they also tell of the size and behaviour of the animal. The Victorian western volcanic plains site provided both trace fossils and skeletal fossils, allowing more complete pictures to be generated of the types and sizes of the animals that made them.

In a regional context, the area comprises lava plains, scoria cones, crater lakes and other lakes. Weathering processes have yielded the softer sands and muds in ancient lakes. Importantly, the presence of small percentages of smectite clay facilitated the retention of an imprint as the trackmaker traversed the volcanic sediments at the edge of the ancient lake. Footprints and trackways were preserved in layered sandstone, buried beneath 10-15cm of hardened carbonate limestone.

Fifteen well preserved trackways were studied, made by three or four species. One trackway was 60 m long with approx. 100 individual footprints, indicating a big animal had made them. This was identified as *Diprotodon*, a giant wombat-like marsupial, which weighed approx. 2 tonnes, and was 2 m tall and 3 m long. It was one of the so-called Australian megafauna and existed during the Pleistocene (2.6 Ma – 10 ka) until its extinction about 46,000 years ago.

Other trackways were shorter and identified as macropodid (ancient kangaroo/wallaby), vombatid (ancient wombat) and marsupial lion.

In addition to the high quality of the tracks, the site also includes skeletal fossils such as the jaws of wombat, macropodid and marsupial lion. Further trace fossils in the form of teeth marks made on bones by carnivorous animals added to the palaeontological record, allowing a more complete picture to be assembled and importantly, reducing the inherent bias in interpreting fossils from just one aspect: e.g. skeletal or trace.

Dating the fossils involved a number of techniques and arrived at an age range of 60-110 thousand years (ka). Volcaniclastics (optically stimulated luminescence) of the host rock gave an estimate of >75 ka and analysis of the matrix to the skeletal fossils >57 ka. Electron spin resonance analysis of the macropodid tooth yielded an age of <110 ka. Uranium series analysis of the lacustrine carbonate yielded 43-60 ka.

Stephen went on to describe biomechanical work undertaken with research colleagues at the University of Adelaide and Museum Victoria on the Diprotodon, using the trace fossils/ trackways, to determine how fast they travelled, taking into account the stride distances, and height at hip of museum specimens with comparisons to another extinct giant marsupial, *Zygomaturus*. The *Diprotodon* individual's walking pace was calculated at 5.5 km/h.

In concluding, Stephen stated that Victoria's western volcanic plains trace fossils have generated interest in further megafaunal exploration at Warrnambool, South Gippsland and White Cliffs, and other coastal and inland sites in South and West Australia and Tasmania.

We thank Stephen for his most interesting talk about his research into the trace fossils from Victoria's western volcanic plains and the significant contribution their study makes to understanding the palaeobiology and morphology of Australia's megafauna.

Kaye Oddie

Fungi Group

FUNGAL FORAY
2nd JUNE 2013
Baldry Crossing, Greens Bush, Mornington Peninsula National Park
Heathy Eucalypt Forest

We were joined by the Ranger Annika and ten volunteers on a fine sunny morning. One of the first finds was Mycena cystidiosa with tall stems, brown convex caps and masses of white sterile stipes tangled amongst the litter. This Mycena was widespread and abundant all day while other Mycena spp., M. albidofusca, M. albidocapillaris and M. kuurkacea for example were scattered and few in number. One interesting species that we have seen a number of times this season is M. fumosa that has a pale brownish cap and a stem joined to the substrate by a slightly brownish disc. The brownish disc differentiates it from M. carmeliana (which we didn't see) that has an orange basal disc.

Mycena formosa Photo: Carol Page

Carol Page noted the following: along the short circuit track was a massed display of red-brown cushions of *Hypoxylon howeianum*. These were growing on fallen eucalypt logs with some on decorticated wood and some on bark. Occurring at the same time was the brownish braided ropey anamorph stage.

On the end of a small fallen branch was a small (35 mm across) bracket which at first looked like a *Stereum* or *Trametes* species. However, the under-surface was composed of small spines which immediately eliminated both as the genus. The upper surface was hairy, concentrically zoned with whitish to pale brown colours and a white margin. The spines on the fertile under surface were short, blunt, pale orange to yellow, closely packed together. This is reminiscent of the yellowish *Steccherinum ochraceum* which we usually see as a resupinate species. A literature search revealed that the species can exist in a pileate (capped) form as a bracket and this confirms the identification (see web-site Mushroom Observer under species *S. ochraceum*).

A rotting branch held small (7 mm across) white, hoof-shaped specimens. These had an intensely hairy white cap with white gills on the under-surface. A hand lens showed the gills to be split longitudinally. Thus it was a young specimen of *Schizophyllum commune*.

Several people went off-track to the area we call the Dell and Paul George wrote the following about this area**:** A small mossy grove that is at the head of a small creek and is usually rich in Hygrocybe and Entoloma. We saw a few of the lilac *H. lewellinae*, a little worse for wear, and some small *H. graminicolor*, which were a pale fawn colour with green tints on the stipe. The distinctive viscous thread on the gill margins established their identity. There were a number of young and slender *Entoloma albidocoeruleum* ('fawn bluey') which has particularly vibrant blue stipes and rounded fawn caps. Another tall and slender *Entoloma* sp. had a small cap (~1 cm diameter) and stipe ~7 cm tall which were both a dark grey-blue. The gills had a dark margin. A third *Entoloma* sp. was also found under a grass tree - it had a dark yellow scaly cap and a deep olive-green stipe. However, despite these beautiful finds, the Hygrocybe and Entoloma did not appear as abundant as in previous years. As I mentioned on Sunday, I thought I had seen a white *Entoloma* sp. – possibly *Alboleptonia sericella* - but I am no longer confident that that was what I saw! On the way back to the main track we found *Pilobolus* sp. on herbivore dung. A hand lens revealed small black spheres on glassy translucent 'stalked eggs'.

Thanks to the Ranger, volunteers and our group for their help with the days work.

Thanks to John Eichler and Carol Page for all their photos.

Ed Grey

Hygrocybe lewellinae Photo: Carol Page

FUNGAL FORAY 9th JUNE 2013

Bunyip State Park, Mortimer Reserve

Wet Sclerophyll Forest

Our foray was to start at the nature walk trail but before we got there an impressive group of Wood Blewit *Lepista nuda*, growing around a group of Manna Gums *Eucalyptus viminalis*, attracted major attention. These had the typical smooth shiny mauve-brown caps and pink-brown gills. All growth stages were present from the young with convex caps to the mature, somewhat flattened and wavy specimens. One Nargan's Bonnet *Mycena nargan* was growing on one of the Manna Gums. We were fortunate that the white scales were obvious on the dark brown almost black cap as this is the key field characteristic that distinguishes *M. nargan* from other similarly-coloured Mycena species.

Mycena sp. Tiny Blue Lights Photo: Richard Hartland

Several species of coral fungus were found. The first was the whitish *Clavulina cristata*, growing on the ground and with its typical spiky ends to the branches. Two buff species of coral were found on wood – *Artomyces austropiperatus* and *A. colensoi*. Both have the distinct 'pyxidate' branching habit where branches end in cups and new branches develop from these ends. Both have a peppery taste – with *A. austropiperatus* it is immediate, but with *A. colensoi* slightly delayed. The delicate structure of *A. colensoi* also differentiates it from the more robust *A. austropiperatus*. In the afternoon up in the drier area we saw the mustard-yellow *Ramaria flaccida* with spiky branches, growing in the soil at the base of a tree.

A little way along the nature walk was a massed display of whitish to green-grey discs of *Cudoniella pezizoidea* The discs had become convoluted due to the crowded growth habit. They were characterised by having distinctive copious thin black rhizomorphs. Although the discs appeared to grow on the ground they were, in actual fact, on buried decaying wood. Subsequent microscopical work by Virgil Hubregtse also confirmed the identification.

Richard found the minute blue (cap to 2mm diameter) *Mycena* sp 'tiny blue lights' on a dead frond stem (rachis) of the Soft Tree-fern *Dicksonia antarctica*. We are trying to discover whether the species is confined to the Soft Tree-fern, so if you find any (a 10x hand lens is useful), let me know (Pat Grey). The Soft Tree-fern frond stem is smooth, and the Rough Tree-fern *Cyathea australis* frond stem is rather spiky. A minute stalked cup (ca 0.5mm diam), *Lachnum pteridophyllum*, is also found on dead frond stems of Tree-ferns. The smooth disc is pale yellow (drying to a dense yellow) with a mass of dense fine white hairs on the outside and growing above the rim of the cup. Here, it was growing on a Rough Tree-fern frond stem, which poses a similar question. Is it always on Rough Tree-fern frond stems? The similarly-coloured *Lachnum lachnoderma* can be differentiated because it grows on wood. The white *Lachnum virgineum* (cup diam to 2mm), that was also seen today, also grows on wood, sometimes bark, occasionally a fallen trunk, but is an all-white species and slightly larger than the other two.

In the afternoon Mark spotted a dark-coloured group of fungi growing on a large fallen log. Close inspection showed these to have a smooth shiny upper surface (to 100mm across) from brown to nearly black in older fruit-bodies, a wavy margin and paler white to cream lower surface which proved to be very finely pored. The fruit-body was laterally attached by a short black stem. The minute circular pores 7-8 per mm were whitish when fresh, aging to cream. The pore size and shape identifies this as *Polyporus badius* since the other similar-looking polypores on wood, the Black-foot Polypore *P. melanopus*, also has rounded pores but only 3-4 per mm and *P. arcularis* has coffin-shaped pores and a central stem (usually).

Sally Green brought her crocheted Death Caps across to lunch! (photo below). They were arranged on a board covered with crocheted oak leaves and acorns. These are just the latest in the series of crocheted fungi that Sally has created. She also showed a photo of the blue Entolomas that she had made from bail twine, which was so hard to crochet with, that it took the skin off her fingers.

Thanks to Carol Page and Richard Hartland for their photos.

Ed Grey, Pat Grey

Day Group

Antarctica 2011: sustainability, climate and life at Mawson Station
Speaker *David Morrison*

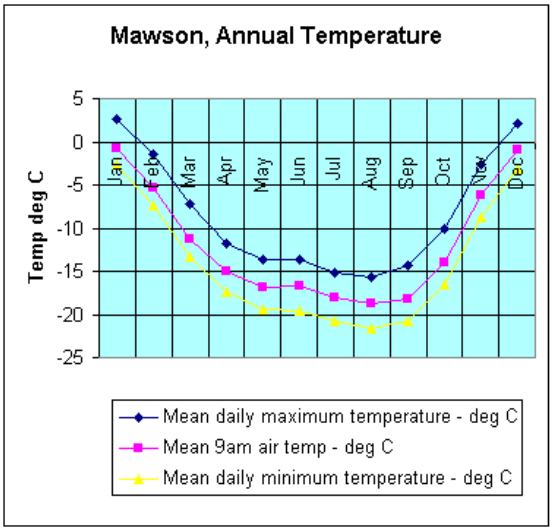
David Morrison from the Bureau of Meteorology gave a very interesting talk, illustrated by a series of photos, maps and charts, to the Day Group about the year he spent at the Australian Antarctic station at Mawson.

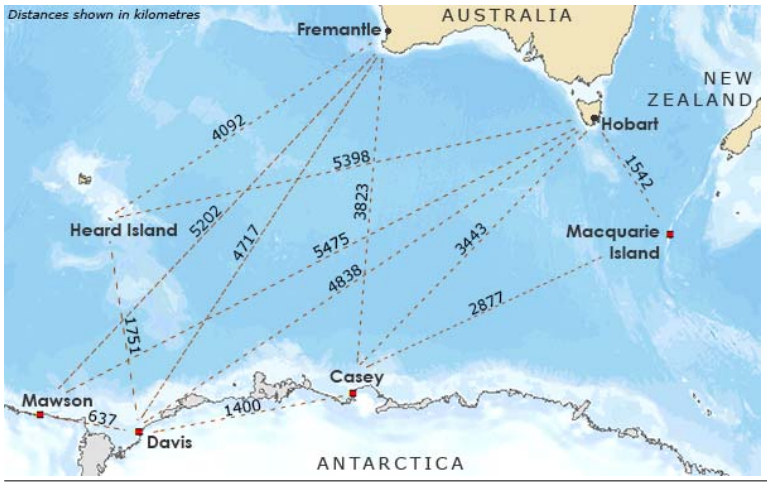
Under the 1961 Treaty, Australia has laid claim to 42% of Antarctica. Six other nations also claim Antarctic territory. Some of these areas overlap. However, although important, all claims under the treaty are arbitrary. Australia operates weather stations at each of Davis, Mawson and Casey stations and has another on Macquarie Island.

In 2011 David travelled the over 5200 kilometres from Hobart to Mawson on the ship, Aurora Australis. The journey through the Southern Ocean takes from 12 to 14 days, passing through the convergence zone, where the water temperature goes from positive to negative and where iceberg sightings begin.

Mawson is built on a rocky outcrop at the edge of the Antarctic plateau. Dr. Phillip Law established the base in 1954, naming it after Australia's greatest polar explorer Sir Douglas Mawson. As it is treated as a heritage site there are some older structures. The buildings at Mawson are deliberately isolated from each other because of the possibility of fire, but are all linked with rope 'bliz lines'. Fire spreads quickly in Antarctica as the atmosphere is dry, it is windy and spray from fire hoses freezes. David's hotos of the base showed the buildings are colour coded with the large 'Red Shed' containing accommodation, kitchen, bar, medical facilities and theatre. Helicopters are widely used to move around equipment, stores and people

Meteorologists at Mawson work 6-12 hour shifts, with one day on and one off. To establish trends in climatic conditions at least 30 years of records are needed. Observations have been collected at Mawson since 1954. Mawson is a very windy place. The rocky foundation that determined its location is exposed because of the action of wind. Katabatic winds blow most strongly in the morning as cold air sinks at night and screams, (unrestricted by trees etc), off the Antarctic dome. Wind speed tends to ease off in the evening. We were shown a number of charts illustrating the ferocious wind strengths recorded. In summary, the wind at Mawson is equivalent to a category three cyclone every week or so. Temperature data is shown in the above graph, (the three lines are read in the same order as in the key below it).





David presented evidence for global warming including:

- Australian data from1970-2012 that showed average surface temperatures were increasing at .4ºC each decade or 4º a century. The only area showing cooling was in the North West—explained by a greater cloud cover, increased rainfall and more cyclones.
- CSIRO air samples from1990-2010 showing a steady increase of greenhouse gasses CO_2, CH_4 and N_2O. (The samples were only collected when the wind was blowing off the Antarctic continent to ensure they were pure.)

As well as his meteorological work, David also took part in natural history studies, monitoring seal populations and penguin colonies. He described a journey to the Emperor Penguin breeding colony of Auster by quad bike. The work included, placing tracking devices on Emperor Penguin chicks and counting Adele Penguins.

In the last part of his presentation David gave us insight into the everyday life at the station. The group consisted of a total of 18 men and women - 15 Australians and three Koreans. Two wind turbines provide 75% of the power supply and there are three diesel generators. Water must be melted and pumped in heated pipes. All food, plus extra for emergencies, is shipped in, with a hydroponic centre for growing fresh vegetables. Beer is brewed. There are rosters for everyone to take regular turns as a kitchen-hand and cook on the chef's day off. Many special celebrations are held e.g., Anzac Day, Oktoberfest, Melbourne Cup. The traditional mid-winter banquet and (optional) swim in water -1.8°C (warmer than the air) is a highlight. There is search and rescue training. Two people have a fortnights' training as scrub and anaesthetic nurses. There are opportunities for adventure, for example, camping in field huts, skiing and climbing.

Once again I would like to thank David for his excellent presentation. The number of questions raised and the amount of interested discussion entered into, demonstrated how much the Day Group appreciated his talk.

Joan Broadberry

EXTRACTS FROM SIG REPORTS GIVEN AT THE LAST COUNCIL MEETING

Fauna Survey Group

* On 28 May five members from the FSG and Microscopy Group visited Hans Brunner to learn of his approach to identifying mammals by analysing their hair. We are using hair tubes in the Eastern Melbourne Parks project. They are small plastic apparatus with bait in the end and a sticky wafer on the sides. The mammal leaves some hair when it enters to examine the bait. Hans has written a book and produced a CD, both of which we have in the library. So far in the project we have identified small mammals which have not been detected by other methods. We hope to use hair tubes in other surveys. Hans was most kind and gave us a detailed presentation on his methods.

* Dr Greg Holland from Deakin University gave a talk on experimental mosaic burning in the Box-Ironbark Forests.

* On the Queen's Birthday Weekend, the group undertook maintenance on the nest boxes it manages in the Rushworth State Forest. Some nest boxes were replaced, others repaired and some re-numbered. The three cameras left out since the May visit were collected and a spotlight survey carried out. Neither the cameras nor spotlighting produced any significant results.

* The camera survey and hair tube components of the Parks Vic survey are well under way, with the hair tube part to be completed by September. The first round of the camera rollout will also be completed around this time, with the second half to be done in spring and summer. The frog survey will commence in August with help from Melbourne Water, who are giving a presentation at Lysterfield on 25th June. The reptile survey received a huge boost with Boral donating 1600 tiles. In addition survey participants have donated some of the tin, also needed for this survey.

* The bat survey and spotlighting will be carried out in the warmer months of 2013 and 2014.

Fungi Group

Many FNCV members took part in the seventh Fungimap conference, held in May at Rawson, Victoria. Several members gave talks, conducted workshops, led forays and performed numerous other tasks that helped make the conference a great success.

During June the Fungi Group has held one meeting and four forays.
At our meeting on 3rd June, nineteen members and one visitor attended a talk by David Cameron titled 'Climate change:Storm clouds gathering over our forests and rural landscapes: A report card for the Victorian flora, with special reference to Victorian fungi.' David spoke about the impacts of climate change and the burning régime that is now being implemented in our forested areas, and the categories and criteria used in assessing the threat levels to our flora and fungi. The outlook is grim.

Juniors' Group

We had 16 juniors and parents attend our June combined excursion with the FNCV Fungi group on a foray in Mt Macedon Regional Park. It was a frosty start which became a cool but clear sunny day in a lush part of Victoria. We met at the Sanatorium Picnic Ground car park where we spent some time finding many varieties of fungi before heading off down the walking tracks ending up at Sanatorium Lake where we saw an Australasian Grebe and a White necked Heron. The group were taught many things about fungi including why they were there and what their purpose was. After a picnic lunch several of us drove to see the Memorial Cross at the top of Mt Macedon where we saw two Wedge tailed eagles circling in the sky. Thank you to the Fungi group for making us feel welcome once again and for spending time to teach us.

Our May meeting was very well attended with Lisa Nink from Melbourne Museum (and FNCV geology SIG) speaking to us about fossils. She is involved with the Inverloch Dinosaur dig and also a dig at the Otways. She gave us a fascinating presentation on how fossils are found and what is being found in Victoria. She is kindly taking us for a follow up excursion at the Melbourne museum in August where we are also going behind the scenes of the "Bugs Alive" exhibition.

Microscopy Group

On 19th June Phil Littlewood spoke about the Microlife that inhabits aquariums. Phil has been in the Aquarium Industry for 20 years working in the quarantining of imported tropical fish. It is normal for an aquarium to support other creatures besides fish. It is a closed body of water and full of nutrients, an organic load which is great food for bacteria and 'critters'; often not harming the fish. Microlife is introduced to the tank via airborne spores, cysts or eggs that come via plants that are bought, food or fish. A new fish added to the aquarium can expel critters in its faeces.

Phil had wonderful micro photos of many free swimmers, leeches, mites and ticks. Some that people may like to look up images of include; *Vorticella, Stentor*, *Tetrahymena*, Aquatic Mite, Stylaria Worms and *Oscillatioria*. These critters can proliferate in the aquarium when frequent water changes, gravel cleaning and filter cleaning are not carried out.

Phil also brought in a water sample taken from an aquarium filter. We had several microscopes set up and all enjoyed hunting and identifying the many creatures we found in the sample. We welcomed three members from other groups attending the Microscopy Group for the first time.

Fauna Survey Group

Leadbeater's Possum Survey

O'Shannassy Water Catchment

Our last survey for this season on 13th April was also one of the biggest for years, with 23 participants. Our leader this time was David Blair from the ANU Fenner School of Environment and Society. David works with David Lindenmayer who has been conducting ecological research in the Central Highlands ash forests for over 30 years. The Fauna Survey Group did some stag-watches with David Lindenmayer back in the 1990's so it was good to help out again. We surveyed one of their long term survey sites deep in the O'Shannassy Water Catchment.

The most striking feature of the O'Shannassy site was the death of nearly all the forest in the 2009 wild fire. The size of the dead trees indicated this was a stand of old growth forest. Observers pushed through a dense regrowth now four years old, to their allotted stag (tree with hollows) and kept it under observation until about half an hour after dark. A couple of Agile Antechinuses were seen, and a Boobook Owl heard. Just off site a Greater Glider was seen in one of the few remaining trees that had leaves. It was probably a Shining Gum, which has the ability to respond with epicormic leaf growth after fire.

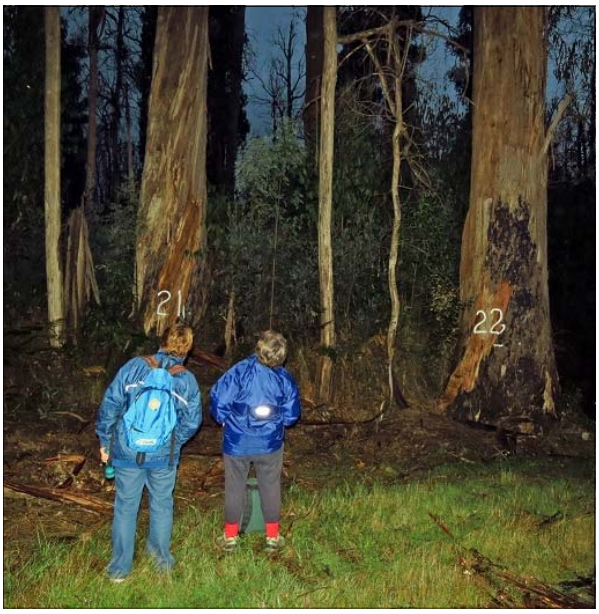
Ray Gibson & David Blair. *Photo: J. Broadberry*

The ANU team has not found Leadbeater's Possums on any site burnt in 2009. The 2009 fires burnt about 43% of the Leadbeater's Possum habitat, much of it severely. The previous three surveys for this season were all in areas FSG have been monitoring for a few years. The highlight was seeing Leadbeater's Possums at two adjacent localities near Dowey Spur in the Latrobe River catchment east of Powelltown.

This area was burnt in 1983 and the dense understorey now suits Leadbeater's Possum.

Most of our recent sightings have come from this area. A nest tree first identified five years ago had five Leadbeater's Possums present this year. Many large trees in this area were killed by the 1983 fires, and will eventually collapse. Two other nest trees identified about 10 years ago are no longer present; one collapsed and the other succumbed either to collapse or road widening. Loss of hollow bearing trees is a threat to wildlife including Leadbeater's Possum. Clear-felling the ash forests for logs and woodchips is a major threat.

Recommendations from scientists and the recovery team regarding the loss of big trees have not been heeded by the government. Instead a new task force comprising Zoos Victoria and Victorian Association of Forest Industries representatives has been announced by the Victorian Government to find 'common ground' solutions to Leadbeater's Possum conservation (*'Age'* 14-6-2013*).* Environment Minister Ryan Smith said the taskforce would report by September.



David has numbered the stags he is surveying.
Photo: J. Broadberry

Further reading: http://www.theage.com.au/victoria/the-gathering-tragedy-in-our-forests-20130529-2naih.html
D.B Lindenmayer and H.P Possingham: '*No Excuse for Habitat destruction'* Letter to Science, Vol 340, 10 May 2013.

Raymond Gibson.

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

Botany Group

Pulse grazing of goats as weed management

Speaker: *Colin Arnold*

He is a horticulturalist with a long history of growing indigenous plants and working in revegetation. Colin reported that bush regeneration methods are the same as 30 years ago and do not work.

Colin showed us many 'before and after' photos of weedy riparian areas that have been managed by the use of grazing by goats. He observed goats eight years ago and decided they would be useful for weed control in small, stream-side areas. Goats are useful on sites with some remnant vegetation but mainly weeds, such as places with remnant trees but lacking a ground cover of natives.

Areas along waterways are often infested with weeds, such as angled onion and blackberries. Twelve goats ate out 0.5 acres of blackberries in two months. It looked like the area had been sprayed. Goats have a preference for non-native grasses and blackberry. They will eat some indigenous plants too, so Colin would not use goats in areas where there has been a large amount of recent revegetation. Horses and cattle graze all the grass, leave the ground puggy and pollute the waterways. Goats will not enter the streams and don't cause as much hoof damage.

In a trial site, goats were allowed to graze two days per week over six months. If there are grasses such as Erhata, paspalum, onion weed, the seed from nut grass and blackberries goats will favour them. They will not eat Poa ensiformis, Carex, Melaleuca, Lepidosperma , Microlaena or Lomandra. The goats only eat the native species once they have eaten all the weeds, so careful monitoring of the goats needs to be maintained.

After goats had grazing one site, an indigenous grass previously unknown on that site germinated and survived. Weeds that are allelopathic cause chemical changes in the soil and suppress the growth of other plants. After goats have grazed the weeds down, other native plants can grow. After grazing by goats, Poa ensiformis can be planted. When weeds grow up again among the Poa ensiformis, goats need to again be put on the site . As the weeds are eaten by the goats, the chemistry of the soil slowly changes to suit natives, rather than retaining the allelopathic properties that favoured weed growth.

There are countless varieties of weeds which can become resistant to herbicide but which can always be controlled by grazing. However, as mentioned, it is very important to monitor the goat's grazing.

After pulse grazing with goats it is possible to get on top of a weed problem, plant densely with indigenous grass and then when these grasses become the dominant plant, the area can then be planted with shrubs and trees and the goats be allowed to graze only one day a month.

Colin is interested in grazing goats along waterways as these form natural wildlife corridors. Grazing is used in Europe and America for weed control. Goats reduce weed biomass allowing new plants to germinate and grow. Colin states that to revegetate an area, first place goats in the site two days per week for three years to control weeds. This will create a huge change in the site. New species will occur as their seeds are in the seed bank and they can grow once the biomass of weeds is reduced.

Thank you to Colin for a very informative talk on an alternate method of weed control for revegetation. Colin's goats are all friendly to passers by as all as, as kids, they have been bottle fed.

Sue Bendel

Library News

The Library has received recently a large donation of technical reports of relevance to many areas in which we have an interest. David Cameron, a botanist with the Arthur Rhylah Institute (ARI) who is well known to many FNCV members, has rescued from the recycle bin more than 130 reports from that department. These are all from the ARI Technical Report series and its successor series, The Flora and Fauna Technical Reports. In the first series, the reports range in an incomplete sequence from No. 5 (April 1984) to No. 135 (December 1994). From the second series we have all reports from No. 136 (May 1995) to No. 149 (December 1997).

The range of subjects covered by these reports is wide, and takes in flora, fauna (mammals, birds, fish and insects), hydrology, and a couple of items that are essentially bibliographic. The geographic coverage is similarly broad and includes studies in environments located in Gippsland, the Western District, the Wimmera and Mallee.

None of these reports have been accessioned or catalogued as yet—a task the Librarian is not looking forward to. However, a list has been prepared of titles and authors, so some arrangement can be made regarding borrowing, if the need arises.

Gary Presland
Honorary Librarian

Thanks to the editorial and layout team who put together FNN 233

Joan Broadberry
Hali Ferguson
Su Demsey

From the Office…..

Lift required still:
An older member of the Club has contacted me asking for a lift. The member, who lives in Ashburton, no longer drives but would very much like to continue attending the Newsletter fold up and the Day Group. If you would be able to help with lifts to these Club days please contact the office and I will pass your details along.

Four Monthly Calendar of Events
A reminder to SIG organisers, the due date for the next COE is F**riday 16th August**

Photographic Competition:
Thank you to our wonderful judges, who once again handled the difficult task of awarding the prizes for this competition. This job was made even more difficult by the exceptionally high standard of our entries. Thank you to Wendy Clark, Leon Costerman and Alex Maisey for sharing their photographic expertise with the Club in this way.

DATES FOR YOUR DIARY:
Yarra Yarra Plant Expo:
We need help to staff a stall at the **Yarra Yarra Plant Expo.** This is a very interesting event, well worth a visit if you are free on **Saturday 6th or Sunday 7th of September**. The Expo is open from 10 am to 4 pm and is being held at St Sava's Church Hall, 212 Diamond Creek Road, Greenborough. If you have some time that you could give to help man the Club's stall for this event, please contact either the office or Sue Bendel 0427 055 071.

The **Whitehorse Festival** is on **Sunday 20th October** and the FNCV will once again staff a display. We will be advertising for helpers closer to the date

The Club is once again planning to hold a **Second-hand book sale, on Saturday 12th October.** So now is the time to start going through your book shelves. I will be calling for donations in the September newsletter, so keep your eyes open for this announcement.

Donations for Hall:
This month we need: Longlife milk, Toilet Paper, A4 copy paper, Gift cards from Coles, Safeway or Officeworks.

Thanks, Hali

To John Harris and Members of the FNCV Council,

Due to recent events in my private life I have come to the difficult decision to end my position as Club Administrative Officer.

This has not been an easy decision, or one that I have taken lightly. I feel that for my own mental health and the good of my family that my time in this role must end.

I will stay while a replacement is hired and make sure that they are well trained in this vital role. I then plan to join the club and hopefully continue my involvement in a smaller volunteer capacity.

I have very much enjoyed my time at the Club, but feel that this is the best option for me at this time.

Thank you for your support and encouragement over the last 4 years.

Yours sincerely
Hali Ferguson

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

Field Nats News 233

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