Field Nats News No 357

Understanding Our Natural World
Est. 1880

Newsletter of the Field Naturalists Club of Victoria Inc.
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November 2024

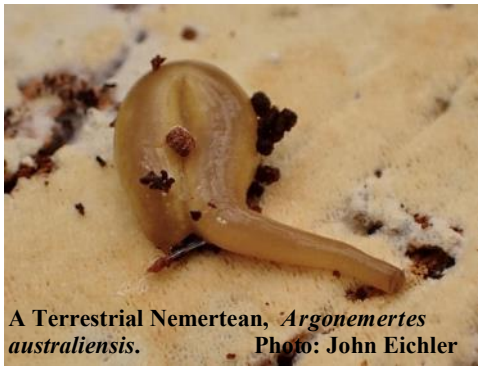
From the President

We were saddened to learn of the death of Dr Edward William Brentnall, on 1st October 2024. Edward was a well-known and respected member of FNCV, and more so to the wider public of the Box Hill area. He was born in England and trained in medicine, graduating in 1952. His family emigrated to Australia in 1965 and in 1966 he took up a position with the Whitehorse Medical Group in Box Hill. In July 1975 Edward became Director of Casualty at Box Hill Hospital. In 1976 he took long service leave to travel to the U.K. and Europe. On his return he introduced a triage system in March 1976. Box Hill was the first hospital in Australia to introduce such a system. After visiting the trauma centre at Maryland, Baltimore in 1979, while on sabbatical leave, he introduced a similar system, which was formally adopted in 1983 at Box Hill for major trauma. Our thoughts are with Hazel and family at this sad time. A Celebration of his life will be held on Monday 18/11/2024 at 2 pm. Main Hall, Hawthorn Arts Centre.

The due date for FNN 358 will be Monday November 4th. **This will be a combined December/January 2025 issue**. Please use my email **joan.broadberry@gmail.com**

Participants in Cosstick Reserve Survey Photo: J. Broadberry

Goniaea australisiae Gumleaf Grasshopper-Cossick Reserve Photo: J. Broadberry



A Terrestrial Nemertean, *Argonemertes australiensis*. Photo: John Eichler

On the weekend of 5th and 6th October a long-planned visit to Cosstick Reserve Maryborough, a property owned by FNCV, finally took place. Members from both FNCV and the Maryborough Field Naturalists Club participated in what turned out to be a thoroughly enjoyable and productive excursion. A more detailed report will be forthcoming next month. After planning and organising the excursion for some time I was, at the last moment, unable to attend so I would like to thank Barbara Burns and Andrej Hohmann for coordinating it at short notice and all of those who participated including members of the FSG who checked the nest boxes

At a recent Invertebrate Study Group excursion, John Eichler found an interesting and seldom seen animal. It looks like a Flatworm but is in fact a Nemertean Worm. They are mostly marine, some live in freshwater and a few are actually terrestrial. They are known to evert a proboscis to catch prey. Finding one of these extraordinary invertebrates in 1972 led me to join the FNCV.

The everted proboscis. Photo John Eichler

Thanks to Dr Gary Presland for providing historical information concerning Edward Brentnall.

Max Campbell

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CALENDAR OF EVENTS

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

November

Tuesday 29th October - Tuesday 5th November Fauna Survey Group
Surveys for birds, mammals and reptiles at Annuello Flora and Fauna Reserve.
Prior bookings essential. Contact Ray Gibson 0417 861 6o rgibson@melbpc.org.au

Monday 4th – Fungi Group at 7 pm. Meeting: *Fungi, Flora and Fauna*
Speaker: Aviya Naccarella, PhD Student, Deakin University. Film screening.
Contact: Melvin Xu fungifncv@gmail.com 0410 522 533

Tuesday 12th - Fauna Survey Group *No Meeting*

Sunday 17th—Whitehorse Festival. Volunteers needed.
Contact Philippa Burgess 0409 866 387 pgburgess18@gmail.com

Wednesday 20th - Invertebrate Study Group Meeting: Speaker to be advised.
Contact: Max Campbell 0409 143 538; 9544 0181 AH; mcam7307@bigpond.net.au

Thursday 21st – Botany Group Zoom meeting. *What did it once look like? Tall, wet forests at the time of British colonization.* Speaker:
Professor David Lindenmayer. Contact: Sue Bendel botany@fncv.org.au

Saturday 24th - Invertebrate Study Group Excursion: *Langwarrin Flora and Fauna Reserve*. Bookings essential. Contact: Wendy Clark via email inverts@fncv.org.au

IMPORTANT

Those wanting to attend any FNCV excursion or camp **MUST register with the leader at least two full days** before the date of the activity. Some leaders may ask for registration to be even earlier. After registering you will receive details of exact locations, meeting places and times.

There are several reasons for this. Attendees can be contacted if the activity is cancelled or arrangements change. It is also essential for insurance purposes.

Non–members are welcome to register and attend FNCV excursions. Club policy is that non-members pay $5 per excursion.

Monday 25th - FNCV Council Meeting: 7.30 pm. Apologies and agenda items to Wendy Gare admin@fncv.org.au

Tuesday 26th – Day Group Meeting: 10.30 am for coffee and a chat, speaker 11 am. *Archibald James Campbell - ornithologist, naturalist and photographer.* John Gould's foremost successor in Australia. Speaker: Dr Gary Presland, author, FNCV librarian, archivist, editor *The Victorian Naturalist*. Contact: Joan Broadberry joan.broadberry@gmail.com

Wednesday 27th – Geology Group Meeting: *Why do we have weather and climate, and what does geology have to do with it?* Speaker: Terry Hart, Meteorologist, 42 years with BOM, Chair of History Special Interest Group with the Australian Meteorological and Oceanographic Society (AMOS). Contact: Ken Griffiths geology@fncv.org.au

Friday 29th – Juniors Group 6.45 pm Meeting: *Speaker to be advised*. Contact: Adam Hosken adamhoske@gmail.com

Diary Dates: **Australian Natural History Medallion presentation**
Monday 2nd December. The recipient will be Professor Euan Ritchie, professor in Wildlife Ecology and Conservation, School of Life & Environmental Sciences, Deakin University for his contribution to wildlife conservation and promotion of science.

FNCV Christmas Party—Saturday 7th 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 per excursion and $2 per meeting.

Welcome

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

Alexander Powell, Daniel Powell, William Powell, Ann Sharrock, Ria Mooney, Jack Dashiell Howe, Alexander Le-Phan, Scarlet Phan, Naena Good-Jackson, Pudamnie Amarasena and Sara Tuell.

The photos above are of a freshly minted ANHM., nowhere near finished. Max is organising medallions for the next six years. The medallions are yet to be polished and set in a frame. Max is currently obtaining the timber stands for them.

The Australian Natural History Medallion presentation will be held on Monday 2nd December. More details, including an invitation to the buffet meal held before the presentation will be in FNN 358.

FNCV FACEBOOK PAGE

Recently a letter of thanks was sent by Council to all those who have played a part in setting up and moderating the FNCV Facebook Page. The page was started more than 12 years ago and now has nearly 45,000 members. It is very popular and receives many postings from people from all over Victoria and sometimes from interstate. The ongoing task is to approve all posts before they go live and deal with inappropriate material. The moderation tasks which are time consuming have grown over the years. The Club extends its grateful thanks those who volunteer for this work.

Wendy Clark advised that we are getting new young people attending excursions after finding out about them on Facebook.

Update of second-hand book sale – disposal of leftover boxes of books.

Sue Bendel has taken away several carloads of books as has Barbara Burns. Wendy Clark took seven boxes of gardening and orchid books to a sale she knew of. Andrej has taken entomological books to the Entomological Society. Jordan Crook has advised Philippa Burgess how to use an app to sell books. She will try it and see how it goes. Philippa has already put many hours into organising the sale.

There is still work to be done to clear the remaining boxes. Can you help?

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

Thank you to all those who helped produce FNN 357
Joan Broadberry, Wendy Gare and Sally Bewsher

Fauna Survey Group

Bael Bael 2024. Eight years of surveys!

They said it couldn't be done folks, running a survey annually for eight years. But we did it! Some say it is because of the Rangers and the FNCV folks, but we all know it is because of me, Wanda, the endangered Plains Wanderer (*Pedionomus torquatus)*.

Once again, the Fauna Survey Group and Parks Victoria surveyed over the Labour Day weekend. I love people working for me, for free!

Got to tell you folks, it was so hot over that weekend. People were worried about the participants, but no one was worried about me, poor Wanda. I was out here in the grassland without any shade, sweating like crazy.

It was so hot, even the bees had to take shelter in the shade and they are tough bees; Cloak and Dagger Bees, which is a tough name. They steal other bees' food. These are tough bees and they came up to me and said "Sir", with tears in their multifaceted eyes, "it is so hot".

Oh, we had a great turnout folks. There were big crowds of Stubble Quails, 954 in total and don't we love the Stubble Quails, always stubbling away. Our surveys have the most Stubble Quails. No other ecological survey has ever recorded this many Stubble Quails.

Eight more years folks. All the Stubble Quails want eight more years of surveys! It is going to be beautiful. Next year I am calling it Bael Bael Project 2025. It is going to be great; we are going to replace all the Park Rangers with Park Wanderers.

It has been eight years of surveys and we are still finding new species for Bael Bael; species that no one has seen before. For the first time we recorded a Peron's Tree Frog. I call them the maniacal cackle frog because they have a crazy laugh. Have you ever heard it? It is crazy. Straight out of the asylum!

Blue-spotted Cloak-and-dagger Bee (*Thyreus caeruleopunctatus*) hiding in the shade of the fertilizer shed.

We also caught a Chocolate Wattle Bat for the first time. But I have to tell you folks, that is some deep, state level fraud. That bat tasted nothing like chocolate!

And to our biggest surprise, look who has come crawling back after 14 years, the critically endangered Hooded Scaly-foot. I call them Scaredy-foots, since they are always hiding in the cracks of the soil and only come out when its warm and not windy at night. Little Scaredy-foots.

We love the Bael Bael landscape don't we folks, from the grassy plains to the salty lakes and to the Black Box Woodlands of Back Creek. Not many people know this, but Back Creek is an anabranch of the Avoca River. It only runs when there is too much water, like water you have never seen before. There was

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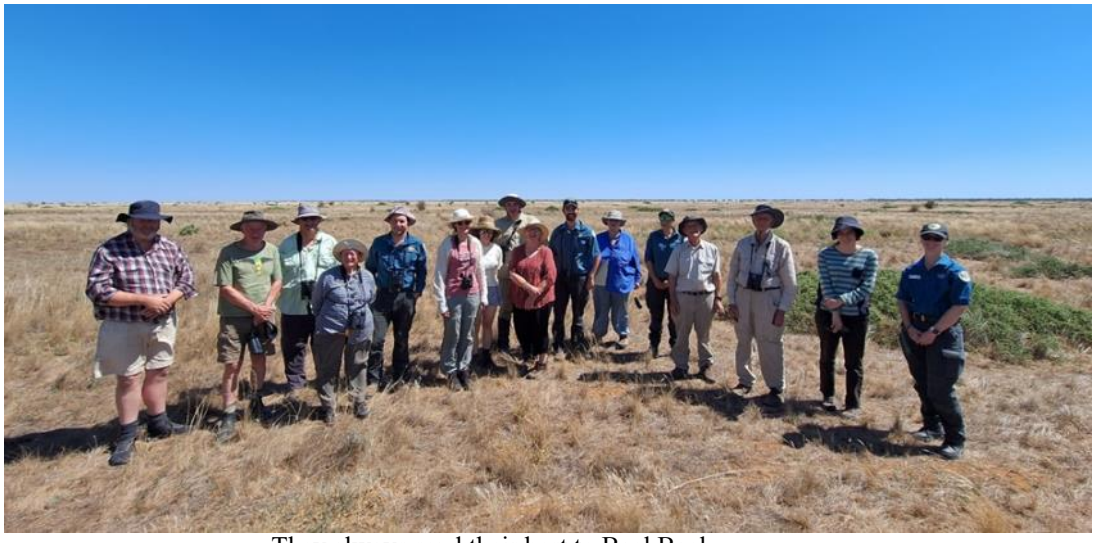
so much water in 2022. In fact, so much, that in 2023 Lake Lookout and Yassom Swamp had water in them. By 2024 it was all gone. No body knows where it goes! Total mystery. Puff. just gone. Like it evaporated. Puff!

Would you believe it folks, despite what a great place Bael Bael is, they want to build windmills right next to Bael Bael. They want to build Cannie Wind Farm right next to the grass-lands! Nobody knows what that would mean for the Plains Wanderers. And those birds like to wander!

Andrej Hohmann

Waroon Cloak-and-dagger Bee
(*Thyreus waroonensis*)

The spirit of Bael Bael



They always send their best to Bael Bael.

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

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Hooded Scaly-foot (*Pygopus schraderi*) Photo: Mark Antos

Members' news, photos & observations

A reminder, FNN always have space for member photos and natural history observations, such as the two below. Please share with us what you have noted in your daily life, travels or garden.
Email:joan.broadberry@gmail.com by the first Monday in the month.
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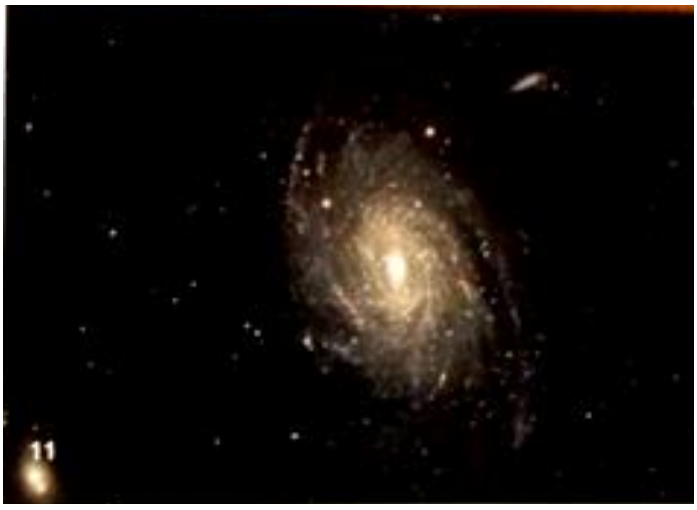

11 **Eddie Pang** first started imaging this galaxy in June over the King's Birthday long weekend at the Field Naturalists of Victoria's Bortle 1 site in the Big Desert (FNCV Mali Dunes) and later @the_asv LMDSS (Bortle 2) in a single night about 2 weeks ago. He used 3 different cameras and 2 different telescopes

From CRUX, magazine of the Astronomical Society of Victoria Inc.
August, September 2024 Volume 42 NO.4

Thanks to Max Campbell

This newsletter is printed on recycled paper.

"Nidula emodensis is the most common of the Bird's-nest Fungi. It grows on wood and bark, on the ground and on herbivore dung. The small hairy cups are only up to 1 cm across and are covered by caps which fall away at maturity to expose the 'eggs' (spore-bearing peridioles). These are distributed by raindrops which fall into the cups, splashing out the contents." *Field Companion to Australian Fungi,* Bruce Fuhrer p 98.

The photos were taken at St Andrews on 22nd Sept.2024, quite late in the season for fungi. The cups were only about 75mm in diameter. Bird's nest Fungi is an exquisite species, with neat, fringed cups and tiny, polished , jelly-bean shaped "eggs". This was special as it is the first I have found myself. **Joan Broadberry**

Extracts from SIG reports given at the last FNCV Council Meeting

Geology Group: Meeting Wednesday 28th August: Leon Costermans *Down the Murray River, source to mouth: geological history, geomorphology, and a bit of botany*.

North of the 'Great Divide' in Victoria, the Murray River catchment is extensive, including many tributaries. Past Corryong, and then past the Hume Dam, the Murray flows through flat country and has numerous meanders. Acacia, Kurrajong, Eucalypt and Callitris indicate particular soil types, such as granitic.

The Barmah Forest, downstream from Tocumwal, has notable stands of River Red Gums, a species adapted to periodic floods. The forest's existence is due to movement on the Cadell Fault (between Echuca and Deniliquin), such that the Murray River in fact avulsed, i.e. changed its course. This move south occurred within the last 70 000 years, but only recently have the fine details been determined, thanks to OSL dating and LIDAR images.

Near the Murray River mouth, eight million years ago sea level was 60 m higher than it is today. The consequent embayment included Swan Hill and regions north of Mildura, half way to Menindee. Mt Arapiles was an island. By 2 Ma, outflow to the sea was blocked, but an inland lake remained. At present, there are dry lake beds e.g. north of Ouyen. Loxton sands, which include clay and pebbles, have evolved to a crust of ferricrete or silcrete layers, baked in the sun's heat.

The Murray Mouth today carries little sediment, and indeed a low water flow, consequent from human exploitation. The continental slope off the continental shelf has canyons where the river met the sea during the last ice age, about 18 000 years ago, when sea level dropped 120 metres.

Background reference: Costermans & VandenBerg, *Stories beneath our feet*, chapters 26 & 27.Attendance was 48.

Ken Griffiths

Fauna Survey Group: Meeting, 3rd September. Speaker: Ange Pestell, PhD student, Deakin University, *Comparing traditional survey methods with camera traps and machine learning for detecting small fauna; a field study from the Mallee*.

Camera traps have a wide application for wildlife research and can be deployed for long periods in remote areas. Many images can be collected, so using artificial intelligence to analyse the photos, has its attractions.

Microsoft 'Mega Detector GUI' is a program easily available and with suitable training can be a valuable time saver when analysing photos. Custom training needs a lot of training data and the level of error varies with the target species, and variation in background.

To record reptiles, a drift fence with gaps where a specially designed camera, developed by Deakin University Department of Life and Environmental Sciences, is positioned, facing down on a corflute stage. This camera used AI to assist in detecting reptiles and frogs. The cameras were used successfully in the Little Desert National Park and Mt. Arapiles-Tooan State Park, where reptiles, amphibians, insects and mammals were recorded.

Ray Gibson

Invertebrate Study Group: Meeting Wednesday 18th September. Wendy Clark gave a talk on the Little Sap Suckers – Psyllids and Spittle Bugs and a few other invertebrates. It was a small but keenly interested audience. The invertebrates are all members of Hemiptera, known as True Bugs. Wendy described their life cycles, and showed some wonderful video footage of a Spittle Bug rebuilding its spittle retreat. Food sources and construction of the tube for the Tube Spittle Bug were discussed.

She then showed the association of Horned Tree Hoppers with the Imperial Blue Butterfly and the Tyrant Ant. Wendy concluded by describing the life cycle of the Cottony Cushion Bug which can reproduce either sexually or just via the female line. The male looks totally different to the female. A detailed report appears on p 8-9 of FNN 357 and will be continued in the next issue of FNN.

Field Trip to Baluk Willam Nature Reserve Sunday 22nd September. Fifteen members and visitors attended the first ISG trip of the season. Some of the visitors were keen to join FNCV. At first, we thought there were not going to be many invertebrates to see as it was cool and overcast. However, it started to brighten up and we got our eye in and began to find more subjects to photograph. Many pairs of eyes always help in spotting our intended subjects. We found moths, long and short-horned grasshoppers, spiders, beetles, flatworms, various flies, and much more. Unfortunately, it was too cold for Peacock Spiders to appear.

Wendy Clark

Botany Group: Meeting 19th September, via Zoom. Thanks to Max for facilitating this.

Fifteen people participated including the two presenters, Ian and Michael Davidson. Ian, who is a long term FNCV member, has developed an app for land managers to use to measure and monitor the condition of the vegetation on their land. The app is

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called COVRAM (Condition of Vegetation Rapid Assessment Method). The beauty of it is that it is simple enough to be used by citizen scientists without much experience. Andrej plans to trial Covram at the next Mali Dunes camp.

There was a very interesting discussion with reference to vegetation monitoring after the presentation. Thanks to all who participated. Sue has received emails of appreciation for the presentation. Full report p13. **Sue Bendel**

Day Group: The Day group presentation on Tuesday 24th September was to be from FNCV member, artist Esther Schouten. However, Esther was unable to attend and Wendy Clark stepped in at the very last minute with a repeat of a talk given to the to the Invertebrate Study Group on the 18th September, Little Sap Suckers – Psyllids and Spittle Bugs. A huge thank you must go to Wendy. Her presentation was beautifully constructed and appreciated by all. (See Invertebrate Study Group previous page). Thanks, to Max, as always, for his help with all things technical. **Joan Broadberry**

Juniors Group: Adam Hosken advised that the Juniors seem to prefer excursions to meetings. He requested ideas for different venues which would appeal to them.

Marine Research Group 2025 Field Work

After much consideration and comparison of locations and accommodation, Audrey and I will be staying at Marlo at the Marlo Caravan Park & Motel for the Cape Conran field work. For Anglesea to Lorne we are planning to stay around Anglesea to make it easier for anyone coming down from Melbourne. Hope to see you in the field (let me know if you are coming so I send you details of each day's field work).

Leon Altoff 0428 669 773 leon.altoff@gmail.com

Date	Location	Meet at	Tide height	Tide time	Meeting details
29-Jan Wed	Cape Conran area	13:30	0.2	15:35	Locations to be decided on while on
30-Jan Thu		14:20	0.13	16:19	site.
31-Jan Fri		15:00	0.08	17:05	Based on Point Hicks tides
1-Feb Sat		15:45	0.07	17:49	
5-Mar Wed	Clifton Springs	12:10	0.19	14:11	
8-Mar Sat	Point Lonsdale	9:40	0.19	12:39	
2-Apr Wed	Anglesea to Lorne	6:50	0.25	8:49	Locations to be decided while on
3-Apr Thu		7:30	0.19	9:33	site.
4-Apr Fri		8:15	0.22	10:18	Based on Lorne tides
5-Apr Sat		9:00	0.32	11:02	

Invertebrate Study Group *The Little Sap Suckers*

Meeting ISG September 18th and Day Group September 24th

Psyllids

I (Wendy Clark) recently became fascinated by the tiny Psyllid insects that look like mini cicadas. I then found a fascination with Tube Spittle Bugs. Consequently, after capturing many photos of the Psyllids and doing quite a bit of research, the information was put together to share with other naturalists.

Schedrotrioza Psyllids

Schedrotrioza galls
the open ones are males and the round one is a female

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I started with showing where these invertebrates fit in terms of classification. They are in True Bugs – the Hemiptera which then breaks down into four branches. Two of the branches were of interest. The Psyllids which are in the Sternorrhyncha and include Aphids and the Spittle Bugs which are in Auchenorryncha. Auchenorryncha then branches again into two and the Spittle Bugs are in Cicadomorpha along with Leaf Hoppers and Cicadas. The Psylloids are very ancient and have been around since the Jurassic era through to present times.

The first Psyllid shown was a species of Shedotrioza, a gall-forming Psyllid.

The next Psyllids were those that are well known for making intricate sugary lacy covers called lerps. These are made by the nymphs. These next photos were all taken from one large eucalypt that was covered in them. All parts of the Psyllid's life-cycle were present. The leaves were showing mottled colouring where the nymphs had been sucking the sap

Another group of Psyllids found are called Jumping Plant Lice (they are not lice!) All are very small and have patterning on the wings. They feed on plant sap and are highly mobile. A few end up being agricultural pests.

Wendy Clark

Adult Psyllid with nymph under the lerp

Adult Psyllid, nymphs and newly hatched nymphs

Jumping Plant Lice

Wendy's report will be continued in FNN 358.

Spring Survey and working bee: Flowers, Vertebrates, Invertebrates and Elbow Grease at Mali Dunes

Under the leadership of Andrej Hohmann, a group of 12 Field Nats spent the Grand Final Weekend, Thursday 26th to Monday 30th September at the FNCV's Field Work Station, Mali Dunes.

Despite being quite dry, with no water at all in the clay depressions, the property was bright with spring wildflowers, particularly acacias and *Leptospermum sp.* The weather was sunny but mild. Thursday and Friday nights were cool to cold with late rain on Saturday. It fined up on Sunday and Monday. Unfortunately, flies were plentiful. Everyone was very grateful to Deb Colville who towed a portable toilet to the camp for the weekend.

On Thursday afternoon and Friday morning three existing lines of bucket traps were reopened by building fence lines, adding covers etc. These were left open for four nights, being checked every morning and evening. Captures in the buckets included: Wood Gecko *Diplodactylus vittatus,* Nobbi Dragon *Amphibolurus nobbi coggeri*, Obscure Skinks *Morethia obscura*, Greys Skink *Menetia greyii,* Marbled Gecko *Christinus marmoratus,* Western Pygmy Possum and, after Saturday's rain, Spadefoot Toads *Neobatrachus pictus* and Pobblebonk Frogs *Limnodynastes dumerili.*

A number of groups of tiles had been laid down on the property. These were checked and more were laid out. Animals found were scorpions, a variety of ant species, Southern Legless Lizard *Delma australis* and a Common Dunnart. The Common Dunnart was a first record for Mali Dunes.

Three reptile species were recorded: a pair of large, (2 metres) Brown Snakes *Pseudonaja textilis,* two Sand Goannas *Varanus* gouldii and many Stumpy-tailed Lizards *Tiliqua rugosa.*

Checking under tiles

A bird list was compiled. Five or six Malleefowl were seen as we moved around. Mirinda, FNCV member and part of the National Malleefowl Recovery Group Inc (NMRG) spoke to us about the work being done to monitor and protect Australia's iconic species.

Opening pit-lines

LIDAR imaging attaches a special laser scanner to a light plane, which flies across target areas of suitable Malleefowl habit. The imagery is then analysed, using algorithms that are able to identify the distinctive dome-shaped mounds built by these birds. This method has proven to be far more effective than searching on foot.

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Southern Legless Lizard

Scorpion under fluorescent light

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The previous owners of Mali Dunes, Sue and Bernie, planted thousands of trees and shrubs protecting them with plastic and tree guards. One task was to collect the old guards, some of which had to be cut off the plants. This work was carried out over several days and is ongoing. Rubbish, including old refrigerators, was collected and moved to the side of the tracks for removal at a later date.

On Sunday morning, nest-boxes were checked and some were found to contain families of Western Pygmy Possums.

Andrej has acquired a top of the range moth sheet which was set up in the evenings. It attracted a wide range of interesting and beautiful moths and insects.

Two groups set up 20 remote cameras. These will be collected in about three weeks.

A number of Sun Orchids were in flower along with many other wildflowers.

Thanks to Andrej and to the easy-going, hardworking group of Field Nats who made this such an enjoyable camp.

A Western Pygmy Possum that didn't want to wake up.

Joan Broadberry and Sally Bewsher
All photos, except where otherwise indicated, J. Broadberry

Sand Goanna– left very camouflaged - above flicking its tongue.

Hawk Moth

Spadefoot Toad *Photo: S. Bewsher*

Sun Orchid *Thelymitra sp,*

Collecting tree guards

Mali Dunes campsite *Photo: Sally Bewsher*

See pages 14 and 15 for more Mali Dunes photos.

Geology Group

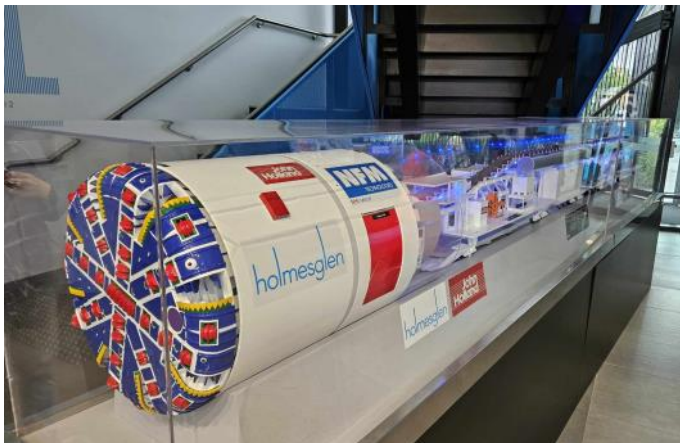
Excursion to Victorian Tunnelling Centre

Co-ordinated by Philippa Burgess

The Victorian Tunnelling Centre, which opened in 2020, is located at Holmesglen Institute's Chadstone campus where it offers specialist training to workers in the construction and operation of a variety of tunnels including rail, road, and utilities tunnels.

The facility includes a replica mined tunnel and a replica rail/Tunnel Boring Machine (TBM) tunnel similar to the Metro Tunnel, with a full-height entrance, two multi-purpose engineering workrooms and training facilities including tunnel shaft and concrete lining spray simulators, as well as augmented and virtual reality experiences. A cutter-head, a refuge chamber and the only four-motion bridge and gantry crane located in a TAFE also form part of the facility.

Rail tunnel boring head (internet)



Drill rig showing its full size **Photo: Colin Gare**

Funded by Rail Projects Victoria, the Victorian Tunnelling Centre was built to support Victorians who want to gain the skills and knowledge required for work on major projects, such as the Metro Tunnel, Suburban Rail Loop, North East Link and other major projects across Australia. Prior to the construction of the Victorian Tunnelling Centre, there was not a purpose-built training facility in Australia to provide training in the construction and operational maintenance of rail, traffic and utility tunnels.

Inside the training rail tunnel

Outside view of the segmented rail tunnel

The Tunnelling Centre features two tunnels, one 25 metres long by 7.2 m diameter segment-lined tunnel. This has been constructed with segments to match the metro tunnel under construction in Melbourne. It is presently fitted to replicate what is being installed in the metro tunnel. The second tunnel is 25 metres long by a 13.5 m diameter (equivalent to a two-lane road traffic tunnel). The construction method demonstrated in the tunnel replicates that of a tunnel constructed using a long drill and blast method or road-header and is lined with shotcrete. In this tunnel there is an underground refuge chamber. This chamber enables underground workers to experience and be trained in underground emergency and rescue procedures and techniques in a controlled environment.

Industrial workplace safety training facility

To accommodate the replica training facilities and give an experience as close to the real thing as possible, the VTC has also adopted state-of-the-art simulators with augmented and

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virtual reality. These experiences have been designed to cover all aspects of tunnelling operations.

Along with FNCV members, the excursion to the Tunnelling Centre was enjoyed by members of the U3A geology group and visitors. Thanks to Glen, our very knowledgeable guide, to Philippa Burgess who co-ordinated the visit and to Colin Gare for help with this report.

Joan Broadberry

Except where indicated otherwise, photos J. Broadberry

https://www.holmesglen.edu.au/about-us/our-institute/our-facilities/training-facilities/victorian-tunnelling-centre

The FNCV tour group try out the underground refuge chamber

Botany Group

COVRAM: A rapid assessment tool for vegetation condition

The Botany Group September meeting was via Zoom. Thanks to Max Campbell for facilitating this. Thank you to our presenters Ian and Michael Davidson who introduced us to their App COVRAM.

COVRAM is an App that enables land managers to monitor the condition of the vegetation easily. COVRAM stands for Condition Of Vegetation Rapid Assessment Method.

Ian has extensive experience working as an ecologist in Benalla and for Greening Australia. He decided to share his knowledge and, with Michael, develop a simple method based on VAST (Vegetation Assets, States and Transitions).

COVRAM can be used for several purposes. It is able to track rare plants and ground flora by recording the conditions and location of the plants, providing a base line for future monitoring and enabling future comparisons. This information can then be used to inform decision making, as it provides the data to see if the site is good quality or degrading. Appropriate management steps can then be taken to protect the vegetation.

The development of COVRAM was informed by the challenge of the difficulty of initially determining the conditions of the site, as no single standard approach exists for all, and current methods require a high level of knowledge. COVRAM aims to enable land managers who lack good botanical knowledge to record and keep photos and data relating to vegetation in a simple manner. COVRAM provides a standard, repeatable approach that can be applied across all native vegetation. It can also be used as a training tool and a means of knowledge sharing. It enables volunteers to work as a team and view sites including photos that are saved on the web application. This allows volunteers to contribute to conservation outcomes with evidence-based information. The method is easy to understand and has already been successfully applied across thousands of sites and various land tenures.

The application applies a numeric score to characterise key vegetation values which go on to determine conditions ratings, (5 levels), in combination with the use of photo-points. This links seamlessly with the VAST method.

The advantage of the application is that it is a mobile assessment developed for field use that can be used offline. When online it can be used for analysis and to filter sites. It allows for quick and detailed inspection of the data.

The application is simple to use as it has lots of drop-down boxes to guide responses. These include: vegetation types, structure, ability to form tree hollows, which allows the frequency of large trees to be recorded. It can also record the frequency of weeds, including woody weeds and vines. The measurement for native vegetation requires basic training in identification of native plants. The application uses parts of the data collected to generate a condition score without the user needing to be able to identify all the vegetation. This enables simple future monitoring where the history and conditions of the site can be compared and enable management decisions based on the evidence. The presence or absence of some species will depend on the season, as some plants are dormant at certain times of the year and so will be underground and not appear visible but are still present.

An excellent and informative conversation took place after the presentation with suggestions being sent to Ian and Michael to consider. The fauna survey group trialled COVRAM at their recent weekend camp at Mali Dunes.

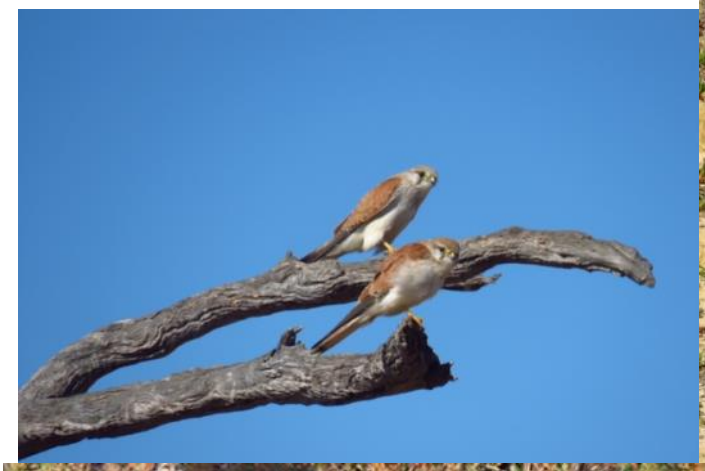
Sue Bendel

Mali Dunes Spring—FSG Grand Final Weekend Photos: *Sally Bewsher*

Photos: clockwise

1. **View**
2. **Bug**
3. **Mallee in flower**
4. **Checking under tiles**
5. ***Stackhousia sp*.**
6. **Pitline check on a cold morning**
7. **An old beehive in a fridge—needs to be removed.**

Continued from p14 **Photos: *Joan Broadberry***



<u>Photos: clockwise</u>
1. Pair of Kestrels
2. Two Brown Snakes
3. Stumpytail Lizard
4. Velvet Bush *Lasiopetalum behrii*
5. Woolly Mantle *Eriochlamys behrii*
6. Removing old tree guards

7. **Very large worms found in the pitline buckets after rain. NOTE toad for size.**

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Botswana Wildlife Safari

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We travel to Botswana during the green season, when the land transforms from a dry winter landscape to a vibrant lush wonderland. Salt pans become shimmering wetlands teeming with waterbirds, and offspring born in November and December will be young and playful. We'll stay in traditional safari accommodation (tented camps and lodges), nestled in Botswana's remote reserves to ensure an authentic safari experience.

Bhutan - The Last Shangri-La

14-Day Accommodated Tour - Departs Bangkok 27 April 2025 - Max 12 participants

Bhutan is a fiercely independent Himalayan kingdom offering exquisite scenery, rich traditions and pristine environments. Home to snow leopards, blue sheep, red pandas, Asian elephants and tigers, Bhutan's environment is rigorously protected, and mass tourism is avoided to preserve the unique natural heritage. This country is also one of the last strongholds of Tibetan Buddhism, and a visit to the magnificent Taktsang Monastery (Tiger's Nest) near Paro is a highlight of the tour.

South Australian Lake Eyre & Flinders Range Tour

10-Day Camping/Accommodated Tour - Departs Alice Springs 19 June 2025 - Max 10 participants

This adventure is a must for all who long to experience the Australian outback. Travel on the Oodnadatta Track, gaze out over Lake Eyre, and visit iconic outback towns including Coober Pedy, the opal capital of Australia (if not the world). We also visit Wilpena Pound, a natural wonder and amphitheatre of mountains in the Flinders Range covering 8000 hectares. Join us on this outback adventure showcasing South Australia's spectacular scenery and unique wildlife!

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