

## Field Nats News No 346



#### Newsletter of the Field Naturalists Club of Victoria Inc. Editor: Joan Broadberry 03 9846 1218 **Telephone 03 9877 9860**

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Founding editor: Dr Noel Schleiger

Office Hours: Monday and Tuesday 10 am - 4 pm

November 2023

#### From the President

Welcome to the November FNN.

In addition to photographing invertebrates, I have been spending a little time taking pictures of native orchids in some of our local parks (Photos 1-6). These exquisite flowers are always a joy to behold. As far as I am concerned, you can never have too many pictures of orchids, or wildflowers in general, for that matter.

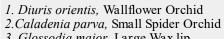
> A Chocolate Lily that I planted in my garden earlier this year, has reappeared in full bloom (Photo 8). Love Vines are also in flower and

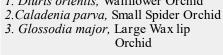
their delicate blue flowers can be seen in bushland around Melbourne (Photo 7). The wildflowers are a highlight of our various SIG field excursions and are irresistible subjects for photography.

We are rapidly approaching the end of another productive year thanks to the hard working and dedicated team that keeps the Club operating. We are hosting a SEANA gathering at Phillip Island next April, so keep an eye open for upcoming announcements; it promises to be an excellent event.

Our activities at Mali Dunes are increasing and will be announced as they are scheduled. Fire-danger and weather conditions in general will affect the timing of the field trips and working-bees.

If you are interested in getting involved with the running of our many activities don't hesitate to contact me. There are more working bees to be organised to address some (Continued on page 4)









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The due date for FNN 347 will be, as always, the first Tuesday of the month, Tuesday 7th **November. (Yes Cup Day!)** Please use joan.broadberry@gmail.com

Attendees are requested to register for excursions so that they can be contacted

• if there is a change in

Registering also means that the leader is better

able to plan activities.

arrangements.



## CALENDAR OF EVENTS

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

#### **November 2023**

Friday 3<sup>rd</sup> to Tuesday 7<sup>th</sup> - Fauna Survey Group. *Spring Survey at Mali Dunes for Mallee small mammals and birds.* Prior bookings essential.

Contact: Andrej Hohmann 0410 934 779; <u>Andrej hohmann@ yahoo.com.au</u> (or Ray Gibson 0417 861 651; <u>rgibson@melbpc.org.au</u>)

Saturday 4<sup>th</sup> - Tuesday 7<sup>th</sup> - Juniors Group Cup Weekend Camp: *Details to be advised*. Bookings in advance essential! Contact: Adam Hosken adamhosken@gmail.com

Monday 6<sup>th</sup> – Fungi Group Meeting: The contribution of mycophagous mammals to ecosystem function and restoration. Speaker: Aviya Naccarella. Contact: Melvin Xu 0410 522 533; fungifncv@gmail.com

Sunday 12<sup>th</sup> - Terrestrial Invertebrates Group Excursion: *Braeside Park*, southern end. **Bookings essential.** Contact: Wendy Clark wendy.empathy@optusnet.com.au

Tuesday 14<sup>th</sup> - Fauna Survey Group Meeting: *To be advised*. Contact: Ray Gibson 0417 861 651; rgibson@melbpc.org.au

Wednesday 15<sup>th</sup> - Terrestrial Invertebrates Group Meeting: *Predatory Larvae*. Speaker: Max Campbell Contact: Max Campbell 0409 143 538; 9544 0181 AH; mcam7307@bigpond.net.au

Thursday 16th - Botany Group No Meeting: See joint meeting with Geology on Wednesday 22nd

Monday 20<sup>th</sup> – Australian Natural History Medallion. Reception and Buffet 6.30 pm. Presentation 8.00 pm. The 2023 Medallionist is Maureen Christie. Medallion will be presented by the President or Vice President Royal Society of Victoria, to be followed by a talk from the recipient. Bookings are essential for the buffet (\$25). Contact FNCV Office admin@fncv.org.au

Wednesday 22<sup>nd</sup> – Geology Group and Botany Group Meeting: *Cretaceous floras of Gondwana: Past climates* Speaker: Anne-Marie Tosolini and Vera Korasidis, Melbourne University. Contact: Ken Griffiths <u>botany@fncv.org.au</u>

Friday 24th - Juniors Group Meeting: To be advised. Contact: Adam Hosken adamhosken@gmail.com

Saturday 25<sup>th</sup> - Terrestrial Invertebrates Group

Excursion: Blackburn Creeklands to see the Imperial Blue Caterpillars and Butterflies.

Note: Change of date may be necessary depending on hatching times.

Bookings essential. Contact: Wendy Clark wendy.empathy@optusnet.com.au

Monday 27th—FNCV Council Meeting: 7.30 pm. Apologies and agenda items to Wendy Gare admin@fncv.org.au

Tuesday 28<sup>th</sup> – Day Group Meeting 10.30 am coffee and a chat, speaker 11 am. Exploring the more remote areas around Mali Dunes with a focus on the many species of Australian native orchids found in the Mallee.

Speaker: Bill Kosky from the Australian Native Orchid Society (ANOS). Visitors always welcome.

Contact: Joan Broadberry joan.broadberry@gmail.com



















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.

## 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: joan.broadberry@gmail.com by the first Monday in the month.

elcome

Warmest greetings to the new member who was welcomed into our club at the last Council meeting: Dr Valerie Mitchell

## **Editor required**

The editorial team of *The Victorian Naturalist* is seeking a new member.

On-the-job training is available, but some knowledge and experience in the following areas would be an advantage:

- Science, biology or natural history;
- proofreading or editing;
- desktop publishing (preferably InDesign);
- science publishing.

Interested readers can phone Gary Presland (0416 316 419) or Mary Gibson (0427 876 930), to discuss details of this honorary position.

35425 facebook followers.

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

#### 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.



Joan Broadberry, Wendy Gare, Sally Bewsher and Sheina Nicholls.



#### **CORRECTION:** FNN 345 p5

The captions to photos 8 and photo 9 have been transposed.

Photo 8 should read, Matusca brevicornis, Aldidae

Photo 9 should read Rayieria sp. Miridae (Continued from page 1)

outstanding maintenance jobs, including painting and minor repairs. If you have the time, jobs can be arranged to suit your availability and skills.

It would be good to see a strong turnout for the annual Christmas party this year so put the date (Saturday Dec 2<sup>nd</sup>) in your calendar. It is a good opportunity to catch up with members from other SIGs.

#### Max Campbell

(All photos: M. Campbell)

- 4. Caladenia parva, Small Spider Orchid
- 5. Chiloglottis valida, Large Bird Orchid
- 6. Caladenia carnea, Lady Fingers Orchid
- 7. *Comesperma volubile*, Love Vine Polygalaceae
- 8. Arthropodium strictum, Chocolate Lily Clayton











The FNCV is hosting the autumn SEANA get-together next year. It will be held on Phillip Island from Friday 19th—Monday 22nd April 2024. We expect to welcome over 100 field naturalists from the 20 SEANA member clubs. Please lock these dates into your diary. SIG co-ordinators are requested not to organise any activities around those days.

A sub-committee from Council has been formed, (Max, Philippa, Joan, Barbara and Ken). Five meetings (via Zoom) have already been held. Planning is well underway with the major venues already booked and a draft program being created.

#### However, this is a whole club event and we are going to need YOUR help.

- Leaders needed for walks focusing on, for example: birds, nature photography, geology, botany, history
- Every activity will also need an assistant to help the leader.
- We may need a small team to prepare and serve food
- Helpers will be needed to assist with book sales
- This is just the short list.....

It is not too early to volunteer your expertise. Please contact Philippa Burgess 0409 866 389 or the FNCV office so that we have an idea of who to contact. We look forward to hearing from you.





## **Terrestrial Invertebrates Group Reports**

## TIG Meeting – September 2023. Co-ordinator and presenter: Wendy Clark

There was a good attendance at the Invertebrate Group meeting on Wednesday 24<sup>th</sup> September. Wendy opened the meeting with discussions on what was seen during the month and then showed us some videos she took of *Nimbopsocus australis* insects, eating the algae off a post and rail fence. These are often called Bark Lice, but hey are not lice. They are in the Order Psocoptera and the Family Myopsocidae.

The last video that was shown was a fascinating courtship ritual with the male and female *Nimbopsocus*. When Wendy first saw these insects, they looked like pieces of mouse poo – until they moved! When you look in detail, especially having lightened and magnified the image, a fascinating texture and patterning is found on the wings and body.



Nimbopsocus as you first see them



Nimbopsocus male approaching female



Female eating algae



Ninbopsocus male dancing to attract the female

## Peacock Spiders Found in Victoria Speaker: Wendy Clark.

Wendy gathered data published on the distribution of these beautiful but tiny spiders and presented images of them; gave descriptions of their identifying features and their mating dances as well as background information of the special features of these charismatic spiders. Twenty-two species have been found in Victoria so far. With so many people looking now, more are bound to be found as well as their ranges added too.

Some interesting snipits of details: the male and female communicate via vibrations made with their legs as well as pheromones that have been laid on special silk threads that the female lays out. The male senses them through his legs and follows the trail back to the female. They also have telescopic lenses and three tiered retinas in their eyes. Their colour vision is thought to be equivalent to birds. We all gained a lot from the talk and have an idea now of which ones to expect in areas that we travel to – as well as looking out for ones that haven't been found yet.

Ref: www.peacockspider.org
Animal Diversity Web
Peckhamia 148.4 Catalogue of Peacock Spider

Below are photos of the most commonly seen Peacock Spiders found near Melbourne – *Maratus tasmanicus* which we find regularly at Black Rock and *Maratus plumosus* seen at Braeside Park.



This image of *Maratus splendens* shows how tiny Peacock Spiders are. Photo: Jurgen Otto

#### Wendy Clark



Maratus tasmanicus as it is usually seen. Photo: Wendy Clark



Maratus plumosus as usually seen. Photo: Wendy Clark



Maratus tasmanicus in courtship mode. Photo: Jurgen Otto



Maratus plumosus in courtship mode . Photo: Jurgen Otto

#### TIG—Field Trip to Buttongrass Walk - Bunyip State Park - September 2023 Wendy Clark

Twenty people came on the outing. It was a beautiful sunny, spring day, 25°c with a light breeze. The vegetation on the walk was still reasonably lush, with lots of new growth from the last couple of years of above average rainfall. We decided to stay at Buttongrass Walk after lunch rather than move to Mortimer Picnic Ground as had been planned. The area was productive and there were sections we hadn't explored

There were many species of wattle, mostly prickly, that proved to be good habitat for caterpillars and some beetles. These were along Guide Track, the main track from the car park to the dam. Jumping Jack Ants were found in the wattles and we were very careful not to irritate them as they are well known for their painful sting.

#### Watch what you stand on when photographing

Having said that, I suggest that everyone looks down at their feet when photographing something in the bushes as it is best not to stand on a Jumping Jack nest. They walk up your legs under your clothes and at some signal, bite in unison. This is often when you will see people suddenly shout and rip their clothes off!! Fortunately for me, I saw them early and only ended up with five bites. They don't hurt too much at first, but overnight they become red and swell, particularly if anything rubs them. Fortunately, the bites go in a few days.

In the afternoon at the beginning of Buttongrass Walk, there were several beetle species. Around the dam we found dragonflies, leaf beetles on the gum trees and weevils. A selection of photos can be seen below.

More can be seen on iNaturalist. https://inaturalist.ala.org.au/projects/fncv-2023-buttongrass-walk All photos: W. Clark



Jumping Jack Ant



Cone Case Moth Genus Conoeca



Tribe Orgyiini



Green and Burgundy Stink Bug



Eucalyptus Weevil Tribe Gonipterini



Aoplocnemis sp. weevil



Dolly Ants *Dolichoderus doriae* with Eurymela Leaf Hopper



Paropsis Leaf Beetle



Calomela curtisi



Winter Stone fly Genus Taeniopteryx

## An encounter with Scorpion-flies

I was in the bush near Bendigo, on a conservation trip with the Australian Native Orchid Society (ANOS) when I noticed an insect, a little like a cranefly, zooming around. I soon realised there were two insects circling a metre or so from the ground. One was carrying something in its mouth. After a few minutes both settled on a bush. I moved in carefully and started taking photos. As I watched they began a mating dance. Swaying together like two ballerinas, the male offered the female a dead insect. She did not accept it immediately. The nuptial gift passed back and forth between them sometimes quickly, sometimes slowly. Their dance resembled two people throwing a basketball to each other. As I watched they came together and mated. Unfortunately, we had car-pooled and as my driver was calling me, I had to leave.



At home, when I downloaded the images, they were mostly blurred except the very last one that, thankfully, was perfectly sharp. A lucky break but, in hind-sight, with so much movement, I should have pressed the video button.

The dead insect had striped football-sock legs, but I have been unable to identify it. If anyone can help I would love to hear from them.

That evening I got out my books and a little research identified the two as Scorpion-flies *Harpobittacus tillyardi*. They were new to me.

Scorpion-flies are medium-

sized insects with two pairs of strongly veined wings of almost equal size. Their name is derived from the fact that the abdomens of some male species have genitalia that resemble the stinging tail of a scorpion. They have very long spindly legs with strong claws for catching prey and long filiform antennae. Scorpion-flies' mouthparts are at the end of a very odd looking beak-like projection. As omnivorous scavengers, they feed on nectar, insects and dead organisms. By zooming in on my one sharp photo (above), all of these features can be seen.

To court females, males of some species perform an elaborate dance, the male offering the female a nuptial meal of a dead insect which she eats. This was what I had been fortunate enough to witness. After mating, her eggs are deposited in the soil or on moist leaf litter; sometimes in water. The caterpillar-like larvae develop through three instars. Scorpion-flies pupate within a chamber in the soil.

Special thanks to the FNCV Terrestrial Invertebrates Group (TIG) and to Wendy Clark, Max Campbell, Carol Page and others who have placed my feet firmly on the entomological pathway.

Joan Broadberry

## MALLEE FOWL LIVE CAMERA

Dear Members, FNCV is a sponsor of the Malleefowl Live Camera. You can now follow the birds' activities on the website by clicking on the Malleefowl Live Camera box below.

#### Malleefowl Live Camera:

nationalmalleefowl.com.au

Or go to <a href="https://www.nationalmalleefowl.com.au/live-camera/">https://www.nationalmalleefowl.com.au/live-camera/</a>





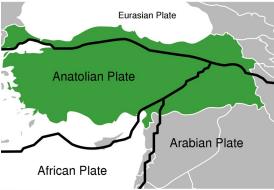
# Some interesting geological features of Türkiye Speaker: *Dr Gary Presland PhD FRHSV*

In June this year, 2023, Gary went on what he described as 'a standard two week group tour of Türkiye.' He had long wanted to visit historic archaeological sites such as Troy and Ephesus. The map below shows his itinerary with the red lines indicating travel by air and the blue dotted lines travel by road. However, for this presentation Gary chose to focus on some of Türkiye's more interesting geological features.



Türkiye is among the world's most seismically active countries. It is at major risk of earthquakes, being situated where three tectonic plates meet. The Arabian and African plates are moving towards the Eurasian Plate. Türkiye on the Anatolian plate, is being squeezed between them. *See right*.

The calcium travertine deposits at Pamukkale (photo below) were formed when a spring with a high content of dissolved calcium bicarbonate cascaded over the edge of a cliff. This left behind deposits of calcium and warm pools. The spectacular, hard, white rock terraces are now a World Heritage site. The remains of a nearby ancient Roman settlement includes a very well preserved amphitheatre.





Cappadocia, another UNESCO World Heritage site, is famous for its spectacular rock formations and historical heritage. The fairytale landscape is honeycombed with thousands of cave dwellings carved into soft tuff. Tuff is a sedimentary rock, formed from volcanic ash which has been compacted under a shallow sea and then uplifted. A distinctive feature is pillars of rock with hard caps, known as hoodoos. Over thousands of years, houses, early Christian churches and even multi-layered underground cities have been carved out of the rock. The best way to appreciate this unique landscape is from a hot air balloon.

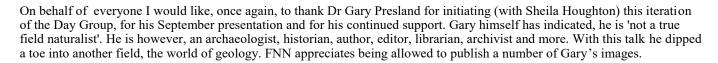
During his time in Cappadocia, Gary was accommodated in a comfortable cave-room which had irregular shaped openings in one wall. These openings were originally for pigeons to enter and exit as the room had once been a dovecote.

Greater Mt Ararat at 5,137m or 16,854 feet, is the highest peak in Turkiye. It consists of two volcanic cones, the second being Little Ararat rising to 3,896 m or 12,782 feet. The Ararat massive is 119 k in length.

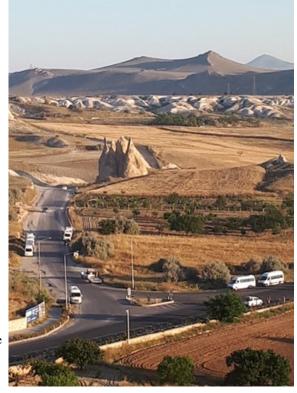
Lake Golu near the city of Van in Anatolia is one of the world's largest endorheic lakes. An endorheic lake is one where streams flow in, but none flow out. The level of water is maintained by evaporation. Lake Golu is hypersaline; its salinity prevents it from freezing in winter. Only one species of fish has adapted to the harsh conditions. The Van Cat, a semi-domesticated white feline with eyeballs of different colours, is found in the area.

Akdamar Island is the second largest island on Lake Van. It is home to the 10th century Armenian Holy Cross Church, the only building on the island.

The church claims to hold a piece of the true cross. Its exterior contains some exquisite carving. Gary's photos showed a long strip of four-leaf clovers and many beautiful biblical scenes such as the stories of Jonah being swallowed, then regurgitated, by a whale and another of David and Goliath.



Joan Broadberry



# Advertising in the Field Nats News

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Contact Wendy in the Field Nats

Office admin@fncv.org.au 9877 9860

(Mon -Tues 10 am-4 pm)



## From the Office

#### Dear Members

As you know, meetings are now in full swing, and once again we're having cups of tea/coffee and biscuits.

So here is my usual request from pre-covid days – if you could donate tea, coffee, long-life milk (small packets only) and/or biscuits, it would be very helpful ©

Toilet paper is another item for which donations are gratefully received. Thank you all!

Wendy Gare Administration Officer

### Extracts from SIG reports given at the last FNCV Council Meeting

## **Botany Group: Meeting 21st September:**

Adrian Moorrees detailed what a vegetation survey might entail. For Victoria, the whole State has been surveyed, with tools developed since the 1970s, such as Ecological Vegetation Classes (EVCs). Small scale surveys can of course be carried out. Adrian stressed the importance of clarity of goals and methods, in order to attain scientific rigour. With plants, it is usually a sample not a census. Quadrat size is therefore a choice. Repeatability is a criterion.

Adrian discussed three examples of Government work: A - Statewide, with the Vic Biodiversity Atlas an outcome; B - Forest monitoring and C - the Western Grasslands Reserve. Thirteen attended.

**Ken Griffiths** 

#### **Day Group: Meeting 26th September:**

*Some interesting geological features of Türkiye.* Speaker Dr Gary Presland, Twenty-five people attended. Full report p 9-10.

## Fauna Survey Group: Meeting, 5th September.

Speaker: Jaclyn Harris, PhD student, Monash University: Fire Ecology and reptiles in the Little Desert.

Fire regimes exhibit spatial and temporal intensity. Changing fire regimes are shifting from suppression to prescribed burning, and cultural burning on a small scale. Field work was undertaken in the Little Desert National Park where there is a diversity of reptiles. The habitat and species of reptiles present was determined. Post fire camouflage and colour was investigated. A more detailed report can be found on page 12.

#### Survey Mali Dunes, 22<sup>nd</sup> – 24<sup>th</sup> September:

The FSG visited Mali Dunes to conduct a reconnoitre for trapping and survey sites for the up-coming survey in November Cup Day long weekend. Andrej Hohmann led the activities and seven members attended, with a short visit by a member of the Mallee Fowl Conservation Trust. Sites for pitfall and Elliott trapping were found. The southern sections of the property were visited: the first time for most of those present. Some track clearance was undertaken on frequently used sections in the north and west boundary tracks. There were numerous plants in flowers with tea-tree and wattles being especially impressive. The fauna highlights were finding Pygmy Possums and bats. Pygmy Possums have been recorded by our wildlife cameras at some localities. Tile shelter arrays for surveying reptiles and possibly dunnarts, were established in a number of places.

R. Gibson

#### **Terrestrial Invertebrates Group:** Meeting – September 2023

There was a good attendance at the Invertebrate Group meeting on Wednesday 24th September. Wendy Clark opened the meeting with discussions on what was seen during the month and showed some videos of *Nimbopsocus australis* insects eating algae off a post and rail fence. She then screened a fascinating video of the courtship ritual with the male and female *Nimbopsocus*.

The talk of the night was *Peacock Spiders Found in Victoria* given by Wendy. She has gathered data published on the distribution of these beautiful spiders and presented images of them, descriptions of their identifying features and their mating dances as well as background information of the special features of these charismatic spiders. We all gained a lot from the talk and have an idea now of which ones to expect in areas that we travel to, as well as looking out for ones that haven't been found yet. More detailed reports with images can be found on p5-6.

#### Field Trip to Buttongrass Walk in Bunyip State Park September 2023

Twenty people came on the outing. The group found a good range of caterpillars, beetles, some butterflies, dragonflies, ants including a large number of Jumping Jacks, and some spiders as well as other species. Identification is in progress. A full report is to be found on p7.

Victoria's floral emblem, Heath, *Epacris impressa*, taken at Buttongrass Walk. *Photo:* Joan Broadberry



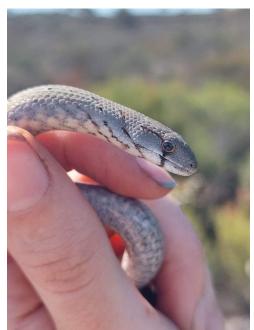


## Fauna Survey Group Meeting 5.9.2023

### Fire Ecology and Reptiles in the Little Desert

Speaker: Jaclyn Harris, PhD Monash University

Fire regimes exhibit spatial and temporal intensity. Changing fire regimes are shifting from suppression to prescribed burning and cultural burning on a small scale. Wildfire has an unburnt boundary and a single recovery area of one age while patch or mosaic burning will lead to a range of vegetation succession ages. Genetic diversity is the key to adaptability but there is limited research on the genetic diversity of animals being influenced by fire.

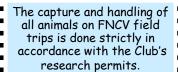


Common Scaly-foot

Field work was undertaken in the Little Desert National Park where there is a diversity of reptiles. The habitat and species of reptiles present was determined. Post fire camouflage and colour was investigated. The colour of lizards was not significantly altered by the burn status. Differences in reptile occurrence and condition were tested in recently burnt and longer unburnt areas and artificial shelters

were used to assess how effective they are at providing cover for reptiles in recently burnt areas. The Obscure Skink *Morethia obscura* had a lower weight in burnt areas compared with unburnt habitat. Considerations need to be given to how various fire regimes affect animals and habitat when deciding fire management of parks and nature reserves.

All photos are taken by Jaclyn Harris.







Little Desert landscape



Reptile shelters in burnt landscape



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

# Australian Natural History Medallion 2023 to Maureen Christie

for her contribution to Conservation of Shorebirds.

The Medallion will be presented by

The President or Vice President, Royal Society of Victoria

on Monday 20<sup>th</sup> November 2023 at 1 Gardenia Street Blackburn Vic 3130.

Reception at 6:30 pm with light buffet. Cost \$25.

Presentation of the Medallion will be at 8 pm and is free for those who do not require the buffet.

Following the presentation, our Medallionist will speak on her topic **Conservation of Shorebirds** 

Please RSVP to Wendy (03) 9877 9860 or <a href="mailto:admin@fncv.org.au">admin@fncv.org.au</a>

Payment for buffet by 13<sup>th</sup> November please, preferably direct into the Club's bank account. Details are:

Bendigo Bank: BSB 633-000 Account No: 123098725
Account Name: The Field Naturalists Club of Victoria Inc.
Please put "ANHM" along with your surname as your reference.

If you would rather pay by cash, cheque or card, that's fine.

Cash would need to be brought into the office between 10 am and 4 pm on Mondays or Tuesdays.

For card payments, it would be easiest to phone during those hours and I'll take down your details.

A tax receipt will be issued by email for your payment.

**ADVERTISEMENT** Field Nats News 346

- Informative naturalist guides
   Small groups (6 − 12 participants)
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#### New Zealand South Island Wildlife & Wilderness Tour

15-Day Accommodated Tour - Departs Nelson 31 January 2024 - Max 12 participants

Discover Te Wai Pounamu (New Zealand's South Island) with Coates, as we take you away from the population centres and tourist 'honey pots,' to lesser known but equally spectacular parts of NZ. One day you may be high in a majestic mountain valley, viewing giant buttercups and 'vegetable sheep', and the next, you may be hiking in sub-Antarctic rainforest, or viewing Dusky Dolphins and Sperm Whales at sea. Accommodation is in pleasant hotels and motor lodges with private facilities, and travel is by comfortable small coach, including an on-board botanical and nature reference library.



**New Zealand North Island Expedition** 14-Day Accommodated Tour - Departs Auckland 17 February 2024 - Maximum of 12 participants

The forests of Aotearoa (New Zealand) are a reminder of a world long gone; ferns, ancient conifers, flightless ground birds, prehistoric reptiles and insects, and virtually no mammals. We explore these other world forests as we traverse the North Island from Auckland to Wellington. We will discover dramatic landscapes, from sub-Antarctic beech forests to the ever-changing podocarp forests of the volcanic plateau. Throughout our journey, we will learn the intricacies of the forests, their birdlife, and the landscapes on which they sit. We also visit New Zealand's first National Park and search for the iconic Kiwi and endangered Takahē.



#### Wild Coastlines of the South East

11-Day Accommodated Tour - Departs Perth 1 February 2024 - Maximum of 12 participants

Starting in Perth, we travel south-east to Hyden and discover 'Wave Rock' and beautiful Indigenous rock art. We then travel through the Great Western Woodlands before heading south to Esperance, where we visit Cape Le Grande National Park and cruise the Recherché Archipelago. We explore Fitzgerald River National Park, internationally recognised as a Biosphere Reserve, due to the richness of flora and fauna that exists there (20% of WA's plant species). We also spend a full day on the water searching for Orca, and explore Stirling Range & Dryandra Woodland National Parks as we make our way back to Perth.



Bhutan - The Last Shangri-La Tour 14-Day Accommodated Tour - Departs Bangkok 15 April 2024 - Maximum of 12 participants

The Land of the Dragon, as Bhutan is known to its inhabitants, has always been a fiercely independent Himalayan kingdom. It is a hidden kingdom, rich in ancient traditions, where time has stood still. Few people have been privileged enough to experience Bhutan, as the country carefully refrains from allowing mass tourism in order to preserve its pristine environments and unique heritage. Home to snow leopards, blue sheep, red pandas, Asian elephants and tigers, Bhutan's environment is strictly protected. Over 600 birds inhabit the unspoiled forests, as do many exotic plant species of the eastern Himalayas.



Contact us for further information on these tours and for details of our full natural history expedition program. Ph: 1800 676 016 or 08 9330 6066 - Web: www.coateswildlifetours.com.au - Email: info@coateswildlifetours.com.au