



Understanding
Our Natural World
Est. 1880

Field Nats News No 343



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Governor of Victoria

Office Hours: Monday and Tuesday 10 am - 4 pm

August 2023

From the President

Welcome to the August FNN (343). I trust you are all surviving the very cold winter that we are currently experiencing. We have maintained a high level of interesting excursions and presentations despite the chilly, wet conditions. There have been some excellent fungal forays, botany excursions, Juniors excursions and other activities to date. The recent Fungi Group excursion to Mt Macedon experienced extremely cold and misty weather, but that was no deterrent for those stoic naturalists who attended and there were plenty of fungi to study and photograph. We have been treated to numerous presentations including microscopic fungi, Victorian rainforests and the feral deer problem in Victoria. All of these have been well-attended; both in the hall and online. There are many activities planned for the rest of the year including some essential working bees.

I have been out and about in the cold, moist conditions and observed a lot of healthy moss which, as ever, contains a myriad of microscopic life forms. All kinds of protozoans, rotifers, nematodes, gastrotrichs, tardigrades, fungi and small arthropods can be found in the actual moss itself and the soil attached to the roots. Some organisms seem to have a symbiotic relationship with mosses. Unfortunately, the bulk of this biodiversity is not visible to the naked eye, so without microscopes and magnifiers, we cannot enjoy most of the incredible variety and diverse forms of life.

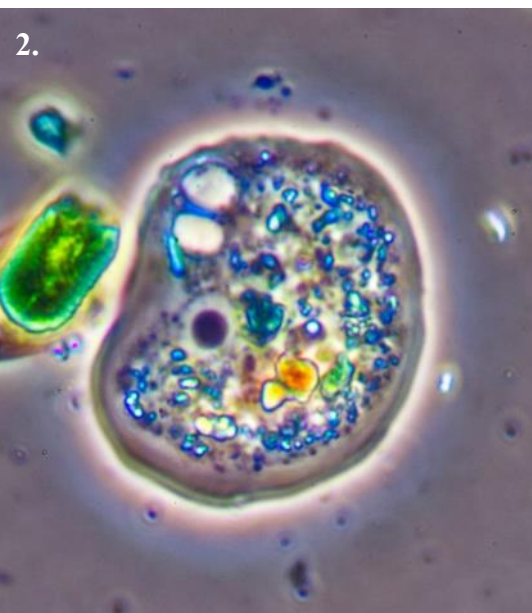


Photo 2. A minute amoeboid from a moss sample

Studying the populations and communities of micro-organisms can provide a useful and sensitive indicator of what is happening in the broader ecosystem. The presence or absence of certain protozoan tests or shells in the strata of boggy environments are strong indicators of climatic conditions at the time of deposition. Similarly, pollution often changes the composition of communities, thereby indicating potential contamination problems.

Come along to the Microscopy Group meetings to learn more about microscopes, microscopical methods and experience the wonder of discovering new worlds and their denizens. Without a good microscope, or two, you are missing out on an enormous part of life on earth. I have been playing with microscopes since I was five and I firmly believe that it is impossible to be bored if you have access to a drop of pond water and one of these incredible instruments.

The first microscopes changed the course of human civilisation and were critical to the development of modern science; in particular, the medical and biological sciences.

(Continued on page 3)

The due date for contributions to FNN 344, will be **Tuesday 1st August 2023.** Please use joan.broadberry@gmail.com

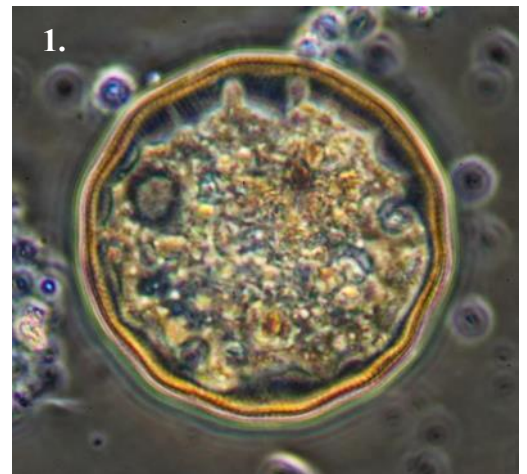


Photo 1. *Arcella* sp. A testate amoeboid from a moss sample.

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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.*

Calendar of events - AUGUST 2023

Attendees are requested to register for excursions so that they can be contacted if there is a change in arrangements.

Registering also means that the leader is better able to plan activities.

Tuesday 1st - Fauna Survey Group Meeting: *Chytrid fungus and colour change in endangered frogs.* Speaker: Danielle Wallace, PhD student, Faculty of Veterinary and Agricultural Sciences, University of Melbourne. Contact: David De Angelis 0409 519 829 d.deangelis@latrobe.edu.au

Monday 7th – Fungi Group Meeting: *No meeting this month.*
Contact: Melvin Xu fungifncv@gmail.com 0410 522 533

*The FNCV Biodiversity Symposium was advertised in the four monthly COE for Saturday 12th and Sunday 13th of August. The symposium has been rescheduled for later in the year.
The date is as yet undecided.*

Sunday 13th – Fungi Group Foray: *Brisbane Ranges* (Mel p7, A9) [Stoney Creek Picnic Area](#)
The foray will begin at 10:00 am and conclude at 3:00 pm. We will meet at the Stoney Creek Picnic Area (37°51'24.5"S 144° 15'02.7"E). Please bring your lunch, a water bottle, and weather-appropriate clothing. Field guides and a camera optional. Register with Tobi May tobi.fungi@gmail.com

Monday 14th—Marine Research Group Meeting: *No meeting this month.*
Contact: Leon Altoff 0428 669 773; 9530 4180 AH

Wednesday 16th - *Microscopy Group Practical Meeting: Opportunity to learn to make microscopy tools with discussion of how to apply them.* Materials provided. In addition, compound, dissecting and digital microscopes set up for your use. BYO specimens or view our slide collection with guidance and help with identification. Freshwater pond samples available. Contact: Max Campbell 0409 143 538; mcam7307@bigpond.net.au/Philippa Burgess 0409 866 389

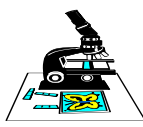
Thursday 17th – Botany Group Meeting: *On the trail of Giants.* Speaker: Brett Mifsud, tall tree hunter.
Contact: Ken Griffiths botany@fncv.org.au

Tuesday 22nd – Day Group Meeting: *Lichens – Beauty in Miniature.* Speaker: Dr. Kathleen Ralston 10.30 am coffee and a chat. Speaker 11 am. All welcome. Contact: Joan Broadberry joan.broadberry@gmail.com

Wednesday 23rd – Geology Group Meeting: *The activities of the Nunawading and District Lapidary Club.*
Speaker: Mike Quinn. Contact: Ken Griffiths geology@fncv.org.au Philippa Burgess 0409 866 389

Friday 25th – Juniors Group 6.45 pm Meeting: *Animals of the Little Desert* Speaker: Jaelyn Harris.
Registration required. Contact: Adam Hosken adamhosken@gmail.com

Monday 28th—FNCV Council Meeting 7.30 pm. Apologies and agenda items to Wendy Gare admin@fncv.org.au



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.

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 343

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

(Continued from page 1)

Our extraordinary biodiversity is currently at risk from a multitude of threatening processes instigated by human activity. Many of the processes are not immediately obvious but their dramatic impact can be seen in the reduced biodiversity of small organisms.

Some measure of the extent of the disaster can be gleaned from two books I have just read. *The Insect Crisis – The Fall of the Tiny Empires that Run the World*, by Oliver Milman (2022) and *Silent Earth - Averting the Insect Apocalypse*, by Dave Goulson (2021).

Maxwell Campbell

The accompanying images are of a few of the many, minute organisms that may be extracted from moss samples.

All Photos Max Campbell July 2023. All are of living organisms.

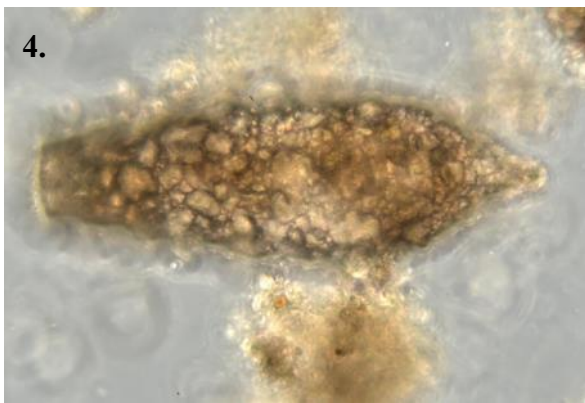
Note: PC PL = Phase Contrast, Positive Low

PC NH = Phase Contrast Negative high

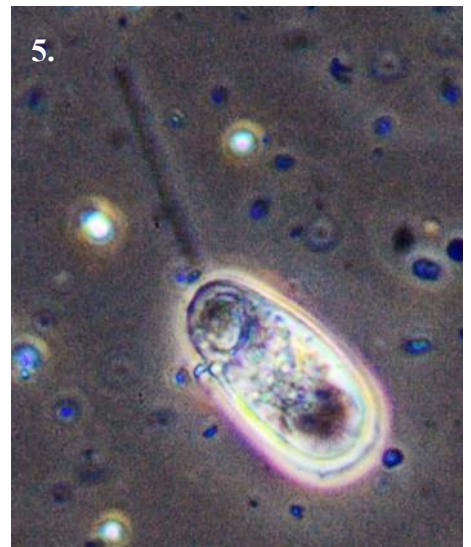
DIC = Differential Interference Contrast (Nomarsky)



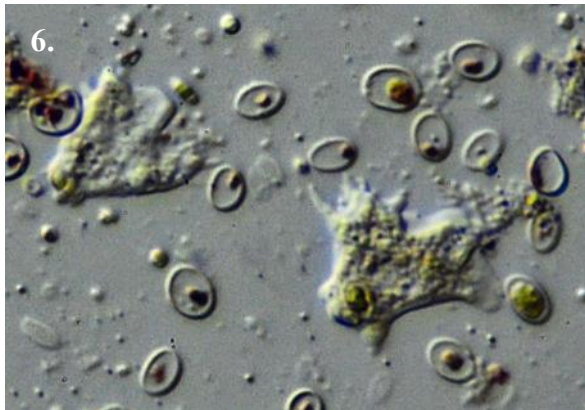
Above: Photo 3. A *Euglypha* sp. From moss, containing what are likely to be symbiotic zoochlorellae.



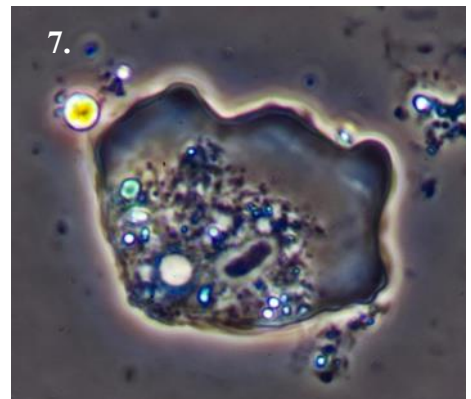
Left: Photo 4. *Diffflugia* sp. From moss. A testate amoeba with a test incorporating minute grains of sand.



Right: Photo 5. *Trinema* sp. A minute testate amoeboid from moss. PC PL



Left: Photo 6. Amoebae from moss highlighted by DIC.



Right: Photo 7. A tiny amoeboid from moss, possibly, *Platymoeba* (*Vannella*) sp., as suggested by the distinct hyaline area.



Above: Photo 8. A minute actinopod from moss has a grip on an ostrocod. PC NH



Left: Photo 9. The typically pink heterotrich ciliate, *Blepharisma* sp. Recovered from moss. PC PL

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.

Welcome
Welcome

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

Emma Round, Jesse Eales, Michelle Surowiec, Senckenberg Deutsches Entomologisches Institut, Euan Bell, Andrew Bell, Christine Seow, Karen Christensen, Ian Melbourne, Terri Hopkins, Sara Kelly, Frances Rowlands, Margaret Young, Freya Roudavski-Young, Annika Roudavski-Young, Dr Stanislav Roudavski, Hayden Egan-Connelly and Wildlife Experiences.

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.

Gary Presland is currently travelling overseas. He has kept in touch and kindly included a photo (right) titled:

At Canakkale, preparing for the Trojan War.

The explanation provided is as follows:

“The horse that was constructed for the film *Troy*, starring Brad Pitt, was later set up in Canakkale, the nearest city to the famous site.”



City Nature Challenge Through the Years

	2016	2017	2018	2019	2020	2021	2022
Cities	2	16	68	159	244	419	445
Countries	1	1	17	28	40	44	47
Observations	19.8K	125K	441K	963K	815K	1.2M	1.7M
Species	2.5K	8.6K	18K	31K	32.6K	45.3K	50.1K
Observers	1K	4K	17K	32K	41K	51K	67.2K

Melbourne – Eastern Metropolitan area in 2021 City Nature Challenge entered by eight eastern councils plus **The Field Naturalists Club of Victoria** and the Entomological Society of Victoria.

observations: 7,629 (41st overall out of 419)
 # species: 1,106 (55th overall)
 # observers: 323 (41st overall)

In 2022 this grew to 21 councils and added Scouts Victoria under the banner of “Greater Melbourne”.

observations: 12,599 (33rd overall out of 445)
 # species: 2,035 (27th overall)
 # observers: 603 (23rd overall)

In 2023 **Challenge observation period:** Friday 28th April to Monday 1st May.

In 2023 this grew to 29 councils under the banner of “Greater Melbourne”
 # observations 19,206 (20th overall out of 482 participants)
 # species 2,345 (20th overall)
 # observers 924 (13th overall)

In 2023 results for Greater Melbourne Councils competing between themselves

most observations - 3,541 (Darebin)
 most species - 761 (Darebin)
 most observers - 101 (Yarra Ranges and Melbourne)

Interesting finds: Eastern Barred Bandicoot (Hume), *Proteuxoa heliosema* (moth) (Nillumbik), Growling Grass Frog (Cardinia?), Kreffts Gliders (Boroondara)

Note how Greater Melbourne has increased its number of observations, species, observers and relative position in comparison to other cities over the last two years.

Thanks must go to Sue Bendel for her hard work in promoting City Nature Challenge.

Extracts from SIG reports to the FNCV Council

Botany Group: Meeting 15th June: *Victorian Rainforests: identification and boundary delineation using differential species keys*. Speaker: David Cameron, DEECA.

David explained how when Vic Forests had problems with compliance, in 1991 a method was devised to recognise forest type borders. In Victoria, logging is approved for specific coupes. Rainforest is not logged. David produced a handbook. An ecotone (transitional zone) is recognised as specified plants are seen.



Though Myrtle Beech (*Nothofagus*) is absent from much rainforest, Black Oliveberry (*Elaeocarpus*) takes its place in East Gippsland. A closed canopy, ferns and bryophytes and a long recovery time from disturbance are among the markers of rainforests. For some, only 600 mm of rain is needed.

Ken Griffiths

Fauna Survey Group:

Surveys: *Rushworth Forest, 20th - 21st May 2023. Checking nestboxes.*

(See report July FNN 342 p12) There was no survey undertaken in June. Cameras were collected from Mali Dunes and will be analysed in the coming weeks.



Meeting, Tuesday 4th April. *Smiling at Crocodiles*. Speaker: Andrew Obrien, Zookeeper, Melbourne Zoo.

Crocodiles have been around for about 205m years, and along with sharks and rays, turtles and Coelacanth, they were less affected by the cataclysmic event that led to the end of the age of dinosaurs.

There are 23 species of alligators, caimans, crocodiles, gharials, and false gharials. The Australian Saltwater Crocodile is one of the oldest and least specialised of the species. It is found in northern Australia and other countries, up to 300 km inland in rivers and in the open ocean.

Meeting, Tuesday 2nd May. *Bats of Wilsons Reserve, Ivanhoe East*. Speaker: Robert Bender.

Eight bat boxes were installed in Wilson Reserve in 2000 and the first bat was found in February 2005. Lacking natural hollows the colony of Gould's Wattled Bat grew quickly. More boxes added when the colony had reached 50-70. Other species recorded were Eastern Broad-nosed Bat, Chocolate Wattled Bat, White-striped Freetail Bat and Large Forest Bat. Banding bats showed some bats living 10 or more years, breeding twice in a summer breeding season and producing up to 20 young, and breeding up to 12 years old. Some bats were found to be intolerant to bands and PIT tags were used as a safer alternative.

Raymond Gibson

Fungi Group:

4th June 2023, foray to Mortimer Picnic Ground, Bunyip State Forest. The foray had been relocated from Blackwood at short notice due to a track closure. This seemed to lead to a smaller turnout than recently but there was still plenty of attendees keen to make use of the sunny weather.



Mortimer Picnic Ground is a site that has been visited by the FNCV fungi group for many years so many of the forayers were familiar with it. The observations recorded by the group can be found at <https://inaturalist.ala.org.au/projects/fncv2023-mortimer-nature-trail>. There are over 300 hundred photographic observations. A more detailed report appears on p 8-9

Torbjorn von Strokirch

Fungi/Microscopy Group Meetings:

During April and May 2023 Microscope Conveners Max Campbell and Philippa Burgess attended the Fungi Group's meetings.



In April, members of the Fungi Group were provided with two types of mushrooms of which fungi spore prints had been prepared. Members were instructed in preparation of temporary slides of gills, stem cross sections and spores for viewing under the compound microscopes.

Jurrie Hubregtse kindly provided us with vials of Congo Red, a stain well suited for fungi staining. The staining highlights filaments of the gills and the different sections of stems etc.

During the May meeting many varieties of fungi were obtained and it was very interesting seeing the differences between the types of fungi, the spore shapes and fine slices of the fungi bodies. Over one dozen fungi were available, a fabulous array of many different and unusual species. Geoff Lay very kindly identified all the specimens for us. Members were extremely interested and keen to prepare their own slides using the stains and equipment provided. Many had not seen different gills and spores under the microscope.

At each meeting there were at least eight participants. They were great meetings with very keen and interested members participating in all aspects of the preparation of temporary slides.

Philippa Burgess
(Continued on page 6)

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Geology Group:

On 24th May, **Professor John Webb** spoke on *Unquiet Victoria: tectonic activity in the last five million years*. The Bogong High Plains' relatively flat top is due to a long process of erosion to a peneplain, which was then uplifted, as was the Kosciuszko region, 4 - 8 million years ago. (The basalt outcrops in the Bogong region date from 40 million years ago.) Near Melbourne, where the Rowsley fault borders the Brisbane Ranges, about 350 m of uplift of marine sediments occurred in the last five million years..

Cape Liptrap, and also the New Volcanics basalt plains west of Melbourne are all less than 6 MY old. Asked the cause, John said that is outside the scope of geomorphology, but geophysicists have mapped tectonic plate forces in the lithosphere both S to N, and ESE to WNW (look to New Zealand). Twenty-two attended.

Ken Griffiths

Microscopy Group:

Meeting 21st June 2023.

Ten members and visitors attended the Microscopy Group, all for the first time. Many prolifically populated pond water samples were provided. Professionally prepared slides were available in areas of botany, entomology and anatomy of humans and animals, specifically for viewing through the digital microscope with screen display.



Three areas were set up, one area for slide preparation, one area of Dissecting Microscopes and the other area of half a dozen compound microscopes. Members were taught the basics of temporary slide preparation of the water samples, fungi, botany, marine specimens. A new member discovered evidence of a parasitic wasp massacre on a lerp type colony. Water samples were abundant in rotifers, daphnia, algae, copepods nematodes and beautiful cup rotifer colonies.

Everyone attending was extremely enthusiastic as well as being very amiable. Two people in particular came 20 minutes early and kindly assisted me in setting up for the meeting. A more detailed report appears on p11.

Philippa Burgess

Terrestrial Invertebrates Group:

Last meeting on 17th May was in the hall with a good attendance. It was a *members' night* where we discussed and showed photographs of previous trips and other interesting finds. Andrew gave us an extensive view of the insects around his place in the Black Range in NSW and locally in Croydon. A large variety of insects and spiders were discussed and shown by members from a variety of locations including previous trips and other places people visited. Max also mentioned highlights of Mali Dunes.



Starlings Gap Field Trip

The recent TIG field trip to Starlings Gap on April 23rd revealed many invertebrates but it was the large number of glorious fungi that "stole the show". The moist conditions were ideal for fungi which appeared in a kaleidoscope of colours and forms. Of course, the fungi attract numerous invertebrates. Heleomyzid flies such as *Tapeigaster spp* were taking advantage of the fungi. In particular, a crop of ghost fungi on a eucalypt stump were covered in them. Flatworms such as *Caenoplana spenceri* were observed along with a number of native, terrestrial molluscs including *Cystopelta*, *Helicarion* and *Strangesta*.

There were numerous millipedes and spiders as well as native phalangids. Small pseudo-scorpions were also present in numbers. Crayfish species of both *Euastacus* and *Engaeus* were observed moving about the path.

MaxCampbell's *From the President*, FNN 342 p 1,5 gives an account of this excursion with many photographs.

This is the last trip of the season. Trips commence again in October.

Wendy Clark

Day Group: Meeting 23rd May. Bat adventures in Australia and Slovenia.

Speaker: Silvia Zele (right).

See FNN 342 p 6 -7 for a full report.



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





Marine Research Group

Bitten with relish by a Sea Louse

With happy anticipation I looked forward to the Marine Research Group's recent excursion to Rosebud because I remembered that in 2005, the last time we visited Rosebud, Audrey Falconer and I were bitten by sea lice, one of which I caught in the act.

Dramatically our bites continued to ooze blood causing Audrey Falconer of the MRG to comment that there was anti-coagulant in the bites which of course had been dispensed by the sea lice. Later the sea louse was determined at Melbourne Museum as *Natatolana woodjonesi* (Hale 1924).

APPEARANCE IN LIFE

Live in the glass lookbox this sea louse has a transparent outer cuticle or exoskeleton. In alcohol it goes white and translucent with different colours showing through depending on its last meal.



Rosebud. Live sea louse in the glass lookbox resting on a kitchen sieve.



Rosebud. Caught at the same time, this sea louse shows variation in colours through the exoskeleton.

Sea lice of the family Cirolanidae are agile, free-swimming, predatory or scavenging marine species up to 20mm in length. Some are able to enter the body cavities of fish and eat them from inside, others can denude an invertebrate skeleton if the carcass is left in the sea. In Australia 102 species of sea lice have been described. *N. woodjonesi* ranges from Sydney to Gulf St Vincent, including Tasmania. They are not to be confused with fish lice which attach themselves permanently to fish as parasites.

HISTORICAL TAXONOMIC NOTES

William Herbert Hale, who first described this sea louse, notes that its colour is affected by the food it eats and that it is a pest that takes fishermen's bait. N L Bruce (1986) in his account of the cirolanid fauna of Australia, notes that other species very similar to *N. woodjonesi* have been given the same name such as one found on a porpoise, when in fact some were different species. The Zoological Catalogue of Australia Volume 19.2A, page 154, notes that a specimen in the South Australian Museum, Adelaide, South Australia, Australia (SAMA), for the type locality of St Vincent Gulf, South Australia, comes from a body cavity of *Heterodontus phillipi* (Port Jackson shark).

BRIGHTON 2017

Sam Kanizay, a 16 year old boy went for a winter wade Saturday 5th August 2017 at Brighton Beach, felt tingles and when he came out of the water his legs were a bloody sight. This was reported in The Age, 7th and 8th of August 2017. With oozing bloody legs Sam was put into hospital. It is mentioned that a nurse said it could be sea lice but with no specimens and many theories this could not be confirmed.

The boy's father subsequently caught some amphipods using bait which were identified by the museum as belonging to a family of amphipods called Lysianassidae which are known scavengers.

N. woodjonesi has the knack of dispensing anti-coagulant when swarming warm blooded mammals such as ourselves, an amazing ecological niche yet to be explored.

The oozing of blood into the water column makes you wonder if this has a purpose because the ooze period can take some time. In my case it lasted about two hours.

DISSECTION

Assuming this Cirolanid uses its incisors to dispense anti-coagulant I have dissected the incisors out of the specimen. Its incisors do follow the general pattern of left and right differing from each other. A sea louse has a mandible on each side of the mouth part section (which is composed of a number of parts)



Sea louse in pickle, showing its seven pairs of legs or pereopods.

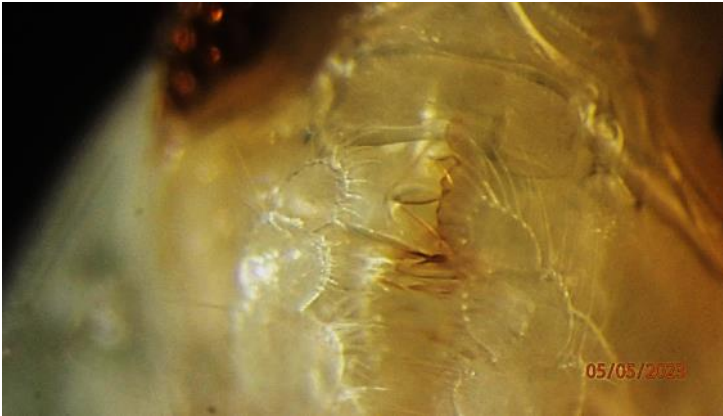


Ankle oozing blood from single bite.

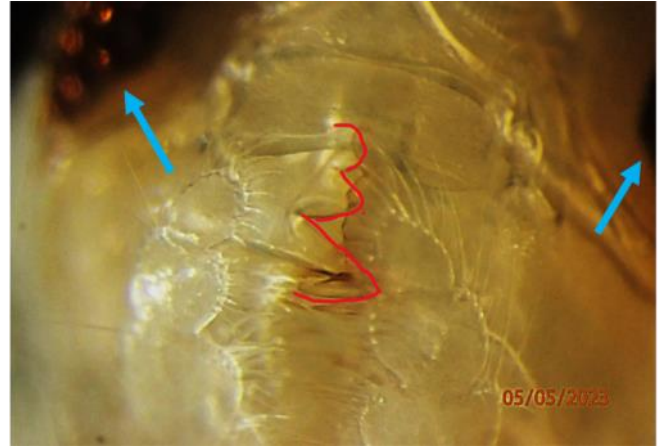
(Continued on page 8)

(Continued from page 7)

which curves outwards from the head towards the centre. At the apex or tip of the mandibles under the head the incisors meet. The right mandible has three toothy-looking bits with the longest incisor being distal or furthest from the head, but the left mandible has a distal prong with a meatus at its tip or apex, a blade section and a proximal shallow toothy bit.



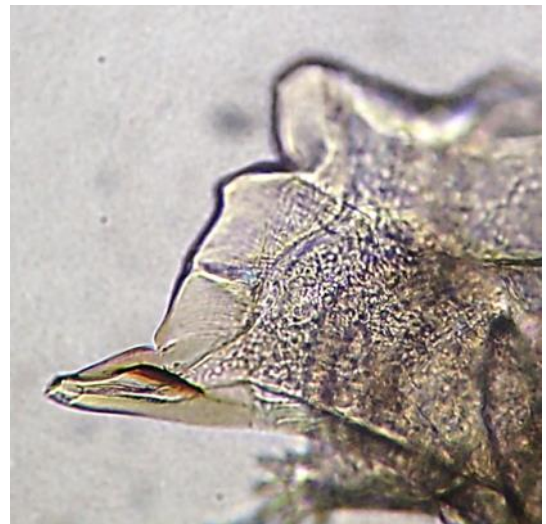
Incisors just visible, which meet under the head.



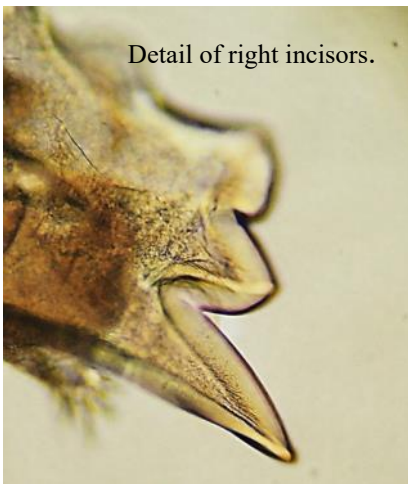
Right incisors outlined in red. Eyes arrowed in blue. The incisors cross over a little at the centre with the left incisor outermost.



The right mandible has been extracted and the three incisors are on the right side in this image.



Detail of left incisors, the longest part at the bottom of this image is an incisor with some internal structure showing.



Detail of right incisors.

CONCLUSION

To be bitten by *Natatolana woodjonesi* (Hale 1924) was a chance to look more closely at the biting mechanism. I expected to find some clue as to how this sea louse attacked its prey and have now noted that it may have some means of dispensing chemicals. This as yet unknown milieu (soup), may be injected by the tip of the left incisor, which the sea louse can then insert into its prey.

REFERENCES

- Bruce Neil B. (1986) Cirolanidae (Crustacea: Isopoda) of Australia. Records of the Australian Museum. Supplement 6, 10 November 1986.
- Hale Herbert M. (1929) The Crustaceans of South Australia. Part II. p 248.
- Carlton James T. editor (2007) The Light and Smith Manual. Intertidal Invertebrates from Central California to Oregon.
- Rowe Margaret (2022) Field Guide. Some intertidal Isopods of Victoria.

ACKNOWLEDGEMENTS

Angela Morgan, Jim Walker



Close up of distal prong of left incisor showing meatus or channel which may be the means for dispensing anti-coagulant.

Barbara Hall (All photos B. Hall)



Fungi Group

FORAY : Mortimer Picnic Ground, Bunyip State Forest 4th June 2023

The foray had been relocated from Blackwood at short notice due to a track closure. This seemed to lead to a smaller turnout than recently but there was still plenty of attendees keen to make use of the sunny weather.

Mortimer Picnic Ground is a site that has been visited by the FNCV fungi group for many years so many of the forayers were familiar with it. It lies in the Bunyip State Forest in an area of wet sclerophyll forest with a range of *Eucalypts* and *Wattles*. It had been quite dry in the week leading up to the foray but had rained heavily the day before helping some of the smaller fungi to pop up or perk up.

In the morning the group walked the section of the Mortimer Nature Walk on the north side of the Gembrook – Tonimbuk Road. Near the carpark there were a number of large clusters of the Australia Honey Fungus, *Armillaria luteobubalina* which were photogenic. Along the walk there was a range of different *Mycena* species noted including *M. lazulina*, *M. cystidiosa*, *M. interrupta*, *M. mulawaestris*, *M. subgalericulata*, *M. fumosa*, *M. nargan* and *M. kuurkacea* as well as the usual supply of things identified as genus *Mycena* but not identifiable to species.

There was also a variety of *Cortinarius* species with well grown clusters of the Green Skinhead, *Cortinarius austrovenetus* and a more unusual find of *Cortinarius kioloensis*.



Figure 2: *Mycena lazulina* Photo © Melvin Xu

One of the gum trees on the track that usually has the Wine-glass fungus *Podoscypha petalodes* around its base, had a good colony again. Another gum had a collection of *Peziza varia* and another had *Gymnopus* 'pink furry' growing up the trunk. The group crossed the road to check a tree that is known to sometimes support *Auriscalpium* but there were none there.

The rest of the team went back for lunch via the direct route north of the road and Reiner and Torbjorn pushed on around the southern part of the track hoping to find some *Banksiamyces*. This is a genus that grows exclusively on Banksia cones. As it happened some very large well grown specimens were discovered.

Figure 4: *Cortinarius kioloensis* Photo © John Eichler



Figure 1: *Gymnopus* 'pink furry' © Photo Torbjorn von Strokirch



Figure 3: *Cortinarius austrovenetus* Photo © Hamish Beshara



(Continued on page 10)

(Continued from page 9)

After lunch the foray group followed the Triangle Road to the north. The ground was fairly dry and the fungi in short supply but not completely absent. A group of attractive red *Hygrocybe* sp. were found and many of the group were interested to find a pile of logs with numerous Cannonball fungi, *Sphaerobolus stellatus*.

The observations recorded by the group can be found at <https://inaturalist.ala.org.au/projects/fncv-2023-mortimer-nature-trail>. There are over 300 hundred photographic observations.

Torbjorn von Strokirch



Figure 5: *Banksiamyces macrocarpus* Photo © Torbjorn von Strokirch



Figure 6: *Sphaerobolus stellatus* Photo © Reiner Richter



Figure 7: *Hygrocybe* sp. Photo © Reiner Richter



Vale Dr Eric Bird 02.09.1930—08.06.2023

“Eric Bird was an internationally acclaimed geomorphologist, esteemed academic and educator who wrote the definitive texts on the Victorian coastline.” *Kate Baillieu*

Over many years Eric gave wonderful support to the FNCV Geology Group through many presentations and excursions. For example, his talk to the Geology Group on 28th November 2007 was on *Granite Coastlines* and he subsequently led an informative and enjoyable two day excursion to Phillip Island and Cape Woolamai. (See FNN 177).

Another interesting and enjoyable excursion in March 2009 was reported in FNN 186 as *Coastal Landforms of the Tertiary and Cretaceous Rocks of the Otway Coast*.

In March 2012 he led an excursion to Western Port Bay. Roger Needham wrote: “It was amazing how an expert can read the story told in the rocks and we were all very grateful to Eric and his wife Juliet for the time, energy and enthusiasm they devoted during and in preparation for the weekend and for the wealth of knowledge they imparted to us.” (See FNN 220)

Perhaps other FNCV members will also have memories of Eric?*

**Thanks to Kaye Oddie for compiling this tribute to Eric.*

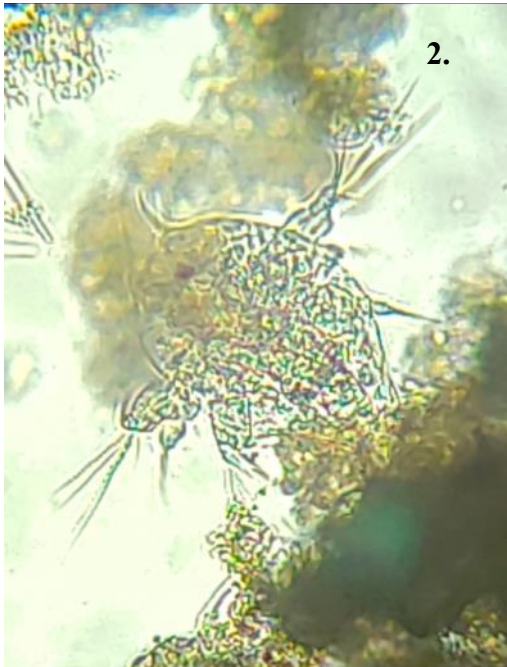


Microscopical Group

Practical Microscope Group Meeting June 2023

Three specific areas were set up for members and visitors. The majority of attendees were new to microscopy and had never experienced the beauty and diversity of life under the microscope.

The first area we set up was for temporary slide preparation. Congo red specimen stain was provided, alongside blank slides, cover slips and all tools and equipment required to create slides that showed the hidden secrets of pond water, fungi, invertebrates, botany and marine specimens. Instruction and assistance was always on hand when needed. The steps required were quickly learnt and participants enjoyed mastering the process.



2.

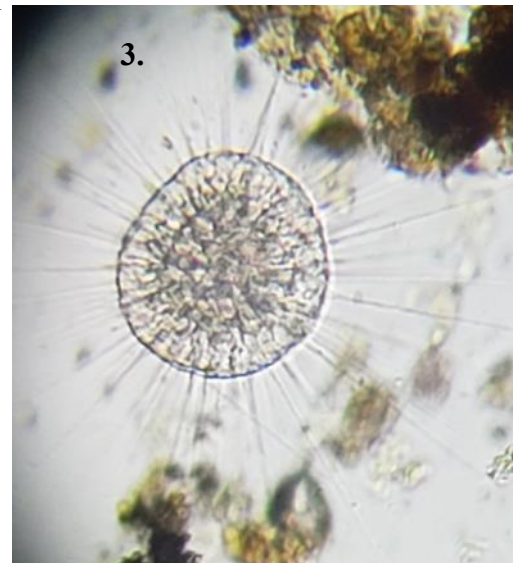
The second area was for Dissecting, or Zoom Microscopes alongside a huge array of specimens, all suited to the lower powers of 10x to 80x. These microscopes can also be used while preparing slides if needed, when particularly fine work is required on our microscopic subjects.

The final area was set up with our collection of compound microscopes and a digital microscope with a screen display. These microscopes were used to examine the slides that had been prepared, using microscopes capable of magnifications of 40x to 600x and higher. The best magnification we found was under 400x. The water samples we viewed were particularly abundant



1.

2. Rotifer, *Collotheca* sp.



3.

3. Actinopod protozoan

1. Nauplius larva, this is the first larval form of many freshwater crustaceans.

in rotifers, daphnia, algae, copepods, nematodes and beautiful cup rotifer colonies.

Everyone attending became amateur experts in slide making and were amazed at the things they found in their drop of pond water. Attendees are encouraged to bring along any interesting specimens they find. We will be holding another engaging, informative and enjoyable evening on Wednesday, August the 16th. All welcome .

Philippa Burgess
(Photos: P. Burgess)

Left:
4. Rotifer *Philodina* feeding.



4.

**FNCV Facebook
followers: 33,332**



Day Group **Fascinating life cycles of insects and other creatures**

Speaker: Wendy Clark

The Day Group meeting on June 27th was delighted to welcome Wendy Clark. Wendy has been captivated by the natural world since she was a youngster in the FNCV Juniors Group. Although a talented professional photographer, Wendy is rarely content with just taking static photos. She is a patient observer, whose great strength is to follow up her observations over time. This allows her to uncover and document many aspects of the lifecycles of a range of natural history subjects. A selection of her studies of insect behaviour was shared with the June Day Group. Below are some excerpts from her engaging presentation.

One of the first of the many things learned from Wendy's talk is that the adult Bird-dropping Spiders' diet consists almost exclusively of male moths. The spiders release a chemical scent (pheromone) that mimics the sex pheromone released by female moths to attract their mates. Male moths, attracted by the pheromone, flutter close enough to be grabbed by the spider. Who would have thought! This however, raises the question, what do baby Bird-dropping Spiders eat? As Wendy commented, in studying insect behaviour, further questions almost always arise.



Bird-dropping Spider.



A beetle that is not a beetle.

A very small creature, which with its wings folded across its back, appeared at first to be a tiny beetle. When the photos were enlarged, it was identified as a type of Lauxaniid fly, *Steganopsis melanogaster*. (Photo left). A question posed was: why were its wings folded in this way? What advantage does this give the fly?



Beetle rescue.

Wendy showed some photos of two beetles of the same species on a piece of luminous fungi. (Photo right) Her startling observation was that one of the beetles was stuck in a hole in the fungi with the other appearing to be tugging at it, in order to

help it get free. Could this be an example of altruistic haviour between insects?



Looks like a wasp, behaves like a wasp. Is it a wasp?

Over 50 years ago, Wendy remembers finding a small brightly coloured blue and orange insect. She thought it might be a wasp with deformed wings. On seeing one again more recently, she noticed it was behaving like a wasp, complete with jerky movements and waving antennae. It was later identified as the female moth of the species *Cebysa leucotelus*, Australian Bagmoth. These stunningly beautiful moths exhibit considerable sexual dimorphism. The flightless females are orange and blue with iridescent scales. The male moths have fully developed brown, cream, and purple wings. The larvae build a protective bag and feed on lichens and algae. (Photos left.)



Jumping maggots.

Wendy's garden, (and the Blackburn Creeklands) are her happy hunting grounds. While eating lunch outside one day, she noticed tiny maggots flying through the air. Some were collected, housed in a container with food and, in time, they pupated and the adults hatched. The jumping maggots were the larvae of the Queensland Fruit Fly *Bactrocera brevicauleus*.

(Continued on page 13)



Continued from p12
Roosting bees.

Wendy reported a recent exciting sighting. For the first time she observed and photographed a group of native bees, *Lipotriches australica* roosting for the night.

Female bees spend the night in nesting holes to which males are not allowed access. In the evening, males gather together in tight groups to roost on twigs or grass. Questions arise as to the reasons for this behaviour. Is it perhaps for warmth and or protection? Photos A, B and C.



A beetle that mimics a wasp.

More fabulous images were shown of a tiny insect that was observed flying and walking in the fast and jerky manner, typical of a wasp. From the enlarged images it was identified as an exquisite jewel beetle, *Melobasis sp.* Photo right.



Question - why is it mimicking the actions of a wasp? Is it to avoid being eaten?

Cottony Cushion Scale
Icerya purchasi.

Photo Adult Female right.

When mature, the insect remains stationary, attaches itself to the plant by waxy secretions and, by extrusion, produces a white egg sac with grooves, which encases hundreds of red eggs. The egg sac will grow to be two to three times as long as the body. The larvae hatch out of the disintegrating egg sack and disperse by crawling away or on the wind. Cottony Cushion Scale are the only scale where the juveniles keep their legs and stay mobile.



The Imperial Blue Butterfly, *Jalmenus evagoras* and its association with Ants.

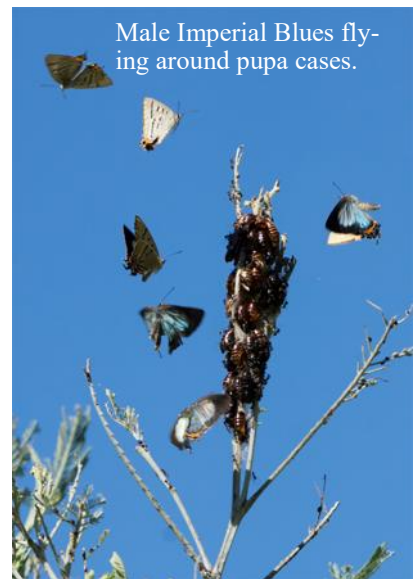
The Imperial Blue Butterfly only lays eggs on young trees such as Silver Wattle and Black Wattle. In 2020-21, there were many cycles of eggs laid, hatched and matured from the end of October to the end of March. It seemed continuous, probably due to the mild weather conditions and enough rain to keep the trees with fresh leaves. It was at the later half of that season that they moved onto the Black Wattles, *Acacia mearnsii*. They choose wattle for the high nitrogen content so the exudates that feed the ants are particularly rich. A good time to look for the new hatchlings is after the first hot day in October.

Imperial Blue Caterpillars newly hatched to full size



When the eggs hatch, the caterpillars call the ants by clicking. The ants attend them and protect them from predators. The caterpillars have no defence so are entirely dependent on the ants for survival. Even the pupae can communicate with the ants by clicking. They move sections of their stiff outer skin to make the clicks. The Tyrant Ants, *Iridomyrmex sp.*, attend the ants during the day when it is warm enough for them to emerge. The Camponotus ants look after them during the night and cool early mornings.

Imperial Blue Butterflies on Black Wattle



Male Imperial Blues flying around pupa cases.

The male butterflies hatch first and wait for the females to emerge, mating immediately. Consequently, when it is warm enough, the bush is surrounded by butterflies, all flying around waiting for females. Eggs are laid in leaf axels, furrows in branches and on the webbing spun by some pupating caterpillars.

Joan Broadberry, with thanks to Wendy for her help with this report and for her wonderful and continuing support of the Day Group.



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Golden Outback

9-Day Camping Tour - Departs Perth 9 September 2023 - Max 10 participants (6 in lead vehicles & 4 tag-alongs)

Visit truly unique outback sites on this 9-day tour across the Goldfields in Western Australia. Lake Ballard is one of a kind; 51 black steel sculptures scattered across a 7km² salt lake. You'll be lucky to encounter even 20 of these art pieces as you wander across the lake. The 2.5 billion y.o. Helena and Aurora range is a banded ironstone formation in the Great Western Woodlands, the largest remaining area of intact Mediterranean-climate woodland left on Earth. These woodlands contain one fifth of all known flora species in Australia.



Botswana Wildlife Safari 2024

12-Day Accommodated Tour – Departs Maun 10 March 2024 - Maximum of 14 participants

We travel to Botswana in the green season, when the rains change the brown winter landscape into a lush green wonderland. Wildlife is looking fit and healthy, and offspring born in November and December are still young and small. It will be a treat to see this new life, especially in the Kalahari and Chobe areas. Migratory bird species from Europe, Asia and other parts of Africa will be in abundance, and water birds as well as dry land birds will be present in the Okavango Delta. We end the trip with the spectacular Victoria Falls, and a cruise on the Zambezi River.



Costa Rica Wildlife Safari

17-Day Accommodated Tour – Departs San Jose 25 October 2023 - Maximum of 12 participants

Costa Rica is world-renowned for its biodiversity and exotic wildlife, from sloths and jaguars to toucans and hummingbirds. On this 17-day tour we will explore mangroves, riverways and rainforests, starting in the tropical coastal lowlands. Moving further inland, the landscape becomes more temperate with different birds, plants and other wildlife. We then visit Costa Rica's volcanic highlands and experience the country's spectacular cloud forests. With over 500,000 species of flora and fauna, this small country counts for 4% of all species on Earth.



Sri Lankan Wildlife, History & Culture Tour 2024

15-Day Accommodated Tour – Departs Colombo 12 March 2024 - Maximum of 12 participants

Sri Lanka is home to wild elephant herds, leopards, sloth bears, Asiatic buffalo, numerous monkey species and beautiful birdlife. The island features diverse habitats and plant life, as well as magnificent scenery and historic fortresses, temples, and monasteries. Ancient Buddhist traditions, teaching compassion for all living creatures, have paved the way for the country's long history of conservation. Highlights include Yala National Park and whale watching off the coast of Mirissa in search of Blue Whales and Sperm Whales.



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