

Understanding Our Natural World Est. 1880

Field Nats News No.262

Newsletter of the Field Naturalists Club of Victoria Inc.

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Patron: Governor of Victoria

April 2016

From the President

Office Hours: Monday and Tuesday 9.30 am - 4 pm.

The next Annual General Meeting of the FNCV will be held on May $\mathbf{1}^{\bar{s}\bar{t}}$ and I hope that you can attend this important event, so mark it on your calendars. This is my ninth monthly report as President and I don't know where the time has gone. The SIGs have once again excelled themselves in the delivery of interesting presentations. The topics of the past month includes: World Heritage Stone, Anchialine caves in the Carribean, saltmarsh ecology, wildlife in the Congo, sharks and the wildlife encounters of a grey nomad. The presentations are always enjoyable, informative and provide an opportunity to talk first hand with the presenters about their subjects. As ever, there is the added pleasure of

being able to engage with fellow naturalists. Attendance at, and participation in, activities improves the Club dynamic and maintains its momentum.

As part of the process of improving the Club's computer and multimedia capacity, we intend to replace the current projector with a more sophisticated, high resolution model. SIG meetings, seminars and symposia are essential elements of our activities and must be supported as effectively as possible. Unfortunately rapid changes in software, equipment and the expectations of presenters, mean that we need to keep

abreast of changes and maintain compatibility with current standards.

It was very pleasing to see the photograph in the last FNN of young naturalists using the recently purchased dissecting microscopes on a marine excursion. We hope to get more of them to support field activities. (Anyone considering the purchase of a microscope should contact me because there are discounts available to FNCV members.)

The Mycologists are coming out of hibernation in the hope that fungi will start making their amazing presence known after this spell of hot weather. Their excursions are very interesting, well organized and



Photomicrograph of wing of a Flesh Fly—M. Campbell

The deadline for FNN 263, May 2016, will be 10 am on Tuesday 5th April 2016. FNN will go to the printers on the 12th with collation on Tuesday 19th April

certainly worth attending (as are all FNCV excursions). There are also plenty of invertebrates to be seen to interest the TIG members.

I have received a few enquiries of late about flies, in particular Flesh Flies (*Sarcophagidae*). They are striking animals. (Photo left) Fly wings can be used to help identify flied, since each group has characteristic wing venation. (Photo below.)

Maxwell 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.

April

Monday 4th – Fungi Group Meeting: 'Fungal tall tales'. Two years in New Zealand, plus an update on some current projects. Speaker: Dr Teresa Lebel, Senior Mycologist at Royal Botanic Gardens Melbourne, recently returned from a research undertaking in New Zealand. Her main interest is in Truffle-like fungi and related Agarics. Contact Virgil Hubregtse 9560 7775

Tuesday 5th - Fauna Survey Group Meeting: *The ecology of echidnas*. Speaker: Dr Kath Handasyde, Senior Lecturer, School of BioSciences, The University of Melbourne. Contact Sally Bewsher 9752 1418

Tuesday 5th– Juniors' Group Excursion: *Family fun day.* Rhododendron Gardens, Olinda 10 am to 3 pm Contact Claire Ferguson 8060 2474; toclairef@gmail.com

Sunday 10th - Marine Research Group Field Work: *Jawbone, Williamstown*. Meet at 9:15 am. Contact: Leon Altoff for further details 9530 4180 AH; 0428 669 773

Monday 11th – Marine Research Group Meeting: *Penguins at Sea.* Speaker: Andre Chiaradia PhD. Contact Leon Altoff 530 4180 AH; 0428 669 773

Sunday 17th – Fungi Group Foray: *Cambarville or Taggerty Cascades on Lady Talbot Drive. Yarra Ranges National Park*. Meet at 10.30 am. Contact Virgil Hubregtse 9560 7775

Tuesday 19th—Collate FNN. Starting about 10.00 am. Some folk come earlier. Contact Joan Broadberry 9846 1218

Wednesday 20th - Microscopy Group Meeting: For details contact Philippa Burgess 0409 866 389

Thursday 21st – **Botany Group Meeting:** Speaker Kyle McLoughlin: *Ontario: Land of the incredible ancient cedar*. Contact Sue Bendel 0427 055071

Saturday 23rd to Monday 25th - Fauna Survey Group Survey: *Rushworth State Forest*. Contact Ray Gibson 0417 861651

Sunday 24th Fungi Group Foray: Location to be announced.. Contact Virgil Hubregtse 9560 7775

Tuesday 26th – Day Group Meeting: *Wildflowers of the USA's Mojave and Sonoran Desert*.

Speaker Lyndsey Poore. Meet at 10. 30 am for coffee and a chat. Speaker at 11 am. Contact: Joan Broadberry 98461218

Tuesday 26th (note change because of ANZAC Day) - FNCV Council Meeting - 7.30 pm sharp. Agenda items and apologies to Wendy, 98779860 or admin@fncv.org.au

Wednesday 27th – Geology Group Meeting: Apologies, the scheduled speaker is not available. Program to be advised via email. Contact Ruth Hoskin 9878 5911; 0425 729 424; rrhoskin@gmail.com

Friday 29th – Juniors' Group Meeting: (7.30 pm) *Photographing Nature Up Close*. Speaker: Wendy Clark. This will be a practical talk, so bring your camera if you have one. Contact Claire Ferguson 8060 2474; toclairef@gmail.com

Reminder: The FNCV AGM will be held in the hall at 2 pm, Sunday 1st May. See p 9 for invitation and p12 for FNCV Council Nomination form.





















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

Members' news, photos & observations

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

Welcome

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

Ryan Watkins, Miranda Watkins, Rachel Watkins, Nathan Ray, Lawrie Conole, Kavi Randhawa, Sonia Randhawa, Zaitun Teoh, Dorian Teoh, Stuart Lay, Pradap Raja Karuppasamy Santhanaraj, Heather Goodman, Tom Douglas, Jack Breen, Fiona Breen, Miranda Whitehead, Sean-Paul Smith, Kylie Regester, Matthew Anderson.

Black House Spider - Badumna insignis, (formally Ixeuticus robustus)

Recently I decided a full day in the garden was required. A few light showers of rain had fallen and softened the earth and I opted for my gum boots, which had not been worn since last winter. All our old garden shoes are under a veranda and because of a porch light which attracts insects I often discover interesting spiders attracted to



the insects. A *Dinopis subrufa* (the Ogre-faced Spider) lived for some time in this area under the porch step. I shook my gum boot and nothing appeared and then shook them again and out tumbled a female Black House spider. The bite from this spider can be painful and has been recorded as quite serious with pain followed by vomiting, giddiness, nausea and some swelling in some people. The web strangely enough was not on my gum boot but on an old pair of my husband's slippers so that I had no warning of any spider residing in my boot. The web was messy with dust and the literature states the female does not leave the web but not so in this case. I had no warning signs of spider habitation.

All other Black House spiders I have found in the past were around window frames or on the recesses of our timber home. We live close to bushland and have a bushland garden at the rear of the house. Eucalypts, logs and rocks form the major part of the landscaping. The female of this species has a body length of 18mm the male up to 12mm. As I have been fascinated by spiders for a long time and have collected them so as to learn more about them (before releasing them back to where they came from), I found the discovery of this unexpected visitor a learning curve to ALWAYS look inside the shoes stored on the back veranda. What happened to the spider? It fell through the base boards and now resides under the house in a much safer place than in my gumboot!

Cecily Falkingham.

Many thanks to those who helped collate and label FNN 261

Sheina Nicholls Margaret Corrick Edward Brentnall Andy Brentnall Keith Marshall Cecily Falkingham Neil McLachlan Ray Gibson

Thanks to the editorial and layout team who put together FNN 262

Joan Broadberry Wendy Gare Sally Bewsher

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

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

BOOK LAUNCH & CELEBRATION—Not to be missed!

A VERY IMPORTANT date to note in your diary is 8th July: this is the 20th Anniversary of our move to our hall at the current address of 1 Gardenia Street. Prior to this all meetings were held in the city at the Royal Society rooms.

At the celebration, we will be launching a book on the history of the FNCV which has been written by our librarian and archivist, Dr Gary Presland.

New secretary needed for the Australian Natural History Medallion.

The FNCV is seeking a person to take over as secretary of the ANHM. The current secretary, Dr Gary Presland, has retired after holding the position for six years. The Australian Natural History Medallion is awarded each year by the ANHM Awards Committee to the person they judge to have made the most meritorious contribution to the understanding of Australian Natural History. The Medallion has been presented annually since 1940.

The position of secretary entails, once a year, sending letters inviting nominations from all natural history clubs and associations on the mailing list, co-ordinating the nominations, organising a meeting of the Awards Committee and coordinating the award presentation. The award presentation is hosted by The Field Naturalists Club of Victoria.

The ANHM secretary is also responsible for maintaining a stock of medallions (there are currently 4 on hand), preparing a profile of the Medallionist for *The Victorian Naturalist*, inviting a relevant senior scientist to present the medallion and filling casual vacancies on the Awards Committee.

In addition, the person acts as secretary for the ANHM General Committee, which meets every second year to oversee the process of awarding the Medallion and to appoint the six members of the Awards Committee. The president of the FNCV is the chair of the Awards Committee. The secretarial responsibilities for this committee involve arranging the meeting, preparing the agenda, taking the minutes and following up on any actions required.

Enquiries about the position should be made to Dr Gary Presland, presland@archaeologist.com; 9890 9288, 0416 316 419



Library News

Recently accessioned monographs

The following volumes have been added to the Library's holdings and are available for borrowing:

BRO Brock, John (2013) *Native* plants of northern Australia [581.942]

Chinnock, R J (20 15) Feral opuntoid cacti in Australia: part 1. Cylindrical-stemmed genera [9² 7.8¹ CHI]

Endersby, Ian and Heinrich Fliedner (2015) *The naming of Australia's dragonflies* [9³ 9.¹ END]

Fagg, Peter and Owen Bassett (2014) *Box-Ironbark in Victoria's* State forests [9² 6/³ 89 FAG]

Gary Presland Honorary Librarian

This newsletter is printed on recycled paper.

SOLAR PANEL REPORT for the last 3 months— FNCV electricity bill, ZERO



The solar panels were turned on in mid-October 2012.

Our average daily usage for the latest billing period, 26th November 2015 to 25th February 2016 was 3.59kWh. In comparison usage for the same time last year was 3.67kWh. The Club's AGL Solar buyback was1970.92kWh (this is what is being fed into the grid).

The FNCV has ended this period with an account balance of \$275.52 credit. In other words, the solar panels are rapidly paying for themselves and **our electricity bill for the last 92 days was \$0.**

NEWS FROM THE BOOKSHOP (April 2016)

I cannot believe it! We are almost into April and this is the first article from the bookshop in the FNN for 2016! Where has the year gone? Many apologies for the late start, but I am still catching up from a very hectic last 3 months of 2015. For those that are waiting on orders, they will be arriving soon and thank you for your patience. This month I have included a book from most of our SIG groups, some recent releases and a couple that I hope will have interest. The shelves at the clubrooms are bursting with over 89 different titles to choose from. Some of the books featured in the FNN article may not be displayed on the shelf. If you are interested in any book, send me an email and I will get back to you as soon as I can. To order or inquire about a book, please send an email to, bookshop@fncv.org.au to submit your order or make an inquiry. Have a great Easter and may you spend some time to relax and enjoy reading a book.

Kathy Himbeck

A Guide to Mosquitoes of Australia (C. Webb, S. Dogggett & R. Russell) explores the biodiversity of this fascinating and occasionally deadly, group of insects. The book provides a pictorial guide to almost 100 mosquito species and includes notes on their biology, habitats and association with disease. Australia has a diverse range of mosquitoes, with relatively few causing serious health risk. Learn how to keep your home

mosquito free and reduce being bitten when out and about. (PB, 216 pp., Feb 2016)

Australian Wildlife AFTER DARK

Australian Wildlife After Dark (M. Robinson & B. Thomson) brings the hidden fauna of the Australian night life into the light. The after dark fauna includes a surprising diversity of familiar (and some not-so-familiar) species, from cockroaches, moths and spiders through to bandicoots, bats and birds. The book includes topics such as 'windscreen wiper' eyelids of geckoes and the strategies used by night-time plants to attract pollinators. The book also includes practical tips on finding nocturnal wildlife.

(PB, 160 pp., Apr 2016) RRP \$35.00, Members \$29.00

Spinifex Mouse (N. MacDonald) is not a new book, but I recently came across it and what can I say I have a soft spot for the Spinifex Hopping Mouse especially when his name is 'Cheeky' and lives in the Pilbara region of WA. Cheeky is an adventurous little mouse who loves to show off his clever acrobatic tricks. He may have ventured a little too far from home and showed his tricks in front of a snake and maybe got himself into trouble. Read about his risky adventure. (HB, 40 pp., Feb 2013) . RRP \$21.95

Members \$17.50



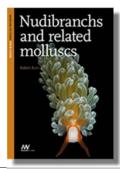
Name Those Grasses (I. Clarke) sets out to describe the structure of grasses and similar groups, explain the language used in their description and describes the process of identification. The drawings and photographs in the book emphasise structural details and illustrates 131 species of grasses, 38 sedges, 16 rushes, 16 restios, rope-rushes and allies, and 2 species of typha. Covering over 200 species, this book will assist with the recognition of many common plants along roadsides or in pastures.

(PB, 600 pp., Nov 2015) . RRP \$48 Members \$38.50 (to be finalised).

Sprinter and Sprummer: Australia's Changing Seasons (T. Entwisle) challenges the traditional four seasons, and encourages us to think about how we view changes in our natural world. Since 1788, Australia has carried the yoke of four European seasons that make no sense in most parts of the country. We may like them for historical or cultural reasons, or because they are the same throughout the world, but they tell us nothing of our natural environment. It is a book to challenge our thoughts and open our minds. (PB, 184 pp., 2014) RRP \$29.95, Members \$24.50



OSQUITOES



Nudibranchs and Related Molluscs (**R. Burn**) includes Nudibranchs, which are known as the 'butterflies of the sea', along with other molluscs that include bubble shells, sea hares, side-gilled slugs, sap-sucking slugs and sea butterflies. This guide introduces marine naturalists, divers, biologists and others to the nudibranchs and related molluscs commonly encountered in the Bass Strait region – their identification, biology, and associations with other plants and animals.

PB, 256 pp., Feb 2016) RRP \$34.95, Members \$28.00

Extracts from SIG reports given at the last FNCV Council Meeting

Fauna Survey Group: The December Meeting was a Christmas break-up members' night with food and presentations of the group's activities for the year.

The February meeting was well attended and the talk by Laetitia Kernaleguen on the 'Feeding Ecology of Australian and Antarctic Fur Seals' was interesting and well received by the members.

Stagwatches were conducted on the 28th Nov., 16th Jan. and 13th Feb. At the November survey one Leadbeater's Possum was seen. This record needs to be confirmed to the DEWLP new survey standards for acceptance, as it occurs in the general management zone. This will be attempted in March. An unusually high number of Greater Gliders were seen at the January excursion, but no Leadbeater's Possums were recorded then or on the February trip. Attendances were between 10 and 13 at these surveys.

The survey camp at Rushworth Forest was attended by 13 members. We checked nest boxes with very low numbers of Sugar Gliders and Brush-tailed Phascogales, and 1 Yellow-footed Antechinus being found. Only 4 boxes contained animals and we believe this is because they are too hot in summer. In addition we placed some remote cameras at various locations to test their effectiveness in recording Phascogales. Some Brush-tailed Phascogales were indeed recorded, along with other species, including Sugar Gliders and Yellow-footed Antechinuses.

A survey was conducted at Mt. Cannibal Flora and Fauna Reserve, Garfield North from 19th to 21st February. Three FSG members attended, along with members of the local friends group. The small mammal trapping was very good with 4 native species being recorded: Swamp Rat, Bush Rat, Agile Antechinus and Dusky Antechinus. In contrast, very few animals were seen by spotlighting, only one Ringtail Possum in the reserve. Remote cameras were set which will be retrieved in 2 weeks' time. Thanks to the Friends of Mount Cannibal for their hospitality, in particular to Garry Burns, on whose property we stayed.

Fungi Group: No meeting in February.

Geology Group: No meeting yet this month.

Juniors' Group: No meeting yet this month.

Marine Research Group: In December the MRG held a meeting on the 14th which was our annual member's night. Ten members attended with presentations from five members.

The 26th saw the start of our field work season with an evening survey of Shoreham Beach attended by 12 members. One hundred and fourteen species were observed.

On 17th January at a survey of Martha Point, Mt Martha 102 species of marine invertebrates were observed.

Our meetings for the year started again on 8th February with Lupita Bribiesca speaking on the Anchialine Cave, a unique environment which has yielded some new species. The meeting was attended by 20 members.

Our February field work was at Cape Shank on 14th February, attended by 11 members. 109 species were observed.

Microscopy Group: A members' activity night was held on February 17th. A variety of microscopes were set up with our collections of slides and marine .and botanical specimens for viewing. Several members brought specimens they wished to look at and identify.

Three new members attended, including an enthusiastic 12 year old boy bringing with him his fossilized prehistoric animal tooth. The new members really enjoyed the evening and were fascinated with everything they looked at! It was a quiet evening with a total of 7 members attending.





As a generalist naturalist, one who is interested in everything in nature, I love to report on the program of the only FNCV generalist SIG. However, as I was on holiday in New Zealand for the February Day Group meeting, so I will let Andrew Mc Cutcheon's beautiful wildlife photos speak for themselves.

Andrew is now retired after working for Parks Victoria. He is keen on most aspects of natural history and spends much of his time devoted to this interest, working with such organizations as Earthcare St Kilda, Mammal Survey Group of Victoria, Friends of Westgate Park and Birds Australia.

His talk to the Day Group was entitled, "A grey nomad's wildlife encounters." Once again I would like to thank Andrew for opening our year with such a wonderful presentation. I would also like to thank Max Campbell for chairing the meeting. I have had many comments as to how well the program was received. I was sad to miss it.

Joan Broadberry



Fauna Survey Group

Fauna Survey Group Activities in January 2016

Stagwatch -Noojee area

On the 16th January the FSG conducted its first stagwatch for 2016 with 11 members attending. As usual our aim is to stagwatch for Leadbeater's Possums,

Gymnobelideus leadbeateri. While we didn't record any Leadbeaters Possums we saw 11 Greater Gliders (now Southern Greater Glider) -Petauroides volans (Jackson and Groves 2015) listed as Vulnerable on the DELWP Advisory List of Threatened Vertebrate Fauna in Victoria (2013), along with Mountain **Brush-tailed Possums** (Bobuck) - Trichosurus cunninghami, Agile Antechinus -Antechinus agilis and microbats. A Southern Boobook -Ninox boobook was heard calling and a number of other forest birds seen before dark. One stag, just beside where we had parked our cars, had two gliders in it, with one

gliding across the road above us as we tallied up our sightings. The two Greater Glider images (right) are of that animal spread out on the tree trunk after it had finished its glide and also in amongst the branches shortly afterwards. The image. top right, p9 is of a Bobuck at the stag I was watching.

Nestbox Checking -Rushworth Forest

Over the Australia Day long weekend, the FSG made one of its regular fieldtrips to Rushworth State Forest to check the 100+ nestboxes that have been put up there to provide nesting for arboreal mammals. Twelve members attended this weekend including Kylie Rowe, a visitor. It seemed luck was with our team (Peter and Su Dempsey, Kathy and myAntechinus Antechinus flavipes (not often seen in the nestboxes), a single Sugar Glider Petaurus breviceps and a family of five Sugar Gliders in a third box. That was all we found in 35 boxes on the first day. The other groups were not so lucky, with few or no animals recorded. The numbers found during summer are considerably less than those recorded during late autumn. We also put up a number of remote cameras to monitor mammals over the following couple of weeks.

self) as we found a Yellow-footed

importance of remnant roadside vegetation in helping conserve habitat for both common and threatened mammals, along with birds, reptiles etc.

The results from the motion cameras showed a number of arboreal mammals; brush-tailed possums, antechinus, gliders as well as Eastern Grey Kangaroo Macropus giganteus, Black Wallaby Wallabia bicolor and Short-beaked Echidna Tachyglossus aculeatus. A couple of bird species were also identified being White-throated Treecreeper Cormobates leucophaeus and Grey Currawong Strepera versicolor.

Thanks to Ray Gibson for his continued organisation of these stagwatches and the Rushworth fieldtrips.



On Saturday night, a small group went spotlighting along a section of the Nagambie -Heathcote Road, where we have 4 boxes installed in the road reserve. We found the usual possums, 9 Eastern Ringtail Possums Pseudocheirus peregrinus, 8 Common Brush-tailed Possums Trichosurus vulpecula, one Sugar Glider, one Squirrel Glider Petaurus norfolcensis (possibly the one that was observed in a nest box earlier in the day) and a Brush-tailed Phascogale Phascogale tapoatafa.

Both the Squirrel Glider and Brushtailed Phascogale are listed as threatened in Victoria, being endangered and vulnerable respectively.

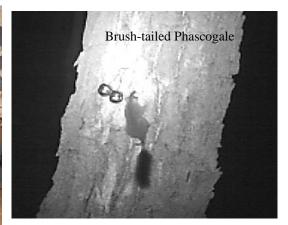
Nights like this just go to show the

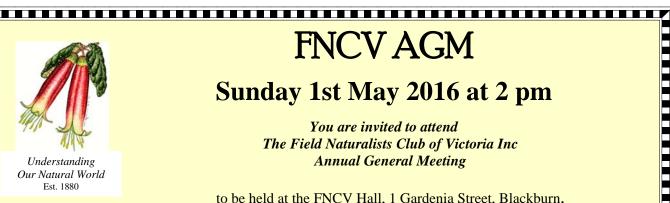




Images: John Harris.







FNCV AGM

Sunday 1st May 2016 at 2 pm

You are invited to attend The Field Naturalists Club of Victoria Inc **Annual General Meeting**

to be held at the FNCV Hall, 1 Gardenia Street, Blackburn.

Agenda: Minutes of previous AGM; Annual Report; Financial Statements; Election of Council; Environment Fund; Other Business

ellow -footed Antechinus

Guest Speaker: To be announced

Afternoon tea will be served. All welcome

Nominations for Council must reach the registered office of the Club no later than 48 hours before the AGM, i.e. Friday 29th April 2016, by 2 pm (Nomination form, see p 12)



Marine Research Group News

Report on MRG members' night Monday 14 December, 2015.

John Eichler showed images of a variety of interesting invertebrates seen at Beaumaris Beach in April, 2015, including a variety of shrimps (see below), colour varieties of the sea star *Paranepanthia grandis* (including orange, mottled brown and lilac mauve), the hermit crab *Micropagurus acantholepis* and the infrequently encountered gastropod *Microcolus dunkeri* on *Galeolaria caespitosa* worm tubes. Also shown were images of the shrimp *Synalpheus tumidomanus* from Shoreham and a large, impressive specimen of the sea hare *Bursatella leachi* from Mallacoota.





Above (all photos by John Eichler): Alpheus novaezealdiae (top), Alpheus richardsoni (middle) and Alpheus villosus (bottom), all from Beaumaris, Port Phillip Bay, April, 2015.



Synalpheus tumidomanus, Shoreham, Westernport Bay, March, 2014. Photo: John Eichler.

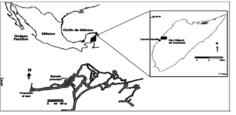
Other members presented images showing the pygmy squid *Idiosepius notoides* and also of freshly caught southern calamari *Sepioteuthis australis*;

the topography of various fieldwork sites visited earlier in the year (Port Welshpool, Shallow Inlet, Gibsons Steps, Port Campbell Marine National Park), as well as MRG members both in the field and also sorting and examining specimens back on dry land (apologies for not being able to credit specific members with the images, and of any inadvertent omissions, as I had unfortunately missed this meeting).

Report on MRG talk Monday 8 February, 2016: Lupita Bribiesca-Contreras, PhD student at The University of Melbourne, spoke on the topic, "Anchialine caves: laboratories in nature."

Cozumel Island is a Caribbean island off the Yucatan Peninsula of Mexico's eastern coastline. It has a karst topography (that is, a topography created by the dissolution of soluble minerals) dating from the Pleistocene (~122,000 years old), which has promoted the formation of sinkholes (cenotes), including anchialine caves (these are sinkholes with a connection to the sea).

Many marine taxa have been reported living in anchialine caves, but echinoderms were first reported in 2007 for the large and complex anchialine cave 'Aerolito de Paraiso', Cozumel Island.



The location of Cozumel Island & map of the 'Aerolito de Paraiso' cave system at lower left. Scale bar 80 metres. (Image from Lupita Bribiesca-Contreras).

Echinoderms are essentially restricted to marine environments due to physiological characteristics—they lack osmoregulatory mechanisms and thus cannot tolerate the hypotonicity of fresh water. However, in 2013 a total of 26 species have been reported from the 'Aerolito de Paraiso' cave. Also, the existence of several new species was suggested by the analysis of DNA sequences. To date, it is the only anchialine system where a great diversity of echinoderms has been reported, making it a unique ecosystem.

The 'Aerolito de Paraiso' cave is

composed of brackish water—its connection to the sea is 240 metres from the surface opening, its combined total length is 6,100 metres, its maximum depth is 27 metres and average depth is 12 metres, and most of its sediment is mud and clay. There is light only at the surface entrance.

The connection to the sea allows salt water to influx and the halocline (where there is a transition from denser seawater below to more freshwater above) is usually found at about 7 metres depth, but this can vary according to the timing of the rainy season. It is felt that larvae brought into the cave in seawater have their best chances at avoiding excess freshwater (and thus surviving in the cave beneath the halocline) in the dry season. Once inside, however, they are trapped by the halocline.

Lupita discussed the general factors that would limit life within such caves. These include cold temperature (due to lack of sunlight), lack of currents (thus no nutrient churning), pH factors, and food availability (because there is little light, there are few primary producers).

Adaptations to such environments may include an absence of body pigments, blindness, organ hypertrophy, and irregular life-cycles not governed by the influence of light.

There are three types of cave organisms—those that spend their entire life cycle in the cave, those that have life cycle phases both within and without the cave, and those which enter the cave by chance, but die out as they cannot survive and propagate within it.

The 'Aerolito de Paraiso' cave contains crustaceans and 22 echinoderm species across 4 classes (with considerable ophiouroids, and these with relatively long arms). The asteroid *Copidaster cavemicola* is possibly endemic to the anchialine cave. There are no fish within the cave. Most species were not abundant and there are new species amongst the discoveries. The processing and work on the material continues.

We thank Lupita for her very interesting talk and work, and for making her powerpoint presentation available to assist the compilation of this summary.

Platon Vafiadis

Juniors' Group thanks to the Junior Naturalist





January Meeting

Ella (left) presented a very informative talk on caring for stick insects. She also brought along many different types of stick insects and mantids to show the group.





Ella has written, illustrated and published a fantastic book about the cycle of life and follows the journey of several Australian native animals. *Cover illustration below.*

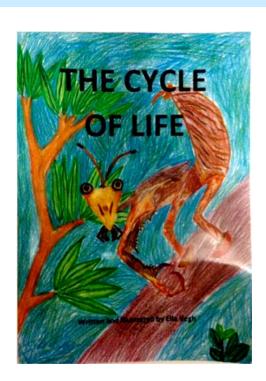
Contact the Juniors' Group Co-ordinator, Claire Ferguson 8060 2474; toclairef@gmail.com about purchasing a copy of her book.

Advertising in the Field Nats News

VERY REASONABLE RATES

Contact Wendy in the Field Nats
Office
admin@fncv.org.au
9877 9860
(Mon –Tues 9.30—4)

Images: Claire Ferguson





NOMINATION FORM FOR FNCV COUNCIL 2016/17

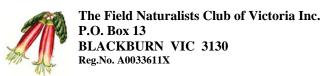
The FNCV AGM will be held on Sunday 1st May, 2 pm at the FNCV Hall, 1 Gardenia Street, Blackburn

Name of Member Nominated		
Position Nominated *		
Signature of Member Nominated		
TWO MEMBERS SUPPORTING NOMIN	NATION	
Name	Signature	Date
Name	Signature	Date
*Elected members of the FNCV Council are: President, Vice-President, Secretary, Treasurer, up to six Councillors and a representative of each Special Interest Group (SIG). Councillors must be FNCV members.		
All nominations, including SIG representatives, must reach the FNCV office		

All nominations, including SIG representatives, must reach the FNCV office no later than 48 hours before the AGM, i.e. Friday 29th April at 2 pm

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