

OBJECT: To foster an interest in nature

December 2020
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December 2020 newsletter

No monthly meetings until further notice

**FNAC Christmas Party 2020: 6.30 pm, Thursday, 3 December;
Weston Park picnic area off Pescott Lane, opposite the mini
train 'Play Station'.**



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JAMISON CENTRE ACT 2614

FIELD NATURALISTS' ASSOCIATION OF CANBERRA INC. JAMISON CENTRE ACT 2614

FIELD NATURALIST



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Ants on the go

Last month I read Rosemary's ant story with interest. A few days later I had a bizarre encounter with ants myself.

I made a fleeting visit to The Pinnacle but given the inclement weather caught the bus home from outside the Hawker Primary School.

I didn't notice anything amiss as I boarded the bus (by the back doors as per current requirements).

However, as I was about to get off at my stop some minutes later, there was a swarm of ants (most likely meat ants) by the back door and heading up the aisle towards the driver, who was oblivious to this invasion. Some students had gotten on at Hawker College and were standing in the aisle and busily trying to avoid the ants crawling onto them. Not sure why they didn't take a seat up the back where the ants had not yet infected.

When I informed the driver before I got off he was incredulous that he had an infestation of ants on his bus.

I'm not sure where they came from after I first caught the bus.

While I had my camera I didn't have time to take any photos for identification but I could just imagine any entry on Canberra Nature Map: location in Hawker, no wait, that's Higgins, no Holt, Kippax... By God these are fast moving ants...

Alison Milton



Crimson gems

I found these little gems when weeding among the sodden mulch and couch-infested soil of Val's Garden outside Hall Museum on 27 October. Heino Lepp has identified them as *Cruentomycena viscidocruenta*, Ruby Bonnets.



“They are a species of agaric fungus in the family Mycenaceae. They are found in moist, forested areas of Australia and New Zealand often in small groups on rotting wood. Care in identification needs to be made to distinguish the Ruby Bonnet from red forms of *Hygrocybe* mushrooms” according to Wikipedia.

I've never seen them before but then my interest in fungi hasn't coincided with a season quite like this 2020 La Nina Sprummer.

Rosemary

Traffic stopper

I had an interesting and unexpected experience last week.

I was driving along Athllon Drive from Tuggeranong towards Woden just past the roundabout on Sulwood Drive when out of the corner of my eye I glimpsed a most unusual sight.

A kangaroo had been hit by a car and was lying dead on the side of the road.

Feeding on the kangaroo was a Wedge-tail Eagle not at all concerned about the traffic. I would have liked to take a photo, but unfortunately the flow of traffic did not allow it.

I wonder whether anyone else in the Club has experienced such a sighting?

Deidre Shaw

O'Connor and Bruce ridges

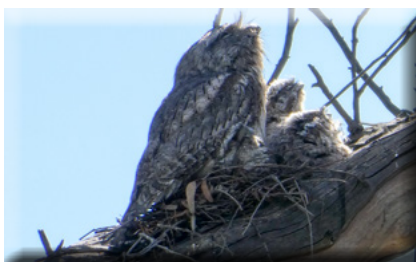
The link below gives official information about Bruce Ridge on the South Western corner of O'Connor and partly parallel to Belconnen Way and Fairfax Street.

<https://www.environment.act.gov.au/parks-conservation/parks-and-reserves/find-a-park/canberra-nature-park/bruce-ridge-nature-reserve>

We parked opposite 162 Dryandra Street not far from the Alivio Tourist Park. Janet and John shepherded us along the paved cycle track from Civic to Calvary Hospital. Intrigued, we walked beside O'Connor Ridge having to leave exploring there for another day, until we could see the ornate underpass for Gungahlin Drive. Perhaps others mused that what we heard, saw and found was so diametrically opposed to the everyday, time-tabled, oblivious lives rushing past on each of those vehicular links.

The gravel tracks we came to had dried out from the previous days' La Nina rainfall on Bruce Ridge but there was plenty to marvel at along the little creek-line that separates the two Canberra Nature Park reserves. We began by walking along the Finnerans Road.

Sophie ground us to a halt before we'd even reached the old farmhouse gates by noticing guano on the footpath. Looking up into a pre-settlement eucalypt we were delighted to find a Frogmouth sitting high on their nest. Nola took several photos establishing that there were three young being shielded by their father. The female was perched a few branches away for the day shift.



Claudia shared the history of another remarkable tree with its several scars and poignantly battered remaining branches. The farmhouse has a rich history as part of the early rural stories that predate Belconnen by 100 years together with its proximity to Old Weetangera Road.



The lushness of the vegetation along the creek reminded us of the demands of gardens we enjoyed ignoring for 2–3 hours and how budding horticulturalists at CIT have the ridges as permanent classrooms for on-site studies of native and invasive species. Also permanent is the need for ongoing vigilance by volunteer Parkcarers and rangers in identifying incursions and constantly being ready to remove invasive species before they encroach on the biodiversity values of the reserves.

Away from the well used walking and cycling paths and in the harshness of the dry sclerophyll forest, weeds had harder lives but they were still evident along the paths' and tracks' edges, their seeds having been borne on bike tyres shoes, laces, Velcro, fur.

As we turned onto Bruce Ridge, Janet showed our position on the informative map of the trails that are designated for mountain bike riders. It's incongruous to have active recreation in a

designated nature reserve though the challenging, steep, stony trails now in use are the result of a co-operative Parkcare partnership between the mountain bike devotees and ACT Parks and Conservation Service. Bruce Ridge could be considered a sacrifice zone to protect Black Mountain from further damage but it's encouraging to see naturalists and active recreation devotees outdoors, enjoying nature by sharing the very special species of the ACT's forest habitats.

We could see evidence of Yellow-tailed Black Cockatoos having foraged for hapless invertebrates under the bark of stressed trees. I went through the Field Guide later reaching 27 bird species, mostly heard but delightful when seen. Particularly special were the calls of Treecreepers, Orioles, Pardalotes, Noisy Friarbirds and the cryptic Wrens and Scrub-wrens.

Not long after the Frogmouths at least four Gang-Gang Cockatoos came through and posed for photographs. The elegance of Black-faced Cuckooshrikes' plumage helps distinguish them after their wing-shuffling landings during foraging. Leaden Flycatchers revealed themselves with their distinctive but variable calls; one of them being "It's me, it's me" in my mind. The calls of Sacred Kingfishers were familiar to me but it wasn't until we watched one that I could unite the call with its species.

The wildflowers gave us identification challenges as we searched our memories for spring species from times past. Woodland Flora and Grassland Flora had





The CBD is hidden by wilderness

remained on our shelves at home. I've since gone through the books and noted over 60 species that now stay in our minds thanks to Janet and John, Sophie, Claudia, Judy, Chris, Maureen and Nola sharing anecdotes and decades of combined 'in the bush' experiences.

Yam Daisies and Bulbine lilies are special for me when I think how widespread they were and how vital to Indigenous agriculture.

Silver Tea Tree reminded me that Bruce Ridge and Black Mountain share some geological and therefore habitat features.

Spoon Cudweed is a miniature Erechtion species, new to me this year.

Bacon and eggs flowers on shrubby *Daviesia*, *Bossiaea* and *Pultenea Hibbertia* turning their glowing yellow petals to the sun.

Uncommon *Coronidium scorpiodes* blooms had such a glorious bronze sheen on the bracts that protected their visitor-enticing pollen.

Tiny yellow Austral Sunray *Triptilodiscus pygmaeus* sometimes sharing damp areas with Sundews' delicate white or pinkish flowers.

A cluster of a green lush-looking *Senecio* near one of the reservoirs is a contrast to the commoner silvery-green species, *Senecio quadridentatus*.

Introduced Broomrape and surprisingly numerous native Cherry Ballart trees stimulating discussions about saprophytic species.

I knew the small white-flowered plants liking the damp, harsh edges of the track but the name didn't come back until I'd reached for the books: *Poranthera microphylla*.

The forest's Poas and Red-Anthered Wallaby Grass towering over the leaf litter. The shimmering bronze of the Spear Grasses that stood out wherever there was habitat for a grassland remnant.

And the orchids often hiding under low shrubs - the derogatory 'scrub' - and probably unnoticed by the several bike-riders who challenged themselves past us on the zig-zagging descent towards lunch and then Dryandra Street.

Sophie recalled an anecdote about Hill-topping butterflies as John helped us with moth and butterfly identification.

Field Natting at its very best!

Rosemary Blemings

Frog facts

You may remember that recently I researched frogs a little to identify a new species in our garden. During that period, I encountered a strange scientific story.

Female frogs of the African Clawed species were once used worldwide to test for female human pregnancy. This was from the 1940s to 1960s. It stopped when a new test specific to human reproduction became available. Here's the story, written by Ed Yong and published in The Atlantic, 4 May 2017 <https://www.theatlantic.com/science/archive/2017/05/how-a-frog-became-the-first-mainstream-pregnancy-test/525285/> accessed 21/11/2020.

The African clawed frog, *Xenopus laevis*, is a palm-sized, greenish-gray animal that hails from the ponds and rivers of sub-Saharan Africa, where it lived for millions of years without anyone injecting it with urine. That unbroken streak changed in the 1930s, thanks to a British scientist with the fantastic name of Lancelot Hogben.

Hogben was a talented but irascible zoologist. In his early career, he studied hormones by injecting them

into frogs, and when he moved to South Africa in 1927, he continued those experiments with the local amphibians. One of them—*Xenopus*—was so abundant and easy to work with that Hogben spent much of his time with the creature, and even named his house after it.

In 1930, Hogben injected *Xenopus* with extracts from an ox's pituitary gland—a pea-sized hormone factory at the base of the brain. In response, the frog started laying eggs. This accidental finding was a fortuitous one. At the time, scientists knew that the urine of pregnant women contained hormones that were made in the pituitary and that affected the development of ovaries. If those same hormones could trigger egg-laying in *Xenopus*, perhaps the frog could act as a living pregnancy test.

Hogben never alluded to this application in his early reports, but it wasn't long before he was working towards it. Disenchanted with racism in South Africa, he returned to Britain shortly after his seminal experiments and brought a colony of *Xenopus* with him. His colleague Charles Bellerby worked out how to raise the frogs appropriately, showed that they would reliably lay eggs when exposed to the urine of pregnant women, and confirmed that when they're not mating, they don't lay eggs spontaneously. Another team from South Africa had been doing similar work, and as academics are wont to do, the two groups developed a bitter feud. It was never truly resolved, although Hogben could be said to have won, since the test that resulted from this work took his name.

The "Hogben test" was simple. Collect a woman's urine and inject it, fresh and untreated, under the skin of a female *Xenopus*. Then, wait. If the woman is pregnant, between five and 12 hours later, the frog will produce a cluster of millimeter-sized, black-and-white spheres. The results were reliable. ...

And so it was that tens of thousands of frogs were infused with human urine between the 1940s and 1960s.

In the 1960s, scientists developed chemical tests that searched directly for human chorionic gonadotropin (hCG)—the tell-tale hormone that the frogs were reacting to. The frogs were slowly abandoned. ...

Activities

But the frog's rise to fame may have had an inadvertent dark side. In 2004, Che Weldon from South Africa's North-West University analysed hundreds of *Xenopus* museum specimens to show that the frog, in its native African home, is occasionally infected by a fungus called *Batrachochytrium dendrobatidis*, or Bd for short. *Xenopus* can tolerate these infections, but most other frogs aren't so lucky. Bd has now spread across six continents and has killed countless populations of frogs in its wake. Weldon and others believe that the international trade in *Xenopus*, for either pregnancy testing or lab research, could have triggered this amphibian apocalypse.'

Another report by Rachel Nuwer, published online in the Smithsonian

Magazine on 16 May 2013 expresses the consequences this way:

'... But the frogs' legacy lives on. African clawed frogs can be found living around many urban centers today, where they were likely released into the wild after hospitals no longer had use for them. Additionally, the imported frogs are common pets, and no doubt some of those pets wear out their welcome and get chucked into a local stream or pond.

In 2006, researchers realized that the frog may be carriers for the deadly amphibian chytrid fungus, which has caused the extinction and decline of around 200 amphibian species around the world. Now, research published in PLoS One shows for the first time that populations of African clawed frogs living in California carry the fungus. The frogs can

carry the disease for long periods without being affected themselves, so researchers suspect that they may be the original vectors that introduced the fungus around the world.'

I've tried to think of what I can say to finish this story off, but I have conflicting feelings. I decry what happened to the frogs, I am saddened that they were in effect 'dumped' into ecosystems they did not evolve in, I am distressed at the fact that the disease has killed so many frogs, but I know that all those women would have wanted to know if they were pregnant. It raises the very difficult debate about the use of animals for scientific research to benefit humans. If only it could be done humanely, never wastefully and with great wisdom.

Lucy Bastecky

Activities

19 November–6 December: Reflections–ANBG Photography Group exhibition at the ANBG Visitors Centre

Some great photos to view or purchase as Christmas presents, as well as some unframed prints and other items. My revised *What's Living in my Backyard* book is also available for purchase in soft cover for \$15. A commission on all purchases goes to the gardens, or just enjoy the great efforts of the photography group. Vote for the Visitors' choice or purchase some raffle tickets for the chance to win a fabulous photo.

Thursday 6.30 pm 3 December: FNAC gathering 2020: Weston Park picnic area off Pescott Lane, opposite the mini train 'Play Station'

The picnic site is well set up with 2 gas BBQs, 2 shelters with 4 bench tables and seats, toilets and playgrounds nearby, set in beautiful parkland with views of Black Mountain and Yarramundi Reach, with possible sunset. Plenty of free parking at the end of Pescott Lane. Bring a plate of food and some drink to share. Relax and enjoy a special end of year celebration meal with members at Weston Park. While there are rubbish bins provided, people might like to take their rubbish home as a way of being 'a good naturalist'.





Field Naturalists' Association of Canberra Inc.

Who are the Field Naturalists?

The Field Naturalists' Association of Canberra (FNAC) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities are advertised in our monthly newsletter. We emphasise informality and the enjoyment of nature. New members are always welcome. If you wish to join FNAC, please fill in the member application below and send it in with your subscription to the FNAC Treasurer at the address below.

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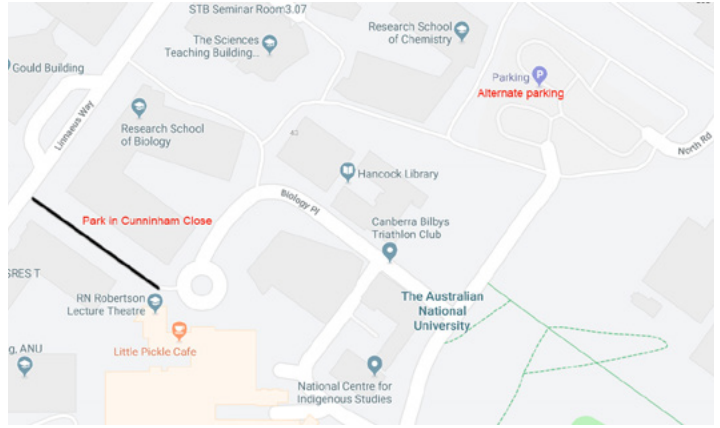
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Monthly meeting venue: Jan Anderson Seminar Room, R. N. Robertson Building, Biology Place, Australian National University

Field Naturalists' Association of Canberra
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Membership application or renewal

Surname: First name:

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