June 2023

Alice Springs Field Naturalists Club Newsletter

Taken in the middle of the Intertexta Forest, the ground cover in the foreground is Marseilia exarata, *Swayback Nardoo; around it is* Diplachne fusca, *Brown Beetle Grass, and* Eragrostis leptocarpa, *Drooping Love Grass; and the small clump on the right is* Panicum decompositum, *Native Millet; all surrounded by* Eucalyptus intertexta, *Bastard Coolabah. It is a really peaceful spot with no* Cenchrus ciliaris, *Buffel Grass, in sight, thanks to some diligent volunteers.*

Meetings are held on the second Wednesday of the month (except December and January) at 7:00pm at the Olive Pink Botanic Garden.

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The next newsletter will be published on 1 July 2023.
We appreciate all contributions, articles and photos both local and elsewhere.
Please have them to Marg Friedel, capparis@iinet.net.au by 23 June 2023.

ALICE SPRINGS FIELD NATURALISTS CLUB

Wednesday 14 June 7pm Speaker night at OPBG.
Joe Schofield - Newhaven Threatened Species Reintroduction Project update.

Wednesday 12 July 7pm Speaker night at OPBG.
David Albrecht – Acting Chief Botanist at NT Herbarium.

Saturday 22 July – Day trip to Birthday Waterhole with Charlie Carter and Deb Clarke.

AUSTRALIAN PLANTS SOCIETY – ALICE SPRINGS

apsalicesprings@yahoo.com.au

Wednesday 7 June 7pm at OPBG. Alex Nelson – The restoration of Pitchi Richi grounds.

Saturday 24 June 2023 — Enjoy the 8km walk between Emily and Jessie Gaps. Allow 3 hours with car transfers. Walk leader, Jill Brew. Alternatively join Suzanne Lollback for a detailed look at plants at both gaps and drive between the two.

Friday and Saturday 7-8 July 2023 — Alice Springs Show
No monthly talk in July. We would love volunteers to register to assist with set up on Thursday 6 July and during the show.

Alice Springs Field Naturalists Club

Committee Members

President	Marg Friedel	0417 849 743
Vice-President	to be appointed	
Secretary	Suzanne Bitar	0419 897 735
Treasurer	Neil Woolcock	0428 521 598
Property Officer	Claire Norman	0448 341 795
General Members	Jan Black	0400 303 123
	Wendy Mactaggart	0434 495 903
Public Officer	Anne Pye	0438 388 012

Other Club Responsibilities:

Newsletter – Marg Friedel / Barb Gilfedder

Facebook Organiser – Meg Mooney moon3@iinet.net.au

Website controller – position vacant

More on processionary caterpillars

From Fiona Walsh

It'd be interesting to know if the Alice Springs Hospital receives many cases of children and people affected by processionary caterpillars. I've a friend who almost died from an anaphylatic reaction caused by a caterpillar bag.

I've long thought an informative poster might aid visiting doctors and nurses at the hospital.

Spider webs at Trephina

From Neil Woolcock

I took this photo of a spider web, the likes I have never seen before. It is a bit hard to make out, but it was very much like a Chinaman's hat in shape and size - about 40cm across at the base.

Presumably the web is like an eel trap where prey ascend to the narrow top and become trapped.
The spider, I guess, is in the leaf at the top.

The 'hat' was incredibly fine, like shade mesh size (the holes that is, the web being finer than shademesh fibres).

Any ideas or ID welcome.

On Cats, Cameras, Fires and Sausages: How the central rock-rat 'returned' from the brink and learned to love the limelight.

Report by Lisa McLean

Who would have thought that a tiny mammal, though on the brink of extinction, would fill the OPBG meeting room on a chilly Wednesday night. But how lucky we were to hear from Peter McDonald and Alistair Stewart from the Flora and Fauna Division, Department of Environment, Parks and Water Security, NT Government.

Pete gave us the history of the central rock-rat (*Zyzomys pedunculatus*), known as an enigmatic creature, and first described by the colonists in 1896 as the 'rabbit rat'. The central rock-rat is a sister species of the Kimberley rock-rat, which, like lots of other plants and animals around the same time, diverged about 2 million years ago. A little more recently, and prior to the most recent findings, the last record of the central rock-rat was in 1960. Despite lots of looking in the 1990s, the central rock-rat was thought extinct. Although there was a flicker of hope when, in 1996, an intrepid team of rangers and volunteers set live traps along Section 9 of the Larapinta Trail and voilà, one little rock-rat was found. To be sure, a photo was taken, identity confirmed, and it was released.

Without any further evidence, despite monitoring sites around Ormiston Gorge between 1996-2002, yet again our little central rock-rat friend was declared extinct in 2007. However, in 2009 in an act of faith, funding was provided along with the challenge to find the central rock-rat, targeting steeper terrain, and elevated ridge lines, using both helicopter trips and walking trips. From Chewings Range to Ormiston Gorge, 10 months and 7 trips later, evidence of old nuts and chews was found, but where was *Zyzomys pedunculatus?* On the final trip along the spur of Mount Sonder, after days of up and down every day to check the lines of Elliot traps, a rock-rat was yet again found. Great excitement ensued and a better understanding of where they might live was discovered.

The following year monitoring began across Mt Sonder and Mt Giles, consisting of live traps and camera traps. Feral cat scats were also found which contained central rock-rat hair and bones. This confirmed the higher elevations as a rock-rat habitat and, using a unique design of camera traps, hopes were high of catching the central rock-rat on camera.

And catch them on camera they did! Clearly, they love the limelight. They also love recently burnt environments, and one that is cat-free. Across the Chewings and Heavitree Ranges the distinctive flora, lack of cats, higher rainfall and cooler environment seems to be the perfect ~~trifecta~~ quadrella for the rock-rat and appears to be the reason the rock-rats are where they are. The cameras also caught the feral cats in the act!

Having been caught on camera, we heard from Al that the next step is a National Recovery Plan for our little rock-rat friend, involving experimental management of feral cats, translocation and captive breeding, fine-scale fire management and monitoring of distribution. Feral cats are being baited with tasty sausages full of the researchers' special herbs and spices, distributed through an aerial drop. The reduction in feral cats has resulted in a higher occupancy of rock-rats in these baited areas as well as an increase in numbers of the black-footed rock-wallaby, *Petrogale lateralis*. A lucky side effect.

The recovery plan also involves translocation of the rock-rat from the Ranges, with a new colony of up to 60 rock-rats now established at AWC Newhaven. This is a fenced environment with no cats or foxes. Closer to home, there are 16 rock-rats in a captive breeding trial at the Desert Park. Some of these pairs are breeding well and will be moved to the colony at AWC Newhaven. Al assured us that the genetic diversity is good, and is something that is monitored by the researchers.

Fire management also plays a vital role in encouraging rock-rats to stick around and multiply. Careful patch burning encourages regeneration of food plants for the rock-rat, and overall manages the fire risk to the environment. The hot summers and lack of rain around 2019 had a significant impact on the feral cat population, allowing the rock-rat to reappear at Ormiston after big rains in 2021-22, and demonstrating a boom across the refuge areas from Serpentine to Redbank and even at Mt Liebig.

For mine, the reason for the rock-rats return is the cameras… Don't believe it? Cameras were set up at the 1960 site… 23 out of 23 camera traps captured the rock-rat on film. This encouraging increase in population across the ranges suggests the central rock-rat may not be critically endangered, just endangered.

This was a fascinating, interesting and encouraging presentation. Demonstrating that with careful management, perseverance, and a sausage bait or two, 'extinct' species can be brought back from the brink. Thanks to Pete and Al, whose commitment to the science of the rock-rat is very impressive. Any errors or omissions here are mine and I'm sure I've failed to capture some interesting facts. Which just goes to say, if you can get to an ASFNC talk, do!

Cat with pseudantechinus

Connie Spencer

In 2016 I wrote an article on the Intertexta Forest for *Australian Plants,* the national magazine of the Australian Native Plants Society. In it is a much better account as to why this diverse pocket of land exists, than the spiel I gave before our wander. The following is a portion of that article.

The Intertexta Forest/Dry Jungle is neither a forest nor a jungle but is the closest thing we have to either within the municipality of Alice Springs.

This tiny parcel of land (roughly 3 ha) located 15 km south west of Alice Springs is within the Ilparpa Valley. The Valley, bounded by the Heavitree Range to the north and an unnamed range to the south contains a rich array of landforms from low hills, a swamp, clay pans to a chenopod covered plain. However, the Intertexta Forest with its diversity of flora is a favourite amongst Australian Plants Society members.

I first became aware of this precious piece of land in 1998 when the Ilparpa Valley Landcare Group was launched with 80-100 people turning up to rid the site of the introduced Cenchrus ciliaris - *Buffel Grass. As part of the launch, local botanist Peter Latz led a tour of the* Eucalyptus intertexta *forest. I remember well the saying Peter used to describe the reason for this unique site – "the answer lies in the soil". The dolomite/limestone foothills in front of the Heavitree quartzite range provide the source of the mineral/nutrient enriched soil that supports the Intertexta Forest and its diverse and healthy understorey. A drainage channel into the middle of the forest provides a good transportation system for mineral-rich sediments and their associated nutrients and concentrates localised runoff, thereby extending the availability of soil water for plant growth.*

The complete article can be found in Vol 28 No 229 of Australian Plants in the library at Olive Pink Botanic Garden.

PS: The origin of the name *intertexta:* Latin *inter*, between the *textus,* tissue, referring to the inter-weaving fibrous bark.

Charlie Carter

Thanks to Barb.
We had heard about the intertexta forest for years, but this was our first visit. Lovely to see one of my favourite trees doing well, *Grevillea striata*, the beefwood, so called because of its rich dark red timber. People will be familiar with the lovely grain of silky oak (*G. robusta*). Beefwood has similar grain and was used extensively by early settlers for joinery and furniture.

Great to see the curly-pod wattle *Acacia sessiliceps* for the first time. (Photo left by Deb Clarke) There seems to be some uncertainty about its nomenclature and taxonomy (not necessarily the same thing).

[*Acacia sessiliceps* is sometimes synonymised with A. oswaldii, but the latter has broader phyllodes. It is possible that they may be varieties of the same species but currently in the NT we treat them as distinct. Ed.]

It has the same square cross section phyllodes as *A. tetragonophylla,* dead finish. Roll phyllodes gently between the fingers, and you can feel it, even if it's not obvious to the naked eye.

The Burke and Wills nardoo story is covered in the book 'The Dig Tree" by Sarah Murgatroyd, 2002. Briefly, the plant contains a lot of thiaminase, an enzyme that blocks vitamin B. The local Aborigines treated the flour by leaching and cooking to remove the enzyme. Burke and Wills didn't do this but they ate a lot of it, sometimes raw, and it probably contributed to their deaths.

Deb Clarke

I really enjoyed the informative ramble in the remarkable Intertexta forest.
Lovely to see Barb looking so colourful and at home in her 'special place'. Its always nice to know when a place is held dear, makes it more personal somehow.

In setting foot from the car I noticed many bird tracks, all different sizes, deeply embedded in the now very dry, hard, clay. Evidence that this was once very fine, very soft, mud. Birds don't weigh much, even larger ones, and their tracks were really indented in the cracked surface.

I also saw what I think were probably cat tracks. Where there are many birds there is always a cat, sadly!

I was delighted to know about the mantis eggcase (ootheca) (below left). I've noticed these spongy casings all my life! Of course I realised they were the work of insects, but did not know it is the Praying Mantis. The young must leave the ootheca so tiny as the holes are not much more than pin pricks. But the adults one encounters are often quite big, and so bolshie. Marvellous creatures!

[Mantids have incomplete metamorphosis, going from egg to nymph, which are like miniature adults; they moult several times before the adult stage. Ed]

Mantis eggcase or ootheca (Deb Clarke)

Atriplex spongiosa, Little Pop Saltbush, whole plant and close-up (Deb Clarke)

I had never seen the 'small pointed-leafed saltbush' before and enjoyed is furry surface close up.
[This is *Atriplex spongiosa*, Little Pop Saltbush, with spongy inflated bracteoles with pointed ends. Ed.]

Also loved the seed pods on the 'curly pod acacia' that Charlie has talked about so well. Fascinating structure, one can only wonder why?

Bec Duncum – A lovely morning for a walk into the forest with an enthusiastic bunch. After clearing a path with the brushcutter (following Barb's instructions of where to go and to make it nice and windy - not straight), we ambled our way to the middle. I particularly enjoyed introducing my friend Robyn to this special place where she could learn a few new things about plants and animals.

Jasminum didymum

Eucalyptus intertexta mallee type and single trunk

Diplachne fusca

A special moment for me was seeing Barb pondering the Nardoo in a small pool of water, still remaining from recent rains. I took a quick photo then went and had a chat with her. We both agreed how beautiful it looks when its leaves float on the water's surface.

Every time I visit this place, it looks slightly different or something else is in flower I hadn't seen before.

Barb Gilfedder – Many thanks to all who came and enjoyed enthusiastically. Special thanks to Bec for trimming a path and to all who weeded out the feral *Malvastrum americanum* along the way.

When Barb showed us *Marsilea exarata*, a nardoo, in the intertexta forest creek, it reminded me of another encounter with nardoo, almost certainly *M. drummondii*, on Wangkangurru country south of Birdsville some years ago. It made me curious.

First of all, what is nardoo? It's an umbrella name for a number of species. In 2004, the Australian National Botanic Gardens reported Australia had six species. Now the NT Flora alone details nine species, so the collectors and taxonomists have been busy. A couple of the species are represented by a handful of records, others are uncommon in central Australia, but three are widespread in central Australia: *M. drummondii*, *M. exarata* and *M. hirsuta*.

Life cycle of Nardoo, showing 1. leaflet, 2. sporocarp, 3. sporophyte and 4. string of spores.
(Source: Australian National Botanic Gardens)

Marsilea drummondii with sporocarps (Dave Albrecht/NT Flora)

Marsilea exarata with sporocarps close to its base (Barb Gilfedder)

Nardoo species are rhizomatous (having underground stems), perennial, aquatic ferns. For example, the fronds of *M. drummondii* are upright when growing in mud and floating when growing in water, and they look a bit like a long-stemmed four-leaf clover (see diagram). Fruiting occurs via spores, contained in hard sporocarps on stalks; see photos of *M. drummondii* and *M. exarata*.

Plants mostly fruit on drying mud as the water recedes. Once the soil dries out, the leaves shrivel and the sporocarps become detached and dry, some lodging in the cracks of the drying mud where they can remain viable for 20-30 years. When flooding eventually occurs again, the sporocarps split open and release their spores. The strings of spores (no. 4 in the diagram) appear worm-like when they emerge.

Some Aboriginal people made nardoo 'cakes' but the practice was not Australia-wide. According to Tim Low "Aborigines ground nardoo sporocarps between stones, and on removing the husks were left with a yellow spore flour that was moistened and baked" .... "Records of nardoo use come from the catchments of the Cooper, Diamantina and Darling Rivers, where Aborigines thrived on wild grains, pigweed [portulaca], and to a lesser extent, nardoo. Elsewhere in Australia it was considered to be inedible".

Not surprisingly then, there's no mention of nardoo in Peter Latz's '*Bushfires and Bushtucker*'. Fiona Walsh doesn't know of records from central Australia or Martu [WA] country but she cautions that's not to say records don't exist. Traditional owner Veronica Dobson says it wasn't used here. It's not named in the Warlpiri or Kaytetye dictionary, although there is an Eastern Arrernte name for *M. drummondii – aleme-aleme* – according to NT Flora.

Under certain seasonal conditions *M. drummondii* contains extremely high levels of the enzyme thiaminase. This can induce a thiamine (Vitamin B1) deficiency unless it's correctly prepared. The nardoo diet of members of the Burke and Wills expedition (1860-1861) exacerbated their decline due to high levels of thiaminase. Wills wrote as he neared death "Starvation on nardoo is by no means very unpleasant, but for the weakness one feels and the utter inability to move oneself, for, as far as the appetite is concerned, it gives me the greatest satisfaction".

Above: Previously flooded area on Goyder Lagoon on the Diamantina with dried nardoo, probably *M. drummondii* (Marg Friedel)
Right: Dried sporocarps collected from the surface shown in the previous photo (Marg Friedel)

So what did we see of nardoo on Wangkangurru country? We were travelling with a group that was sharing traditional and western knowledge. Not far from a waterhole on Goyder Lagoon on the Diamantina, we stopped at a swale that had been flooded and was now covered in dead nardoo. We collected some to show people back at the waterhole but we didn't try eating any.

Sources

https://www.anbg.gov.au/cpbr/WfHC/Marsilea-drummondii/index.html
http://eflora.nt.gov.au/
https://en.wikipedia.org/wiki/Marsilea_drummondii
https://www.abc.net.au/science/articles/2007/03/08/2041341.htm
Tim Low (1991) Wild Food Plants of Australia. Angas & Robertson, Sydney
With thanks to Dave Albrecht, Fiona Walsh, Veronica Dobson and Meg Mooney for their assistance.

Off for a walk by Jill Brew

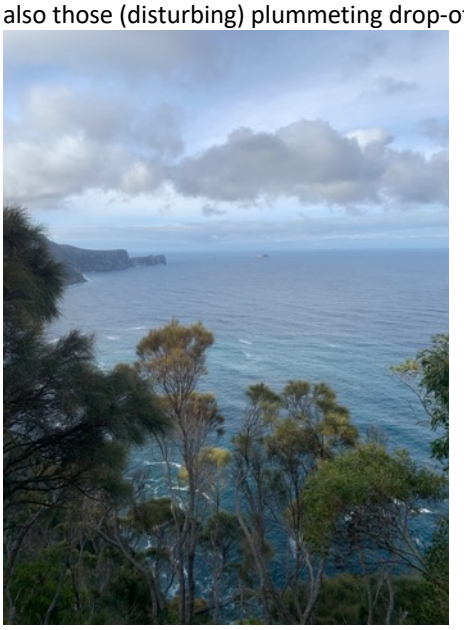
Here are some photos taken in March on the Tasmanian bushwalk on the south-east of the Tasman Peninsula called the '3 Capes Track', and a few thoughts on it.

If you have been on this walk you'll know you can't go wrong on it: the track is well made, non-slip and unlose-able, even for the short sighted. And the 'huts' for accommodation over the three nights are more like lodges. It's not a doddle (in my opinion) but do-able, especially if you prune off a few kilometres from the side trips, as I did. It costs about $400 for the 4-day experience out from, and back to, Port Arthur.

There's continual change in scenery, terrain and microclimate on this walk, so there's no chance of boredom adding any extra carry-weight. You walk through wet and dry eucalypt forest and woodland, sheoak forest and scrub, heathland, moorland and sedgeland (boardwalks keep your boots dry) and rainforest and tree ferns and mossy wonderlands. And then there are vertiginous cliffs to hover over. 'We trust you near the edge', says the Tasmanian Parks and Wildlife Service.

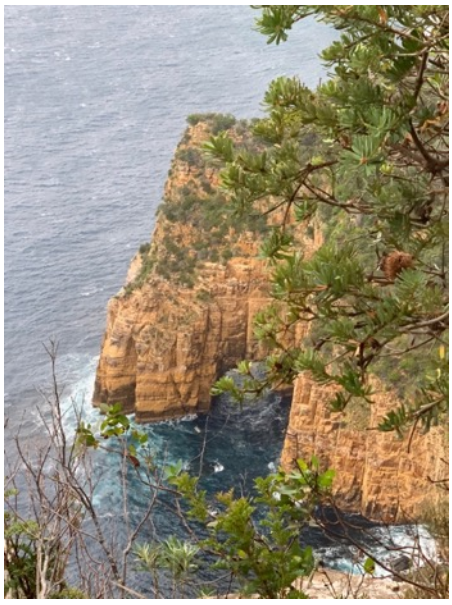
On the way across the bay in the boat that delivers you to the start of the track at Denmans Cove, you're likely to see laid-back Long-nosed fur seals (*Arctocephalus forsteri*) waving flippers as they disport themselves. You'll need to come in contact with the seawater – wading to shore from the boat. (That cheering news comes once you have initially boarded, warmly be-socked and booted.)

You're more or less surrounded by water, on this walk, since it takes you along promontories. Stretching ocean views appear as you come out of the shrubbery (at the second hut you can rest your eyes on the ocean and distant Cape Hauy for hours), and also those (disturbing) plummeting drop-offs to the ravenous seas below.



The view of the ocean from hut two

One of the many fungi along the way



A plummeting drop-off to the sea

Wet weather gear is essential, at least as insurance – you don't want to get caught without a decent rain jacket and backpack cover. (Guilty.) Landscapes and foliage and flowers and fungi (and ferns) keep unfolding. The fungi I saw were sleek and glossy and arresting, some like orange coral. There are banksias galore in various terrains (Silver banksia: *Banksia marginata*), growing low, higher, struggling or rampaging. I took shelter from the wind near one, keeping company with a Crescent honeyeater (*Phylidonyris pyrrhoptera)* that kept up a weak cheeping protest at life, a foot away, in low twiggy branches. ('Forty knots forecast for tomorrow', said the informative ranger the night before, 'with stronger wind gusts.') Note: Look out for the playful wind gusts.

The Coastal pinkberry – (*Leptecophylla juniperina* subsp*. oxycedrus*) – was fruiting, spectacularly. It was so prolific and jaunty in sheltered forest that I feared it was an invasive species, but I was assured it's not. The fleshy edible fruits ('drupes') that come after the flowering were abundant. Out on open moorland, the purple 'Fairy aprons' (*Utricularia dichotoma)* typically found in waterlogged conditions, or shallow water (as seen from the board walk) showed up. Prettily innocent they look – but being carnivorous bladderworts, they have bladders that open below the water-line to suck in water with accompanying insects. Trigger plant flowers (*Styridium graminifolium*) are active units too, triggered by foraging insects to smartly ply a 'club' hidden under the petals, in order to effect a pollen exchange with the insect's body.

Silver banksia

Coastal pinkberry

Fairy aprons

Stories of shipwrecks in the neighbourhood are grim: there would not be much hope of climbing up the cliffs (mudstone/siltstone or igneous dolerite shooting up in towering vertical columns). Hurray for the SS Noord story from 1915 (a model of the ship is in Munro Hut) in which, following night-time sinking, a crew member scaled the cliffs of Tasman Island to reach the lighthouse, and a carrier pigeon from there fluked the flight to Hobart to take the rescue request. All crew survived.

Mosses flourishing in the damp climate

A muscular tree trunk

Mixed coastal scrub with bedewed web

The numbers of walkers on most of the track is low enough to maintain tranquility, and to allow you to stop and absorb the wonders without noise. Bennetts wallabies (*Notamacropus rufogriseus*) add their own calm note as they thoughtfully observe the passing walkers.

(I didn't see any Tasmanian devils but at night we hung up our boots on hooks to keep them out of harm's way.)
And at the end of the day…it was nice and warm and convivial in the evenings in the common rooms, with a glowing pellet heater dispensing to itself just the right amount of recycled wood-waste pellets to burn to maintain the set temperature.
The walk is organized through the Tasmanian Parks and Wildlife Service.

A link is at www.threecapestrack.com.au

"The Pre-dawn call of the White-Plumed Honeyeater" Harold W Crouch.

Wendy Mactaggart Photo Mat Gilfedder

Have you been perplexed by hearing a pre-dawn bird call outside your window and then have been unable to identify it with any of the birds in your garden during the day? A short summary of this article goes some way to provide an answer for this dilemma.

While it is still dark visual identification of a bird is difficult. It's even more difficult, if the song before sunrise is different from the typical daytime song, and the song changes only once it is light enough to see.

A study of the pre-dawn call of the white-plumed honeyeater was conducted at several interstate sites including several sites in and around Alice Springs. Different pre-dawn calls of the white-plumed honeyeater were recorded at some interstate sites. The pre-dawn chorus of the white-plumed honeyeater began about half an hour before sunrise after which time the birds used different daytime calls. The pre-dawn song in Alice Springs is described as a "chew" call in a series of descending notes repeated regularly from 10 to 15 minutes. As these pre-dawn calls occurred from spring to late summer, which is the main breeding season, the pre-dawn call probably plays a role in mate selection.

Several other species of honeyeaters that could be in your garden also have a unique pre-dawn call, including the singing honeyeater, spiny-checked honeyeater, and yellow-throated miner. Unfortunately identifying "Which bird is that?" pre-dawn call could still cause some confusion.

South Australian Ornithologist (33) pp 156-163, November 2001