



November 2023

Alice Springs Field Naturalists Club Newsletter



Sunset over Pitchi Richi Sanctuary. Thanks to Alex Nelson for this beautiful photo. For more, see pages 11-12.

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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Follow us on Facebook!

The next newsletter will be published on 1 February 2024.
We appreciate all contributions, articles and photos both local and from elsewhere.
Please have them to Lisa McLean lisamclean@outlook.com by **23 January 2024**.

ALICE SPRINGS FIELD NATURALISTS CLUB

Wednesday 8 November — Monthly talk 7.00pm, Olive Pink Botanic Garden. Jayne Brim Box invites you to be part of the Finke River citizen science project. (Final meeting of the year)

Saturday 18 November – Gecko hunting with Peter McDonald. 7.15pm. Meet opposite 86 Kurrajong Drive.

Sunday 10 December – Field Nats end of year gathering. 7.30am at Telegraph Station, bring breakfast to share and a chair. There may also be a geology walk!

Wednesday 13 December – No meeting

Wednesday 14th February – First speaker night of 2024. Speaker to be advised.

AUSTRALIAN PLANTS SOCIETY – ALICE SPRINGS

apsalicesprings@yahoo.com.au

Wednesday 1 November 2023 — Monthly Talk 7.00pm, Olive Pink Botanic Garden. Join **Doug MacDougall** as he takes us on a walk along the **Jatbula Track** in Katherine. A talk for plant lovers and avid bushwalkers.

Saturday 25 November 2023 – Morning wander to Ewaninga. More details to come.

Alice Springs Field Naturalists Club

Committee Members

President	Marg Friedel	0417 849 743
Vice-President	to be appointed	
Secretary	Lisa McLean	0412 642 987
Treasurer	Neil Woolcock	0428 521 598
Property Officer	to be appointed	

General Members

Wendy Mactaggart	0434 495 903
Peter McDonald	0427 177 450
Jill Brew	0437 223 203

Public Officer

Anne Pye	0438 388 012
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Other Club Responsibilities:

Newsletter – Lisa McLean / Barb Gilfedder
Facebook Organiser – Meg Mooney moon3@iinet.net.au
Website controller – position vacant

Welcome new members

Welcome to the following new members who have signed up this Club year to join the Alice Springs Field Naturalists Club.

Merrilee Cox
Jill Kleiner
Meredith Lake
Dorothy Latimer
Colin Leel
Libby Prell
Ian Soper and Ti Harrison

Be sure to give them a warm welcome when they attend a speaker night



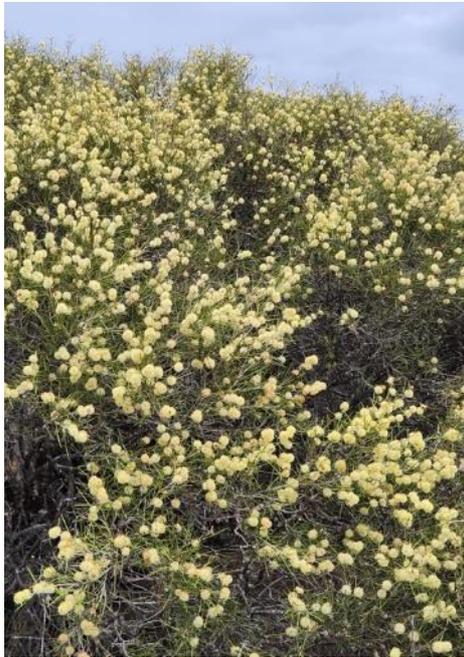
When the truth is stranger than the story I made up

The story of the snake on Jane and Peter Bannister's deck is actually better than the one I included in last month's newsletter. Not only was the snake not sunning itself, but it was not even alive. If you look closely it actually has two puncture wounds on its side. Jane had found it by the side of the road and carried it back to the deck to admire. Well done Jane, and a much more interesting story! Still a very beautiful *Pseudonaja modesta* (Ringed Brown Snake).

Western Australia is renowned for its colourful wildflowers. Here's a few reasons why!

A Field Nats member, Anne Pye, recently did some travelling in Western Australia. She sent us these beautiful photos of wildflowers taken on a trip from Perth, north to Geraldton. She travelled by an inland route and many of these photos were taken near Coorow, situated about half way along. There are websites to tell you what's flowering where and the best times to go. One good site is this one <https://tessomewhere.com/western-australia-wildflowers/> Thanks Anne!





Mystery in 'fairy circles': Aboriginal people's art and knowledge helps scientists to better understand Australia's spinifex ecosystems

October speaker night – Fiona Walsh, ethno-ecologist

Report by Marg Friedel

'Fairy circles' are a spatial pattern widespread in spinifex ecosystems across desert Australia but largely invisible to visitors. Desert Aboriginal people and Australian ecologists say the bare patches signal underground termitaria, whereas some international scientists argue that only plants cause the patches, not termites.



'Fairy circles' in a spinifex landscape near Newman WA (Mike Gillam)

Fiona first became aware of fairy circles indirectly when she was working with Martu people in northwest WA in 1986-1993 to record their sustainable food harvesting, and they told her about *linyji*, the termite pavements that they used as a hard surface for seed processing. Fiona told us that CSIRO scientists had been aware of these pavements at least since their 1950s land system surveys and this writer (Marg) recalls having the pavements explained to her in the early 1970s.



Two Martu colleagues of Fiona's, Wirnta and Carol, plus unknown others in 1988, sweeping a termite pavement clean to prepare for seed threshing (Fiona Walsh)

In 2016, while working at CSIRO on other projects, Fiona undertook largely unfunded research into the structure and distribution of the termitaria (see next page for photo of cross section). Subsequently, she engaged with almost 100 contributors, both Aboriginal and non-Aboriginal, and all but three were volunteers. In 2016 she and colleagues published a paper on their findings in a high-profile international journal, and it gained widespread attention (<https://www.pnas.org/doi/10.1073/pnas.1607860113>).

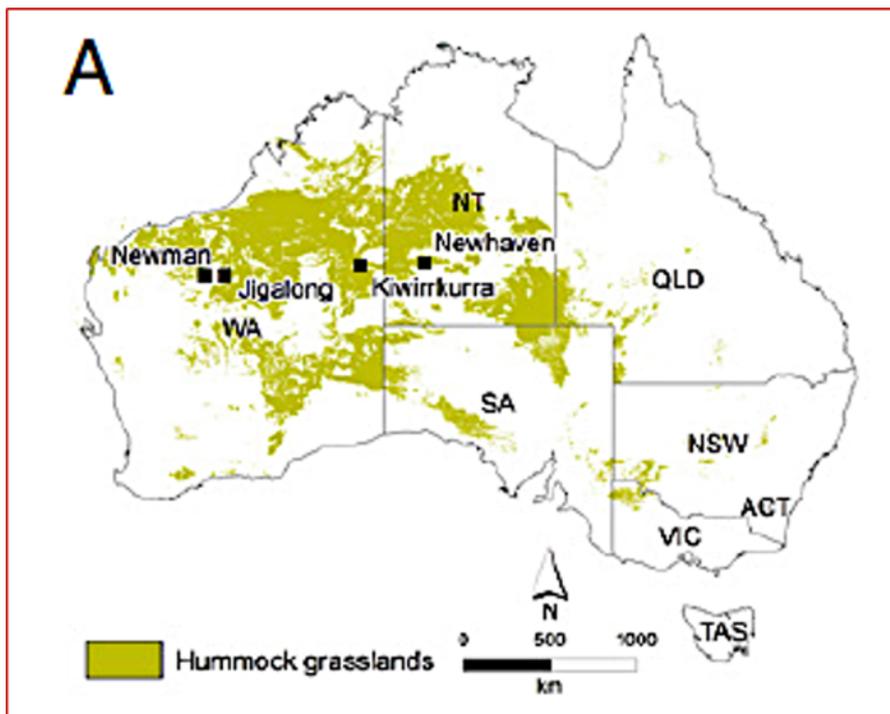
That attention included opposing arguments from an international group, who asserted that the fairy circles were created by plant processes, when they studied an area near Newman WA. Seven years on, the debate continues.



Trench through termitarium, showing chambers and surface features (Fiona Walsh)



Two-way knowledge sharing about termitaria – Christine and Joe (Wayne Lawler AWC)



Fiona and her colleagues have devoted months of unfunded time to detail extensive Aboriginal uses and knowledge about the termites and *linyji*, and western scientific investigations into the nature and pattern of the structures, now known to be widespread across Australia’s spinifex ecosystems (see map below).

Their 2023 paper in another high profile international journal has added to the reporting of fairy circles in other deserts of the world (<https://www.nature.com/articles/s41559-023-01994-1>).

Until now, the pattern created by the termitaria had been illustrated in Aboriginal art but had not been described in science. Access to drones and helicopters, Google Earth and other remote sensing has made description of the patterns possible. Termite pavements are spaced regularly, with variations in the patterns influenced by soil type, spinifex cover, rainfall gradient and fire regimes. The dryer the country, the less regular are their shapes and the greater the space between them becomes (see next page for photos of pavement spacing).

The termites themselves are recognised by desert ecologists as key drivers of desert ecosystems, being well adapted to aridity, providing an abundant source of food for native fauna, and playing a critical role in the breakdown of plant material and the cycling of nutrients. Fiona and colleagues suggest that the termite pavements near Newman might be tens of thousands of years old as they appear to have persisted through the last glacial melt. At the human scale, bush drivers may be aware of termitaria as they bump over the hard patches on an otherwise sandy track in grasslands or mulga shrublands.

‘Fairy circles’ have been found across a wide expanse of spinifex (hummock) grasslands; an additional site at Uluru not shown (Walsh et al. 2016 PNAS paper)

Regularly spaced termite pavements along a rainfall gradient from wetter to dryer (left to right); the space between pavements increases and their shape is more irregular in dryer country.



Martu – Niyiyaparli country, SE Newman, by Mike Gillam

Niyiyaparli country, Newman, by Dave Wells

Pintupi country, Kiwirrkura – Kintore Road, by Katrin Doederer

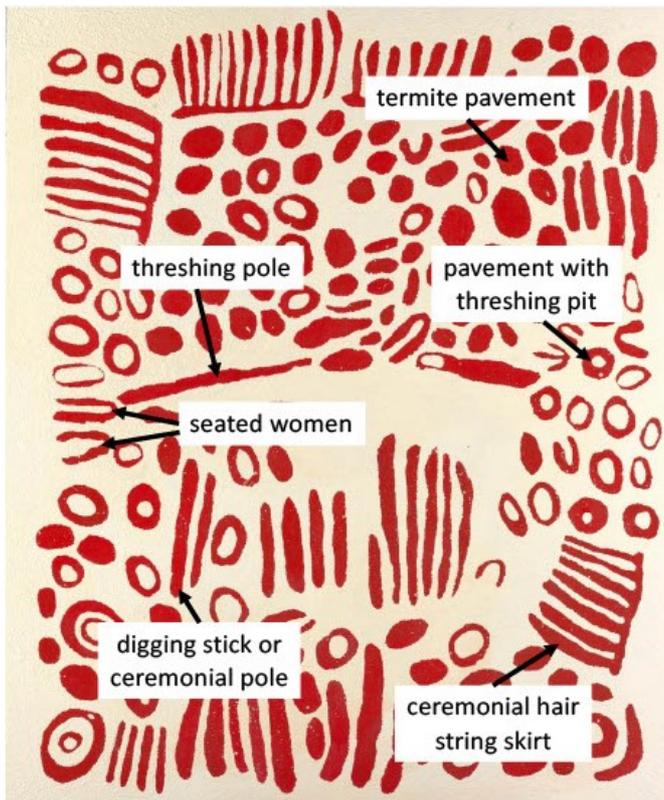
Pitjantjatjara country, E Uluru, by Katrin Doederer

Aboriginal people in arid Australia are very familiar with termites and termitaria and, for some, the termite is an important totem. The alate or winged form can occur *en masse* after rain and hence was an important food source for people and still is for animals such as lizards. The hard pavement was used as a work bench for example to clean seeds or make spinifex glue. A pavement holds water after rain for considerably longer than the surrounding sand plain soil, and so was a short-term but abundant water source for people and animals. It could also be a surface for ground painting.

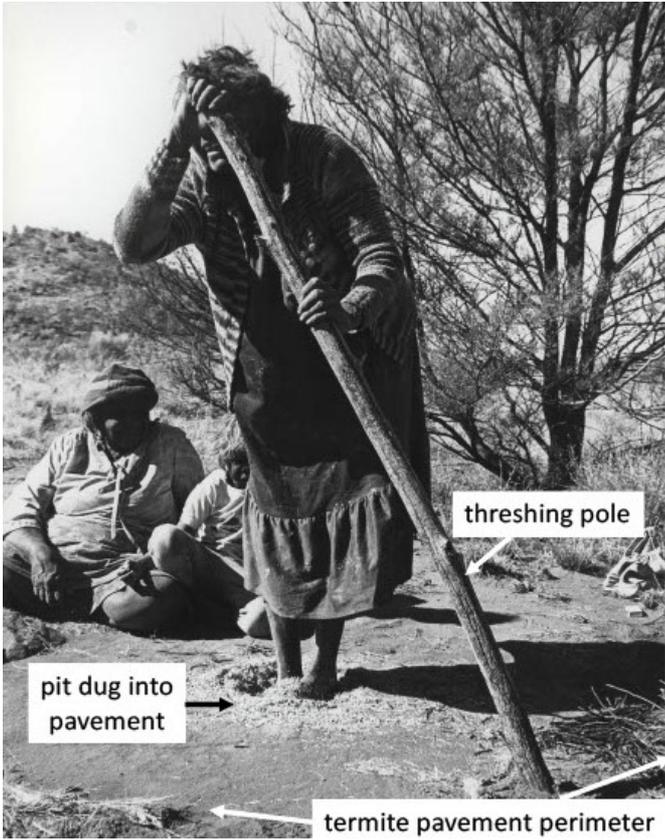
Aboriginal artists have deep knowledge of termites and have depicted multiple aspects of the termites' life cycle and their termitaria. An example is Kaapa Mbitjama Tjampitjinpa's painting of *Watanuma* in 1976. The name refers to the ancestral Flying Ant Man, and the red concentric circles represent the below-ground resting places of the mythological flying ant (termite) and the earthen 'homes' of the insects. The double bars depict the winged forms, both within their 'homes' and moving between them. The pale concentric circles represent the surface pavement, holding remnant rainfall, and the different colours of spinifex reflect stages of recovery after fire.



Kaapa Mbitjama Tjampitjinpa (1976) *Watanuma Flying Ants Dreaming*; 202.4 x 171.8 cm, Papunya Tula Artists, National Museum of Australia (used with permission).



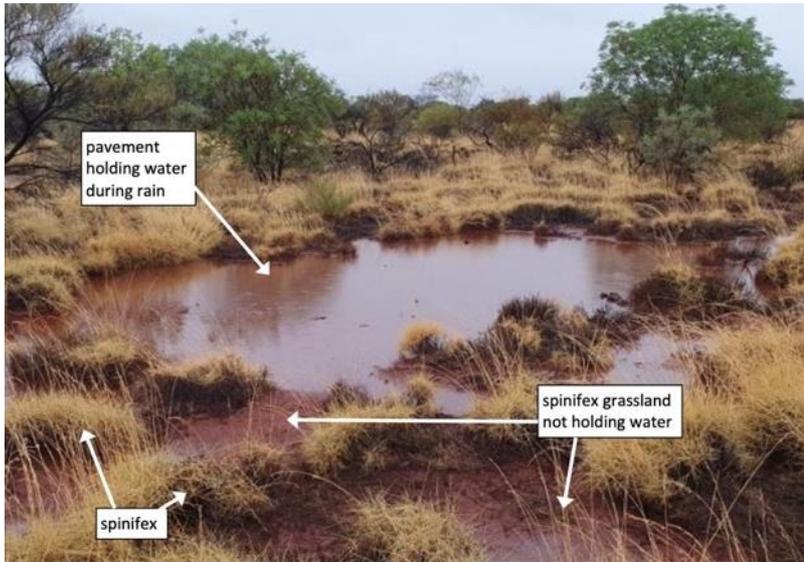
Wintjiya Napaltjarri (2008) *Watanuma*; 182 x 152 cm, Papunya Tula Artists, National Gallery of Victoria (used with permission)



Nganyinytja Lewis AM using termite pavement for threshing. The pole provides support for the 'thresher' as she presses down with her feet (Linda Rive AM, Ara Iritija)

Wintjiya Napaltjarri painted her story of *Watanuma* in 2008. The painting depicts termite pavements, pavements with threshing pits, a threshing pole, digging sticks or ceremonial poles, seated women, and ceremonial hair string skirts. During searches by Fiona and colleagues for records of Aboriginal people's knowledge of termites, they found more than 80 paintings featuring pavements or alates, created by 34 artists.

The termite pavements as a short-term source of water were well known to Aboriginal people. '*Animals drink [from pavements]: Marlu (Red kangaroo), Watika (Bush turkey), Yankirri (Emu)*' – Alice Nampijinpa Michaels; '*After good rains in linyji country, Mulyamiji (Great desert skink) would be born in water lying on the linyji. My mother, my two fathers, my uncle told me this long ago*' – Purungu Desmond Taylor.



Termite pavement holding water after rain (Emma Stock)

Fiona pointed out that material culture associated with termite pavements will be largely invisible to archaeologists and anthropologists due to the ephemeral nature of the artefacts (wood, other plant matter) and water.

As part of two-way learning, scientists investigated water infiltration on the *linyji*. These pavements were roughly level with the surrounding sand plain, but the hardness of the soil and the windblown sand trapped in the grasses around the margins held water in place. During tests, pavements held 30-160 litres for about an hour and infiltration was much slower on them than on the sand plain. Using data from Alice Springs, rainfall records suggest that *linyji* could fill up to 50 times a year, so could provide a significant source of water for people and animals.



Matilda Nelson (on vehicle) measures water volumes held by a termite pavement (Fiona Walsh).

Fiona expressed concern that these unique spinifex ecosystems could be irreversibly changed as Aboriginal burning and other cultural practices are displaced by widespread and more intense and frequent wildfires abetted by climate change.

In closing, Fiona hoped that partnerships and funding might develop that would enable the work to continue. She retained a vision for what might be achieved:

- Share and expand knowledge with desert Aboriginal rangers and families of Aboriginal artists
- Collaborate with diverse artists and exhibitions
- Connect with international researchers – including critics of the termite theory
- Prioritise questions across archaeology, anthropology, linguistics, surface water dynamics, entomology, botany, geomorphology, paleoecology, land management...

...and she called for ideas from the audience.

It would indeed be unfortunate if this knowledge of our unique spinifex ecosystems becomes lost in an international argument, where availability of funding wins the day.

Insects of Mparntwe

Colin Leel

As many of you may know, Colin Leel has a fantastic website Ausemade showcasing flora, fauna and other topics of interest from around Central Australia. Thanks, Colin, for contributing a number of insect photos which will feature in newsletters over the next few months.



Australian Sheep Blowfly (*Lucilia cuprina*)

Formerly named *Phaenicia cuprina*, the Australian Sheep Blowfly is a blowfly in the family *Calliphoridae*. These critters are characterised by a metallic outer appearance and reddish eyes. They usually have a shiny green or greenish/blue abdomen with bronze/coppery reflections and are also known as bronze bottle flies. Look closely and you'll see the fly is blowing a nectar bubble!

Eucalyptus Tip-wilting Bug (*Amorbus alternatus*)

The Eucalyptus Tip-wilting Bug, related to stink bugs, have tube mouth parts (like all *Amorbus* spp) that they use to suck the sap out of the Eucalypt leaves. These are stocky shield shaped bugs. Adults of this species are brown to black, with a yellow to green tipped wing cover. The instars are brightly coloured, ranging in colour from yellow to orange bodies, with blue or dark blue colourings (like this one).

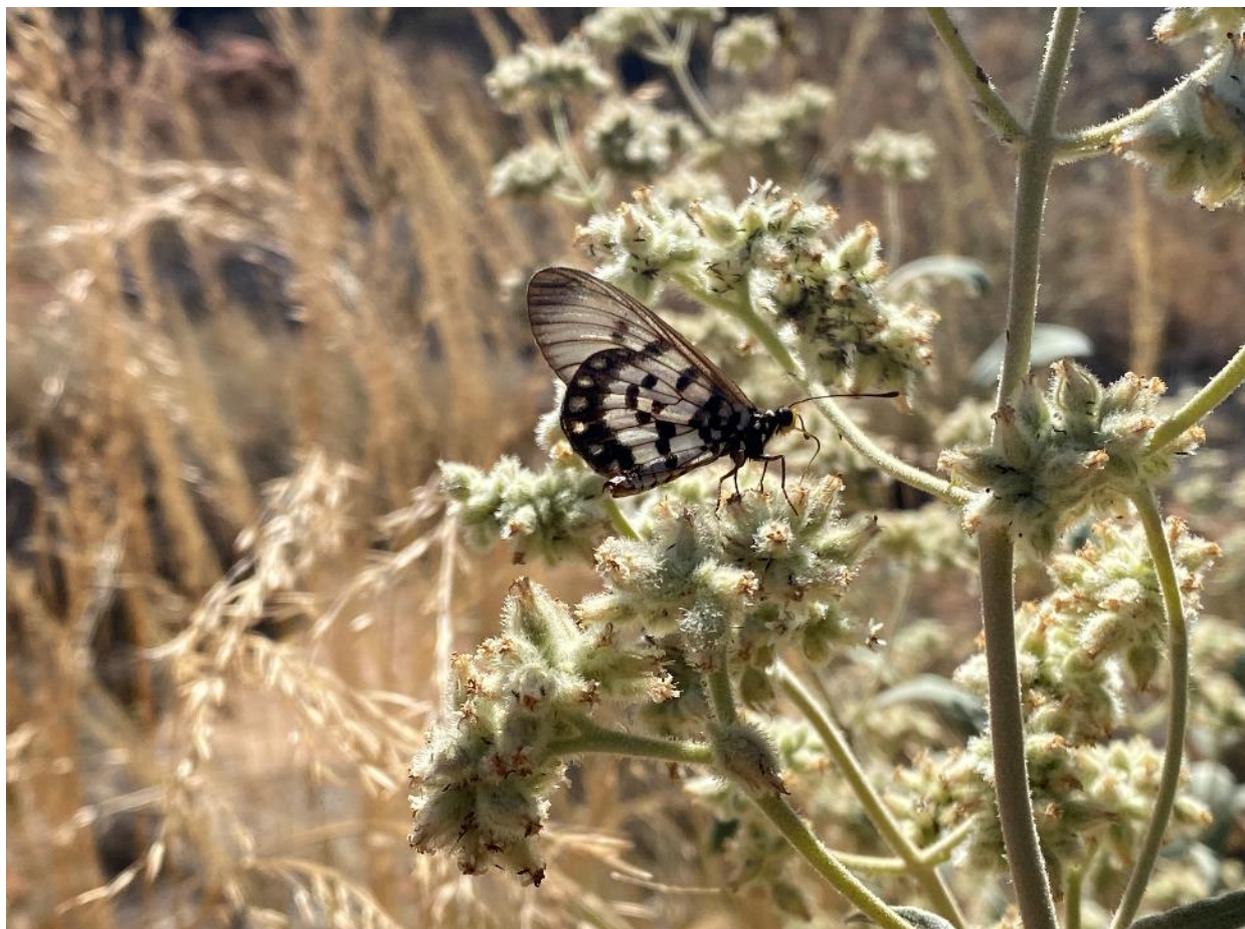
Glasswing Butterflies (*Acraea andromacha*)

Bec Duncum

I was recently at Watarrka National Park along the Kings Creek Walk and noticed a lot of these beautiful Glasswing Butterflies (*Acraea andromacha*). They were observed on recently poured concrete with some moisture still present. They were also particularly enjoying the *Dicrastylis gilesii*.

Glasswing butterflies have almost transparent forewings, which feature a few black spots. The hind wings are creamy white with a similar black spot pattern. Males and females are difficult to distinguish. Wingspan was 50-60 mm.

More info can be found here: [Acraea andromacha \(butterflyhouse.com.au\)](http://Acraea_andromacha_(butterflyhouse.com.au))



Pitchi Richi

Member outing – 22nd October 2023

Pitchi Richi has a special place in the heart of the people of Alice Springs. None are more passionate than Alex Nelson, current project manager and *buffelista* at the 12-acre site, run by Heritage Alice Springs.



A group of Field Nats, including some new members, spent a few hours at the site on a warm October Sunday morning, learning about the history and future of Pitchi Richi, as Alex generously and knowledgeably showed us around the grounds and main house. Alex and a small group of *buffellers* have been clearing Buffel Grass (*Cenchrus ciliaris*), trying to ensure a vibrant and buffel-free future for Pitchi Richi. If you have some free hours during the week – or even a Saturday morning and are handy with a mattock (not essential – we can teach you!) please contact Alex on tenalex63@yahoo.com.au



The main house on the block was built by Charles (Pop) Chapman in the late 1940s when he settled in Alice having made money developing the Granites goldmine. He was also the founder of the *Centralian Advocate*. Built on a rise, the two-storey building has louvre windows throughout to catch any breeze, as well as a solid centre, which keeps it cool. Heritage Alice Springs have undertaken many renovations, removing asbestos, replacing termite-ravaged wood and fixing the aged electrical wiring. It retains so much character and charm. Removal of buffel is protecting the house from fire. The mattocked-out clumps are left on the surface where they will break down and return nutrients to the soil.



In 1955 when Charles Chapman died, Pitchi Richi was acquired by Leo Corbet who set about turning it into a bird sanctuary. Many birds still visit Pitchi Richi, and more will come as the native vegetation regains its hold. This Pink Cockatoo is a rare visitor, but there are resident Black Kites and Willy Wagtails. He also turned the area into an outdoor museum recognising outback pioneers, with artefacts collected from across central Australia. His wife, Elsa Corbet, painstakingly painted many signs explaining the artefacts, where they came from and their use. Such a shame that most of these have faded and become illegible with time. He adorned the garden with many ceramic sculptures created by his friend, William Ricketts. These mainly depict Aboriginal men and children, representing real people, and often include native plants, animals, and self-portraits showing himself as an environmentalist and protector of Aboriginal culture. The photo on the right, interestingly shows two large possums, now extinct in central Australia, and also water troughs for the birds.



Alex told us that there are very few snakes in the area because there are lots of larger reptiles, particularly Sand Goannas.

He recently took this photo of a Central Bearded Dragon (*Pogona vitticeps*). These dragons can puff up their body and spiny throat when feeling threatened, as in this picture.



Alex said the site is mainly good alluvial soil and he is confident that it still contains a good seed bank of native plants. He cherishes every tiny native plant he finds amongst the Buffel Grass. There are a few Desert Rose shrubs (*Gossypium sturtianum*) flowering well and some Native Passionfruit (*Capparis spinosa* subsp. *nummularia*) (above left) The seeds of the latter are spread by birds, and a couple of plants are growing high in the clefts of River Red Gums. Native grasses are coming back slowly; this *Enneapogon polyphyllus* (above right) is seeding well. Alex is encouraging Ruby Saltbush (*Enchylaena tomentosa*) around the base of many trees. It is a small shrub, often pretty with colourful edible berries, and is a natural fire retardant as well as being loved as food by many birds. Unfortunately, there are some trees that need to go. Some large White Cedars (*Melia azedarach*), although native to Australia, do not naturally occur locally. Himalayan Rain trees (*Dalbergia sissoo*) have also become well established in Pitchi Richi (pictured on the right). Their seed is spread by wind, and they also sucker. They are a native to the Indian subcontinent and Southern Iran.



Well done, Alex, keep up your wonderful work! Artefacts like this wonderful old wagon, as well as the house and sculptures, are so worth protecting.



End note: This commemorative stone – probably carved by Elsa Corbet – attracted lots of attention during the morning. We later learnt that Sir Robert George was Governor of South Australia from 23 February 1953 to 7 March 1960, and must have visited Pitchi Richi at some stage, along with his wife Lady George. While he was known as ‘colourful’, Lady George earned the ire of feminists when she claimed: “The most important thing for a girl is to learn how to run a home well.” One notion I’m sure we are all pleased hasn’t been protected.

Thanks to Alex Nelson, Barb Gilfedder and Marg Friedel for the photos.