



October 2021

## Alice Springs Field Naturalists Club Newsletter



*Ptilotus* flowers have been magnificent over the last year – rain must have fallen just at the right time for them. *Ptilotus latifolius*, Tangled Mulla Mulla was seen on a recent field trip with APS AS near the Ooraminna Range. Trip leader, Peter Jobson said he had never seen it looking so lush. It is generally restricted to the upper slopes and crests of red sand dunes. Check out all the little footprints, too. Photo: Barb Gilfedder

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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## NEWSLETTER

The next newsletter will be November 2021.  
The deadline for the November newsletter will be 23 October.  
Please send your contributions to Barb Gilfedder: [bjfedders@gmail.com](mailto:bjfedders@gmail.com)

### **ALICE SPRINGS FIELD NATURALISTS CLUB**

**It is important to watch for up-to-date flyers or contact leaders for details as arrangements may change.**

**Saturday Oct 9 - Serpentine Gorge walk** for morning tea – Details to follow.

**Wednesday 13 October at 7.00pm** – General Meeting at Olive Pink Botanic Garden - **Lisa Nunn** will talk about and show great photos of some of the “Best Australian wildlife watching locations, part 2”. This talk will include the Mitchell Plateau and Iron Range National Park and conclude with some pointers on planning your own wildlife-watching holiday.

**Saturday Oct 23 - Ewaninga Siding** – Neil Woolcock

**Sunday Nov 7 - Old Limestone Bore** (cnr Larapinta Drive and Namatjira Drive) – Neil Woolcock

**Wednesday Nov 10 at 7.00pm** – General meeting at Olive Pink Botanic Garden – **Speaker: Jimmy Cocking**  
**'Working together - land management collaborations across Australia's desert country'**

Over the past decade some significant collaborations have developed across Australia's arid lands to bring indigenous land managers, scientists, governments, businesses and conservation groups together. Jimmy Cocking has been involved and working with some of these exciting initiatives through his role as ALEC Chief Executive for the past 13 years.

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### **AUSTRALIAN PLANTS SOCIETY - ALICE SPRINGS**

[apsalicesprings@yahoo.com.au](mailto:apsalicesprings@yahoo.com.au)

**Wednesday 6 October 2021, 7.30pm - General Meeting at Olive Pink Botanic Garden - Newhaven Wildlife Sanctuary.**

A collective slide show and talk will be shown. This is following a visit by a group of APS AS members to the Sanctuary in August.

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### **OLIVE PINK BOTANIC GARDEN**

[garden@opbg.com.au](mailto:garden@opbg.com.au)

**Saturday 2 October - Native Plant Sale OPBG from 8.00am until sold out**

A large selection of amazing Central Australian Plants. Olive Pink Botanic Garden. Our beautiful photographic 2022 Desk Calendar will also be available.

Contact the Garden to receive a copy of our plant descriptions. Email or Phone: 0421 898 329.

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### **SUBSCRIPTIONS TO ASFNC**

#### **Alice Springs Field Naturalists Club**

##### **Committee Members**

<b>President</b>	Barb Gilfedder	8955 5452
<b>Vice-President</b>	Margaret Friedel	0417 849 743
<b>Secretary</b>	Connie Spencer	0429 966 592
<b>Treasurer</b>	Neil Woolcock	0428 521 598
<b>Property Officer</b>	Claire Norman	0448 341 795
<b>Members</b>	Lee Ryall	0417 401 237
	Rosalie Breen	0458 155 141
<b>Public Officer</b>	Anne Pye	0438 388 012

##### **Other Club Responsibilities:**

Newsletter – Barb Gilfedder [bjfedders@gmail.com](mailto:bjfedders@gmail.com)  
Facebook Organiser – Meg Mooney [moon3@iinet.net.au](mailto:moon3@iinet.net.au)  
Website controller – position vacant

Thank you to members who have already paid and a big welcome to new members.

If you have not yet paid for 2021-2022, please pay by cash or cheque at a meeting or by post ...or by direct deposit.

Family \$30, Concession \$25,  
Individual \$20, Concession \$15,  
Life membership - Ten times normal fee.

Email Newsletter Only for interstate Members who have previously had full Membership \$10.

Westpac bank details: BSB. 035303, Account # 100981.  
Please include your name as a reference on the transaction.

## Old Man Saltbush has its uses

Barb Gilfedder

I have always found *Atriplex nummularia* an attractive shrub with its grey, salty leaves contrasting with our reddish soils. We had a hedge of it in front of our previous house in Memorial Avenue and found it very low maintenance, and requiring little water.

*Atriplex nummularia* is a species of saltbush from the family Amaranthaceae, previously Chenopodiaceae and is a large woody shrub, known commonly as Old Man Saltbush.

The genus name *Atriplex* is a Latin word meaning "saltbush" and the specific epithet (*nummularia*) is derived from the Latin word *nummus* meaning "coin", referring to the circular shape of the leaves.



This area South of the sewage ponds has been flooded many times. The Old Man Saltbush is thriving. It also makes great habitat for White-winged Fairywrens.

Old Man Saltbush is native to Australia and occurs in each of the mainland states, particularly in arid and semi-arid inland regions. It is extremely hardy, thriving in harsh environments such as saline and alkaline lowlands. *A. nummularia* is the largest species of Australian saltbush, typically growing 2–4m wide and up to 3m tall in either a sprawling or erect arrangement.

Although hermaphroditic variations with bisexual flowers have been reported, this species is generally regarded as dioecious, with male and female flowers occurring on separate plants. The male flowers are usually drooping at the ends of branches, whereas the branches bearing female flowers are more erect, the flowers being in dense clusters. I have only male plants in my current garden but both occur together in many areas around town. Check them out now for flowers. They are wind pollinated. After fertilisation, fan-shaped leafy bracteoles become enlarged and surround the developing seed.

<p>The male flowers often have a pinkish colour and produce lots of pollen, often a magnet for bees.</p>	<p>The female flowers have sticky styles protruding in order to catch pollen shed into the wind by the male flowers.</p>	<p>The small seeds develop on the female plants inside fan-shaped bracteoles.</p>

Old Man Saltbush is one of the most commonly utilized forage shrubs in Australia. It provides a useful forage resource particularly in times when other feed is scarce and has been planted on both saline and non-saline soils. Its drought tolerance has allowed it to be grown in areas of particularly low rainfall. I have seen paddocks of it in South Australia.

The seeds from the plant are a traditional food source for many Australian Aboriginal communities, both consuming them on their own and as a component of meals. The bush foods industry is promoting Old Man Saltbush, suggesting that its leaves may be treated like a leafy vegetable, enjoyed blanched, sautéed, wrapped around meat or fish, used in salads, or for stuffing poultry. Alternatively, they may be dried and used as a herb or sprinkle. Grubs found in the roots were eaten either raw or roasted by Noongar people, and the leaves and roots were mashed and boiled with water, to bathe skin sores wounds and burns, while early settlers reportedly drank the same decoction to treat scurvy. It is not mentioned in Peter Latz's "Bushfires and Bushtucker" book, so I guess it was not used much locally.

*A. nummularia* is also used as a windbreak, stock shade, crop shelter-belt, screen or hedge, firebreak, erosion control and soil binder particularly for stabilising sand dunes, as well as rehabilitating eroded or scorched soils.

Some information from Wikipedia; The Native Shop; Tuckerbush; Keys.lucidcentral

## Managing fire to promote ecological health at Newhaven

A talk presented on 8 September 2021 by Joe Schofield, South East Regional Operations Manager for Australian Wildlife Conservancy in the NT. All photos Josef Schofield/AWC. Maps and figures by AWC.

Report by Rosalie Schultz. This was a follow-up to the presentation “Newhaven Wildlife Sanctuary - An introduction to its natural values, history, and conservation programs” at the ASFNC May 2021 meeting.



Joe Schofield and his partner Danae Moore lived at and cared for Newhaven Wildlife Sanctuary on behalf of the Australian Wildlife Conservancy, from August 2007 to mid-2019. He described how they have learnt about fire management during their time there.

Before 2007, when Newhaven was a pastoral property, all fire was thought to be destructive and dangerous with the accepted procedure being to extinguish all blazes as quickly as possible.

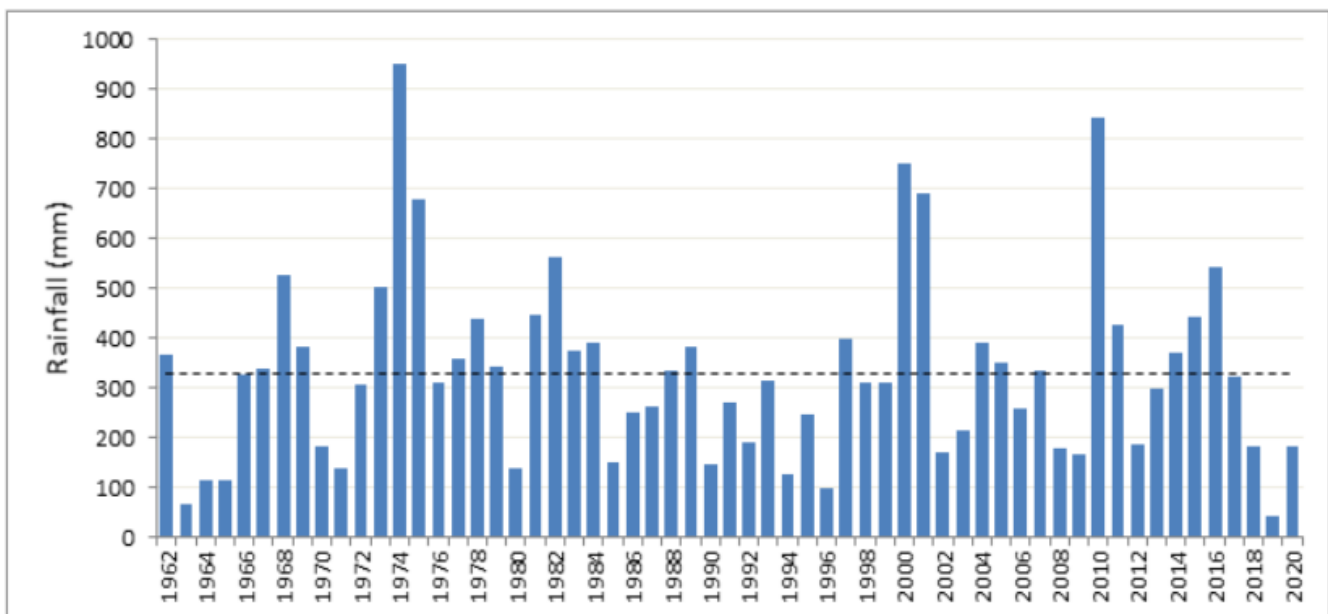
Increasingly over the past 40 years, non-Aboriginal people have recognised that fire is a vital component of Australian landscapes and ecosystems.

Since AWC has taken over management of Newhaven, managers work with fire as part of the natural environment.

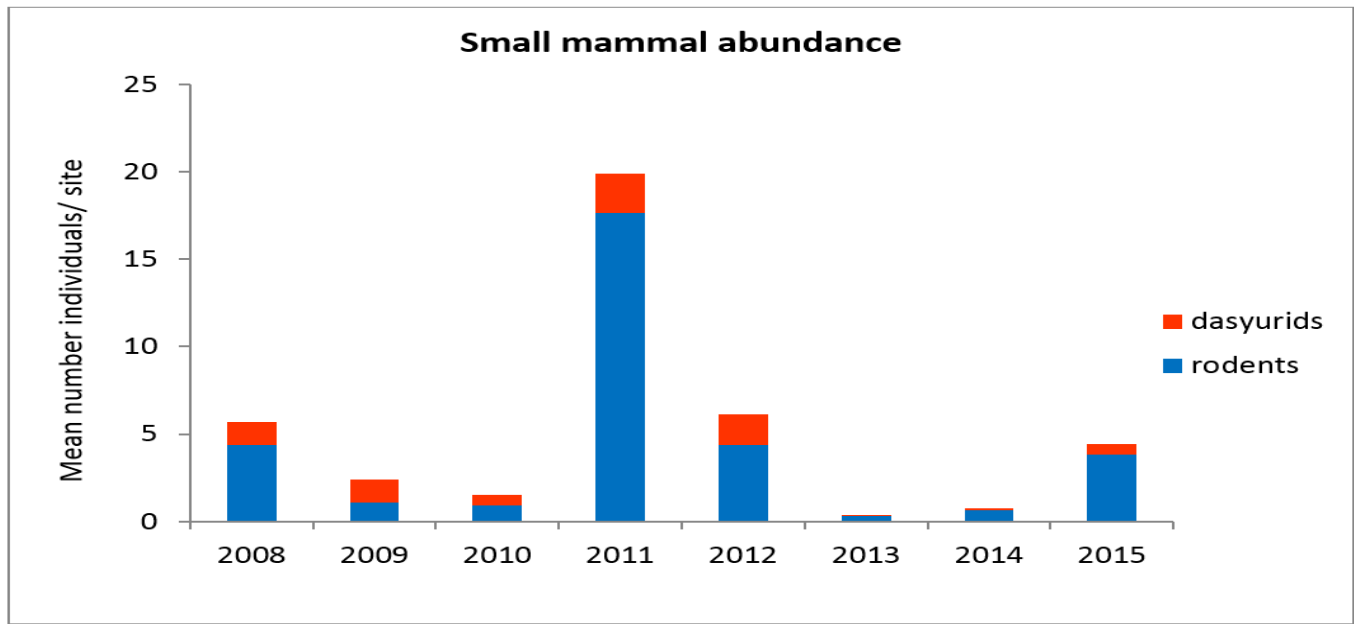
### The Newhaven Fire Story:

1. Australia's arid zone is characterised by dramatic rainfall driven cycles.
2. Fire management is strategically planned and delivered.
3. Fire patterns are measured to assess the success of AWC program and the health of country.

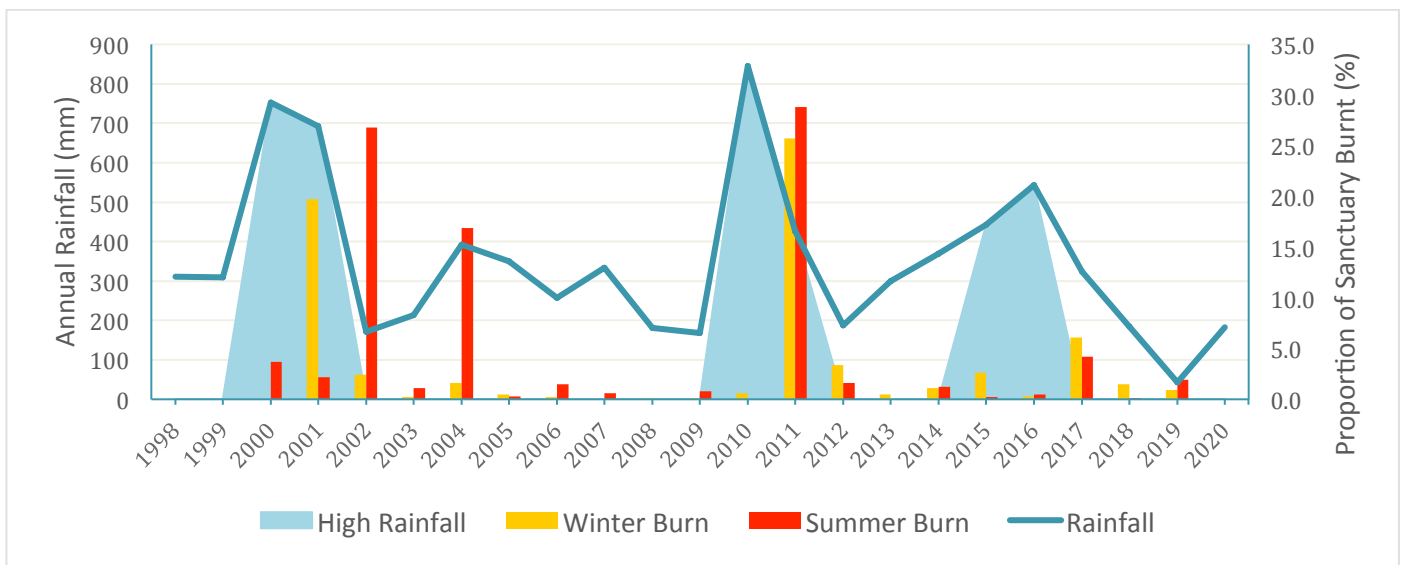
Rainfall throughout arid Australia is unpredictable and widely varying from year to year, driven by El Nino and La Nina events. Half a century of annual rainfall records at Newhaven are shown here, the dotted line indicating the mean annual rainfall:



After rains there is a growing abundance of life, including plants, herbivores and then predators. This graph was generated from results of small animal surveys, regularly undertaken on Newhaven.



The boom period after the rain increases fuel loads, so rainfall periods are followed by fires as shown in graph below:



Care of arid lands depends on control of fire to avoid vast areas being incinerated by hot summer blazes. Aerial photos from the 1950s show how Pintubi people managed their Country this way. They lit thousands of small fires that created a mosaic landscape of areas of different times since they were last burnt. This prevented the huge burns that may have been a feature of the region when it was managed as a pastoral station. Fear of fire may have been both the cause and result of these massive conflagrations.

Strategic burning at Newhaven aims to protect the property and support AWC’s conservation mission. Fire management involves prescribed burning in the cooler winter months to create a patchwork of post-fire regeneration ages. This can limit the spread of wildfires and protect patches of crucial old growth habitat.



A fire management training course held on Newhaven Wildlife Sanctuary. Drip torches are in the foreground.

Each year an annual burn plan is developed, based on fire history, distribution of threatened species, the need to protect infrastructure, and forecast conditions. Up to 130 small scale burns are conducted from April to September to create patches of low fuel and to maintain a mix of vegetation age classes. The fires are lit in many ways, from dropping matches on moist spinifex, drip torches, through to dropping incendiaries from helicopters. The motive is to break up the fuel continuity of spinifex sandplains and dunefields. Gentle fires trickle around the vegetation, reducing fuel load and the potential for big destructive fires. It is crucial to maintain patches of old-growth (long unburned) areas within the landscape, to provide shelter and food for wildlife.

Newhaven is dominated by spinifex sandplains and dunefields. They cover 75% of the property. Spinifex contains highly flammable oils and resins and is maximally flammable about 7 to 10 years after the last fire, depending on the rainfall.



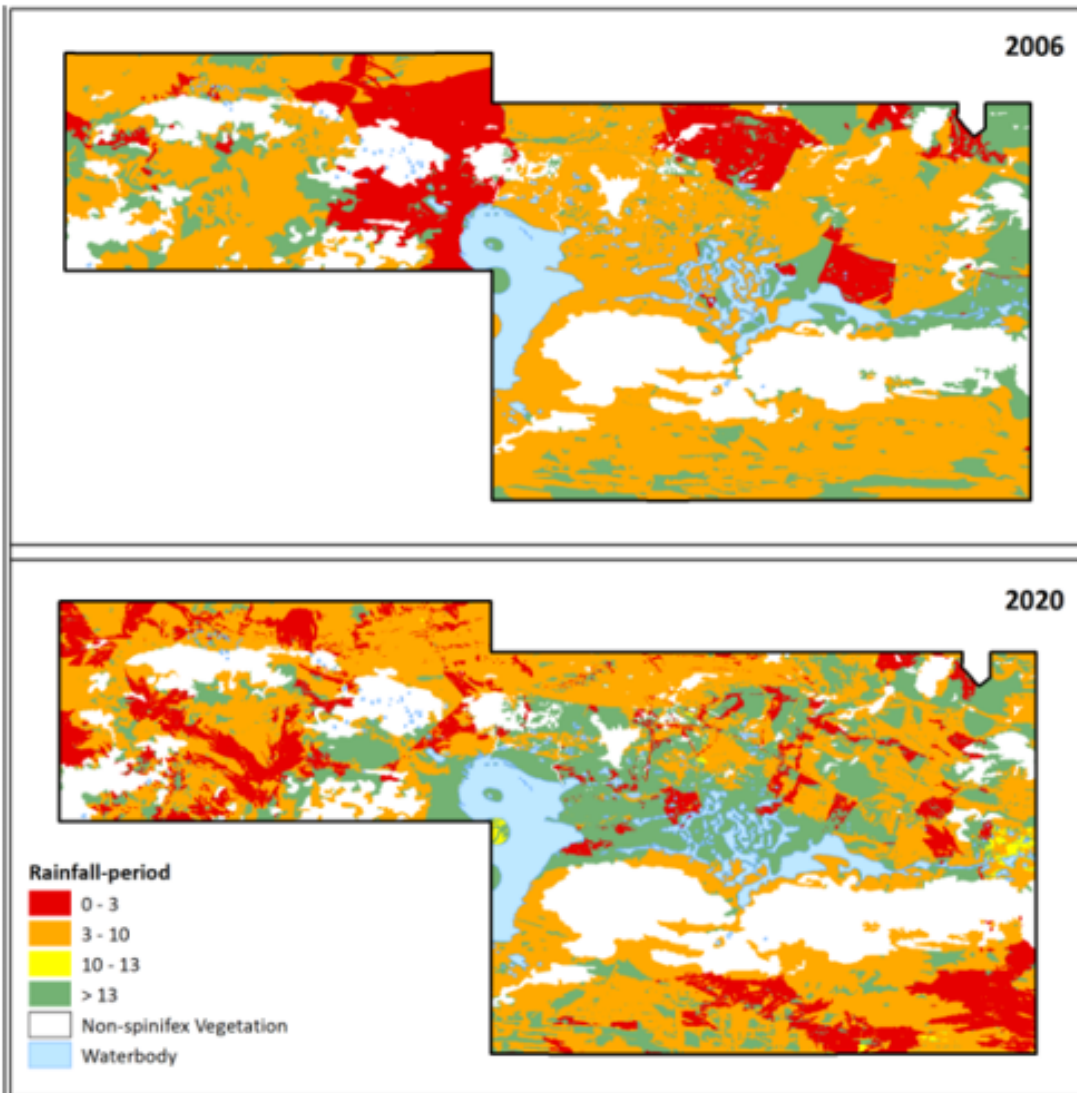
Carefully planned and executed small burns in winter months are an integral part of land management on Newhaven.

Severe summer wildfires have the potential to burn intensely across large areas, and are a major threat to biodiversity. If fires occur during summer months, they will ideally be limited in size by prescribed burns and a variety of fire seasonality is accepted as ecologically important. Large summer fires however, and those that have the potential to negatively impact fire sensitive vegetation or threatened animal populations, will be managed through suppression to reduce these impacts.



This fire started by aerial incendiaries trickles across the spinifex plain.

This well-planned fire regime creates a pattern of different fuel ages, across the landscape; see the comparison below of the spinifex vegetation age classes in 2006, pre-AWC management and how, in 2020, the areas of different aged spinifex are so much more scattered and finely scaled.



This helps to achieve the AWC conservation goals of ecological health as well as hazard reduction. Thanks Joe for this interesting and important presentation!

I also look forward to seeing how this fire management is also contributing to the natural beauty at Newhaven.

## Geology on and from Anzac Hill with Anett Weisheit on Saturday 25 September Report by Lee Ryall



Anett leaning against the cutting. In the foreground is the gneiss, while the paler rocks at the back are pegmatite



Platy structure of gneiss seen from underneath



Granite vein in gneiss



Above: Anett showing a large feldspar crystal.  
Right: Boudinage in the gneiss

### The outcrop

We started with an examination of the outcrop in the cutting at the base of Anzac Hill. We viewed it first from over the road, admiring the way the rocks dipped to the west, and noting the two different rock types, clearly different from each other, with different angles of dip.

Close up, the darker of the rocks proved to have a platy structure shot through with paler veins and peppered with elongated, white cats' eyes or 'augen'. This was enough to classify the rock as a gneiss (pronounced 'nice') The minerals comprised the feldspathic augen, little strips of translucent grey quartz and biotite mica, the same minerals that are found in granite. The Gneiss, then, was a metamorphosed granite-changed as a result of the heat and pressure some 15 to 20 km under the surface of the crust.

The same minerals were present in the veins- formed when a fluid intruded into the structure of the gneiss and cooled in place. We saw two sorts of veins- some obviously had flowed in between the platy surfaces in the gneiss, whilst other 'veins' formed a succession of broken sections. This is known as 'boudinage', a word meaning sausageification because of the string of sausages effect. These boudins were once normal veins but got their shape as the gneiss underwent further deformation.

The relative chronology of these we could deduce was that the straight, clear veins were formed later than the gneiss, and the boudinage before the gneiss had finished deforming.

The large pale masses intruding into the gneiss comprised similar minerals to the gneiss- potassium feldspar (K-feldspar), quartz and micas. This intrusion is known as a pegmatite and the crystals in a pegmatite are typically much larger than those seen in a granite or a gneiss. Anett pointed out a massive crystal of potassium feldspar, a pink mineral common in Alice

Springs, as well as some tiny crystals of garnet. A pegmatite may pick up accessory minerals in its rise to its resting place such as garnet, tourmaline, or even gold. This one had several sections where the mica glittered, a silvery muscovite, in contrast to the dark biotite of the gneiss. The way it had intruded into the host rock, including the slight difference in dip angle, indicated that it was younger than the gneiss.

To the east of the pegmatite, the gneiss was much darker than on the western side, possibly indicating that this section of the original granite had been higher in iron than the other exposure. It is also possible for an intrusion to affect the rock where it intrudes.





The view from the top

From the top of ANZAC hill, we could see the type section of the Sadadeen gneiss we had inspected below, in the rolling hills to the south-east. The type section is where the name of the rock is given and its characteristics defined. Anett pointed out how to distinguish hills of gneiss (elongated, often ridged) from those of Alice Springs granite- rounded and somewhat blocky. Even when they occur as aspects of the same hill!



Sadadeen gneiss type hills in front of hills topped by heavitree formation.

She then talked about the absolute chronology of the rocks. This is established at the microscopic level. The instant igneous rocks form, the uranium present in the zircon crystals starts to decay at a specific rate through a number of steps into lead, which is stable. It does this very slowly, so by establishing the ratio of lead and uranium, a date can be worked out for the birth of the rock, give or take a million years. On this basis the Sadadeen gneiss has been dated at 1750 million years old. The Alice Springs area is at the southern edge of the North Australian craton.

Before we left the hill, we had a look at the Heavitree quartzite, which isn't actually quartzite. The familiar red rocks, sitting on a base of Sadadeen gneiss are not quartzite (sandstone which has been metamorphosed by heat and pressure), but are sandstone. The sands were laid down roughly 1000 million years ago in the Amadeus basin by a shallow sea and compressed over time. They were not only compressed, but invaded by a silicic fluid which filled the pores between the grains of sand, a process known as silicification, which hardened the formation. The formation is now known as the Heavitree Formation and was raised up during the Alice Springs orogeny. Interestingly, it sits on top of the Sadadeen gneiss, so we are looking at approximately 750 million years of missing geological history: an unconformity.

Thanks, Anett, for sharing your wide-ranging knowledge so freely. It was an informative and enjoyable morning.





A few ASFNC photos from 2006 and 2007. How many people and places can you recognize?