



June 2016

Alice Springs Field Naturalists Club Newsletter



This Blue-horned Snail *Pleuroxia adcockiana* came out with the recent rain. One of our small native snails, its shell is only about one centimetre across. It spends most of its life sealed up inside its shell, only coming out when it rains. Photo: Barb Gilfedder

Meetings are held on the second Wednesday of each month (except December & January) at 7:00 PM at Higher Education Building at Charles Darwin University. Visitors are welcome.

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NEWSLETTER

The next newsletter will be July 2016.

The deadline for the next newsletter will be 23 June.

Please send your contributions to Barb Gilfedder: bjfedders@gmail.com

ALICE SPRINGS FIELD NATURALISTS CLUB

- Sun 29 May** **Winter count of birds at Alice Springs Sewage Ponds.** Counters and scribes needed. Meet at birders gate off Commonage Road at 8.00am. Wear Hi-vis jacket if possible and closed shoes. Please contact Barb Gilfedder on 8955 5452 bjfedders@gmail.com
- Wed 8 June** **ASFNC meeting** at Lecture Theatre in Higher Education Building at CDU at 7.00pm. Speaker – **Lisa Nunn** 'Wildlife around Old Andado area'
- Sat 11–Mon 13 June** **Old Andado**, sand dune trip. Camp 2 nights at Old Andado homestead (\$10 per night) and explore the area. Meet at 9.00am at 80kph sign on Santa Teresa road just after the airport roundabout. Bunkhouse accommodation (\$20 per person) available at Old Andado but you need to book with Meegan Sullivan info@oldandado.com.au or 0411667110. Leaders: Neil and Leigh Woolcock, neilwool48@gmail.com
- Sat 18–Sun 19 June** **Lake Lewis** – Leave Saturday afternoon, camp at Tilmouth Well Roadhouse on Saturday night, drive into Napperby Lakes area on Sunday. Eat at Tilmouth Well restaurant on Saturday night if you wish, bring food for breakfast and lunch on Sunday. Leader: Barb Gilfedder bjfedders@gmail.com
- Sun 26 June** **Maloney Creek fossil hunt.** Leader: Lee Ryall ryall.lee8@gmail.com
- Sat 9–Sun 10 July** **Arltunga trip** – overnight at Ambalindum. Leaders: Charissa Allan charissa.allan@hotmail.com and Rhondda Tomlinson rhondda.tomlinson@bigpond.com
- Wed 13 July** **ASFNC meeting** at Lecture Theatre in Higher Education Building at CDU at 7.00pm. Speaker – **Colleen O'Malley** "Kakapo population recovery - 123 birds and counting! Nest minding on Anchor Island during the 2016 rimu and beech mast".
- Sun 17 July** **Cycle on new Bicycle tracks** through Alice Springs Desert Park. Meet at 8.00am at Flynn's Grave. Finish with a coffee at Lawrence's, 2 Battarbee Street. Car ride back to Flynn's Grave available afterwards. Leader: Jim Lawrence jim.lawrence.asp@gmail.com
- Sat 23-Sun 24 July** **Old Hamilton Downs Youth Camp** – Xmas in July – Leaders: Wendy and Ian Mann wikks@gotalk.net.au
- Sat 30 July–Mon 2 Aug** **Newhaven Reserve** 2 or 3 nights camping, extended either way by personal choice. Leader: Barb Gilfedder bjfedders@gmail.com

AUSTRALIAN PLANTS SOCIETY ALICE SPRINGS

Contact: apsalicesprings@yahoo.com.au

- Sat 28 May** **APS Frances Smith Memorial Park - Walk & Talk.** Meet at 9.00am at the car park on Kurrajong Drive. Stroll through the Frances Smith Memorial Park and Community Garden. Joining us will be family and close friends of Frances' to share memories and stories. BYO morning tea.
- Sat 4 June** **APS** - The effect of fire on the form of **River Red Gums** with **Erin Westerhuis** (CDU) and **Grant Allan** (Parks and Wildlife). Meet at 3.30pm at Simpsons Gap car park. There will be a walk and talk looking at the effects of fire on *Eucalyptus camaldulensis subsp. arida*. Erin will provide an introduction to her PhD that she has just begun.
- Sat 1 and Sat 2 July** APS Stall and display at Alice Springs Show. Don't miss this wonderful display of Native flowers. Volunteers required to man the stall. Contact Doug McDougall stenocarpus75@gmail.com

BIRDLIFE CENTRAL AUSTRALIA

Contact: birdlifeca@gmail.com

Wed 22 June

Meeting 7.00pm in Education Room at Alice Springs Desert Park.

Alice Springs Field Naturalists Club Committee Members

President	Barbara Gilfedder	8955 5452	Public Officer	Rhondda Tomlinson	8953 1280
Vice-President	Lee Ryall	8953 6394	Property Officer	Rosalie Breen	8952 3409
Secretary	Charissa Allan	0400 343241	Committee Member	Connie Spencer	8952 4694
Treasurer	Neil Woolcock	8955 1021	Committee Member	Claire Meney	0448341795
Website and Newsletter	Pamela Keil	8955 0496.			

The Joy of Fossils. Presentation by Lee Ryall at ASFNC May meeting. Report by Michael LaFlamme.

We often think that creatures which lived millions of years ago are still in the past. We rarely consider that their bodies and traces surround us today. Lee Ryall's presentation on The Joy of Fossils (*fossils*, "obtained by digging") showed how the amazing stories of those creatures survived, and now create a window into the history of life from Gondwana to Australia that we can see and touch.

Lee opened her talk describing how the remains (*body fossils*) of animals, plants and other organisms from long ago, and traces of those organisms (*ichnofossils*), are preserved through a variety of mineralization processes.

Trace Fossils

- Trace fossils found near Alice Springs include *Cruziana*, a trilobite scratched out the ground in the Stairway Sandstone of Mount Maloney, in the Ordovician era (400mya). Sand then filled the scratch marks, and the ground later lifted up and turned over.
- In north west Scotland is the famous Pipe Rock, closely-packed straight tubes or *skolithos*, made by Cambrian-era polychaete worms burrowing in shallow waters near the ocean shore. Pipe rock is also found at Maloney Creek in the Pacoota Sandstone. (See photo accompanying Owen Springs article Page 8. Ed.)
- *Coprolites*, animal dung, provide evidence of what the animals were eating. Their original composition was replaced by mineral deposits.
- Traces that are further afield are the famous dinosaur footprints at Dinosaur Stampede National Monument in Queensland. Here, the footprints of a group of dinosaurs crossing a mudflat were preserved when the water rose and covered tracks with sand that was compressed to form rock.



Mount Maloney Stairway Sandstone *Cruziana*

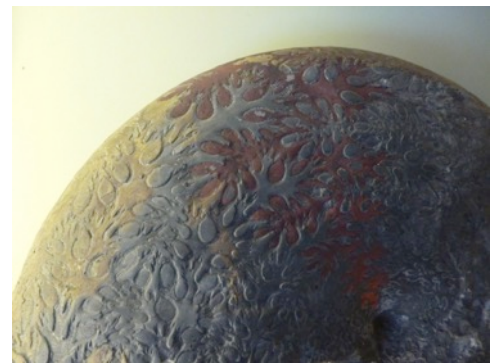
Body Fossils

Body fossils are less likely to be preserved intact, due to geologic movements that result in the remains being transported, disarticulated, buried, and preserved through various processes. Preservation of an animal's whole body is very rare, but examples include insects in amber or fossilized tree resin (the oldest known is ~230mya); ice age animals frozen in ice; and animals that are mummified by drying in desert caves such as Naracoorte in South Australia.

The other methods of preservation happen when bodies are turned to stone. This happens through several processes.


Phylloceras (Ammonoid cephalopod) segment on right.

- Permineralization happens when mineral-rich water fills the pores in hard tissues, and the resulting fossil contains much of the original material.
- Replacement happens when the organic material is replaced with minerals such as calcite, silica, pyrite and hematite. This can happen slowly to preserve microscopic detail
- Moulds and casts occur when an organism lies in sediment. If the sediment hardens and is not filled, it creates a mould. If the mould is then filled with sand, clay or minerals, it creates a cast. *Ordovician seabed below is a cast from a mould.*



- Carbonisation happens when soft tissues are buried in in low-oxygen environments, and the carbon in a tissue is preserved.

In unusual locations, sedimentary deposits enable the preservation of large numbers of soft-bodied organisms and traces that are not preserved elsewhere. These deposits are called *Lagerstätte* and are important because they provide a record of ancient biodiversity and ecological communities. Major *Lagerstätte* and their types of preservation include:

Period	Location	
Precambrian	Bitter Springs South Australia (1000mya) microorganisms preserved in silica; Ediacara Hills SA (550mya) casts and moulds of early multicellular organisms living on microbial mats preserved in sandstone.	
Cambrian	Burgess Shale, British Columbia, Canada (508mya) many species of the Cambrian explosion preserved as carbon films; Emu Bay Shale, Kangaroo Island South Australia (513mya), famous for trilobites, preserved as carbon films. <i>Emu Bay dig pictured on the right</i> Chengjiang biota, China (515mya), worlds most important site for early multicellular vertebrates, preserved as aluminosilicate films	
Ordovician	Beecher's trilobite bed in New York (460mya) famous for detailed pyrite preservation, enabling x-ray study!	
Devonian	Gogo formation, Kimberley Western Australia (380mya), anoxic seafloor preservation of a reef community with tissues as fragile as nerves and embryos Canowindra, New South Wales (360mya) placoderm fish site	
Jurassic	Sohlnhofen limestone formation, Germany (145mya), very detailed preservation of many taxa in anoxic carbonate mud, such as <i>Archaeopteryx</i> and <i>Rhamphorhynchus</i> . <i>Rhamphorhynchus longicaudus</i> below	
Oligocene-Miocene	Riversleigh, Queensland (25-5 mya), World Heritage Site of 200 locations with 20my record of many mammals, birds, reptiles and amphibians with 3-D preservation in limestone	



Lee said that studying fossils “gives you a sense of proportion. It enables you to envisage life long ago, for example through seeing the way baby dinosaurs track in and out of the adults as the group travels.” Because fossils are often used to date rocks, Lee gave a timeline of the emergence of life as preserved in fossils, with important dates in the formation of central Australia:

mya	Event
3500	Early life as carbon filaments of bacteria, fossilized as stromatolites
1500	Basement sedimentation in central Australia
800-760	Heavitree Quartzite sands
750-635	Glaciation (snowball Earth)
635-542	After Cryogenian (frozen) times, <i>Ediacaran</i> life, the first clearly multicellular organisms in the fossil record, radiated (named after the Ediacara Hills in South Australia).
550-535	Petermann Orogeny
522	Earliest trilobite fossils
480-460	Larapinta Seaway
470	Maloney Creek, Ordovician invertebrates entombed in the Horn Valley Siltstone (gastropods, brachiopods, nautiloids, orthoceras, trilobites)
467- 23	Stairway Sandstone (deposited in the Larapinta Sea) fish fossil beds with 22 species including fish scales from <i>Tantalepsis gatehousei</i> - some of the oldest jawed vertebrates known, body armour belonging to <i>Arandanspis prionotolepis</i> , an ancient jawless fish.
455 on	Alice Springs orogeny
250	Permian mass extinction
140	Gosses Bluff asteroid impact
65	Dinosaur extinction
8	Alcoota fossil bed (giant birds, a thylacine, a marsupial lion, diprotodons, kangaroos, bandicoots, possums, other marsupials and small birds and the claws of <i>Baru</i> , the mega-crocodile).



Baru claw found at Alcoota fossil bed

Before Lee’s talk, I believed that due to aerobic decay and chemical destruction, I would leave no lasting evidence of my existence. Now I know that if I want creatures far in the future to exhibit me as an exemplar of *homo sapiens*, my survivors should bury me in low-oxygen mud, the finer the sand grain the better.

What is growing in the Todd River May 2016

– Photos and text by Rosalie Breen

This time I looked at the growth in the Todd River at Middle Park upstream from St Philips where the water collects and there was still water at depth below sand surface, evidenced by euro diggings.

The majority were *Ammannia multiflora*, and a soft green herb *Pluchea rubelliflora* with small white compact daisy heads. Others included the aromatic deep blue flowered *Stemodia viscosa*. Nardoo grew on the edges against the bank, a number of tiny River Red Gum seedlings were trying to recolonise the riverbed.



The *Ammannia* (both pictures) was most interesting. Common name is Jerry Jerry, though it is not common in NT. The younger plant was upright with clusters of dark mostly red berry type fruits hugging the stems and branches, looking rather hostile. Green leaves in pairs, jutted out almost at right angles to the stem, and in older plants these became red pink, like flowers, giving an overall impression of red. Unfortunately it was too late to see any flowers.



Wigleys Waterhole to Junction Waterhole and back

Connie Spencer: Saturday 14 May 2016. Distance 6.22 km. Time 4hrs 46 minutes! Not exactly a cracking pace, but rather, a very relaxed hike with no time constraints except maybe darkness. We stopped when and where and for as long as we wanted and Gavan was very accommodating with our dilly-dallying.

It's too hard to pick a highlight from the warm glow of the rock walls, calming reflections, impressive rock formations, curious rocks, trees with a story and panoramic views of the MacDonnell Ranges. Just wonderful to be out amongst what I love about central Australia and with the best company.

Rhondda Tomlinson: My alarm went off at 5:45am. I did say to myself, "Just 5 minutes more" but I knew to get moving straight away. The morning was cool but with bathroom and breakfast dealt with I headed to the Breen household. Gavan and Rosalie were about set to walk out the door. We picked up Beth Hansen and Connie Spencer met us at the Sargent Street sign.

We headed down the track to Wigleys and there were several big puddles of water to be negotiated around. (Later someone commented that there was more water on the track than in the river surprisingly as the previous weekend we had had quite a bit of rain). Just as we started on our walk there was a bright glow from behind the ridge in front of and suddenly the sun emerged onto a perfect day for walking. We did come across some reflection pools that the newly risen sun created an added effect.

This was my first trip to Junction Waterhole and I was pleased to know that on our cross country return was also some new ground for the others. I can tell you it was definitely well worthwhile making the effort to make that first step to get out of bed and not only for the varied landscape but also the company. Thank you to Rosalie for organizing the walk and to Gavan for taking us all on board.

Beth Hansen: We set off from Wigleys Waterhole just as the first rays of sunlight were reaching the rocks along the edge of the river – lovely, rich colours and great reflections in several pools of water! Rosalie made the most of the pools, collecting samples of water to check out whatever bugs might be living there. Dingo tracks headed in the same direction as we were travelling and goanna tracks crossed our paths in several places.

We followed the Todd River bed north, over small to middle-sized to large patterned rocks, then over wider stretches of sand edged with river gums and ghost gums on the slopes and hills nearby. At our furthest point north, the dry Junction Waterhole, we made our way cross-country to the north-east, then south and west. This was the *real bushwalk* part of the trip. It didn't really matter whether it was the same route that Rosalie was trying to identify from a trip she'd done MANY years ago as we back-tracked and discovered little ferns & bees seeking water from the damp sand. We admired the vast views over to the ranges, the Gap, Mount Gillen and enjoyed making our own track cross-country.

Not the longest or fastest trip we've ever done, but a great way to travel !!



Photos from top of page by
Connie, Rhondda, Beth, Connie and Beth.

Walk to Mount Gillen Grotto – the magical mystery tour by Beth Hansen

(Not an Official ASFNC walk, but in the same spirit)

Tuesday 17 May and Colette successfully guided her little Suzuki on a road to the right off Ilparpa Road, along the fence line of the new sewage ponds, under the electricity wires to the left, right, left... with many more turns, bumps and scrapes... to the southern side of Mount Gillen. On board were Connie, Rosalie B., Colette, Marg C. and me on a magical mystery tour to a spot that Connie had named "Mount Gillen Grotto". Our ages ranged from 63 to 75.

The way up the steep gully was a bit daunting as we clambered upwards -- on all fours in parts -- over and around rocks, and tree trunks. On one of the many stops on the way up, Connie identified, Liverwort, Rock Fern, Blanket Fern and Woolly Cloak Fern tucked under a south-facing, small rocky overhang. Cypress Pines clung to the sides with a few smaller ones trying their luck in the centre of the gully.

Our destination was about two-thirds of the way to the top of the range, under the topographical marker that is also visible from John Flynn's grave on the northern side. What a wonderful experience sitting beside a grotto that could have been in a rainforest environment, while looking out over the Ilparpa area below. The bright green mosses and ferns in the grotto were fed by constant drips of water that made the rocky slope below VERY slippery and shiny black. None of us were in hurry to leave, although the trip down could have been a much faster one if anyone had slipped!



Photos from top:

- *The grotto is in the gully on the left of this group of three gullies.*
- *Looking upwards at the backsides of Connie, Rosalie, Colette and Marg as they clambered up the gully on all fours.*
- *Resting beside the grotto.*
- *Connie soaking up this scene of ferns, mosses and wet, slippery, black rocks.*
- *Turn from the grotto and this is the view south over Ilparpa.*

Owen Springs Trip by Louise Carmichael

Hi, Louise and Jo here and we accompanied Pam and Michael on the field trip to Owen Springs on the Anzac weekend. We were really surprised to see how much the land had regenerated after its life as a cattle station! ... even though the Buffel persists.

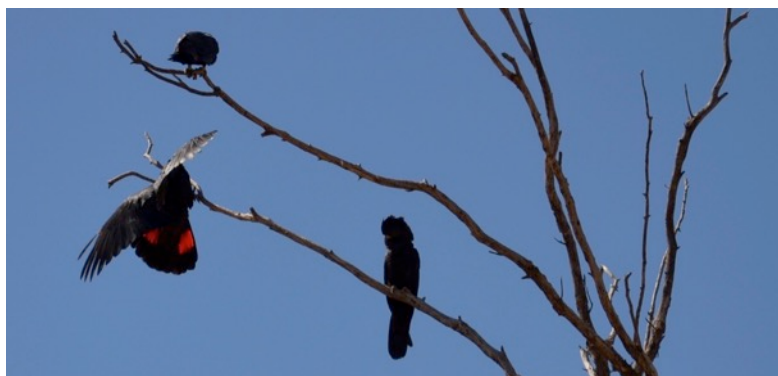
After Pam and Michael left us at the Hugh river we set up camp and it was only then we realized how deafeningly quiet it was, hardly a bird to be heard all afternoon and evening. It wasn't until the rising light heralded the sun, that we were visited by three crows who came to see if we had left any food around the camp. Heading further south we called into Redbank Waterhole where we were cheered on by a cacophony of birds - thirteen Black Cockatoos, a young, perhaps teenage, Eagle and nest and a group of

about 12 Budgies. The big Wedge-tailed Eagle we spotted on the highway with a road kill. Even though we are really just nature lovers without any knowledge to offer ... it was a beautiful introduction to the lovely slow paced and intensely fascinated view of nature presented by Pam and partner Michael.

Thank you so much Field Naturalists! By the way a work colleague today asked me what the "Field Naturalists" did (she has English as a second language). She asked did you run around naked hugging trees? I could only answer that I didn't see any evidence of that!



Big Wedge-tailed Eagle at roadkill - Louise



Red-tailed Black Cockatoos - always entertaining.



Wormhole fossil - Pam

Pam's Owen Springs Bird List

It was a breezy day, so we didn't get to see many little birds, but the parrot family and the raptors were definitely out and about! Also lots of uncooperative little birds cheeping from deep within some of the scrub, various thornbills and others, but the wind kept them hidden.

Pied Butcherbird	Major Mitchell
Australian Ringneck	Zebra Finch
Red-tailed Black Cockatoo	Cockatiel
Spiny-cheeked Honeyeater	Whistling Kite
Black-faced Cuckoo-shrike	Brown Falcon
Wedge-tailed Eagle	Nankeen Kestrel
White-winged (?) Fairy-wren	Budgerigar
Chestnut-rumped Thornbill	Singing Honeyeater
White-browed Babbler	Mistletoebird
Black-faced Woodswallow	Australian Pipit
Rufous Whistler	Crimson Chat
Magpie Lark	Crested Bellbird
Red-backed Kingfisher	Australian Hobby
Willy Wagtail	Southern Whiteface

Birds of the Eurobodalla Regional Botanic

Gardens By Jenny Purdie

During a recent visit to the NSW south coast we came across this gem of a botanical garden. As well as many plants of the region 150 species of birds have been recorded and a brochure featuring 50 of these birds is available. The gardens cover an area of 42 hectares with the formal gardens being surrounded by natural forest. There is a bird hide overlooking a waterhole.



Many of the birds are quite used to people. While we were having morning tea at the café we were surrounded by Superb Fairywrens, one of which decided to participate in our cheesecake. Unfortunately the males were all in moult so did not have their usual brilliant blue colour.



Our main purpose for visiting the gardens was to see the native flora and hopefully ID some of the photos I had taken along the coastal drive but we couldn't help but notice some of the birds including a White-throated Treecreeper, a family of Australian Wood Ducks, a Purple Swamphen, a Crimson Rosella and a Laughing Kookaburra.



ALICE SPRINGS FIELD NATURALISTS CLUB INCORPORATED
Minutes of the general meeting held at the Higher Education Building
Charles Darwin University – Wednesday 11 May 2016

Following a presentation by Lee Ryall on *The Joy of Fossils*. Thanks to Lee for moving her talk forward to replace Margaret Friedel's talk, at short notice. Thanks to Michael LaFlamme for note taking and Rosalie Breen for supper

Meeting opened at 8:30pm with a welcome to members and visitors.

Present/Apologies as per attendance book

Previous minutes accepted by the meeting.

Treasurer's Report

Balance(including petty cash) end of March 2016	\$2,619.82
Plus Income for April 2016	\$40.00
Less Expenditure for April 2016 - HDY Camp deposit	\$100.00
Plus Petty Cash	<u>\$18.60</u>
Balance end of April 2016	<u>\$2,578.42</u>

The treasurer's report was accepted by the meeting.

Correspondence In/Out

- Several enquiries from prospective members. Newsletters have been sent.
- Martin O'Neill from PowerWater is offering up to six sewage pond keys to ASFNC. The holders of these keys to be put through a more comprehensive induction course. They will then be able to take others who have gone through an online induction course into the ponds whenever they wish, following guidelines set out by PowerWater. Barb has currently asked for four keys for Rosalie Breen, Lee Ryall, Colleen O'Malley and herself.
- Tax Receipt received from The Field Naturalists Club of Victoria for our donation to the ANHM Fund.
- Doug McDougall of Olive Pink Botanic Garden asked if ASFNC would be willing to support Green Army youth working at OPBG by providing them with individual free membership in ASFNC. We would send them digital newsletters and allow them to attend meetings and activities. In return they would each give a short presentation to us. This would encourage them to be involved in a Community group, and give us a few more youthful members. After some discussion, it was decided to welcome them to ASFNC while they are working at OPBG. Barb to pass on to Doug.

General Business

- Pam Keil has updated the ASFNC website, adding this year's newsletters.
- Rhondda Tomlinson has recently returned from a trip to India and Singapore where she met up with former members, Helen Morgan and Raf Rashid. She gave them each a copy of the Central Australian Flora brochure. They were impressed.
- Pam Keil announced the Birdlife AGM Wednesday 25 May. 7 pm at Alice Springs Desert Park where she will be giving a Shorebird presentation.

Past Outings/Activities

- Sun 17 April – APSAS/ASFNC Heritage Week Market Stall went very well. Many thanks to volunteer helpers, Jim Lawrence, Rosalie Breen, Lee Ryall, Neil and Leigh Woolcock, Colleen O'Malley, Bec Duncum, Jenny Noble, Peter Jobson, Connie Spencer and Barb Gilfedder.
- Sat 23 April – Owen Springs drive with Pam and Michael. Other attendees – Louise Carmichael and friend Jo. Sheridan Martin (Ranger) met them at the old homestead and had old photos of the area to show and answered questions.
- 7-8 May - Two Mile on the Finke River cancelled as an official ASFNC trip due to lack of leader.

Future Outings/Activities

- Sat 14 May – walk from Wigleys Waterhole to Junction Waterhole in the river returning via vehicle tracks with some cross country. Leader Rosalie Breen. Meet 7am at the Sargent Street sign.
- 21-22 May – Alcoota Dig public weekend. Organiser Lee Ryall. Lee will send information to Barb to send to members.
- Sun 29 May – Winter Sewage Pond count. Meet 8 am. Members to let Barb know if attending as a counter or scribe.
- 11-13 June – Old Andado trip. A chance to explore sand dune country. Leaders: Neil and Lee Woolcock. Neil advises to book ahead if you wish to stay in the accommodation.
- 18 -19 June – Lake Lewis trip. Plan is to drive out Sat afternoon, camp at Tilmouth Well, perhaps eat at the cafe and then drive into Lake Lewis early Sunday for the day.
- 25 or 26 June – Maloney Creek fossil hunt. Lee Ryall leader.

Next Meeting – Wed 8 June. Lisa Nunn will give a presentation on *Wildlife around Old Andado area*.

Scribe: Lee Ryall

Supper: Rhondda Tomlinson

Meeting closed: 9 pm