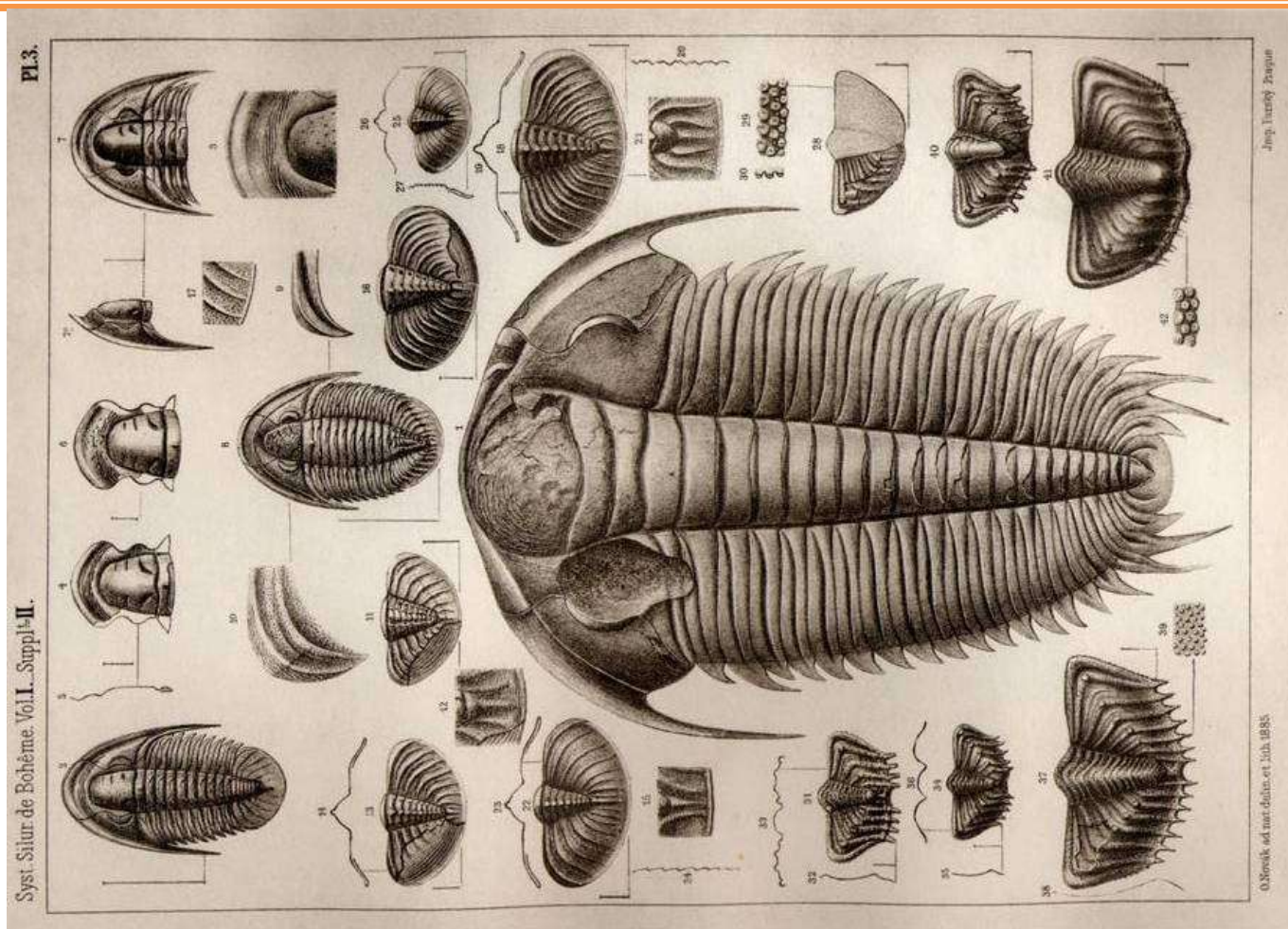




May 2013

Alice Springs Field Naturalists Club Newsletter



Trilobites. Drawn by Joachim Barrande in 1883. Plate 3 from "Système silurien du centre de la Bohême" Vol I Supplement II. Source, Wikimedia Commons.

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

Postal Address: P.O. Box 8663
Alice Springs, Northern Territory
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Web site:

<http://www.alicefieldnaturalists.org.au>

NEXT NEWSLETTER

The deadline for the next newsletter is **Friday 24 May 2013**. Please send your contributions to Pam Keil at pamelakeil@yahoo.com

MEETINGS

- Wed 8 May **ASFNC** Meeting 7.00 pm at the lecture theatre in the Higher Education Building at Charles Darwin University – Speaker: Michael Giacometti on his Simpson Desert trek
- Wed 12 June **ASFNC** Meeting 7.00 pm at the lecture theatre in the Higher Education Building at Charles Darwin University – Speaker Colleen O'Malley “Saltbush, Samphire, Bluebush, Copper burr – through the looking-glass”

FIELD TRIPS / ACTIVITIES

If you wish to take part in any of these trips or activities it is advisable to ring or email the leader of that particular trip beforehand.

- 3 – 6 May Long weekend, possibly including the Friday. Old Andado, Mac Clarke Reserve, Mount Dare, Dalhousie Springs and return either on highway, or Finke track. Leaders Neil and Leigh Woolcock. 89551021 neilwool48@gmail.com
- Sat, Sun
18, 19 May Larapinta Trail stage 10. Options for camping at Ormiston Friday night or accommodation at Glen Helen before the Saturday all day walk. Leaders Jill Brew/ Connie Spencer → **Cancelled trip. May be rescheduled. Please indicate interest.**
- Sat/Sun 22, 23 June Walk in Hugh Gorge Side Gorge, leader Colleen O'Malley: shrikestar8@gmail.com
- Sat/Sun 13, 14 July Probable date of Alcoota open weekend. Please note, this year people wishing to come will need to register their names beforehand so the team at Alcoota know how many people are coming. There may be some limit on numbers. Contact: Lee Ryall

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Please delete the xxx when emailing – their placement is an attempt to stop some spam emails.

April Speaker – Lee Ryall report by Colleen O'Malley

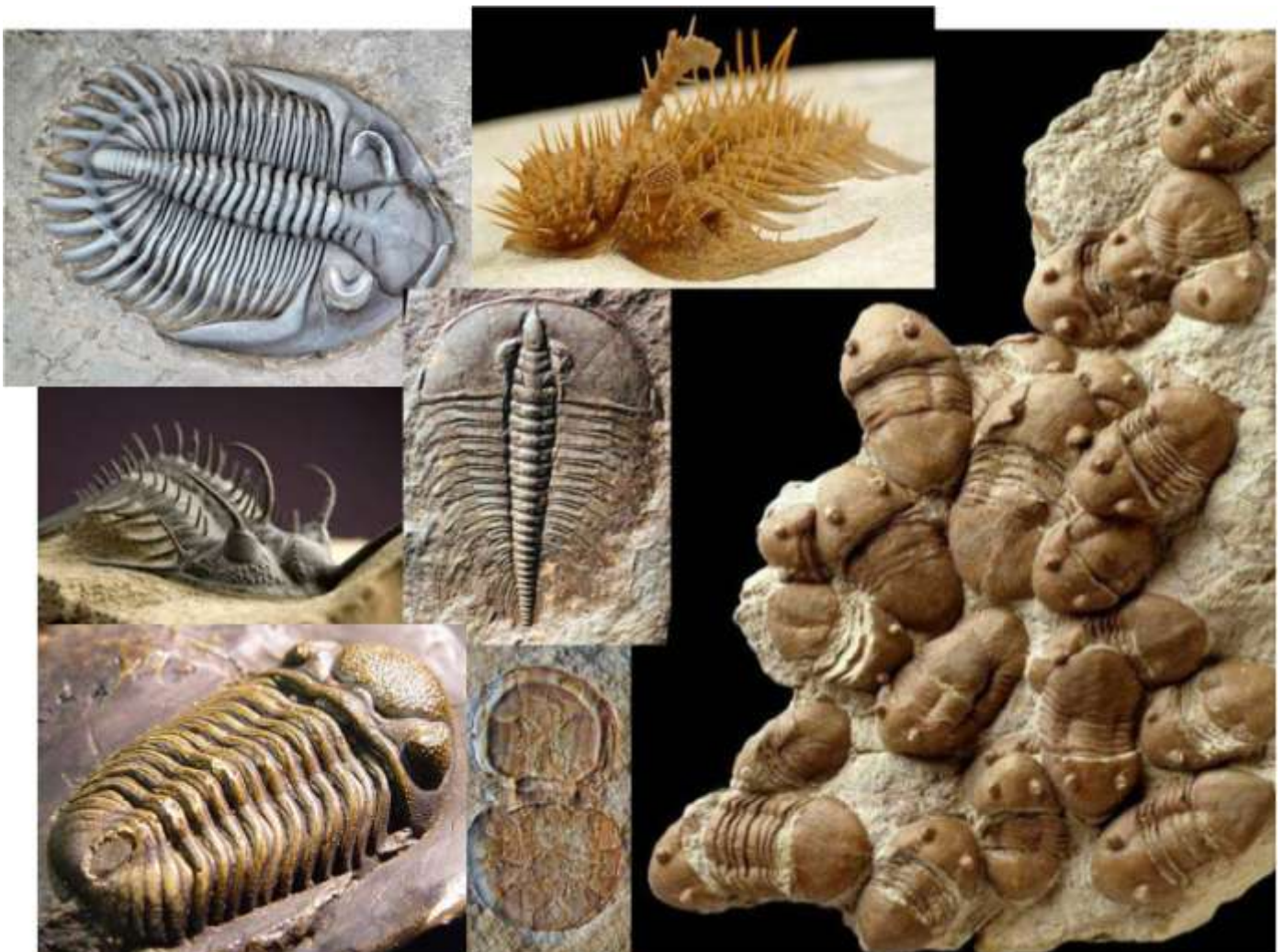
Trilobites – an intriguing insight

Most of us have seen a trilobite fossil and been fascinated by their form and wondered about their history, but few of us have the depth of knowledge about this intriguing group of animals that Lee Ryall does.

We learnt from her recent talk that the trilobites you might have been lucky enough to have fossicked from Maloney Creek were one of around 10 species that are known from the Horn Valley Siltstones that formed at Maloney Creek 478 million years ago. They are not the oldest trilobites known – with some fossils in Norway dating back 540 million years.

To see this in context Lee showed us a geological timescale in which formation of the Heavitree quartzite layer occurred about 900 million years ago and the Alice Springs orogeny (uplift of the Heavitree Ranges) occurred from about 450 million years ago – an event which effectively diminished the extensive Larapinta Seaway that formed between the Cambrian and Silurian periods. That seaway is essentially why we find trilobites in Central Australia.

The first complex life appears in the fossil record around 635 million years ago - this Ediacaran fauna (represented in Flinders Ranges in SA) consists of soft-bodied creatures that don't look like forerunners of the more complex life forms that developed during the Cambrian explosion. Another 100 million years of evolution passes before the first trilobite appears in the fossil record, but then there was fairly rapid speciation with thousands of genera (and unknown numbers of species) of trilobites occupying the world's oceans for the next 270 million years or so.



Trilobites are members of the Arthropoda phylum of animals and like all modern day arthropods they have paired jointed limbs, segmented bodies, hard exoskeleton. They ranged in size from huge creatures nearly a metre in length to others that were smaller than a match head. Their body structure had a Cephalon (head) section, and thorax and pygidium (tail) sections. However that doesn't even begin to describe the fascinating diversity of body ornamentation different trilobite species flaunted – spines of every imaginable shape seem to have been common amongst these animals.

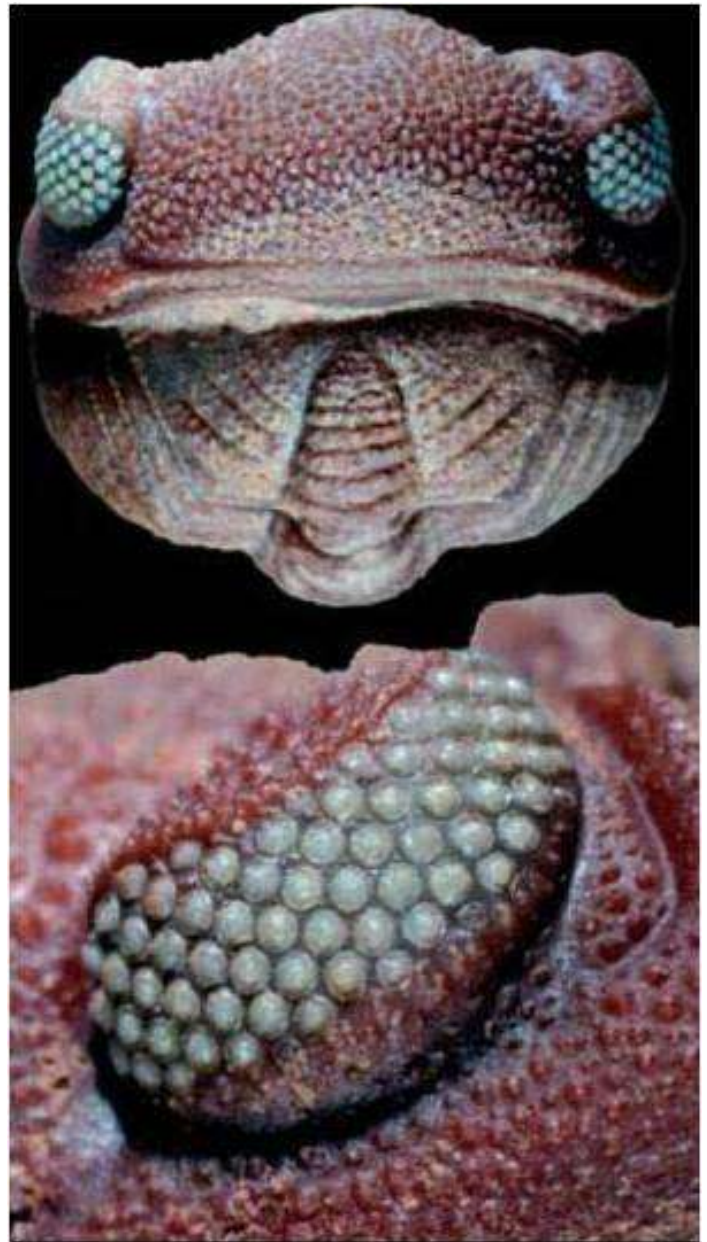
These body shapes probably helped them survive in the various ancient ocean habitats they colonized – some trilobites were plankton eaters, others grazers, scavengers, filter feeders or predators – some of the bigger trilobites dined on smaller species. Pretty much the only defence mechanism trilobites had from their predators (which also included nautiloids) besides these spines was their ability to enroll (imagine the rolled up form of a slater) which was probably pretty effective most of the time.

And their eyes – how amazing were they! Trilobite eyes were mostly made up of thousands of lenses of transparent calcite crystal. The pelagic ones in particular had huge eyes, others had eyes on stalks (sediment dwellers), no eyes at all (deep sea trilobites) or eyes with sunshades (diurnal ones that lived close to the surface).

Trilobites were very social animals and some species lived together in big groups – Lee showed us an image of 20 or so fossilized trilobites clustered together in the same rock.

The last of the trilobite genera that survived through to the Permian went extinct around 250 million years ago when a mass extinction event wiped out 85% of all sea creatures around 75% of all land mammals. An event that made way for dinosaurs – much over-rated creatures that eclipse trilobites in most young people's imaginations – but only because there's yet to be a Steven Spielberg take on *Ordovician Park* a yet-to-be-made movie in which cloned trilobites terrorize the holiday makers in some seaside resort. Watch this space!

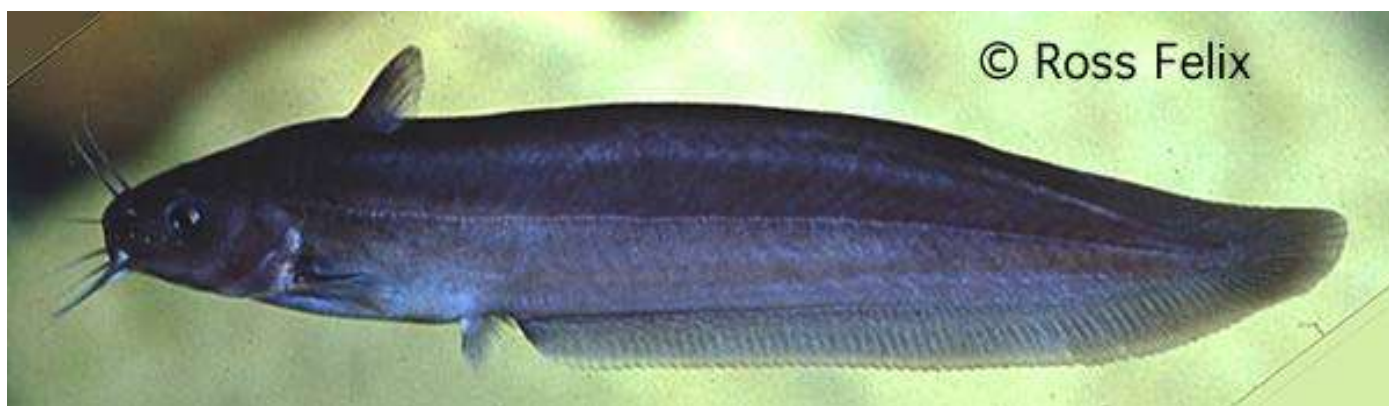
Lee's talk ended with most of us getting to look at her awesome collection of trilobite fossils and see for ourselves some of the body forms, eye structures and enrollment techniques trilobites displayed.



Dalhousie Springs research – short talk by Pam Keil, report by Colleen

Pam described the island biogeography research her American PhD supervisor and wife have been doing since the 1990s on fish communities in the springs system near Dalhousie. These springs were separated from the Finke River about 30,000 years ago, resulting in each spring having a different mix of about five native fish species – several of which are endemic to the springs system: Dalhousie Hardyheads (*Craterocephalus dalhousiensis*), Dalhousie Catfish (*Neosilurus gloveri*), Dalhousie Goby (*Chlamydogobius gloveri*), Dalhousie Mogurnda (*Mogurnda thermophile*), and Glover’s Hardyhead (*Craterocephalus gloveri*), plus Spangled Perch (*Leiopotherapon unicolor*) which does not appear to have been isolated from fish elsewhere in the Finke system for quite so long.

Their research has looked at species composition, habitat structure and species habitat preference at each different spring and shown differentiation between species composition of each waterbody and difference in where in the waterbody different fish are found.



From their research findings it appears that the system is quite dynamic with springs going extinct and new ones forming, but there also appears to be an issue with human intervention. Feral animal control measures that Park staff have put in place have resulted in denser vegetation structure around springs and this seems to be having a negative impact on fish diversity as habitat diversity within the spring is reduced when reeds and other vegetation invade shoreline and shallow water habitats. These changes seem to have led to fish species extinctions at particular waterholes and only two new colonization events have been recorded in recent times.

Pam urged those Field Naturalists who were intending to go on the Dalhousie trip to try to do some fish sampling or observations at different springs to see what is happening in these springs now.

For more information contact Pamela Keil for copies of the academic articles on Dalhousie Springs (contact details on p. 2).

Table 1. Comparison of population extinctions of five fish species at Dalhousie Springs, South Australia

Species	Number of springs		Loss	Gain	Net
	1990	2003			
Goby	30	18	12	0	-12
Gudgeon	21	19	3	1	-2
Catfish	15	14	1	0	-1
Hardyhead	10	11	0	1	+1
Perch	7	5	2	0	-2
Total	83	67	18	2	-16

From Kodric-Brown and Brown, 2007. “Conservation of desert springs”

Pinch Trip - Sunday 21 April 2013 - Report & Photos by Jim Lawrence



Bev, Stan & Connie, Ann, Rosalie, Jill, Rick & Bec (+ children Adam and quietly spoken Lara) were all early! We had to wait until 0800 to leave in case some body else turned up. Along the sandy track to the "old Maryvale road", Connie radioed her sighting of *Lechenaultia divaricata*, a Tangled something which is a wiry shrub with a white fan flower that always looks its best when the weather dry and hot. The soil there was perfect for it.

First stop was, as it turned out, was the Town Site for making the movie "Back To Woop Woop." Rosalie regaled us with her experience here as an extra. We then carried on further south to a dry and abandoned well. Thank you to the Ladies who held the barbed wire fence open for the rest of us to climb through to get a good look at it.

After back tracking toward Mt Ooraminna we turned east, driving over country that had been almost completely burned out and with dust clouds two metres high blowing along with us.

Pinch Bore had water in the trough and Ann mentioned at lunch that she had seen some finches. There was also a healthy but scarred Bush Orange. Jim explained about the workings of the water pumping machinery.

Shortly after we arrived at The Pinch. Most people had walked up and back before we had morning tea in the shade of the vehicles, as the Mulga was very thin. The road surface was uneven to drive on and of a reasonable grade. Forty horses were harnessed together to pull the boiler sited at the Arltunga cyanide gold treatment works up this cutting.



While driving on through the sandstone and quartzite ranges, Connie saw a cave that looked interesting so we had a bit of a walk to it and then drove on to a Coolibah shaded lunch spot in a deep creek bed near the end of the range. The strong breeze made the temperature bearable and kept the flies mostly to the east. There was quite a discussion during lunch about the merits of different fly repellents and Lara had questions about the white bones nearby. We were back in town by two o'clock.





Pinch river trip – photo by Jim Lawrence

Serpentine Chalet – 13th to 14th April – report and photos by Rhondda Tomlinson

Flynn's Grave was the meeting place for 3 vehicles. Wendy and Ian gave us the rundown on where we were going and suggested we stop at the first lookout to admire the amazing country, also as John is new to Alice, to give him the chance to see what lay ahead.



Wendy and Ian had previously done a reconnaissance trip to pick out the best camping spot.

Before arriving at our destination we stopped at the sight of the Chalet buildings. The Chalet was built in 1958/59 as a tourist venture but due to an on going drought and the more accessible Glen Helen and Ormiston Gorge areas the buildings were demolished in 1968. All that remains are concrete slabs and yellow taped off area with warnings about asbestos.

The campsite was excellent. John was soon wandering off with note pad and binoculars looking for birds. Ian said they had previously seen a flock of Major Mitchells and right on cue we had a squawking flyover of Major Mitchells. After setting up camp it was too early for tea so Wendy suggested we went for a short walk into the hills. It had cooled down and was just so nice to take in our surroundings, though must admit the Spinifex had a very strong needle and sharp bite.

A camp fire consisting of prunings from Ian and Wendy's block added to the atmosphere and the varied and interesting conversations. Wendy's construction and Ian's cooking produced an excellent steam pudding.

Morning, and after a leisurely breakfast around the campfire we packed and drove further down the track where, leaving the vehicles, we headed along the track. Connie was doing a plan survey while John looked to add more birds to his list. Jill and I happily ambled along enjoying such a perfect morning.

We did though realize we were under observation and just after leaving the Larapinta Trail cross roads they revealed themselves, about 5 or 6 Major Mitchells with a fly past and then landing in the tree tops to have breakfast - An amazing sight.





Proceeding up the valley and then some rock hopping we came to a depression which Ian said normally has water in, but was at present dry. Some people apparently have thought this was the referred to dam on the trail map which was built to service the Chalet – BUT, heading up further and rounding a bend we looked up and saw this huge concrete wall above.

I was one of the last to scramble up and before me was Connie sitting at the top looking down at a large area of water contained at the base of a narrow gorge surrounded by towering natural walls. A very distinctive water line could be seen way above the current water level. It was commented that it would have even been too dangerous a descent for even Rosalie to venture to take water samples – so, no swimming but a beautifully serene place to sit and chatter.



Back at the vehicles about 11am Connie and I decided to make a detour on the way home to look at the cycads at Standley Chasm and the rest wanted to go to an afternoon talk back in town.

We were heading back to the main road along the 4x4 track when Ian and Wendy came to a stop and Connie commented on the huge native orange tree off to the right. Investigation showed it still had some fruit and also a very, small but healthy patch of flowering mistletoe.



Added Note:

Connie and I were made very welcome by Ray at the Kiosk. The cycads' both male and female flowers are just about finished but an amazing abundance of seed has been deposited.

Postscript to Serpentine Chalet trip from Connie:

Ian had mentioned at the meeting before the trip that he was impressed with the variety of plant species in the area and although he didn't know what they were, Connie would! Well, there were heaps of question marks and not sures! The countryside is quite dry and so understorey plants are not in the best shape but larger trees and shrubs were looking quite healthy and vigorous. The following were the highlights for me: the Victoria Spring Mallee (*Eucalyptus trivalvis*) with its multiple red stems mixed in amongst broad-leaf varieties of Mulga (*Acacia aneura*). We came across a large upright Caustic Vine which because of its form has me confused and I'm not game to give a botanical name to it at this stage. There was a good crop of Sticky Bluerod (*Stemodia viscosa*) at the water's edge as well as a Cattle Bush (*Trichodesma zeylanicum*) in flower and Showy Indigo (*Indigofera basedowii*) although not so showy as it wasn't in flower. To top it off was the enormous Native Orange (*Capparis mitchellii*), even larger than the one we saw at Winnecke last year!

ALICE SPRINGS FIELD NATURALISTS CLUB INCORPORATED
Minutes of general meeting at Higher Education Building,
Charles Darwin University, Wednesday 10 April 2013

Following presentation by Lee Ryall on Trilobites
and Pam Keil on research at Dalhousie Springs.
Thank you to Lee and Pam and to Colleen O'Malley for taking notes.

Present: 26 Members/ visitors and 1 apology as per attendance book.

Previous minutes – accepted.

Business arising from the minutes:

- Standley Chasm. E mail correspondence with Colleen Mack continuing to try to arrange suitable time for a visit with Traditional owners.
- Altiora Insurance Solutions for Community Sector Liability Policy Insurance to be paid promptly.

Correspondence in:

- Heritage Week 13-21 April. Program of events. Forwarded to Members
- Invasive Species Council- Email re survey. Forwarded to Members.
- ALEC : Email re National Threatened Species Day on September 7. Asking if ASFNC would like to co host an event at the Ilparpa Claypans. This would involve arranging a walk. Barb and Connie will arrange this in the Intertexta forest or possibly other areas if there has been rain. Peter Latz and Paul Rilstone agreed to help, if here.
- Alice Springs Water Plan Implementation Meeting this Thursday. Forwarded to Members
- Bill Lowe: Talk on Friday by Charlie Carter re book on Land Management in Aboriginal times. Gathering Night Parrot stories on Saturday 20th April. Forwarded to Members.
- TERN Ausplots:Volunters requested for soil and vegetation studies. Forwarded to Members.
- WA Field Naturalist: Email giving password for our members to access their newsletter online.
- Card from Rosalie Breen expressing thanks for flowers received after operation.

Correspondence out:

- Thank you cards to Lee and Pam for recent talks.

Business:

- Marilyn Hall reported that NT Museum accepts specimens of dead birds/animals for taxidermy. She contacted them when Puntj found a fresh dead Tawny Frogmouth.
- Pam Keil reported that Eagle Encounters are now available at the Desert Park.
- Chris Watson said that there have been reports of unwell birds that have been poisoned by anticoagulants in poisoned prey. Treatable if got to Wildlife Rescue quickly enough.

Treasurer's Report:

Balance at 10/4/13 \$3560

Deposit \$56 for hats.

Debits : Insurance to be paid

Past Activities/Trips discussed:

- Successful trip to Glen Helen and Organ Pipes.
- Evening viewing of Spotted Nightjars at Albrecht Oval.

Future Activities

- 13-14 April Serpentine Chalet camp and walk. Wendy and Ian Mann.
- 21 April "The Pinch". Drive and walk led by Jim and Marg Lawrence
- 23 April Full moon picnic at Ilparpa Claypans. Cec Sutton.

Sightings:

- Emus at AZRI paddocks – Chris Watson

Next meeting: 8 May.

Speaker:Michael Giacometti on Simpson Desert Trek.

Scribe: Lee Ryall

Supper : Marilyn Hall

Meeting closed at 8-45pm