

Field Natter

Newsletter of Field Naturalists Club
of Canberra



OBJECTS: To foster an interest in an awareness and an understanding of nature

Meeting Thursday August 7, 2008 at 8:00 pm

(details on back page)

Mongolia—land of the blue sky

Presented by Dr Rosemary Purdie.

Thursday August 7, 8:00pm

Say 'Mongolia', and most people could name Genghis Khan but would be pushing hard to name five plants or animals native to the country. This talk will take you over Mongolia's grassy steppes and forested mountains, in a journey from Ulaanbaatar, in the east, west towards the neighbouring Altai Republic in Siberia, Russia.

Rosemary is an ecologist who has worked on land system surveys in western Queensland, natural and cultural heritage Australia-wide and natural resources management in the Murray-Darling Basin. Rosemary was a founding member of our club and has had a distinguished career in plant species description and identification.

and previously held the position of ACT Commissioner for the Environment. Fascinated by Central Asia, drawn to travelling 'off the beaten track', and having just returned from her second visit to Mongolia, Rosemary will give us a glimpse of Mongolia's flora, vegetation, animals and landscapes, and touch on the nomadic lifestyle and culture of the Mongolian people.



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AUGUST FIELD TRIP

Sunday, August 10: Red Rocks Gorge 10.00am - 2.00pm. Dierk Von Behrens will take us on an easy flat walk along trails from Kambah Pool to Pine Island. We will meet at 10.00am sharp at the Kambah Pool parking area. Bring lunch, water, sunscreen, hat, binoculars, camera and warm clothing. A car shuffle can be arranged from Pine Island back to Kambah Pool.

PLEASE NOTE— THE ARRANGEMENTS LISTED BELOW ARE STILL POTENTIALLY SUBJECT TO CHANGE

SEPTEMBER MEETING

Thursday September 4: Habitat Connectivity and other issues by Victoria Young from the Wilderness Society.

SEPTEMBER FIELD TRIP

Sunday September 7 .12 noon –4:30pm Molonglo Gorge near Queanbeyan for rocks, bird migration and rare plants

ADDITIONAL FIELD TRIP WITH FOG

Sunday, September 14: Joint field trip with Dennis Dyer in the Cooma region. Details to follow (see page 5).

OCTOBER MEETING

Thursday, October 2: Annual General Meeting & Members Evening including Sybil Free and Helen Carse speaking about their trip to the Northern Territory with the ANN group in May 2008. Also Alan Ford will give a short talk.

OCTOBER FIELD TRIP.

October 17—19

Whale Watching at Eden Friday October 17 to Sunday October 19. Whale watching cruise on Cat Balou leaving 8am Saturday returning around 12:30pm. As there are a number of bird trails in the area we can schedule Sunday morning for birding activities.

Please register interest by telephone to Sylvie Sampson on 6251-2524 before 1 August,

Australian Science Festival (16 – 24 August)

As well as the Geoscience Australia open day (see page 5), Canberra Ornithologist Group is running a bird walk at Jerrabomberra Wetlands on Sunday 24 August from 9:30 to 11:00am. As both venues are near to each other, perhaps you can combine the two.

The full program for National Science Week will appear in the Canberra Times on 13 August. Keep an eye out for other items of interest to field naturalists.

Talks at the Botanic Gardens

The Friends of the Botanic Gardens organises weekly talks from February through to November on Thursdays from 12:30 to 1:30 pm in the Lecture Theatre at the Gardens.

On 21 August Geoff Robertson will give a talk on 'Grasses: habits and habitats'. Grasses are not easy to understand, but by learning about some key features and habitat preferences, one can become knowledgeable in a short time. Geoff will look at some key local grassy ecosystems and the main grass families to be found in them.

Other talks coming up are:

23/10 Brendan Lepschi, 'The ACT PLant Census'

30/10 Ian Fraser, 'Parallel Journeys: Australia and South America'

6/11 Adrian Gibbs, 'How Evolution Works'

20/11 Peter Taylor, 'The National Reserves System'

Finding Fault with Canberra

Geoff Robertson

The Talk

Those members of FOG and the Canberra Field Naturalists who joined Dennis Dyer on either Thursday 3 July for his talk on Canberra geology or Saturday 5 July for his field trip were delighted by his simple and humorous explanation of the geology of Canberra. About forty people attended the talk and over twenty the field trip.

In the first part of his talk, Dennis, working from a great handout, gave an explanation of the geological time scale linking geological time periods and life forms together. In fact, geological periods are defined by their reference to life forms, e.g., Palaeozoic is the era of the trilobite. Terms such as Archaean, Proterozoic, Palaeozoic, Cambrian, etc. rolled off Dennis' tongue along with easy historical explanations of all these fascinating words.

In the second part of his talk, Dennis provided another handout showing a time line of the geology of Canberra, which was established in the Ordovician, Silurian and Devonian periods. During the Ordovician, the location of Canberra was at the base of an ocean where layers of sediment were gradually deposited, with most of the sediments being derived from the then east coast of Australia, located around Broken Hill. The earlier layers of Canberra rocks have been dated around 468 million years ago. In the early Silurian as tectonic plates shifted, the Ordovician sedimentary rocks were tightly folded and some were exposed at the surface. Largely through the Silurian, which ended about 410 million years ago, the geology was dominated by explosive volcanic activity – not a pleasant place to be, said Dennis. Sedimentary rocks were deposited during times of volcanic inactivity. The resulting landscape for much of the time was a series of volcanic ash soils. Rocks were also subjected to periods of tectonic activities that included folding.

During the Devonian period, the local geology was dominated by the intrusion of deep-seated magma which solidified to provide granitic types of rock followed by uplift and erosion. Another clear image was given as Dennis illustrated the process of normal faulting, where rock splits, and either some rock falls, or nearby rock rises. Most of the Canberra area lies in a graben between two large horsts, the higher lands of the escarpment mountains, which did not drop (or which rose). The series of horsts and grabens generally oriented on a north-south axis provides an explanation of the regional topography. Within these blocks, those rocks (such as some volcanic types) have resisted weathering and erosion to a greater extent than some sedimentary rocks such as siltstone and limestone, and consequently now express themselves as ridges or higher ground.

During the talk, Dennis circulated examples of different fossils and rocks to illustrate the points he was making. Unlike the usual audience which sits back and relaxes, many people took detailed notes.

The Excursion

On the Saturday trip, our first stop was at the summit of Mount Ainslie, where Dennis repeated some of the key parts of his talk about the formation of Canberra geology and topography using the landscape as his tool. The landscape, he explained, evolved around 468-408 million years ago, a period of some 60 million years. As Dennis pointed out, and as we were to see firsthand, we are very fortunate in Canberra to have this geological history on our doorstep. People from elsewhere, such as the UK, would be so thrilled to have something similar. By this time, many people were using their notebooks.

The second location was situated at the foothills of Mount Ainslie, at the rear of the War Memorial, where we assembled to observe the volcanic rock. Dennis showed us that the rocks here contained both large and small crystals, evidence of volcano formation, and shattered crystals, evidence of violent explosive eruptions. There was a discussion of the difference between volcanic rock, containing crystals of varying size forming close to the earth's surface, and granite, crystals of uniform size, forming well below the surface, and why this variation and uniformity occur in the different rock types.

(Continued on page 4)

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Stop three was at Woolshed Creek where we were able to observe sedimentary rocks of fine siltstone and sandstone, also from the Silurian period. This was the first geological site in Australia where fossils of Silurian age were identified, this being commemorated by some interesting signage. Dennis pointed out how to read the inclination of the folded bedding, and pointed out the numerous fossils of brachiopods. Also in the creek bed was some fine grained rock which exhibited slaky cleavage which formed as a result of the tiny micaceous minerals aligning themselves perpendicularly to the regional pressure. Higher up the hill we could observe younger folded sedimentary ashstone rock derived from volcanic activity.

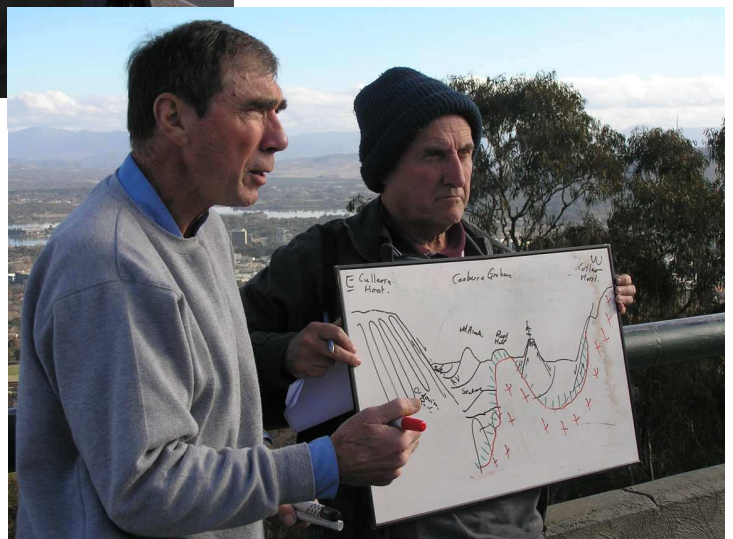
Stop four was the State Circle road cutting where rocks from the early Silurian period have been exposed. The lowest strata contain silts and shales some of which have experienced slump folding prior to their becoming rock. Above this layer was a regolith, a layer of old soil, much more whitish in colour than the strata it separated. This layer would have been formed in a period when the land was above sea level. Above this were numerous strata of sandstone, formed below sea level. The strata were of varying colours, reflecting the slightly different chemical compositions and weathering over time. We then went looking for a fault which Dennis found and we could see where the strata on one side of the fault matched strata on the other side but at a somewhat lower level, and this was a normal fault which reflected the regional faulting.

Finally we went to the southern end of the Australian National University to observe an outcrop of limestone. We stood there in the almost dark as Dennis explained the origin of this limestone rock.

As Tony Lawson said in thanking Dennis, his talk on Thursday was truly excellent, showing someone who was passionate about his subject, and able to explain it so easily. Surprisingly, according to Tony, the field trip exceeded the talk. Also thank you Tony for arranging this. Now this is the best part. If you missed Dennis, or you want to hear more, join us for our September field trip to hear about the geology and vegetation of the Monaro Region (see page 5).



Above:
The group looks at the regolith on State Circle. The old soil between the shale and sandstone
Right
Dennis assisted by Geoff explains aspects of Canberra geology on the top of Mt. Ainslie



More matters geological

from Tony Lawson

Stimulated by the excellent talk and walk led by Dennis Dyer in July, and armed with the new geological map of the ACT and guide to interesting geological features, no doubt you will want to know more.

Firstly, on **Sunday 14 September from 9.15 to 3:00pm**, Dennis Dyer, who knows the area well, will give a presentation and guided tour on *The Geology and Vegetation of the Monaro*, focussed around the Cooma area. It will start at a property at *Quartz Hill*, about 10k south of Cooma. The program for the day will include a presentation on the geology of the Monaro (at 9.30am), followed by morning tea and a visit to granite and sedimentary sites on the property. Then we will visit several sites around Cooma, including a subduction zone, a syenite (intrusive rock), and basalt terraces. At each site we will relate the geology and soils to vegetation structure and show the dominant plants. We shall stop for lunch in Cooma. To obtain more information/or register contact Tony Lawson on 6161 9430 or tlawson@homemail.com.au .

Secondly, as part of National Science Week, Geoscience Australia is having an open day on **Sunday 24 August** from 10:00 to 4:00pm. There will be plenty of things to see and do for you and any children, including their spectacular displays of interesting minerals and a series of talks from 11:30 to 2:30. Geoscience Australia is located in Symonston at the corner of Hindmarsh Drive and Jerrabomberra Avenue.

There are also many other interesting geological features in Canberra and nearby that we might explore at some future occasion, including at forthcoming Field Nats outings to Red Rock in August and the Molonglo Gorge in September.

Those of you who belong to the U3A (only qualification is to be at least 55) may be interested in a forthcoming course called *The History of Life on Earth*. I did the course a couple of years ago and really enjoyed it. The course explores the evolution of life on earth over the last 3.5 billion years. It starts on 11 September at the Hughes Community Centre from 10:00 to 12:00 noon.

What little geology I know was gained at another good U3A course. If you want to read more then some of the books suggested in that course included:

David Johnson, *The Geology of Australia*, 2004

D. Duff, *Holmes' Principles of Physical Geography* (4th Ed.), 1993, and

I.F. Clark and B.J. Cook, *Geological Science – Perspectives of the Earth*, 1983

In additional Geoscience Australia in its previous guises has published a number of reports on the local geology.

At present I am reading Reg and Maggie Morrison, *Australia – the four billion year journey of a continent*, 1990, which I am finding fascinating. It traces the evolution and natural history of Australia. Do you know that over the its life Australia has travelled over 100,000 km, including twice to the North Pole and more recently to the South Pole!

From Philip Bell

We currently have 3 google groups, 2 private and 1 public

1. **fnactee** - private group for committee use,
<fnactee@googlegroups.com>,
2. **field natter** - used to send out monthly notices to all members with an email address notifying new edition of natter with a web link
fielddnatter@googlegroups.com
3. **fielddnats** - a public chat group that anyone can join and post to.
<fielddnats@googlegroups.com>,



Field Naturalists' Association of Canberra

Who are the Field Naturalists?

The Field Naturalists' Association of Canberra (FNAC) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities are advertised in our monthly newsletter. We emphasise informality and the enjoyment of nature. New members are always welcome. If you wish to join FNAC, please fill in the member application below and send it in with your subscription to the FNAC Treasurer at the address below:

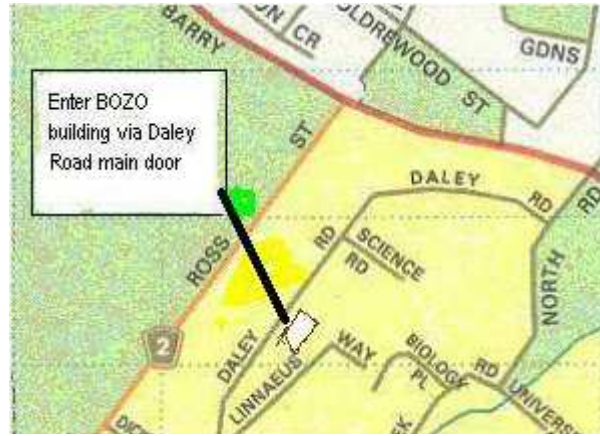
President: Benj Whitworth, tel w 6272 3192 h 62544556

Secretary: Rosemary Blemings, tel 02 6258 4724

Website: www.geocities.com/fieldnaturalist/index.html

Newsletter editor: Chris Bunn <chris_b@webone.com.au>
Tel 02 6241 2968. Member contributions welcome.

Published and distributed by Philip Bell



Monthly meeting venue: Division of Botany and Zoology, Building 116, Daley Rd, Australian National University. Park (occasionally the adjacent building 44). Meetings start at 8 pm and are followed by refreshments.

FIELD NATURALISTS ASSOCIATION OF CANBERRA INC.

GPO Box 249
CANBERRA ACT 2601

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MEMBERSHIP APPLICATION OR RENEWAL

Family name: First name:

If a family membership, please include the first names of other members of the family:

.....

Postal address:

Suburb: State: Postcode: Home phone:

Work phone: Email address:

Subscription enclosed: \$.....(Single/Family \$20) Donation: \$.....

How did you hear about FNAC? Please circle: FRIEND? OTHER? Please specify: