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GPO BOX 249
CANBERRA ACT 2601

FIELD NATURALISTS' ASSOCIATION OF CANBERRA INC.

FIELD NATURALIST

MEETING—THURSDAY 3 November 2016

7:30 pm Australian National University

Gould Seminar Room, Building 116, Daley Road, ANU, ACT

details back page

Insects of south-eastern Australia

Speaker: Roger Farrow

Insects arrived on land over 450 million years ago during the Ordovician era, at the same time as plants were first colonising the land. They predate all the terrestrial vertebrates and vascular plants and while we are familiar with the age of dinosaurs and the age of mammals it has really been the age of insects for more than 450 million years as there are more species of insect than any other terrestrial multicellular group. I shall outline selective aspects of the diversity of insects in our local region with respect to their relationships with the flowering plants (angiosperms), mammals and other insects.



Contents

Cracked it! A 30-year cold case involving an egg and the mysterious Night Parrot	2
Pinnacle Spring walk	3
Krakatoa - treading carefully	6
Bettongs by day	6
Waterhouse finalists' artworks	6
When more is too much	6
Activities	7
Sugar glider walk	7
Insects of south-eastern Australia	7

Cracked it! A 30-year cold case involving an egg and the mysterious Night Parrot

Penny Olsen, Jeremy Austin, Leo Joseph

Sometimes nature leaves little clues that can be difficult to interpret, so getting things right isn't always easy. Consider the case of an egg that was found in northern Australia's remote Tanami Desert. It was spotted abandoned on the ground among spinifex in the early 1980s.

After being studied by ornithologists, the view was that it may well be an egg of the spinifex-nesting Night Parrot, described by the Smithsonian as one of the world's most mysterious birds. The chances of finding such a rarity are astronomically small.

The bird's scientific name is *Pezoporus occidentalis* and it is known in that part of the Northern Territory as *Yur-rupudpudpa* by the local Indigenous group, the Eastern Warlpiri.

But was this really the egg of a Night Parrot? There are no confirmed Night Parrot eggs among the extensive collections of the world, so nobody was really sure. Nevertheless, the possibility drifted loosely into the literature that it was the only known egg of the Night Parrot.

The Night Parrot – as the name suggests – is a truly nocturnal parrot, and the only other one is the Kakapo of New Zealand.

This bird of the Australian outback is also extraordinarily elusive, known from fewer than 30 specimens scattered through the world's museums, despite its range stretching all the way from the Pilbara to northwestern Victoria.

In 2013, the parrot was "rediscovered" after its almost complete disappearance in the early 20th century and despite considerable efforts to prove it was still around.

Naturalist John Young found a tiny population alive and seemingly well, if not in great numbers, in remote western Queensland.

Since then, research has yielded plenty of information about what the birds need for their conservation and management.

So what then of the fate of the Tanami egg find?

For 30 years the egg sat unstudied, first in the South Australian Museum and then in the Museum and Art Gallery of the Northern Territory, under accession code T2614.

Finally, a team led by one of us (Penny) decided to investigate further, with the results published today in *Australian Field Ornithology*.

An actual egg of the Night Parrot would be a great prize – not least because knowing of a place where Night Parrots could be shown to have bred would be a useful piece in a jigsaw of the bird's biology that was still wildly incomplete.

Penny contacted Jeremy Austin at the Australian Centre for Ancient DNA at the University of Adelaide. The plan was to extract DNA from dried membranes inside the egg to obtain a DNA sequence that could verify the egg's origin.

If a DNA sequence could be obtained, then it could be compared with sequences from two Night Parrot specimens that had both been found dead, incredibly enough, in western Queensland in 1990 and 2006. These are lodged in the collection of the Queensland Museum.

It was a simple but good plan, perhaps a little technically exacting to execute, but Jeremy's expertise carried the day. A DNA sequence was obtained from the mystery egg.

On entering it into databases of DNA sequences of the world's birds and with a figurative as well as literal holding of breath, the researchers waited for the result.

The DNA sequence turned out to be an excellent match for a Brown Quail (*Synoicus ypsilophorus*).

It's an ex-parrot egg

It was nowhere near a match for the Night Parrot, or indeed any other parrot.

This may have settled the matter, but not quite. Apart from being a rather interesting record of the Brown Quail, one more angle needed pursuing. That was a visit to egg collections held in the research collections of museums, specifically that of the CSIRO's Australian National Wildlife Collection (ANWC), in Canberra.

The ANWC egg collection has a number of clutches of eggs of Brown Quail as well as several of one of the Night Parrot's closest relatives, the Eastern Ground Parrot (*Pezoporus wallicus*).

Eggs (top, left) from the Crested Pigeon from near Mt Hopeless in South Australia and (top, centre) the

Eastern Ground Parrot, near Noosa in Queensland and (top, right) near Evans Head in New South Wales. Eggs from the Brown Quail (bottom, left) at Bruny Island in Tasmania and (bottom, left) from near Orange in New South Wales. Australian National Wildlife Collection, Author provided

The Eastern Ground Parrot, though a different and better-known species, is an ecological and evolutionary equivalent of the Night Parrot but found in coastal heaths. The point is that they are indeed a very closely related species, so their eggs can reasonably be expected to be similar.

All the world's parrots lay eggs that are white – bleached sand white – and somewhat rounded, not pointed, at one end like a chicken's egg tends to be.

The egg found in the Tanami Desert was indeed pale, though not bleached sand white, and it was pointed at one end. A scan through the ANWC collection showed that some clutches of Brown Quail eggs are rather pale and whitish but that they never attain that bleached whiteness of a parrot egg. Typically, they are variably speckled brown.

And the shapes of Brown Quail and parrot eggs differ markedly. One end of the quail's egg is always pointed, just like the Tanami egg.

Though we may with hindsight ponder why the Tanami egg was ever thought to be of a parrot, let alone a Night Parrot, the story is a salutary lesson in the value of research collections held in museums.

They provide the material from which DNA can be extracted and sequenced to build up molecular-level descriptions of the world's biodiversity. They provide us with robust understanding of what the species of the world and their eggs (or larvae or fruits or seed heads) look like.

Museums are a major repository of the raw data with which we study how life on earth has evolved. Along the way, they can also provide us with answers to tantalising mysteries about rare and little known species.

As for the mysterious Night Parrot, the search goes on for new populations and more details of this elusive bird.

Dr Steve Murphy, who is studying the Night Parrot population in western Queensland, co-authored this article.

Pinnacle Spring walk

Thirty people (including two young boys) turned up for the joint Friends of the Pinnacle and Field Naturalist's walk to visit the Pinnacle Offset—granted to the Pinnacle in 'exchange' for the woodlands that are being removed to build the Canberra University teaching hospital in Bruce. This offset provides a corridor between the Pinnacle Nature Reserve and Kama Nature Reserve on the other side of William Hovel Drive.

With the recent wet weather, and despite almost two weeks of no rain, there is still a lot of water, both within the reserve, and along the main track bordering the reserve.

While walking to the meeting spot, I watched a crimson rosella taking a morning bath in one of the many puddles along the main fire trail track.



While John B co-ordinated the walk there were four 'leaders' with differing areas of expertise/experience: John B, birds; Warren, weeds; and Rosemary and John F, flora.

We hadn't gone far when we saw a grey fantail and a speckled warbler in the same tree. In fact there were two speckled warblers; a male and perhaps a juvenile. While ground nesters, so usually found on the ground, these speckled warblers were sitting still up in the tree allowing a good view.

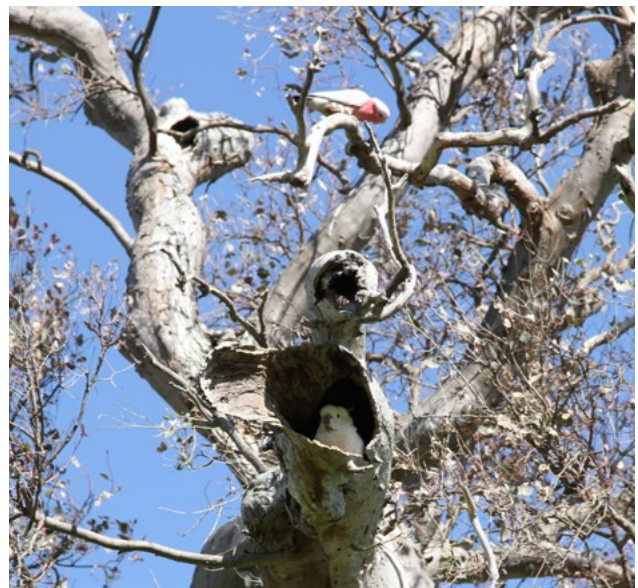
The track we chose was mostly dry but there were a few boggy areas and with the rain the view to the gate to the offset and beyond was wonderfully green.



The offset is divided down the middle by a fence. A stile has been built over the fence near the northern perimeter and a gate at the southern end allows access to the eastern paddock.

The north-western paddock is unremarkable, being mostly grasslands with many weeds: thistles; Patterson's curse; sorrel; St Johns wort; cape weed; horehound...

The exception is the dam. When this area was being agisted to cattle the dam became almost empty and the frog life basically disappeared. The dam now appears full and frogs could once again be heard happily singing their chorus. A nearby tree had many nesting hollows and seemed to be host to almost all the parrot species. A sulphur-crested cockatoo was huddled out of the wind at the entrance of one hollow, while the tree also housed a pair of eastern rosellas; a crimson rosella and a galah, while a kestrel hovered over the sky nearby.



Moving into the southern paddock and working our way back eastward, the flora became much more interesting. It wasn't long before we found straggling *Wurmbea* (early Nancys) and sundews. Better examples of both were found further east where the ground was wetter. One larger display of sundews actually had one with a trapped insect.





This wetter area also had good examples of very healthy Billy buttons and some swamp isototoma among the sundews.



Photo: Margaret Kalms



A little further east and there was a wealth of native species in flower. We found hibertia; two heath species, the second pink version is reasonably uncommon; vine fringe lily; glycene; *Ajuga asuralis*; geranium.



Photo: Margaret Kalms

Field trip report

Just for something a little different, we did find a small patch of fungi.



And Margaret found a beautiful moth.



Photo: Margaret Kalms

Near the south-easternmost boundary a there was a large patch of billy buttons.



Photo: Margaret Kalms

We had seen the imported pink-flowered variety of the storkbill, but on the way back there was a large healthy example of the native blue-flowered variety.

This is only a short list of the flora we saw on this walk and just shows the diversity of flora here.

It was very interesting to get a sense of where the Pinnacle offset is located and to observe the landscape and flora.

Alison Milton



Photo: Margaret Kalms

Krakatoa - treading carefully

Thirty members attended the October meeting to hear about Kevin McCue and Sonja's visit to Sunda Strait and their close approach to Krakatoa. We weren't disappointed!

We were amazed at the widespread evidence of the forces of volcanoes and the dangers inherent in living close to the Ring of Fire in Indonesia and other Pacific lands of volcanic origin. In showing their journey to Anak Krakatoa Kevin explored the nature of volcanoes and volcanic activity.

In places, the effects of the lava flows were very visible with the emergence of new plants being

especially interesting. The concept of walking on black soil strewn with once ejected rocks, took a while to sink in. It was a steep climb in the equatorial heat.

Photographs of the boats heading for the island with other islands visible gave clues to the massive size of the original Krakatoa caldera.

The eruption of Krakatoa in 1883 was the world's second largest eruption event with impacts such as catastrophic tsunami, sound and shock waves. The Anak Krakatoa island broke the surface of the sea in 1927 and has been gaining height ever since.

Bettongs by day

Matthew Higgins came across four bettongs at Mulligans Flats Nature Reserve in broad daylight. A rare sighting. Three raced off as per usual but one was more co-operative. Rare to get a good view by day.



Waterhouse finalists' artworks

Don't miss the 2016 Waterhouse finalists' artworks. Twenty-five stunning pieces, by both renowned and emerging artists, explore our natural history. Now a biennial event, Waterhouse features a wider range of art forms than ever before.

A travelling exhibition developed by the South Australian Museum.

16 September 2016 to 13 November 2016

National Archives of Australia, Queen Victoria Terrace, Parkes ACT 2600

When more is too much

While visiting The Pinnacle Nature Park and photographing the gloriously brilliant Cape Weed, strictly from an artistic viewpoint you understand, I observed a bee fall off a flower and then crawl back up to resume its activity. I didn't pay too much heed until later while trying to 'capture' Hover Flies, another bee fell off a Cape Weed flower and it struggled up to a leaf and remained there. Suddenly the back legs became very active as it shed wonderful bits of gold until once lightened of its load it could fly off. Too much pollen is obviously not a blessing and produces instability!

Activities

Sunday 6 November: Shepherds Lookout and Woodstock North reserve

Meet at 9.30 am at Strathnairn. I would suggest carpooling at Strathnairn and returning to there afterwards. Rugged terrain and climbs involved. Parking limited at the entry to the Lookout track. All details to be confirmed. Please, importantly, contact Rosemary B to express interest and we can keep each other informed about how the idea develops and about parking possibilities. Phone: 6258 4724 or email rosemary@blemings.org

Sugar glider walk

On Friday 26 August Fieldnatters were invited to join a guided walk to see Sugar Gliders with 'Friends of Mt Majura'. Our guide Jenni Mash knew where the sugar gliders lived.

We started our walk at sunset and arrived at the home tree just on dusk. We waited until it was fully dark for the sugar gliders to wake up.

Then we saw the first glint of an eye peeking out of the hollow in our torch light. But I couldn't focus on them, they bolted up the tree at a great pace! They may be small, smaller than a guinea pig, but they can move fast!

Jenni told us that because the night was so cold, the sugar gliders would be very hungry. They must eat immediately. Their tree hollow in an old dead eucalyptus, is well placed, surrounded by a grove of casuarina trees and included several wattles. Sugar gliders lick the sweet sap of casuarinas and wattles, so the first thing they did was race up their home tree trunk until they came to some overhanging casuarina branches. It was in the casuarinas that they paused for their photos!

It was a large family with four young ones. These three were playing tag and punching each other like puppies, all the while hanging vertically onto the tree trunk!



© Margaret Kalms

We saw several sugar gliders run up many branches and leap from the tree tops in all directions. They stretch out their legs to extend their gliding flap of skin and float down to a nearby tree trunk. The young were quite large, so will be dispersing soon. It's good to see such breeding success of an iconic species.

Thank you Jenni from Friends of Mt Majura for organising this walk. To find out more about these walks, contact Jenni at Friends of Mt Majura: jennimars@yahoo.com

Margaret Kalms

Month	Speaker	Topic
3 November	Roger Farrow	Insects of south-eastern Australia
1 December	Christmas party	

Insects of south-eastern Australia

As advertised, Roger Farrow will be talking about his recently published books on insects in the south-eastern region of Australia. Five copies of his book will be available for purchase at the November meeting.



Field Naturalists' Association of Canberra Inc.

Who are the Field Naturalists?

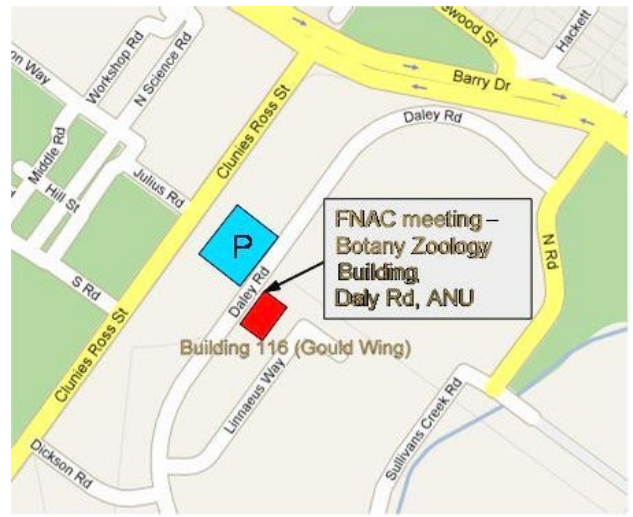
The Field Naturalists' Association of Canberra (FNAC) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities 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: Rosemary von Behrens **Phone:** 6254 1763

Email: fieldnaturalist@yahoo.com.au

Website: under construction

Editor: Alison Milton All newsletter contributions welcome. **Email:** apm56@optusnet.com.au or cc' Alison.milton@health.gov.au



Monthly meeting venue: Division of Botany and Zoology, Building 116, Daley Road, Australian National University. (The Xmas meeting is at the adjacent building 44 and will start at the earlier time of 6:30 pm.)

Field Naturalists' Association of Canberra
GPO Box 249
Canberra ACT 2601



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 \$25) Donation: \$.....

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