OBJECT: To foster an interest in nature

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MEETING—THURSDAY
7:30 pm Australian National University

Gould Seminar Room, Building 116, Daley Road, ANU, ACT
details back page

Krakatoa - treading carefully

Speaker: Kevin McCue

The Earth is a dynamic planet, daily earthquakes and volcanic eruptions attest to that. It is difficult to call up an earthquake at will but active volcanoes can be visited whenever you want. From Canberra the nearest volcanoes are just a few thousand kilometres away in countries stretching from New Zealand to Indonesia. We recently visited the (in)famous Krakatoa volcano in Sunda Strait between Java and Sumatra. Multiple explosive eruptions occurred in 1883, the world's 2nd largest eruption event on record. I will show some photos and give a brief summary of our journey to the site where a new volcano is growing from the caldera of the 1883 eruption; Anak Krakatoa, son of Krakatoa.

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FIELD NATTER

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Frog stories

Last night we had a big surprise! A new frog in our garden; and a large one! Some quick checking against the Frogwatch poster online and it was easy to see it was a Peron's Tree Frog.

Still as anything it was as we looked and my daughter photographed it in the evening with the sensor light providing illumination.

The bark mulch in the garden bed is near; that fits with this species' liking bark for habitat. All the rain is bringing wonders to our gardens, though I read sadly that the unusually high rain is due to a warmer climate somewhere.

The other frog species we have, and has been here every year , is the Spotted Grass Frog. They live by the small artificial pond on the other side of our block. Hence, finding a substantial frog with a totally different look (and I haven't heard a sound yet) was affirmation that we are doing something right in our land care.

The Peron's Tree Frog did eventually move when we weren't looking, so I can assure you it was healthy and alive. Maybe there are others!

The other new sighting is Fuscous honeyeaters, though i don't have a photo. Watching them in the camellias and thornbills on our green lawn finding something nice to eat again and again was good enough to stop doing whatever it was I was doing.

Lucy Bastock

The circle of life

Last year I saw at least 39 ducklings in six or seven broods at Eddison Park in Woden. With all the recent rain, and since I work in Woden, I decided it was time to visit the park again to see if the ducks were nesting. Being the beginning of Spring, perhaps they were preparing their nests for this season.

The pond seems to rely solely on rain as I have seen it nearly full and nearly empty. Well before nearing the pond I heard a constant cacophony of frog calls and the pond was filled to overflowing, which I had never seen before.

While there were a number of ducks present none yet seemed to be nesting. However, I was intrigued to find a single Great egret. As I watched I realised that it was catching and eating frogs. These were not the tiny frogs I've seen in my back yard, but were 2 to 3 inches in length. A close-up of one of my photos showed that on one occasion it had actually caught two frogs in one hit. Perhaps they were attempting a mating. Further research identified these as pop-plebonk frogs.

I found I was torn. While presenting intriguing photos, I did in fact feel sorry for the frogs as I watched them squirm through my zoom lens, but the intrigue for photos brought me back the following two days. With no competitors I was sure the egret would stay till the frog population was completely decimated, which saddened me. However, I braced myself with the thought that there were plenty of frog spawn and perhaps while the frog population was depleted, the spawn would hatch into tadpoles and regenerate the species.

I returned the following Monday. The frog calls were getting fewer. The next two days were wet and I didn't get back again until the following Friday, by which time there was a distinct reduction in frog calls. Also, the new rains had seemed to have damaged much of the frog spawn and I began to wonder about the regeneration of the species. There seemed be only a dozen or so frogs calling and given the long silences and infrequent calls I could now identify the frogs as pob-blebonks.

With the sparsity of frogs the egret seemed to have given up on this food source and was targetting the small fish that also inhabit the pond. I didn't think it would be there much longer, having exhausted it's food supply.

The next Monday proved me right – and wrong. With yet more rain, the pond had again filled to almost overflowing. The sun was shining for the first time in perhaps a week. Having feasted itself on frogs over the past two weeks or so, the egret had indeed left. However, approaching the pond I was surprised and delighted to again hear a loud vocal chorus of frogs.

On my first visit I didn't really take note of the frog calls to identify species, but on this occasion I could hear at least three different calls. Of greatest note was the Spotted marsh frog and the Pobblebonk frog (though still very few and a few days later none). The third call was not very prominent and I'm not sure about it. It was only heard in one location. I consulted the Molongo Catchment group frog calls to try to identify it. It sounded a bit like the Spotted burrowing frog, but had the higher pitch call of the Whistling tree frog; though given the location I'm not sure about it being a tree frog.

I was delighted to once again hear the constant call of frogs but it made me wonder. Despite the cautious steps of the egret, did the frogs become smart enough to know it was there and stop calling until it had moved on and if so, is the pobblebonk the least wise of the frog species in the ACT?

Alison Milton

Exhibition: From the Red Heart

Exhibition dates: 7 September – 9 October

Gallery: Visitor Centre Gallery, Australian National Botanic Gardens, Clunies Ross St. Acton, Canberra

Hours: 9.30 – 4.30 daily The exhibition, *From the Red Heart* features paintings, drawings and ceramics based on the flora of the Red Centre Garden.

These works have developed from a dialogue between two artists who share a visual language and passion for Australian plants.

Field uses the botanical art medium to convey in a subtly declarative way the continuum of nature and its struggle for co-existence in our contemporary world, and Franzi investigates ways in which representations of Australian flora on the ceramic vessel can express current botanical and environmental knowledge.

Based around rigorous research of the living plants in the Red Centre Garden, this exhibition draws directly on plant and seed specimens held in the Australian National Herbarium and National Seed Bank. The artists examined seed specimens from the Simpson Desert collected by Dr Rosemary Purdie under the Nikon microscope and studied dried specimens held by the Herbarium.

The concept for this exhibition originated in the ANBG's vision for the new Red Centre Garden, to inspire appreciation of Australia's unique desert plants and landscapes. Visual art can provide a complementary viewpoint, and can help spark an awareness of both adults and children in the wonder, the beauty of and tragedies facing our natural environment.

The Australian environment is unique and the Red Centre is a place that captures people's imagination – for its remoteness, harshness, fragility and brilliant colour. We draw on the red heart as a repository of unique plants, whilst recognising that it is a work of art in its own right.

CSIRO Discovery Gallery

28 September to 28 October

Gallery hours 10:00 am to 4:00 pm weekdays

Exhibition opening 5:30 pm 28 September

Ian Haynes has manipulated Mt Conobolas, sunsets etc into modern abstracts. He has a stunning Snow Gum, which is still the original.

Anne Tassie has been volunteering at CSIRO for many years. She always surprises. (No Dr Who Tardis's in the landscape this time... Who knows?)

This may be the last time we will appear in the Discovery Gallery. They no longer have anyone to look after the gallery.

Rosemary von Behrens

Activities

16 October 9:00 am – 11:30 am: The Pinnacle extension

Meet at De Salis Street entrance. Joint walk with the Friends of the Pinnacle. The walk offers a chance to visit the new addition to the reserve and find out a bit about it. It will be led by a group of leaders with expertise in different areas, so hopefully they'll be able to answer everyone's questions. It really is a lovely area with some of the nicest vegetation communities in the reserve, and I would encourage everyone to take this chance to get to know it a bit better. See the FotPin website for more information (www.fotpin.org.au).

Working with elephants in Chiang Mai, Thailand: Review

Margaret Kalms and her daughter went to the elephant sanctuary at Kuet Chang, 60 km from Chaing Mai in northern Thailand. The 8 square kilometre park was established by Sangduen 'Lek' Chailert.

On the surface the place seemed like a tropical, country paradise where tourists were surrounded by Thai countryside and housed in a clearing within jungle vegetation. It is home to 35 elephants. Most have been brought there, rescued from situations of exploitation. Over time other rescued animals, including cats from the Bangkok floods and water buffalo have been added to the sanctuary's fauna. Some of the animals, mostly young male elephants, are rehabilitated back into the wild.

I really enjoy travelogues, therefore it was interesting to catch a glimpse of this area through Margaret's visit. The groups of tourists were housed in huts with their beds mosquito-netted. The fare they enjoyed looked delicious, colourful and plentiful. They joined in the chores of caring for the elephants, fetching food supplies, and bonding with the huge, long-lived creatures.

Margaret showed a harrowing, short video of a very young elephant being tortured into the submission needed for it to be a useful worker in logged forests. Perhaps it was partially this that after the presentation morphed into a spirited discussion as we thought through the issues Margaret raised about the sanctuary and its inter-relationships.

I had recently read Virginia Morell's *Animal Wise: How We Know Animals Think and Feel*. This includes insights into elephants' matriarchal societies. I realised that the sanctuary's problems with young male elephants' behaviour might stem from their not having the wisdom of senior females and 'aunties' to guide them. How would sanctuary elephants fare when returned to the wild, perhaps to untreated herds?

The barbaric treatment of young elephants captured for the logging industry related to what we knew of horse-breaking. There was no impression of the empathy, understanding or respect towards these wild elephants that we like to think professional horse-breakers employ. Would the young elephant ever forget how it was treated when first removed from its mother? Would it harbour resentment for 70 years?

We might have reflected on humans' treatment of animals, the manipulation of other species for their own benefit.

For the tourists, gathering food for the elephants might be a novelty. How on earth does the sanctuary obtain enough food for so many large appetites? We could see staff using machetes to gather banana leaves but on their feet they wore thongs. There are safety issues for tourists around these very large and not necessarily predictable beasts. The sanctuary employs scores of locals from the community. Is this sustainable and beneficial in the long term?

Although the numerous and free-ranging cats had been de-sexed by volunteer vets Margaret noticed the absence of birds and small reptiles.

Did employment at the Sanctuary allow employees and their families to eat well and healthily?

Was the cost of running the Sanctuary covered by the money tourists paid for their experiences?

Was anything useful done with the enormous piles of elephant dung produced by each animal?

Could it be used for fertilising local farmers' plots and fields?

How did the Sanctuary's processes, aims and outcomes stack up against ethical scrutiny?

Thank you Margaret for challenging us to think through an apparently "good" scheme as well as some of the ecology surrounding man's interference with and manipulation of animals' lives.

Rosemary Blemings

Month	Speaker	Topic
6 October	Kevin McCue	Krakatoa - treading carefully
3 November	Roger Farrow	Insects

How the Australian galah got its name in a muddle

Leo Joseph, Research Director and Curator, Australian National Wildlife Collection, CSIRO
Jeremy Austin, Deputy Director and ARC Future Fellow, Australian Centre for Ancient DNA, University of Adelaide

Galahs are the pink and grey cockatoos that are one of the most familiar of all Australian birds. They have been at the centre of a curious debate: what should their scientific name really be?

It's a tale that spans centuries and continents, and has clues hidden in museums, diaries of 19th century travellers and evolution's own diary of DNA sequences.

When biologists formally publish a scientific description of a new species, they give it a unique scientific name that is forever linked to a single, preserved specimen in a natural history collection. This specimen is known as the holotype.

The galah's scientific name is *Eolophus roseicapilla*. Its holotype was collected in Australia in 1801 by biologists on the expedition led by France's Nicolas Baudin and is held in the Musée National d'Histoire Naturelle, in Paris.

East and west

Much later, Australian ornithologists realised galahs in the continent's west look very different from galahs in the east.

Eastern galahs became known as the subspecies *Eolophus roseicapilla roseicapilla,* the holotype of that name automatically being the original held in Paris because it was assumed to have been collected in the east.

The subspecies in the west was named *Eolophus roseicapilla assimilis* and that name was also linked to a new holotype, a bird from the west.

But was the bird collected back in 1801 really from the east? The name roseicapilla means pink or rosy "hair" and so refers to the general pink colour of the species. It does not refer to the dark-pink headed galahs from the west as distinct from the pale-pink almost whitish-headed galahs from the east.

Expedition route

In the late 1980s, Dr Richard Schodde, then the Director of CSIRO's Australian National Wildlife Collection, realised the route of the Baudin Expedition wouldn't have passed anywhere near

where eastern galahs occurred at that time.

Galahs were originally birds of arid, inland Australia, only expanding into their present, vast range in the early to mid-20th century.

The biologists of the Baudin Expedition were more likely to have encountered galahs around Shark Bay in Western Australia. The holotype was more likely a western bird, Schodde reasoned.

Schodde further reasoned that if the holotype in Paris was a western galah, its name, *Eolophus roseicapilla roseicapilla,* actually belonged to the western galahs. This left the eastern galahs, one of the most familiar birds in all of Australia, without a scientific name.

Schodde named them *Eolophus roseicapilla albiceps* and designated a holotype that was collected in Canberra and is held in CSIRO's Australian National Wildlife Collection.

His detective work at that time didn't settle the debate. Simple examination of the holotype in Paris should reveal whether it is an eastern or western bird. But the specimen is more than 200 years old and not in great shape.

Nevertheless, two recent papers published by Australian ornithologists, including a further one by Richard Schodde, and another by our team, have argued that despite the specimen's condition it is identifiable as a western bird.

What the DNA says

Enter DNA to solve the mystery. Australian natural history collections contain hundreds of specimens of galahs from across their modern range.

If these specimens show detectable genetic differences between eastern and western subspecies, and if we can get a DNA result from the Paris holotype, we could find out whether it belongs to the eastern or western group.

With a colleague in Germany, Thomas Wilke, we mapped genetic diversity of galahs from 192 museum specimens. We found that galahs were likely isolated during the last several hundred thousand years into western, northern and eastern subpopulations.

Even today, with the modern range expansions, any galah can be assigned to either of these three genetic groups regardless of where it occurs.

Colleagues at the Musée National d'Histoire Naturelle kindly allowed us to snip some skin from the toe pads of the holotype. One of us (Jeremy Austin) obtained DNA sequences and dropped them into our analysis.

Et voila! The Paris holotype is identical in its DNA sequence to the most common variant found in western birds.

Schodde's theory holds. Galahs in the west should indeed be named *Eolophus roseicapilla roseicapilla* and those in the east *Eolophus roseicapilla albiceps*.

There is a third, northern variant but it is not part of our story here.

And what of the original scientific name for the western galahs, *Eolophus roseicapilla assimilis*? That name is not currently necessary but if anyone ever finds differences within the western birds, it may still be needed.

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.

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Editor

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

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MEMBERSHIP APPLICATION OR RENEWAL

Family name: …… First name: …… .
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