

OBJECT: To foster an interest in nature

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GPO BOX 249
CANBERRA ACT 2601

FIELD NATURALISTS' ASSOCIATION OF CANBERRA INC.

FIELD NATURALIST

MEETING—THURSDAY

7:30 pm Australian National University
Gould Seminar Room, Building 116, Daley Road, ANU, ACT
details back page

The new Asteraceae garden at the ABG: Rationale and plantings

Speaker: Naarilla Hirsch, Don Beer

In November 2014 the new Asteraceae garden at the ANBG was officially opened after months of preparation. The talk will look at the need for the garden, its design, its prospects, features of the Asteraceae family and the particular species planted.



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Buff-banded rails breeding in Forde

It has been interesting to be able to observe and record the development of Buff-banded Rail chicks in Forde Creek this season. While Buff-banded Rails are not uncommon, they are elusive and seldom seen, due to what is often described as their 'skulking behaviour'.

In COG records, the 30 year average is less than 5 sightings per year while breeding records are even rarer. Records have increased markedly in the last few years, due in part to accessible wetlands being constructed in Canberra's northern suburbs. Among those sites are Forde Ponds and now Forde Creek where our observations were made.

The Rails began breeding in the Forde Creek area in December.

The first Buff-banded Rail brood of three chicks was seen and photographed on 21 December 2014 by Julie Clark and another COG member. The two adults were visible for some minutes before calling the chicks and then moving quickly into the vegetation, downstream and out of sight. While these chicks have not been sighted again, two adults (possibly the parents) were seen in the area of the footbridge on 24 and 28 December and again on 2 January. Calls, possibly of the chicks, were also heard from the dense vegetation in that region.

A second Buff-banded Rail brood was first sighted on 1 January, by John Harris and then later in the evening by a second COG member – both observing three black downy chicks, but acknowledging that there could have been more present in the vegetation. The second brood was sighted in a different location to the first – some distance south along Forde Creek.

Julie's diary notes - development of the chicks:

- 3 January - Adult and four chicks were observed and photographed in the creek feeding.



- 4 January - Adult and four chicks again observed and photographed initially in long grass along the creek's edge and then moving into the creek and feeding. Chicks – appearance more dull, patches of brown developing and cheek patch visible.



- January 5 – Four chicks and adults seen and recorded by another COG member with similar observations ... the down (on the chicks) looked dull with some areas of 'brown'.
- January 8 – Adult and three chicks observed and photographed by two COG members. Chicks – much paler underneath - buff with bars beginning to appear, cheeks and chin buff coloured.



- January 10 – Adult sighted but no chicks. Heavy rain began shortly after this sighting.
- For the next four days, torrential rain, high water levels and a fast moving creek made it impossible to locate the birds. We feared for them in the flooded creek but when everything subsided they were sighted again.
- January 14 - Very brief view of one adult and at least one chick in long grass and reeds.
- January 16 - Adult and chick seen, moving through long grass and then in the creek itself. One chick photographed swimming. Throat and eyebrow pale, pattern and colour developing on chick's back.
- January 18 – One adult and three chicks observed and photographed. Chicks – eyebrow and throat now a pale, dirty grey, pale chestnut developing on nape & chest, dark brown eye stripe, legs pinkish, eye and bill dark



- January 19 - Chicks 19 days old, fully feathered, like miniature adults, but still more subdued in colour – no dramatic colour contrasts.

John, Julie and other people continue to see the young Rails, sometimes singly now and more independent of the parents.

Julie Clark & John Harris
COG Members

Sighting: A Channel-billed cuckoo

A recent visit to Batemans Bay and its Tourist Information Centre (31 January) had me scanning the adjacent tall eucalypts for the source of an uninspiring bird call – a raspy-awk. A young bird practicing I thought. Eventually I saw a large bird with a pale front, darker wings and tail, and a curved bill – its wing and tail feathers patterned with brown ‘v’s’.

The Channel-Billed Cuckoo (*Scythrops novaehollandiae*, 58 – 66 cm) would quite simply dwarf the Pied Currawong or Australian Magpie in whose nest its eggs had been laid. A new bird for me.

Rosemary von Brehens

Rosemary took the photos below, but other photos can be seen on the Internet at <http://www.gramechapman.com.au/library/view-photos.php?c=88&pg=1> This website has juvenile and adult C-B Cuckoos, plus a young feeding.



Koalas vs Eucalyptus leaves

A little background on the local koala population

The local koala population is located in the mountains to the east of the Monaro Highway between Canberra and Cooma. The southern part of the koala population around the small town of Numeralla has been the focus of koala survey work and is reasonably well understood. The northern end of the population is not well known. Koala surveys behind Michelago have found evidence of koalas and some evidence has been found near Googong. The northern edge of the koala population must be getting close to Queanbeyan. Young males get pushed out of mum's home range at around 2 to 3 years of age and these young males can wander off and end up 50 km away and sometimes in areas of open grassland where there are no preferred feed trees. Wildcare has rescued a very thin young male koala who also had pneumonia from a back yard in Jerrabomberra. He was successfully rehabilitated after a course of antibiotics and lots of eucalyptus leaves to regain the weight he had lost, then he was released back into the wild. In June 2014 a koala was reported on two different nights in a one week period, crossing the road between Queanbeyan and the Canberra Airport. We have been getting one or two koalas coming into care each year over the last 5 years. There have also been a few killed on roads. The local population is genetically unique and it is a recovering population. My 1,700 acre wildlife sanctuary protects a breeding population of wild koalas.

Myth busted: Koalas sleep 20 hour per day to conserve energy because of the low nutritional value of eucalyptus leaf. They are not drunk on fermented eucalyptus.

The art and science of picking eucalyptus leaves for koalas

Koalas are known to eat the leaves of about 120 of the 600 species of eucalyptus in Australia. In any given location, koalas will eat about 5 or 6 species of eucalyptus leaves. It has been suggested that the special bacteria in the koala's gut that enables them to digest eucalyptus leaves varies across the range of the koala. I don't think it has been scientifically proven but some people think that the special bacteria may have evolved to digest the eucalyptus leaves for a particular area. If this is true, the bacteria in the gut of a Victorian koala might not be able to digest properly Queensland eucalyptus leaves and vis versa.

Koala leaf rule number 1: Koalas must be feed eucalyptus leaves from the area the koala came from.

So how does a young koala get this special bacteria in the first place? Up to about 6 months of age a koala joey only drinks their mother's milk. Then the mother koala clears the end of her digestive tract and produces a substance from her cloaca called 'pap'. It is a green paste that comes from the caecum. It is partially digested eucalyptus leaf loaded with the special bacteria. The koala joey will eat this over a period of days, up to a week. Now that the koala joey has eaten 'pap', it can start eating the preferred eucalyptus leaves from its mum's home range.

What happens when a koala joey is rescued and it has not eaten pap? Wombaroo make 3 stages of koala milk to replicate the milk a koala mum produces, so the milk part is sorted. When the koala joey is around 6 months of age it will need to be given 'pap'. Pap can be extracted from a fresh road killed koala, male or female. The 'pap' can be

extracted from the dead koala's caecum and stored for up to 2 weeks in the fridge.

Koala leaf rule number 2: A koala joey cannot eat eucalyptus leaves until after it has eaten 'pap'

So what are the preferred eucalyptus trees for the local koala population? The species of eucalyptus that the local koalas eat are *Eucalyptus rossii*, *Eucalyptus mannifera*, *Eucalyptus viminalis*, *Eucalyptus bridgeisiana*, and less important but worth trying is *Eucalyptus pauciflora*. This list of eucalyptus species comes from my own personal experience in feeding koalas and is consistent with the results of the koala survey work. The koala survey found that *Eucalyptus dives* was being selected in granite soils but not in the mudstone soils. Koala surveys search for koala pellets under trees in a grid pattern and record details of the species of the tree and the size of the tree. The koala survey results show that koalas prefer the older larger trees (bigger root systems = higher leaf nutrition?).

Koala leaf rule number 3: Koalas need old growth forests (but please plant koala preferred tree species for the future)

Koalas need fresh leaves every night, my favourite tree is *Eucalyptus rossii* because for our local koalas it is like rice, they will eat it every night. In normal years the leaves of any *E. rossii* tree will be eaten but I have found this summer (2014/15), that with all the rain we have had, most of the *E. rossii* trees have wider and longer leaves and the koalas don't like them (maybe fast growth but low nutrition?). I have to search for trees in better drained areas that have normal looking leaves and then the koala will eat them. I normally offer *E. rossii* every night. The

other eucalyptus species I don't offer every night, I mix them around. With the *Eucalyptus mannifera*, koalas will consistently eat the new growth, these new leaves are a yellow/green colour. The *Eucalyptus viminalis* is a trial and error tree, you will need to cut a branch and offer it to the koala and you will eventually find a tree that the koala will eat, they will eat both new and mature leaves, one trick is to look for an *E. viminalis* tree that has Christmas beetles eating it. If the Christmas beetles like the leaves the koala will too. The *Eucalyptus bridgeisiana* tree is a good tree, the koalas will eat the mature leaves and I have not had them refuse *E. bridgeisiana*, provided I am mixing what they get each night. The *Eucalyptus pauciflora* is something koalas will eat some new growth from, so add to the mix from time to time.

Koala leaf rule number 4: Koalas need a mix of leaf from multiple eucalyptus species every night

The *Eucalyptus mannifera* needs to be thrown out after 24 hours, it wilts quickly. I will normally keep *Eucalyptus viminalis* in for 2 nights. I normally throw *Eucalyptus rossii* out after one night and *Eucalyptus bridgeisiana* can be kept for 2 nights. You must be adding new fresh leaf every night. In my koala enclosure, I have 5 fake trees and each tree has 2 water containers attached to it for putting the stems of branches into. I put different species in each tree and in the morning you can tell what the koala has been eating overnight because there are pellets and bits of leaf on the ground under the trees that the koala has fed from.

Koala leaf rule number 5: Koalas need fresh leaf every night and old leaf needs to be thrown out

Koalas can eat up to 1 kg of leaf per night and will produce at least 150 pellets weighing over

200 grams. Counting and or weighing pellets is an important way to make sure the koala is eating enough. Weighing the leaf does not work because the branches will take up water and change their weight overnight.

Koala leaf rule number 6: Need to count or weigh the koala's pellets to make sure the koala is eating enough

Why is it all so hard? Eucalyptus trees produce toxins to try and protect their leaves from being eaten. Koalas grab leaf by their hand and bring it to their nose, the smell of the leaf informs the koala of 2 things, first how toxic the leaf is and secondly how nutritious the leaf is and these two factors determine whether

it is worth eating. At night time when the koala is awake, I offer a newly cut small branch from a tree to the koala. The koala will grab the branch and bring it to his or her nose and quickly let it go if it is no good or start eating it if it is good. If it is good, I will then go back to that tree and cut some branches for the night. This isn't always 100% accurate because a rejected leaf might only mean the koala doesn't want to eat it right now but a little later that leaf might be fine. I have been told by a scientist that koalas will eat a certain species of leaf until the type of toxins from that leaf species builds up and then switch to another species of leaf. I have certainly had a koala refuse a species of leaf but then after



eating another species of leaf for an hour or so, the koala was happy to eat the branch that they had refused earlier in the night.

Koala leaf rule number 7: Koalas manage their eucalyptus toxin loads and to be able to do this they need a mix of eucalypt leaf species every night.

I hope I have explained the art and science of picking eucalypt leaves for koalas and I will end with a very important warnings. Many antibiotics that can be safely used on kangaroos and wombats will kill the special bacteria in the koala's gut that enables it to eat eucalyptus leaves and the koala will die. Australia Zoo in Queensland deal with very large numbers of koalas every year. We regularly phone the Australia Zoo koala vets and consult with them on appropriate diagnostic tests and treatments for koalas. This ensures we don't make mistakes and provide the koalas with treatments and care plans based on established best practice.

Important warning: Many antibiotics that can be safely used on kangaroos and wombats will kill the special bacteria in the koala's gut and the koala will die.

James Fitzgerald
Wildcare President & Koala
Coordinator
Two Thumbs Wildlife Trust
– Koala Sanctuary and
Rehabilitation Centre
www.twothumbs.org.au

Two Thumbs Wildlife Trust is supported by world famous wildlife vet Dr Howard Ralph, Southern Cross Wildlife <http://southerncross-wildlifecare.org.au/wp/> & Hamish Cameron, West Queanbeyan Vet Hospital. Works with wildlife rescue groups – ACT Wildlife 0432 300 033 LAOKO 6456 1313 NARG 4846 1900 Wildcare 6299 1966 to rescue & rehabilitate koalas in need.

What could it be?

While readjusting several bricks in my vege patch in January I discovered a collection of green leaf fragments. They had been neatly cut into small circles and odd-shaped larger pieces. The “outside” edges of the larger pieces were the natural leaf form, the other sides had wincy serrations. Even more fascinating was what they had made out of similar pieces, a tiny tube not unlike the size of a cigarette filter, all sealed up at the ends with the circles. I could only see small black ants. An engineering feat if they were responsible. Unfortunately by the time I got my camera I had replaced the bricks and didn't want to disturb the tube. The other fragments I slipped back into position.

...and the answer is.... a native Leafcutter Bee! I caught the end of the Friends of Black Mountain's ant walk to ask Ajay Narendra, an ant specialist, if an ant could have made this little tube/tunnel. He had never seen it, but fortunately Kim Pullen, an entomology specialist was also present and he immediately said 'A Leafcutter Bee'.

The bee uses the circles to create tiny cradles for the eggs inside the leaf-lined burrow, and also obviously to seal the ends.

Photos of the leaf cutter bee can be seen on the Internet at: http://www.aussiebee.com.au/leafcutter_bee.html

<http://www.aussiebee.com.au/keyfacts.html>

Calling all Murray cod lovers

A recent article seeks help to allocate stuffed Murray cod in pubs around the Murray–Darling Basin. This new project is part cultural heritage, part environmental history and part biology.

There are few concrete examples of past environmental conditions associated with our rivers in Australia, yet scientists, managers and conservationists are desperate to understand how things have changed, especially since European settlement. One obvious example, however, is those trophy fish that people used to – and in some cases still – love to display on the walls of their favourite watering hole.

What possible information could they give us you may ask. Well, it depends. For some stuffed fish, there is just the fish, but most trophies have the name of the angler, sometimes the date and even where it was caught. Then there is a lot of potential to get some interesting information – assuming there are enough of them around.

So, what can you do?

If you know of a pub (or pubs!) anywhere in Qld, NSW, Victoria or South Australia within the Murray–Darling Basin that have stuffed Murray cod on their walls (actually, any fish would be interesting) then email Paul Humphries with the name of the pub to pumphries@csu.edu.au

For the full article and for more information visit the web site at: <https://paulhumphriesriverecology.wordpress.com/2015/02/03/stuffed-murray-cod-in-pubs/>

Activities

15 March: Australian National Botanic Gardens – A daisy exploration walk. (not confined to the Asteraceae Garden).

Leader: Naarilla Hirsch. **Time:** 10 am - 11.30ish, followed by a visit to the cafe. Meet: Bus Stop shelter adjacent to the car park

Month	Speaker	Topic
5 March	Naarilla Hirsch, Don Beer	The new Asteraceae garden at the ABG: Rationale and plantings
2 April	Mary Lovett	The Pilbara area of WA – the ancient landscape and unique flora
7 May	Ben Wallace	Australian Epiphytes
4 June	Liz Truzwell	The Gondwana connection
2 July	Matthew Higgins	TBA

Monga trip report

A number of members made the trip to the Monga State Forest Nature Reserve, but due to a slight mix-up of signals, we were split into two groups for the morning but met up at the Waratah Walk location for lunch.

The group



It is a very peaceful area with lots of fungi and bandicoot diggings. The Eastern Yellow Robin performed for us as we were obviously in its territory and it too loved the picnic area at the picnic area.



We saw a very tall moss growing at the Penance Grove boardwalk.



Naarilla listed the following flora that she photographed, but this is by no means an extensive list.

- Eucryphia moorei* (plumwood)
- Eucryphia lucida* (leatherwood)
- Dawsonia suberba*
- Dicksonia antarctica* (soft tree fern)
- Cyathea australis* (rough tree fern)
- Telopea* spp
- Tasmania lanceolata* (mountain pepper bush)
- Clavarioid (coral) fungus
- Carex appressa*
- Dianella* spp
- Lomandra* spp

One of the most interesting sightings was the coral fungi.

While not flowering at the time, the *Eucryphia* were quite

Coral fungi



prominent near Penance Grove but I had a report that they were in full flower just a couple of weeks later./

Penance Grove included a large display of tree ferns and was so named after numerous plants were illegally 'harvested' for sale.



At least one 'party' stopped to pick some 'wild' apples on the way home.



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

All newsletter contributions welcome.

Email: alison.milton@health.gov.au

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.)

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: