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GPO BOX 249
CANBERRA ACT 2601

FIELD NATURALISTS' ASSOCIATION OF CANBERRA INC.

FIELD NATURALIST

Meeting—Thursday 7 June 2018

7:30 pm Australian National University

Jan Anderson Seminar Room, R.N. Robertson Building, Biology Place, ANU, ACT
details back page

Grassland restoration through the 'scraping' process

Speaker: Nicki Taws

Greening Australia has been restoring native grasslands for the last 15 years, initially in Victoria, now in Tasmania, NSW and the ACT. Carefully-researched trials found that sometimes drastic measures are required to deal with introduced plants and give natives the competitive edge. Nicki Taws, Project Manager with Greening Australia will present some of the grassland restoration work that has been undertaken in the ACT region over the past 5 years. And if time permits, we may also have a brief update on GA's work on birds in revegetated habitats.

Nicki Taws has worked with Greening Australia in the ACT region for the past 15 years. She has a particular interest in restoring woodlands and grasslands and how this can best be done to benefit native fauna.



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Protecting our bees

After years of determined campaigning the EU just passed an unprecedented ban on three of the worst bee killing pesticides! But while our friends in Europe crack open the champagne, we have work to do: in Australia these same three chemicals are not only legal, but widely used. We need the Australian pesticide regulators to wake up and act before bee populations in Australia suffer a similar fate to those overseas.



The pesticides banned in the EU belong to a category of chemicals called neonicotinoids. Scientists have been warning us for years that neonics are a key culprit behind the global bee die-off.

The active neurotoxins inside the chemicals scramble bees' ability to navigate. They are also harmful to bees' immune systems, making them more vulnerable to infections that are spreading through bee populations like wildfire in many parts of the world.

Worried beekeepers, farmers, and people like you are speaking out for bees to be put before corporate interests. And the forces of people power are working.

This year all major Australian supermarkets and hardware retailers agreed to phase out the neonics they stock. In North America, the biggest hardware stores agreed to do the same.

We need strong laws and regulations to stop big corporations like Bayer and Syngenta from threatening bees in Australia for the sake of profit.



Australia's pesticides regulator, the Australian Pesticides and Veterinary Medicines Authority, has said it is not planning to review the use of neonics. In light of the EU's bold ban to protect the bees, we're asking that the Australian regulators urgently reconsider.

Thankfully the full-fledged crisis that has swept through bee populations in the rest of the world hasn't yet hit Australia in quite the same way, but we can't afford to be complacent.

That's why it's so important that we do everything we can now to protect bees in Australia so we don't end up facing the mass die-offs seen in other parts of the world.

We need your help to get tough on our regulators to do the right thing.

Join us – call on our Government to ban neonics in Australia now. If you want to sign the [petition](https://actions.sumofus.org/a/tell-the-australian-government-to-protect-the-bees-from-pesticide-giants?source=taf) against the use of neonics, you can do so on-line (<https://actions.sumofus.org/a/tell-the-australian-government-to-protect-the-bees-from-pesticide-giants?source=taf>).

Victoria announces a ban on opera house traps

Edition no. 72 of *Platypus News & Views*, the newsletter of the Australian Platypus Conservancy includes great news for platypus: Victoria has announced a ban on opera house traps from July 2019.

Also included:

- important platypus sightings from the Wimmera River and the South Australian section of the Murray River system;

- seasonal variation in platypus sightings;
- a rakali survey to be launched in the ACT region in 2018–2019;
- what to do if you hook a platypus while angling; and
- a reminder that donations and bequests are vital for the continuation of the APC's work and that they are tax deductible (in Australia).

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Website: www.platypus.asn.au
Facebook: Australian Platypus Conservancy (Official)

Editor's note: While the issue of the newsletter was attached to the email I received, it was not yet available on the web site at the time of publication of this newsletter.

Helping farmers and reducing car crashes: the surprising benefits of predators

Humans may be Earth's apex predator, but the fleeting shadow of a vulture or the glimpse of a big cat can cause instinctive fear and disdain. But new evidence suggests that predators and scavengers are much more beneficial to humans than commonly believed, and that their loss may have greater consequences than we have imagined.

Conflict between these species and people, coupled with dramatic habitat loss, is causing unprecedented predator and scavenger declines. Nearly three-fourths of all vulture species are on a downward spiral. African lions are projected to lose half of their range in the coming decades and leopards have lost upwards of 75% of their historic range. Many bat species are facing extinction.

A recent paper in *Nature Ecology & Evolution*, summarised recent studies across the globe looking at the services predators and scavengers can provide, from waste disposal to reducing car crashes.

Animals that eat meat play vital roles in our ecosystems. One of the most outstanding examples found was that of agricultural services by flying predators, such as insectivorous birds and bats.

Studies that showed bats save US corn farmers over US\$1 billion

in pest control because they consume pest moths and beetles. Similarly, the study found that without birds and bats in coffee plantations of Sulawesi, coffee profits are reduced by US\$730 per hectare.

It's not just birds and bats that help farmers. In Australia, dingoes increase cattle productivity by reducing kangaroo populations that compete for rangeland grasses (even when accounting for dingoes eating cattle calves).

This challenges the notion that dingoes are solely vermin. Rather, they provide a mixture of both costs and benefits, and in some cases their benefits outweigh the costs. This is particularly important as dingoes have been a source of conflict for decades.

Predators and scavengers also significantly reduce waste in and around human habitation. This keeps down waste control costs and even reduces disease risk.

For example, golden jackals reduce nearly 4,000 tons of domestic animal waste per year in Serbia and over 13,000 tons across urban areas in Europe. Vultures can reduce over 20% of organic waste in areas of the Middle East. In India, vultures have been implicated in reducing rabies risk by reducing the carcasses that sustain the stray dog population.

One piece of research showed that if mountain lions were recolonised in the eastern United States, they would prey on enough deer to reduce deer-vehicle collisions by 22% a year. This would save 150 lives and more than US\$2 billion in damages.

Weighing up the costs and benefits

Although these species provide clear benefits, there are well known costs associated with predators and scavengers as well. Many predators and scavengers are a source of conflict, whether it is perceived or real; particularly pertinent in Australia is the ongoing debate over the risk of shark attacks.

These drastic costs of predators and scavengers are rare, yet they attract rapt media attention. Nevertheless, many predators and scavengers are rapidly declining due to their poor reputation, habitat loss and a changing climate.

It's time for a change in the conservation conversation to move from simply discussing the societal costs of predators and scavengers to a serious discussion of the important services that these animals provide in areas we share. Even though we may rightly or wrongly fear these species, there's no doubt that we need them.

The Water Rat (*Rakali*)

With the start of the new Rakali survey the following is reproduced with permission.

Extracts from A Bush Capital Year, A Natural History of the Canberra Region, Ian Fraser, Peter Marsack, CSIRO, 2011.

Water rat (*Hydromys chrysogaster*)

It has been a nightmare journey. The little group of refugees was wet and starving: fortunately the monsoonal rains were warm, which meant that there was no danger of dehydration and minimal risk of hypothermia. On board the battered raft were three species of forest rats and a tree snake. The snake and the rats had reached a stand-off, but other passengers – geckoes, stick insects, smaller snakes – had succumbed to their hungry companions. The voyage had started nearly three weeks earlier in eastern Indonesia, when a violent tropical storm had flooded the forest floor, washing many animals into the river before they could climb to safety. Many perished, but some clambered onto debris being washed downstream. Some of these came back to the bank kilometres downstream, but others were not as fortunate. This group had been on the largest of many rafts – a full forest tree augmented with other debris tangled in its branches. Fruit and leaves (and fellow passengers) had sustained them until a few days ago, but things were now critical and only the chop of the shallower waters and a dark line on the horizon gave any hope. When the raft lodged among the mangroves the survivors scrambled unsteadily ashore. They had a whole continent to explore and populate, where no rodent had ever set foot. Over the subsequent few million years their descendents would spread throughout the drying continent, diversifying until they represented a quarter of all the Australian mammal species, in every conceivable habitat.

Much later, perhaps only a million years ago, another group of invaders arrived, closely related to the rats, which have now become part of human life all over the world. Another seven species derived from these, including the delightful Bush Rats, but they have not been here long enough to penetrate the deserts.

Lake Burley Griffin

The handsome big rat – some 60 centimetres long – paddling along the edge of the lake wall is a child of that long ago and far away landfall. So successfully had its ancestors made themselves at home that he has achieved in a mere five million years or so what no marsupial had managed in 65 million years of isolation from the rest of the world. Of some 200 land-dwelling Australian mammals, only the Water Rat and the Platypus have taken to the water as an essential part of life.

He swims with his partly webbed back feet, and his streamlined flattened head with eyes and nostrils high up in it, tiny ears to reduce the drag in the water and thick waterproof fur are all adaptations to his lifestyle. His distinctively sinuous style in the water, and white-tipped tail, make him unmistakable. At the moment he is heading for the little island to the west of the Carillon, leaving the wall and heading across the open water. In his front paws is a large fresh-water mussel; he can readily crush some young ones but this one is too tough. He knows a trick or two though, and the mussel is doomed. Coming ashore, he shakes himself dry and places the mussel on a rock in the sun – and waits. He knows patience will earn him a meal. In time the mussel will open in search of relief and then he will pounce. The area around the mussel is littered with yabbie and small mussel shells and fish bones. This is his favourite feeding table and he habitually brings food back here to eat at leisure.

His mate is nearby, though he will take no further interest in her until her current three babies are big enough for her to breed again. She is now suckling them in a burrow, which opens among willow roots on the far side of Aspen Island. This is not just any old burrow, but a complex and comfortable one indeed. It runs parallel to the bank with a bedroom lined with bark and grass, a pantry to store snacks and beyond these the breeding chamber where the babies are being fed.

As soon as they are finished she will go out to find something for her own hunger twinges. Out on the rock the mussel is giving up. The mangrove landfall of the rats' ancestors is indeed very distant.



Water rat interesting behaviour

Once again I was lucky enough to spot a water rat at Lake Ginninderra last Sunday and again at Jerabomberra Wetlands the very next day. On both occasions the rat emerged fully from the water. The Lake Ginninderra photos weren't as good as I'd hoped as it was getting dark and my shutter speed was too slow.

However, the behaviour of the rat was very interesting. I spotted it swimming along the water line near the 'jetty' at the skate park end of the lake. It disappeared into cracks in the wall and while I waited a while it didn't re-emerge.

I did a circuit of the ponds, checking the area again with no luck. Then having about 10 minutes before having to dash up to the bus stop decided to make one more circuit. I'm glad I did. The rat had climbed up on to the 'jetty' in the company of around 20 wood ducks.

It spent about five minutes or so scrounging around the platform for food. Then it showed some interesting behaviour. It scurried over to the edge of the platform, turned and did its 'business' over the side of the jetty.

Such a clean animal for those who say rats are filthy creatures.



The rat at Jerabomberra I had seen once before but not managed to photograph. On this day I was lucky.

It was swimming along one bank and I watched as it then swam across the creek and came back down along the bank on the other side. It disappeared from time to time as it spent time 'hunting' in a particular area, but with patience, it eventually came down to the exposed logs near the bridge and climbed up onto the logs before swimming off again. It disappeared into the reeds a little further on and didn't reappear.

Alison Milton

Little Eagle uncertainty

While on first appearances the Little Eagle seems to be doing better than expected, there are grounds for concern, and it is listed as vulnerable in NSW and the ACT.

The Little Eagle's preferred habitat in the ACT is woodland or farmland often near rivers, where not already occupied by Wedge-tailed Eagles. However, much of this land is subject to development. The ACT government has been buying farmlands on the east bank of the Murrumbidgee, apparently for urban development, and the Molonglo and Ginninderry developments are already proceeding.

Since Little Eagle habitat is mostly on private land, and the ACT government no longer allows birds to be studied on its land, except by the official Little Eagle study group funded by Riverview, the government and Riverview have an effective monopoly on information about the Little Eagle. It is in their interests to show that development will not affect the Little Eagle, and Riverview has applied for EIS exemption for the rest of its development in the ACT.

Jerry Olsen and Steven Debus are the leading experts on the Little Eagle, and Jerry's studies show a decline in Little Eagle numbers in the ACT

since 1990. Jerry's studies indicate 11 nests with eggs or young in 1990–1992, whereas in the new study, 6 pairs laid eggs and 4 chicks were reared last year. Steven has been added to the Little Eagle study group, at the request of the Ginninderra Falls Association, but will not be involved in field work, since he is in Armidale. Jerry has been excluded from studying Little Eagles on government land.

According to Canberra Bird Notes, Volume 43, Number 1 of May 2018 the reporting rate for the Little Eagle is 55% below the 30 year average, although only selected findings of the Little Eagle research group have been made available.

The fact that the long-distance migration of the Little Eagle has only recently been discovered suggests that not enough is known about the species to plan adequately for its conservation.

Dave Kelly.

Addendum: On the COG website in issue 2 of Canberra Bird Notes vol. 43, there are further articles concerning the Little Eagles' status, research and reporting in our region.

Rosemary Blemings

Australian magpies can understand other bird calls, study finds

Australian magpies can understand what other birds are saying to each other, a new study has found.

The research, published in the journal *Animal Behaviour*, says the wily magpie has learned the meanings of different noisy miner calls and essentially eavesdrops to find out which predators are near.

Noisy miners – a small, native honeyeater – have different warning calls for ground-based and aerial predators. By playing both kinds of recording to a series of wild magpies, researchers observed the magpies raising their beaks to the sky, or dropping their heads to the ground.

The study took place between February and April 2016 in four locations in Canberra, including the Australian National University campus and parks in Turner.

Researchers lured the magpies with grated cheese, then played the noisy miner calls, videotaping the results.

As a control, they also rolled a large orange ball towards the magpies to see how they ordinarily tilted their beaks to ground threats, and threw the ball to see how they reacted to aerial threats.

Overall 30 wild adult magpies had their reactions recorded – twice – with nine flying away.

The researchers recorded an average maximum beak angle of 29 degrees for the thrown ball, and an average maximum of nine degrees when it was rolled.

The miners' aerial warning prompted an average maximum beak angle of 31 degrees, and the ground warning prompted an average maximum of 24 degrees.

One of the study's authors, Dominique Potvin, said the magpies demonstrated an astonishing level of insight.

"A lot of birds around the world have been shown to respond to a degree of threat, but this is a little bit more nuanced. We're not looking at 'if you scream louder does that mean more danger and you hide'. This is a very particular sound that indicates the spatial location of something. For the magpies to actually hone in on that is pretty new."

Magpies and miners broadly face the same types of predators – brown goshawks, peregrine falcons and boobook owls in the air, and foxes, cats, dogs and snakes on the ground – and the two frequently live in the same ecosystem.

Potvin said this had spurred the magpies' learned behaviour.

"Magpies are generally found on the ground and noisy miners are generally found up in trees. It pays for the magpie to pay attention to somebody who has a better view of predators than they do."

She said it was unclear whether other birds could do the same, but it was highly likely other magpies around Australia already did.

"Magpies are a pretty smart group. We're not sure if they're learning this from other magpies or if they're figuring it out on their own, but the ability is there. We don't think this would be isolated to Canberra populations."

As part of the experiment, researchers also played a third call: a generic, non-warning call from a crimson rosella. They found the magpies did not respond.

Potvin said the findings opened up new avenues for animal cognition research. "It's a good piece of the puzzle," she said. "Looking at the social relationships between species that live in communities."

Activities

30 March to 24 June: The art of science

The National Museum of Australia's Exhibition of Baudin's Voyages 1800–1804. Over 50 of Lesieus and Petit's original illustrations on loan from the Natural History Museum, Le Havre. The precious works include striking portraits of Aboriginal people as well as watercolours and drawings of marine creatures, mammals, and birds. Free entry.

'Step through STEP', on Tuesday 12 June, 3–5 pm

Andy Russell will lead a walk for FOG, through the Southern Tablelands Ecosystem Park, Forest 20, at the National Arboretum Canberra, on Tuesday 12 June, starting at 3 pm. This is a great opportunity not just to see and admire the species in this garden-like collection of Southern Tablelands native vegetation (a range of grassland, shrub and tree species), but to hear how it has developed since the idea was first agreed to, back in the mid-2000s. FOG has been involved in a number of ways, and there are reports in FOG newsletters: March-April 2015, <http://fog.org.au/Newsletters/2015-03newsletter.pdf> and November-December 2014, <http://fog.org.au/Newsletters/2014-11newsletter.pdf>.

Please register with ann.milligan@fog.org.au by Monday 11 June, to find out where and when to meet on the 12th.

Black Mountain Symposium 24-25 August 2018

Online registration is available now for the Black Mountain Symposium 24–25 August 2018 at <https://www.friendsofblackmountain.org.au/symposium/> Ticket can be purchased for Black Mountain Symposium Talks only (\$55), or Black Mt Symposium Talks and a Saturday Walk (\$60), or Black Mt Symposium Talks and Wine and Cheese function (\$70), or Black Mt Symposium Talks and a Saturday Walk and Wine and Cheese function (\$75). The draft program of the Symposium Talks is available at <http://www.friendsofblackmountain.org.au/SymposiumProgram> along with the list of walks from which to select if you wish to go on a guided walk as well as hear the talks on Friday. Linda Beveridge

Convenor, Friends of Black Mountain

Proposed oral history project on the history of Black Mountain

As you would be aware, Black Mountain Nature Reserve is an integral part of the landscape setting of Canberra and has visual, biodiversity and recreational significance to the city and its inhabitants. This project aims to record and preserve the experiences and recollections of individuals whose activities have centred on Black Mountain in significant ways.

We believe that your reflections, recollections and observations about the botanical diversity of Black Mountain and your extensive involvement with conservation in the ACT would make a valuable and unique contribution to the history of the reserve, and more broadly to the history of the ACT. We envisage your contribution being an important aspect of this project, and very much hope that you will be interested and agree to take part.

We are currently preparing an application to the ACT Government for a Heritage Grant to fund this oral history of Black Mountain. This project will form part of the activities to celebrate the 50th anniversary of the declaration of Black Mountain Nature Reserve in 1970.

If our application for a Heritage Grant is successful, we propose to conduct oral history interviews from October or November 2018. This will involve an interview of around one hour with an oral historian. The interview would be held somewhere that is convenient, such as your home. The interview will be recorded and you will receive a copy. Also, with your agreement, a copy will be deposited with the ACT Heritage Library.

At this stage, we are seeking your expression of interest to participate in the project and your consent to have your name included in our application for a Heritage Grant. If you agree to be interviewed as part of this project, we will provide you with more detailed information about the process and how the information you provide may be accessed by the public.

We would be delighted if you would agree to participate in what we believe is an exciting opportunity to document aspects of the history of Black Mountain.

Please feel free to contact me if you have any questions.

Julie Hotchin
julie.hotchin@gmail.com



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 Blemings, et al

Email: fieldnaturalist@yahoo.com.au

Website: under construction

Editor: Alison Milton All newsletter contributions welcome. **Email:** apm56@optusnet.com.au



Monthly meeting venue: Jan Anderson Seminar Room, R.N. Robertson Building, Biology Place, Australian National University.

Field Naturalists' Association of Canberra
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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 \$25) Donation: \$.....

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