OBJECT: To foster an interest in nature

February 2016
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MEETING—THURSDAY 4 February 7:30 pm Australian National University

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

Piggy in the Kikori—the pig-nosed turtle in Papua New Guinea

Speaker: Arthur George

Arthur Georges is a biologist with a long-standing interest in freshwater turtles. A fundamental interest in these fascinating animals takes him into the field and the laboratory to learn more of their biology and to apply what he has learned in solving contemporary challenges for their conservation. His work has included projects on turtles in the dune lakes of Fraser Island, the world's largest sand island; turtles in the arid centre of Australia, in the northern Australian wet-dry tropics with the Aboriginal communities of Arnhem Land, in the lowlands of southern PNG on the enigmatic pig-nosed turtle, and now also in the Murray-Darling Basin, Australia's biggest river, but now seldom flowing into the sea because of intensive water resource development. Arthur is a leading expert on freshwater turtles in Australia

Releasing hatchlings

Contents

Mistletoe: the kiss of life for healthy forests 2
Woodland flora: a field guide for the Southern Tablelands (NSW & ACT) 3
A New Year's surprise 4
Rosenberg's Monitor breeding activity observed on Mt Ainslie, at last! 5
Encounters 5
Reptiles of Canberra Region: Canberra Nature Map 6
Bowerbird 6
Activities 7
The planets are aligning 7
Australasian Bat night 7

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FIELD NATTER

Mistletoe: the kiss of life for healthy forests

In many parts of the world, Christmas and mistletoe are inextricably intertwined. So, as 25 December draws nearer, now is a good time to remind ourselves about what mistletoe is and why we associate it with plum pudding and Santa.

There's also been some recent discoveries about the role mistletoe plays in boosting biodiversity and improving ecosystem health.

The mistletoe Viscum album from Otto Wilhelm Tomé's Flora von Deutschland Osterreich und der Schweiz 1885

The whole mistletoe/Christmas connection predates Christianity, with mistletoe featuring prominently in the Druid's ancient winter solstice rituals.

With their bright green leaves and complete absence of roots, mistletoes are especially apparent on leafless hosts in the winter, and these sprigs of green in an otherwise lifeless forest inspired a rich folklore. Having harvested a mistletoe sprig from an oak with a golden sickle, the cutting was taken back to their temple where it was kept for three days. On the fourth day (Christmas Day), the leaves were distributed to worshippers, signifying the rebirth of the sun and ensuring a bountiful harvest in the coming season.

Variations of these rites are still practised today. Mistletoe sprigs variously deter trolls from stables (Sweden), prevent nightmares (Austria), welcome loved ones home (Heathrow airport in London), or give a sharp-eyed colleague kissing privileges at the staff party.

The good parasite

In the natural world, mistletoe has long fascinated naturalists and scientists.

As canopy-dwelling parasitic plants, mistletoes are completely reliant on animals to disperse and 'plant' their seeds on suitable hosts. Until recently, ecologists assumed that most dispersal was conducted by an exclusive group of fruit eaters–the mistletoe fruit specialists.

Eating little else (even feeding the sticky morsels to their chicks), members of eight groups of birds (including Australia's Mistletoebird), these birds are now known to have very strict habitat preferences, only visiting areas with abundant mistletoe.

A Mistletoebird carefully extracting a sticky mistletoe fruit from the tough outer skin. Fourteen minutes later, digestion is complete, the sticky seed is deposited on a perch and dispersal has been achieved Chris Tzaros

So, although important for spreading mistletoe to new hosts, these specialists rarely introduce mistletoe to new areas. That job is performed by a much larger group of occasional mistletoe-munchers, a group we're only now starting to learn about.

The more you look, the more mistletoe mysteries you find.

As well as direct providers of food (fruit, nectar and succulent foliage), many animals prefer to nest in mistletoes, and the combined effects of these interactions was a positive effect on biodiversity: areas with more mistletoe have high numbers of animal species living in them.

We use cherry pickers to access the canopy for the removal experiment. David Watson

It's all in the leaf litter

To test this idea, and work out exactly why it is so, my team conducted a large-scale experiment. We removed all mistletoes from one set of woodlands, and left all the mistletoes alone in a second set (with a third set of woodlands naturally lacking mistletoe for reference).

The results were as rapid as they were striking. Within three years of removing mistletoe, the num-

ber of bird species dropped by over third! But, rather than being the fruit eaters or nectar feeders, it was the insect eaters that showed the clearest response.

In fact, once insect eaters were gone, there was no further effect of removing mistletoe on the reminder of the bird community. This response was especially true for ground-foraging insect-eaters: the robins, babblers, choughs and their ilk, a group of birds that has undergone widespread declines in south-eastern Australia.

Grey Shrike-thrush, one of the ground-foraging insectivores that declined in woodlands after mistletoes were removed. Tom Rambaut

So, what's the connection between a parasitic plant in the canopy and birds eating insects on the forest floor?

Through careful analysis of leaf litter and bird diets, I've demonstrated that the keystone effect of mistletoe is the result of bottom-up processes, driven by their high volumes of enriched leaf litter.

Unlike most plants that conserve their nutrients, withdrawing them prior to dropping their leaves, mistletoes shed their leaves as is, boosting availability of a wide range of nutrients and accelerating decomposition.

In turn, this leads to dramatically higher numbers of insects and spiders on the forest floor, in turn, providing food for insect eaters.

So, rather than the direct effects of food and shelter, this research suggests that the influence of mistletoe on biodiversity is driven by a different effect: the steady stream of leaf litter effectively fertilising the forest and increasing habitat quality for wildlife.

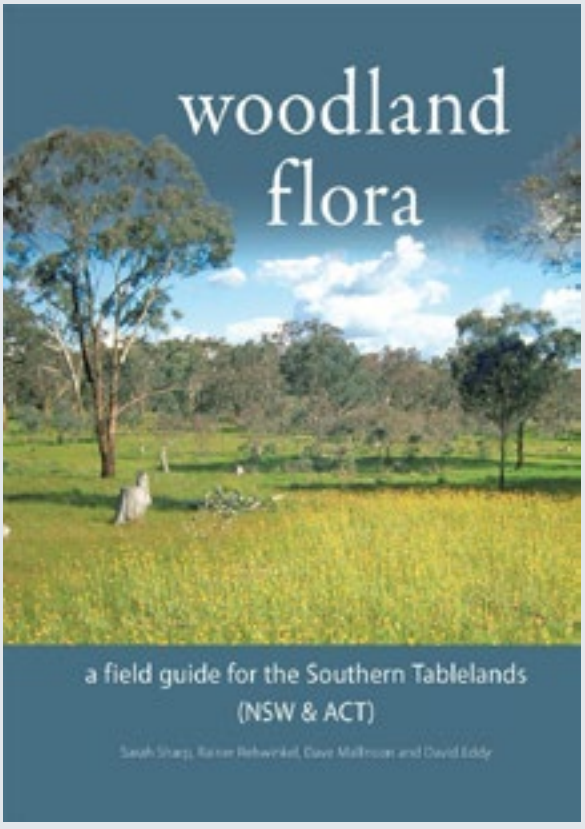
So, while some of you will be hoping for a kiss beneath the mistletoe, next time you see one in the bush, I encourage you to look down rather than up, to appreciate the effect these unsung heroes have on overall ecosystem health.

Source: The Conversation [online]. Available from: http://theconversation.com/mistletoe-the-kiss-of-life-for-healthy-forests-52137?utm_medium=email&utm_campaign=Latest%20from%20The%20Conversation%20for%20December%2025%202015%20-%204045&utm_content=Latest%20from%20The%20Conversation%20for%20December%2025%202015%20-%204045+CID_acc47b77f3fec8664b6d6f09306ca9d2&utm_source=campaign_monitor&utm_term=Mistletoe%20the%20kiss%20of%20life%20for%20healthy%20forests

Woodland flora a field guide for the Southern Tablelands (NSW & ACT)

The book *Woodland Flora, a Field Guide for the Southern Tablelands (NSW and ACT)* was published in late 2015. It is an easy to use field guide for woodland ecosystems by Sarah Sharp, Rainer Rehwinkel, Dave Mallinson and David Eddy. It covers 440 species found in woodlands in the Southern Tablelands. Many of these species also occur in other habitats and in other regions and states. Every page has descriptions and one or more photos to help identify each of the species. This is a companion book to Grassland Flora.

Copies of the book will be available for sale at the February 2016 meeting at the special price of **$20.**



A New Year's surprise

I think this must rank as the biggest surprise we have had in our 20 years of living in the Kingsway Estate at Queanbeyan.

On Wednesday 6 January noisy, bombing magpies drew our attention to the top of a big apple gum which grows to the East of our house, directly in front of our bedroom window. Imagine our amazement when binoculars focussed on not the expected eagle or frogmouth, but on a beautiful, big koala, swaying in the breeze!

Camera - Action!!

The photos were taken by our neighbours: the first two by Emily Stewart-Reed and the third by Frank Briggs.

Our resident NPWS Ranger - Rowan Watts – was soon on the scene. He suggested that Jeffrey – so named by our two excited grandchildren – was a wandering lone male, and that he was the most northern Koala ever recorded from the local populations.

We were asked to collect any scats for a Sydney Uni team of researchers who are investigating the occurrence of Chlamydia and its effect on koala a populations, This was done the following morning. Rowan told us that the Chlamydia is found in a mucus layer which surrounds the scats, so luckily there was no overnight rain to wash this vital layer away!

We were hoping that there was a way to tag Jeffrey, but were told it is too difficult to attempt, considering height above ground and very long claws!

So, after a whole day spent with us, where is Jeffrey now? Who knows! Hopefully the maggies have an eye out for him and will keep us informed!

Johanna and Colin

Rosenberg's Monitor breeding activity observed on Mt Ainslie, at last!

This evening the project that Don Fletcher and I have been running finally revealed gold. We observed a female Rosenberg's Monitor laying eggs in her excavation chamber in a termite mound. This particular mound is one that I have been watching for over a year, and we have evidence that it is at least the third season that it has been used. There has been no observable activity at this particular mound for nearly twelve months, until today when the excavation suddenly appeared, and this evening when we visited and Rosie was in there. Peggy Rismiller's research on these goannas from Kangaroo Island talks of females going into a 'trance-like' state during egg-laying, and this was certainly observable, as in the attached photo. A great day for the continuation of a species which is 'Vulnerable' in NSW and not often seen in the ACT. Any sighting of a Rosenberg's is special, and breeding behaviour is especially so.

Matthew Higgins

Encounters

Encounters features rare Aboriginal and Torres Strait Islander objects from the British Museum that were collected from 1770 onwards. This unique exhibition reveals the voices, emotions and stories connected to these powerful objects. This promises to be a very thought provoking and interesting exhibition.

On show until 28 March 2016. Admission is free.

Book your free ticket http://www.nma.gov.au/exhibitions/encounters

Reptiles of Canberra Region: Canberra Nature Map

The Canberra Nature Map (CNM) began in late 2014 and initially aimed to identify populations of rare plants in the Canberra region. CNM is supported by many local conservation organisations, individuals and the ACT Government. It is growing quickly and now also includes records of fungi and a greater range of plants.

In 2015, the ACT Herpetological Association successfully applied for a grant to extend CNM to include reptiles, frogs, butterflies and birds, and to develop iPhone and Android Apps for CNM.

Canberra Reptiles is a citizen science project that helps anyone with a camera to identify, photograph and upload images of snakes, lizards and turtles to Canberra Nature Map (CNM). CNM in turn creates a record including the species name, the time, and location of the sighting. The sighting is verified by a local reptile expert. The CNM provides maps, at broad or detailed eleven, showing the location of these species. It also provides many ex-cellent photos and other information on each reptile species. CMN records are shared with the Atlas of Living Australia.

The new reptile module was officially unveiled on 18 January 2016.

Reptiles in the Canberra region

The most likely snake to be encountered in the Canberra region is the Eastern Brown Snake, although the Red-bellied Black Snake is not uncommon and at higher elevations it is not uncommon to come across the Highland Copperhead. All are venomous. They all belong to the large group of snakes called elapids or front-fanged snakes, which inject venom into their victims. Knowing a little about snake ecology and behaviour and acting sensibly if one encounters snakes in the wild, one can enjoy observing and photographing snakes safely at a distance, or even observing some unusual behaviours. Reporting them on CNM can also help all of us to learn more about them.

There are many other elapids that are rarely seen either because they are rare or spend most time underground. These include larger snakes, Tiger Snakes and Death Adders, as well as a host of smaller elapids. Another rare large snake is the Diamond or Carpet Python, which of course is not an elapid. Then there is the peculiar Blink Snake which essentially spends its time underground.

There are five categories of lizards: numerous skinks, six dragons, five legless-lizards, two geckos and two monitors. Amongst the skinks, blue-tongues are not uncommon and CNM is keen to learn what blue tongues and other small skinks exist in people's gardens, and what can be done to encourage these cute and harmless animals to live with us. Many people consider that smaller skinks are just small brown animals, but in fact there are many species and each has its own fascinating pattern and colours, habitat preference, behaviour and variation.

Among the six dragons there are the often seen Water, Bearded and Jacky Dragons, the more specialised and rarer Nobbi and Mountain Dragons, and the often publicised but highly threatened Grassland Earless Dragon.

People in the region find legless-lizards fascinating. They look like, and superficially be-have like, snakes, but in fact are very different. Two, that are threatened species, the Striped Legless-lizard and the Pink-tailed Worm-lizard have been well researched and Canberra remains their stronghold. Strangely, the legless-lizards' relative is the gecko and few Canberrans know that two species gecko are not uncommon in Canberra.

Two rare monitors or goannas are also found in the region. The Lace Monitor while com-mon in broader region, is rarely seen in Canberra, and the Rosenberg's Monitor, a threat-ened species, is actually more often recorded. CNM is keen to learn more about the pres-ence of these species.

The Eastern Long-necked Turtle is often observed in and around Canberra and survives despite the many obstacles that we place in its way. The Short-necked Macquarie Turtle is occasionally observed.

Bowerbird

Michael Bedingfield mentioned this site and community at the Friends of the Grasslands end of year gathering. It is similar to our Canberra Nature Map but longer-established.

http://www.bowerbird.org.au/

Very promising for naturalists and those who are still CURIOUS and inspired but what we find and photograph!

Activities

Mt Clear Area 14 February

Meet Namadgi Visitor Centre 9 am. A short walk along gently undulating country. We will not go out if forecast temp. over 30c. Organiser: Warwick Daniels. Email: wda68126@bigpond.net.au

Month	Speaker	Topic
4 February	Arthur George	Piggy in the Kikori -- the pig-nosed turtle in PNG

The planets are aligning

From 20 January to 20 February, all five visible planets will sit in a line from the horizon to the moon – for the first time since 2005.

Dr Alan Duffy, research fellow at Swinburne University in Melbourne, said that this reasonably rare alignment is 'essentially a quirk' of the universe. All the planets sit on a flat plane but have different yearly cycles – so for all five visible planets to happen to line up is "something well worth seeing" he said.

According to Dr Tanya Hill, senior curator at the Melbourne Planetarium, there will be another chance to view the planets lined up in August, but then not again until October 2018.

Venus and Jupiter will be easiest to see and Mars, while a little harder, will have a distinctive red glow to look out for.

"The big challenge will be Mercury" said Alan. Because Mercury is so close to the horizon, there is only a small time period when it will appeared before the sun comes up. Tall buildings and trees could also block your view of the final planet.

Alan's advice is to find as clear a horizon as possible and, most importantly, a dark sky. While it isn't impossible in the city, light pollution and sky scrapers will make the viewing much harder.

The alignment will be visible from 20 January until 20 Feburary and Alan suggests to go out on more than one day to watch the event if you don't quite catch it the first time.

"There are only a few amazing things in the night sky that can be seen without any equipment" Alan said, adding that it is worth the early morning rise.

Tips

The alignment will be visible to the naked eye from 20 January from 5.30 am–5.45 am AEDT until 20 February 5 am–6 am AEDT.

Hold your arm up in a straight line from the horizon to the moon and the planets should fall along that line.

Try to find a flat horizon and a dark sky.

Australasian Bat night

March and April 2016

Australasian Bat Night is a public awareness programme aiming to educate people about bats, to raise the profile of bats and debunk the myths and fears, to achieve better conservation outcomes and assist people to live with bats.

We are inviting local councils, land-care groups, Field Naturalists, eco and wildlife tourism operators, wildlife carers, zoos, sanctuaries and wildlife parks, museums and other community groups to participate by running bat activities during March and April (and even into May), anything from a Bat walk looking for microbat activity or watching a flying-fox fly-out to building bat boxes or giving a simple presentation to holding a Bat Festival.

For more information and to register contact Maree Treadwell Kerr at batnight.ausbats@gmail.com. And check the ABS website http://ausbats.org.au/ to keep in touch and find out more.

The microbat I found sleeping under black plastic in my garage in 2013

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:

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Subscription enclosed: $……(Single/Family $25) Donation: $.....

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