

## ACTHA inc. News

June-July 2021

### Newsletter of the ACT Herpetological Association Inc.



[WWW.ACTHA.org.au](http://WWW.ACTHA.org.au)

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#### ACTHA Committee for 2020-2021

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*\*denotes life members*

#### Diary Date – next meeting:

Our next meeting will be held on **Tuesday 17<sup>th</sup> of August, at the Canberra Reptile Zoo, commencing at 7pm**

This month's presentation will be on the monitoring of threatened Gondwanan frog species by Angus Cleary.

Angus will report on his trip to the New England Tablelands and the Ranges of Northern New South Wales to help monitor the effects of fire on several threatened frog species in November of 2020, with the University of Newcastle.

# Death Adders: The Black Sheep of Australian Snakes

## – A presentation by Christina Zdenek

*At the April ACTHA meeting herpetologist Christina Zdenek spoke about her research on Australian Death Adders. Christina is a lab manager and post-doctoral research fellow at the University of Queensland, spending many years researching Death Adders all over Australia, with focus on Magnetic Island.*

Death Adders are an example of convergent evolution, bearing general morphological resemblance to vipers. However, they are the black sheep of Australian Elapids in that they are the only ones to be ambush hunters. They face many growing threats such as land clearing, poor fire management, whilst the introduction of Cane Toads across the north of Australia has caused further decline in their numbers. There is an inverse correlation between the rising toad numbers and decreasing Death Adder populations across the top end. However, Northern Death Adders (*Acanthophis praelongus*) have increased in numbers since the spread of toads into their range, potentially caused by a drop in Death Adder predators due to toad poisoning.

Christina explained how she conducted her PhD on Death Adders on Magnetic Island which has one of the highest densities of these snakes in Australia. In 2013 alone, 10 dogs and three cats died of Death Adder bites on the island. According to local residents, most Death Adders are seen on the island in May, decreasing during the drier months and increasing again in summer.

Christina's research on movement patterns of the snakes, began by finding a sample group of 5 Death Adders, and implanting small tracking devices in their tails. By using telemetry, Christina could find each tracked snake again every few days, in order to measure its distance and direction travelled. Christina found that Death Adder movement spiked every few days, with the snakes typically moving no more than 15 metres per day.

The snakes would like to sit between the bases of several large rocks that hosted colonies of Saxicoline Sun Skink (*Lampropholis adonis*), where they could lie in wait for their prey. When the skinks jumped between the rocks the Death Adders would ambush them mid-air.

*ACTHA is very appreciative of Christina's time in summarising her interesting PhD research on the complex world of Death Adders*

*Further information:*

A link to the video recording of Christina's to the ACTHA meeting is on:

[https://www.youtube.com/watch?v=8Jf\\_Sd4ilk4](https://www.youtube.com/watch?v=8Jf_Sd4ilk4)

Christina's Website is: <https://cnzdenek.wixsite.com/cnzdenek>

A link to an ABC Radio National episode of *Off Track* in which Christina features is on

<https://www.abc.net.au/radionational/programs/offtrack/will-the-bush-kill-you-with-venom/13210256>

## Training dragons to breed at new Tidbinbilla facility

Michael Weaver 5 June 2021



*A grassland earless dragon in the new breeding facility at Tidbinbilla Nature Reserve. Photo: Blake Reeves.*

Scenes reminiscent of the movie *How to Train Your Dragon* are being played out at Tidbinbilla Nature Reserve where a new breeding facility has opened for six endangered grassland earless dragons from Melbourne Zoo.

While the six dragons don't need much training, the breeding program will act as insurance to guard against extinction and provide a source of animals for reintroduction to the wild.

It will also provide opportunities for research aimed at conserving and managing the species in the face of threats from predators, habitat destruction and climate change, according to ACT Minister for the Environment, Rebecca Vassarotti.

“This facility and breeding colony will be critical to the long-term survival of the grassland earless dragon, which is only found in the ACT region,” she said.

The ACT Government has partnered with the University of Canberra to construct the \$60,000 purpose-built breeding facility and specially designed quarantine capacity that could house up to 80 dragons.

Researchers from the University will do genome sequencing to assist in breeding the dragons, as well as other behavioural, genetic and ecological studies.



*ACT Parks and Conservation Service staff with Ministers Rebecca Vassarotti and Mick Gentleman at the new breeding facility for the endangered grassland earless dragon at Tidbinbilla Nature Reserve. Photo: Supplied.*

Minister Vassarotti said establishing the colony would help preserve this important species in the face of an extinction crisis.

“If we are to halt and reverse the damage we’re doing to our natural environment, we must challenge ourselves, and test and trial approaches to tackle extinction rates and reintroduce native fauna back into the wild,” she said.



“We need action at every level – from strong national environmental laws and clear national plans for threatened species, to concerted local action.

“The ACT Government understands the urgency of this work and has taken proactive steps to conserve habitat and protect our threatened species, such as the eastern bettong and the grassland earless dragon.”

University of Canberra researcher Professor Stephen Sarre said the university had collaborated with the ACT Government to establish the first captive colony of grassland earless dragons more than 15 years ago.

“We are very keen to support the new facility at Tidbinbilla in whatever way we can,” he said.

“The University of Canberra has played, and continues to play, a lead role in behavioural, genetic and ecological research on the Canberra grassland earless dragon.”



*A grassland earless dragon makes itself at home in the breeding facility at Tidbinbilla Nature Reserve. Photo: Blake Reeves.*

ACT Minister for Planning and Land Management, Mick Gentleman, said the dragons will feel right at home in the new facility.

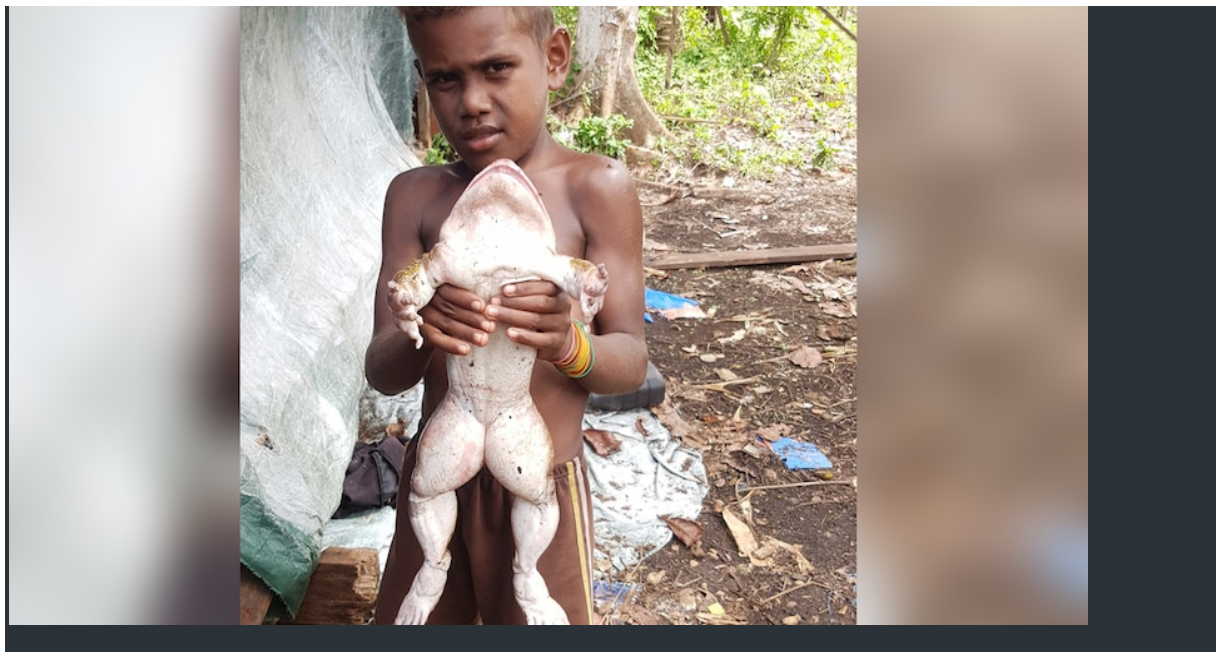
“Each dragon will have its own space with everything it needs, such as a burrow, grasses to climb on and a basking platform,” he said. “Larger outdoor predator-proof ring tanks will allow ecologists to observe the grassland earless dragons in a more natural environment.

“Melbourne Zoo and the University of Canberra have pioneered captive breeding of grassland earless dragons over many years and have passed on their specialist knowledge to Tidbinbilla Nature Reserve’s threatened species team.”

The ACT Government is providing \$2.1 million over three years for the initial stage of the project, which includes large-scale landscape work to restore and reconnect habitat to help grassland earless dragons and other grassland species survive.

## **Photo of frog the size of a human baby stuns Pacific social media**

By Evan Wasuka, 1 May 2021



*The photo of a boy holding the enormous *Cornufer guppyi* frog caught the attention of social media users across the Pacific (Photo: Jimmy Hugo)*

A photo of a boy holding a frog the size of a human baby has stunned Pacific social media users and sparked new interest in a species that's on the decline.

The photo was taken by Honiara resident Jimmy Hugo on the outskirts of the Solomon Islands' capital.

Mr Hugo, who runs a timber milling operation, said a group of his workers recently came across the frog while out hunting for wild pig.

He then posted the photo on his Facebook page.

"At first, I thought only a few people would see it and then suddenly I saw lots and lots of people commenting, surprised, ... this frog is from PNG," he said.

"I was very surprised to see how people reacted to the picture."

In the Solomon Islands and Papua New Guinea, the "bush chickens" are traditionally hunted for their meat and prized by locals.

"That's the expression, it's bush chicken and it's more delicious than chicken," Mr Hugo said.



*Loss of habitat, rather than hunting, is the primary threat to these chunky frogs.(Photo: Jimmy Hugo)*

Solomon Islands biologist Patrick Pikacha said the species, *Cornufer guppyi*, was one of the largest frogs in the world and found from New Britain in the Bismarck Archipelago to the Solomon Islands.

The largest frog in the world is the African Goliath frog of Cameroon (*Conraua goliath*) which may grow up to 36 centimetres in length.

Dr Pikacha said the *C. guppyi* population had been on the decline in Solomon Islands in recent years, but more because of logging and community settlements expanding into their natural habitat than hunting for food.



He said when humans used streams for washing, the chemicals in the detergents harmed the frogs' sensitive skin.

"They are becoming quite rare," he said.

Dr Pikacha said the frog shared on Facebook was large, but he had come across bigger ones on the island of Gatokae, in the Western Province of the Solomon Islands, where the frogs flourished because of a lack of predators.

"I've taken a picture of one those frogs [which had a] snout-vent length of about 30cm," he said.

"That frog had a ground grub in its mouth. It ... was busy eating and couldn't jump so I went and patted it like a little puppy dog.

"It was huge."

While the frog that went viral on social media ended up in Mr Hugo's workers' bellies, he said he would spare them in future.

"I told my boys ... next time, if you guys catch one, we'll keep it," he said.

"So that next time, they see the real frog, not just a picture."

## **Mouse plague, environmental improvement cause snakes to thrive in Central West**

Matt Findlay, 22 Apr 2021



*THRIVING: Snakes, like this western brown, have bounced back recently after being hit hard by the drought. (Photo: Matt Findlay)*



CSIRO experts say recent rain has 'checked' mouse populations without erasing them completely amid the horror plague that's hit the region this year, but another side effect has come to light this week - the impact it's had on snakes.

Booming mouse numbers have provided a rodent smorgasbord which, combined with the environment's continued recovery from drought making for more understorey cover, has created perfect conditions for snake species to thrive.

Bigger, fatter snake species to be specific.

"Some of the snakes I've seen this season have certainly been bigger, fatter and very, very well-fed," Central West snake handler Stephen Thomson said.

The prevailing conditions have, however, resulted in fewer reported sightings and in turn a slower season for Mr Thomson in terms of removal and relocation, also giving the reptiles a chance to recover from drought-related damage.

Mr Thomson, based in Dubbo, said he expects that to turn around next season though, thanks to the enhanced breeding cycles that have come this year as a result of those improved conditions.

"During the drought, there was simply no real food for snakes and they struggled through that period. Some snakes, I think, were probably pushed to the point of extinction," he said.

"But with more cover and so much more food, they've really been able to fight back."

Don't misconstrue that: in no way is Mr. Thomson suggesting the mouse plague has been at all positive.

Environmental improvements following the drought and resulting benefits for food sources alone would have helped snake populations.

"The number of mice and rodents has been incredible, particularly further west where you see those videos of hundreds, thousands - that's awful," he said.

"Snakes are actually a good thing to help that, even though baiting does have a flow-on effect, but it's a very vast country so the increase in cover that's come after the drought would have been a big boost on its own.

"I'm a snake lover, so in that respect it's great to see them recover and I've seen more baby snakes around, so I think next season might be a bit busier because of that."

That shouldn't be cause for concern even if people happen to hold the common fear of the reptiles though, with more cover they're still far less likely to be stumbled across even with increased numbers.

"A lot of the time, you could be right next to a snake and not even know. If you do see one, just stay calm, don't go near them," he said.

"Wearing the right footwear is important if you see one or you're in an area where you know there are snakes, and making sure you keep your pets tied up is important. Far more often it's the pets that are impacted."

**And whilst on that topic ...**

## **Snake Bite Treatment**

Each year on average in Australia there are:

3000 snake bites reported,  
300-500 hospitalisations, and  
2-3 deaths.

Average time to death (with no treatment) is 12 hours. The urban myth that you are bitten in the yard and die before you can walk from your chook pen back to the house is a load of rubbish.

While not new, the management of snake bite (like a flood / fire evacuation plan or CPR) should be refreshed each season.

So, let's start with a basic overview.

There are five genera of snakes that will harm us (seriously):

Browns, Blacks, Adders, Tigers and Taipans.

All snake venom is made up of huge proteins (like egg white). When bitten, a snake injects some venom into the meat of your limb (NOT into your blood).

This venom cannot be absorbed into the blood stream from the bite site.

It travels in a fluid transport system in your body called the lymphatic system (not the blood stream).

Now this fluid (lymph) moves differently to blood.

Your heart pumps blood around, so even when you are lying dead still, your blood still circulates around the body. Lymph fluid is different. It moves around with physical muscle movement like bending your arm, bending knees, wriggling fingers and toes, walking, exercise etc.

Now here is the thing. Lymph fluid becomes blood after these lymph vessels converge to form one of two large vessels (lymphatic trunks) which are connected to veins at the base of the neck.

Back to the snake bite site.

When bitten, the venom has been injected into this lymph fluid (which makes up the bulk of the water in your tissues).

The only way that the venom can get into your blood stream is to be moved from the bite

site in the lymphatic vessels. The only way to do this is to physically move the limbs that were bitten.

Stay still!!! Venom can't move if the victim doesn't move.  
STAY STILL!!

Remember people are not bitten into their blood stream.

In the 1980s a technique called Pressure Immobilisation bandaging was developed to retard venom movement further. It completely stops lymph transport of venom toward the blood stream.

Apply a firm roll bandage directly over the bite site (don't wash the area).

**Technique:**

Three steps: keep the victim STILL.

**Step 1**

Apply a bandage over the bite site, to a distance about 10cm (4 inches) above and below the bite.

**Step 2:**

Then using another elastic roller bandage, apply a firm wrap from fingers/toes all the way to the armpit/groin.

The bandage needs to be firm, but not so tight that it causes fingers or toes to turn purple or white. About the tension of a sprain bandage.

**Step 3:**

Splint the limb so the patient can't walk or bend the limb.

**DO NOT:**

Do not cut, incise or suck the venom.

Do not EVER use a tourniquet.

Don't remove the shirt or pants - just bandage over the top of clothing.

Remember movement (like wriggling out of a shirt or pants) causes venom movement.

DO NOT try to catch, kill or identify the snake!!! This is important.

In hospital we NO LONGER NEED to know the type of snake; it doesn't change treatment.

Five years ago we would do a test on the bite, blood or urine to identify the snake so the correct anti venom can be used.

BUT NOW...

we don't do this. Our new Antivenom neutralises the venoms of all the 5 listed snake genera, so it doesn't matter what snake bit the patient.

Read that again - one injection for all snake bites!

Polyvalent is our one shot wonder, stocked in all hospitals, so most hospitals no longer stock specific antivenoms.

Australian snake venoms tend to have 3 main effects in differing degrees:

Bleeding - internally and bruising.

Muscles paralysed causing difficulty talking, moving & breathing.

Pain: some snakes cause severe muscle pain in the limb, and days later the bite site can break down forming a nasty wound.

Allergy to snakes is rarer than winning lotto twice.

Final tips: not all bitten people are envenomated (a “dry bite”) and only those starting to show symptoms above are given antivenom.

Finally - did I mention to stay still?

Rob Timmings\*

Kingston/Robe Health Advisory Council

*(\*Editors’ note: Rob Timmings is reported as running a medical/nursing education business teaching First Aid for Kingston / Robe Health Advisory Council in SA, but does not appear to be a medical doctor. However, several medical GP and VRA sites have reposted his advice. Some of our members with detailed knowledge of physiology, anatomy and the lymphatic system also support Rob’s recommendations. So, we reprint it here, in the belief that Rob’s advice is sound.)*

## **A significant range extension for the mountain skink *Liopholis montana* on the Western Uplands of Victoria**

J.E. Farquhar, W. Russell, and N. Gale, Herpetology Notes, volume 14: 877-882 (2021)

An excerpt from a recent paper describing a range extension of the Mountain Skink. A full copy of this paper including references is on <https://www.biotaxa.org/hn/article/view/66978>

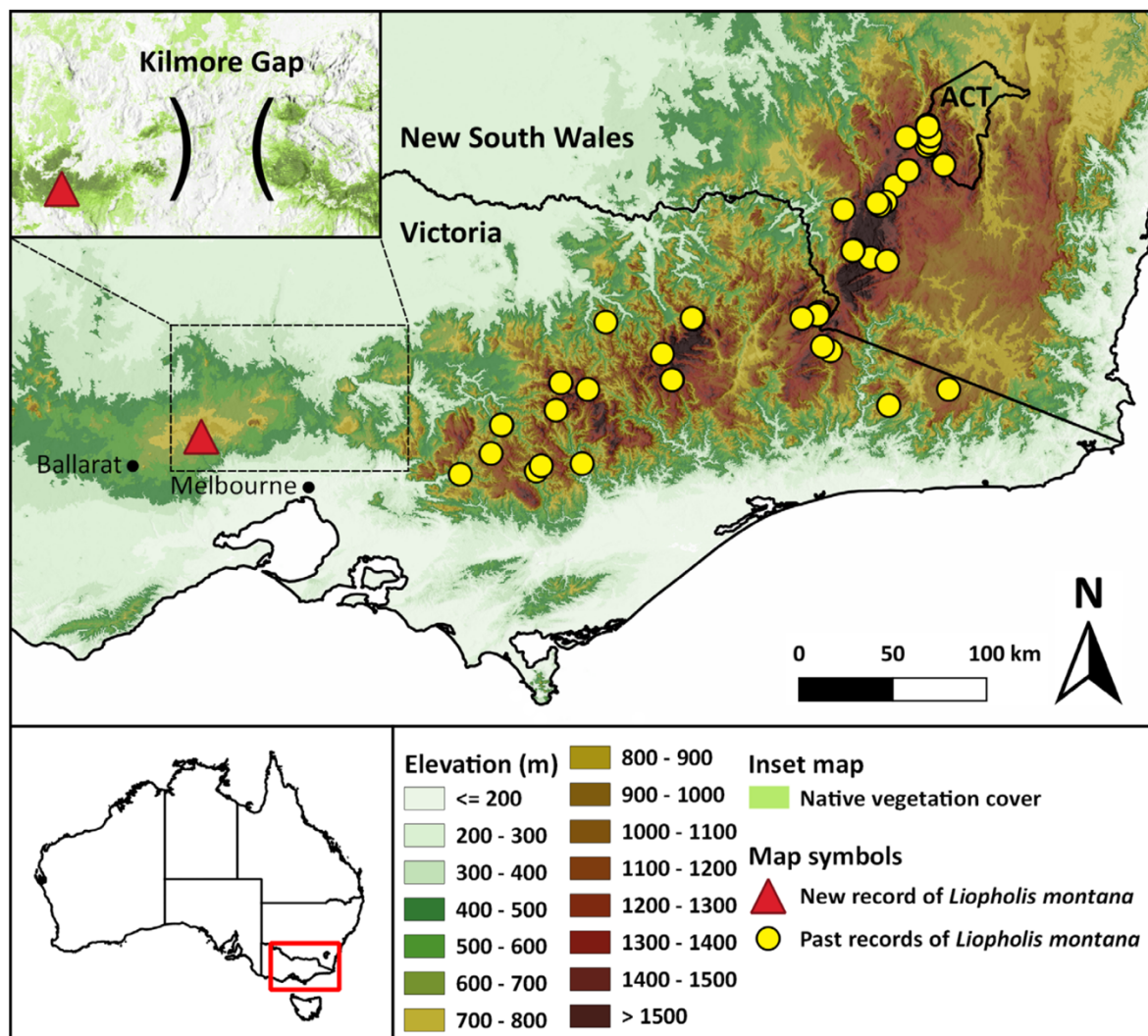


**Figure 1.** (A) Plain-backed adult and (B) patterned juvenile *Liopholis montana* found in Wombat State Forest ~35 km north-east of Ballarat, Victoria. Photos: J. Farquhar.



The mountain skink, *Liopholis montana* (Squamata: Scincidae), is a medium-sized (snout-vent length up to 111 mm), recently described scincid lizard native to southeast Australia. *L. montana* has two discrete colour pattern morphs: plain-backed (without dorsal markings) and patterned (with dorsal markings), of which the former occurs more frequently (Fig. 1).

This species is found in montane to alpine environments between 900 and 1800 m elevation in the southern Great Dividing Range. In Victoria, it is recorded from the Highlands - Southern Fall; Highlands - Northern Fall; Victorian Alps; East Gippsland Uplands; and Monaro Tablelands bioregions. The species also extends into New South Wales and Australian Capital Territory via the Australian Alps bioregion (Fig. 2).



**Figure 2.** Elevation map of the Great Dividing Range in SE Australia showing the new *Liopholis montana* locality on the Western Uplands, and past records of the species obtained from the Victorian Biodiversity Atlas, BioNet Atlas, and Atlas of Living Australia (ALA). Three ALA records, which we confirmed to be erroneous, were removed prior to map production. Inset map (top left) shows the extent of native vegetation, emphasising the wide disjunction in forest habitat across the Kilmore Gap (black curved bars) that separates the new locality from the species' main distribution.

It is largely associated with rocky habitats, such as boulder outcrops or rock screes, typically in subalpine woodland or open dry forest communities.

Given its relatively recent (2002) description, little has been published about the species' biology and population trends. Hence, it is currently considered 'Data Deficient' on the Advisory List of Threatened Vertebrate Fauna in Victoria. It is also listed as 'Near Threatened' on the IUCN Red List of Threatened Species because its area of occupancy is likely less than 2000 km<sup>2</sup> and populations appear to be severely fragmented.

However, a recent IUCN assessment of *L. montana* has been submitted, which will likely result in the species being listed in a more severe threat category.

In Victoria, the Great Dividing Range provides high-elevation habitats along a mountain chain, oriented east to west. The mountains of eastern Victoria (i.e., the Eastern Uplands) are extensive with elevations up to 1986 m. By contrast, the mountains of western Victoria (i.e., the Western Uplands) are topographically subdued with high points rarely exceeding 500 m (Fig. 2). The Great Dividing Range is frequently punctuated by low elevation gaps, in both the Eastern and Western Uplands. Most notable of these gaps is the relatively low (~300 m) Kilmore Gap north of Melbourne, an indistinct section of the Range largely covered by newer volcanic lava flows. The Kilmore Gap is mostly treeless (Fig. 2), and marks the separation of the Western Uplands from the Eastern Uplands.

Gaps such as this likely have important biogeographical implications for montane fauna associated with the Great Dividing Range. For example, some lizard species, including the Black rock skink, *Egernia saxatilis*, Spencer's widow-eyed skink, *Pseudemoia spenceri*, and the agamid, mountain heath dragon or mountain dragon, *Rankinia diemensis*, largely occur as isolated and widely disjunct populations confined to 'islands' of montane forest surrounded by 'seas' of low-elevation valleys and plains.

*L. montana* appears to be a poorly understood species in general, and the fact that this lizard has remained undetected in Wombat State Forest until now, despite its close proximity to major population centres (e.g., Melbourne, Ballarat), is perhaps a subtle warning as to how incomplete our knowledge remains of reptile distributions in southeast Australia.

**And finally another reminder of an important diary date ... our next meeting:**

Our next meeting will be held on

**Tuesday 17<sup>th</sup> of August, at the Canberra Reptile Zoo, commencing at 7pm**

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Angus will report on his trip to the New England Tablelands and the Ranges of Northern New South Wales to help monitor the effects of fire on several threatened frog species in November of 2020, with the University of Newcastle.