ACTHA Inc. News

June-July & Aug-Sept 2022

Newsletter of the ACT Herpetological Association Inc.

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Annual membership fees are now due for 2022-23:

- $20 for an individual / couple / family;
- $10 for current students (including university);

Bank account details for direct deposit:

ACT Herpetological Association Inc.
Account Number: 486822880
BSB: 112-908

Please be sure to record the date of payment and receipt number for your direct deposit on the membership form.

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ACTHA Committee for 2021-2022

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Newsletter Editor: Brian La Rance

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Public Officer: **John Wombey***

Committee members: Iris Carter, Roy Chamberlain, Peter Child and Jason Spurr

**denotes life member*

Our next bi-monthly meeting will be Tuesday 16 August 2022, 7pm, at the Canberra Reptile Zoo

A special Zoom meeting from Geoff Coombe in Adelaide.

Geoff Coombe of Living with Wildlife, has kindly offered us a presentation following his publication, "Working with Snakes", describing his 5 decades of experience in this field. Geoff introduces his topic:

"Why [Venomous] Snakes?

It's a question I have been asked many times over the past half century. I have mulled over it and think there are three main areas that interested me:

- A fascination with the behaviour of snakes
- An interest in snake venoms and their effects on other animals (including us) , and
- A desire to understand better the interactions between snakes and humans

There are many subtexts to each area which I can elaborate on, including public perceptions, people I've known, memorable incidents, challenges, regulation of herpetology and others.

They have been strong motivations for writing my recent information and training manual "Working with Snakes" and also spur to prepare another book that considers amateur herpetology in Australia. I might throw in a memoir, too."

ACTHA is seeking a new Newsletter Editor

Our current Editor, Brian La Rance has done an excellent job but is now wanting to focus on his final year of school studies. For those who haven't noticed his work, in his last act as Editor, Brian has written up Yusuke Fukuda's recent Zoom-talk below.

So, ACTHA is looking for a new Newsletter Editor, and the committee would love to hear from any members who feel they are equipped to take this on. It is normally prepared in Word, (though can be done in Mac Pages) and training can be given. If you would like to have a chat about it, please give Margaret a call (0427 788 304) or email at margaretning1@gmail.com.

These days Zoom makes many presentations possible that were unthinkable only a few years ago, and we were lucky to have a presentation from the far north of Australia at our April meeting from **Yusuke Fukuda** of the NT Govt, on saltwater crocodile research that he has been doing for many years.

Movement Patterns in Saltwater Crocodiles

from a talk by Yusuke Fukuda

Brian La Rance

At the April 2022 ACTHA meeting Yusuke Fukuda spoke about the ecology of saltwater crocodiles (*Crocodylus porosus*). Yusuke is currently doing his PhD at Charles Darwin University on saltwater crocodiles, lives in Darwin, and works for the NT government on their crocodile research program.

Yusuke's research focuses on movement patterns in saltwater crocodiles, to determine the barriers that limit their range.

Yusuke's first finding was a geographical barrier that limited dispersal. From research conducted in Darwin Harbour, he found that crocodiles will only cross certain straits. He GPS-tracked several adult specimens over a long period, to observe their movement patterns.

The second main finding of the study showed that crocodiles have a consistently high genetic diversity across all populations sampled. To determine this Yusuke sampled over 744 crocodiles across northern Australia, from the Kimberley to Weipa.

The third and final finding of the study was on the dispersal patterns in saltwater crocodiles. Yusuke found that the average distance travelled by saltwater crocodiles was 150-200km, though the furthest recorded by one individual croc was 700km! Coastal urbanisation

through both Northern Australia and Southeast Asia pushes these crocodiles further and further to find quality habitat and vacant territory.

Every year over 250 crocodiles both emigrate and immigrate from Darwin Harbour. Given the lack of unestablished territory, the harbour is mainly used as a moving ground for most crocs, with little breeding activity. Most of the crocodiles immigrating into the harbour come from Tiwi Island, just to the north.

Yusuke's current project is on crocodile movement patterns and gene flow on an intercontinental scale. With sampling underway from many countries across broader Southeast Asia, Yusuke is investigating the genetic relationships between crocs internationally to determine their genetic distance.

One of the large male Saltwater Crocs, tracked throughout the project. Photo: Yusuke Fukuda

Canberra's wild corroboree frogs leaping back from brink of extinction

James Coleman, The Riotact, (June 2022)

There's thought to be fewer than 50 in the wild, largely confined to the waterlogged grasslands and forests of the Brindabella and Bimberi mountain ranges. But efforts to bring the northern corroboree frog back from the precipice of extinction are off to a promising start.

Over the past two years, 700 of the critically endangered frogs have been released into a new site within Namadgi National Park. They're now bred to resist their biggest killer.

The diminutive northern corroboree frog sizes up this plastic spoon. Photo: Namadgi National Park.

The northern corroboree frog (*Pseudophryne pengilleyi*) measures 2.5 to 3.0 cm with bright yellow-green and black stripes on its upper surfaces and a marbled underside of black and white or black and yellow.

They were once abundant, but populations have declined sharply over the past 20 years largely due to disease caused by the introduced amphibian chytrid fungus.

The southern corroboree frog in Kosciuszko National Park. Photo: NSW National Parks.

The fungus attacks a frog's skin where keratin exists (in parts of their body exposed to wear and tear such as hands, feet and legs). Since frogs use their skin in respiration, this makes it difficult for them to breathe.

A captive population was established at Tidbinbilla Nature Reserve in 2003 from eggs collected in the wild. Some of these have been released into Namadgi National Park since 2020.

The project, a joint-effort between the ACT Government and Australian National University (ANU), is already showing signs of success. Minister for the Environment, Rebecca Vassarotti, said they were "cautiously optimistic".

"The introduced frogs are in excellent condition and breeding, indicating they have all the resources they need to thrive," she said.

"This persistence is despite the presence of chytrid fungus, which is everywhere. These positive results could indicate this site allows the frogs to survive despite the presence of the fungus."

The species hasn't historically been found at the location in Namadgi National Park. But the habitat was assessed as suitable for the "assisted colonisation" method.

"Meaning they get a bit of a helping hand from us just to get there," Ms Vassarotti said.

ANU researcher Ben Scheele said the northern corroboree frog was one of Australia's most iconic threatened species.

"Our innovative methods for establishing wild populations are underpinned by long-term monitoring and research, and provide hope for this species and others like it in Australia and globally that are threatened by chytrid fungus."

Minister for Planning and Land Management, Mick Gentleman, carefully cradles a corroboree frog. Photo: Supplied.

Minister for Planning and Land Management, Mick Gentleman, said ecologists from across the ACT Government had been working in partnership with ANU researchers on the conservation project.

“The captive breeding program at Tidbinbilla Nature Reserve is responsible for generating animals for release, including genetic management, and ensures there is an insurance population of frogs into the future,” Mr Gentleman said.

He said the ACT Government would continue to work with the ANU to secure the future of the frogs in the ACT.

The next step in the recovery program is the construction of five outdoor enclosures at Tidbinbilla. These will enable northern corroboree frogs to be raised and bred in conditions that more closely resemble their natural habitat in woodlands and sphagnum moss bogs.

Rare albino Galápagos giant tortoise makes public debut at zoo in Switzerland

A rare albino Galápagos giant tortoise has made its public debut at a Swiss zoo.

The month-old albino tortoise recently made its first zoo appearance alongside its 220-pound mother. (Image credit: Tropiquarium Servion)

Key points:

- The albino tortoise was born last month after the mother's eggs spent 2.5 months in an incubator
- No albino giant tortoises have been observed in the wild
- Baby turtles typically weigh about 50 grams at birth

Two of the tortoises were born last month at the Tropiquarium in the western town of Servion (Switzerland) as part of a programme to preserve the endangered species.

One is black like its parents while the other is true albino with pink eyes.

Its gender has yet to be determined.

"This is the first time in the world that an albino Galápagos tortoise has been born and kept in captivity," the zoo said in a statement.

"No albino individuals have ever been observed in the wild."

The mother, who weighs more than 100 kilograms, laid five eggs on February 11 and the albino baby hatched on May 1.

The other baby hatched on May 5 after the eggs spent two and a half months in an incubator.

The father weighs around 180kg, while baby turtles weigh about 50 grams at birth and fit in the palm of the hand.

The mating pair are about 30 years old and have just reached sexual maturity. The success rate of mating is only around 2 per cent to 3 per cent for this species. *(ABC, 2022)*

Albinism is a genetic trait, meaning it is passed down from parents to offspring. However, it is a recessive characteristic, so both parents have to possess and pass on a copy of the gene. The parents usually only have one copy of the albino gene (unless they are also albino), so they appear (their phenotype) with the animal's typical colours.

If you read French, this is the website of the zoo where the tortoise was born (and it looks on their home page as if they have a lace monitor too). Might be worth a visit next time you're in Europe.

https://www.tropiquarium.ch/

More images of the baby albino tortoise can also be seen on:

https://www.livescience.com/albino-galapagos-giant-tortoise

Bungendore's endangered frogs granted a second chance

James Coleman, The Riotact (2022)

It's a sound heard only near Bungendore in the Southern Tablelands – a long, deep droning croak followed by a series of shorter grunts. It comes from the throat of the Green and Golden Bell Frog, and fingers crossed, local residents will soon hear it more often.

A local not-for-profit environmental organisation has received $170,000 of grant funding from the NSW Government to keep the endangered frog species alive and well in the region.

The only surviving Southern Tablelands population of Green and Golden Bell Frogs is in Bungendore. Photo: JJ Harrison.

The Mulloon Institute will use the money to restore the wetland habitat along the Molongolo River, from Carwoola to Foxlow.

Mulloon Institute Chair, Gary Nairn, says the Green and Golden Bell Frog colony in Bungendore is the only surviving colony in the Southern Tablelands and is now critically endangered.

“Over the decades, the habitat and landscape through there have been degraded, putting more challenges onto the species,” he says.

The Green and Golden Bell Frog can be recognised by its smooth skin, usually green with golden-brown blotches and creamy-gold stripe along its side. Measuring 11 cm in length when fully grown, it’s one of Australia’s largest frogs.

It’s unknown exactly how many are left, but the Commonwealth describes it as ‘vulnerable’ while NSW elevates it to ‘endangered’.

Several surveys conducted near Bungendore over the years point to a “diminishing colony”.

“We know it has got to a critical stage,” Gary says. “The sort of habitat needed has disappeared in other locations so that’s why they’ve died out elsewhere.”

Over time, the series of ponds along the Molongolo catchment has eroded and morphed into deep and stagnant drains. This has flow-on implications for not only the frogs, but the area’s farms and the ACT’s supply of drinking water.

Gary says the $170,000 funding will help rectify these issues by restoring about 30 km of waterway and 4000 hectares of surrounding land to its former glory.

Mulloon Institute Chair, Gary Nain, and Nationals' Member for Monaro, Nichole Overall. Photo: Supplied.

"We put interventions into the water course to rebuild it back to what it once was. So instead of disappearing, the water is held in the floodplain where it contributes to the growth of ground cover and prevents erosion."

The Mulloon Institute has previously carried out similar work at the Mulloon catchment between Bungendore and Braidwood. In this case, the river runs as far as Shoalhaven.

Gary says it works so well, Sydney's Taronga Park Zoo will introduce the critically endangered Yellow-spotted Bell Frog back into the wild there.

"The Yellow-spotted Bell Frog has been kept in a breeding program at the zoo and they're now releasing frogs into the Mulloon habitat. They've judged it ideal for developing that species in the wild again.

"We know it will work."

The funding is part of a package of more than $4.79 million approved for the 2021 round of the Environmental Trust's Restoration and Rehabilitation grants.

Nationals' Member for Monaro, Nichole Overall, says she's delighted to announce the funding on behalf of the NSW State Government.

"The Mulloon Institute is a world leader, paving the way in sustainable, productive and profitable agriculture," Mrs Overall says.

"The work it's undertaking on Foxlow and Carwoola stations is not only helping create more resilient and productive farms in our local area, but providing a lifeline for this native frog species."

The Green and Golden Bell Frog is one of Australia's largest frog species at up to 11cm long in adults. Photo: Liquid Ghoul.

'Goldilocks' species spotted in Jerrabomberra grassland for first time in two years

Claire Fenwicke, The Riotact (June 2022)

Cupped in Rob Armstrong's hand is one of the first Canberra Grassland Earless Dragons to be seen in NSW in two years, following a devastating population decline.

The NSW Department of Planning and Environment threatened species ecologist came across the four tiny lizards during recent area surveys.

"The species is certainly declining; we had some concerns they may have disappeared from the region," Mr Armstrong said.

"Given they're there, certainly is reinvigorating and excites you to keep going."

In NSW the endangered dragons can only be found in three paddocks in grassland near Jerrabomberra that are separated by roads, making it difficult to breed and diversify.

"They're living in smaller areas they can't escape from; the grassland left for them is interrupted by roads and train tracks," Mr Armstrong said.

Monitoring of the species in NSW began in 2003, with an annual program of 10 surveys conducted in the Queanbeyan Nature Reserve and on private land. Historically between 10 and 30 dragons would be found each year.

One of the Canberra Earless Grassland Dragons found in the Queanbeyan Nature Reserve. Photo: Rob Armstrong, NSW DPE

The surveys are now undertaken as part of the Saving Our Species program, with artificial 'arthropod' burrows set up along the ground as part of a harm-free detection method.

"We're trying to mimic wolf spider burrows; the lizards can co-exist in there with the larger ones, however I'm not sure how much the spiders love that," Mr Armstrong said.

"The lizards can dart in and out of the burrows [we set up], and we check them once a week."

Mr Armstrong called the lizards a "Goldilocks species", providing a marker on how the overall environment is faring.

"They're special to the region, a flagship species that brings attention to the difficulties of maintaining grassland habitat in the region," he said.

"Their decline is likely a combination of how grassland structures are managed and how they've responded to the drought and rain. The recent rain actually means the grass is too thick. They can't move easily and find more invertebrates to eat, so we are looking into ecological burning to lighten the biomass [in the area].

Research ecologist Dr Croak said a drastic decline has also been detected in Canberra's population of the dragons.

“Grasslands are under threat everywhere; some sources say there’s been a reduction of 99 per cent of the grasslands that once covered NSW and Victoria,” he said.

One of the Canberra Earless Grassland Dragons found in the Queanbeyan Nature Reserve. Photo: Rob Armstrong, NSW DPE

“We’ve noticed a massive drop off in the animals and we’re trying to understand why there’s been such a dramatic decline.

“There’s lots at play; there are issues with weed incursion as the dragons aren’t built to be in areas choked by weeds, as well as altered grazing regimes. The droughts caused havoc on the population and the fact that they’re so fragmented; they can’t join up with larger populations to breed, so we’re losing that diversity in their genes.”

The pair said the lizards used to be “super abundant” in the region, with sightings in the tens of thousands. They now think only hundreds are left in the wild.

“It’s a good sign they’ve been seen again in NSW, but they’re still in a lot of trouble,” Dr Croak said.

“We have been seeing a few more since all of the rain, but nowhere near what it used to be.”

Dr May said if the dragon became extinct, it would be a historically catastrophic event.

“It would be the first reptilian extinction recorded on mainland Australia,” she said.

“So, our breeding program is hugely important; it’s not just about increasing numbers but creating that ‘insurance population’ as well.”

One of the Canberra Earless Grassland Dragons found in the Queanbeyan Nature Reserve. Photo: Rob Armstrong, NSW DPE

The Canberra facility built in Tidbinbilla in 2021 started with 27 animals, but after one breeding season they now have 56 scurrying around.

Dr May said the breeding program gives researchers a significant opportunity to better understand the dragons’ ecology and create a more resilient species.

“We need to give it a better chance to adjust to changes in the environment by diversifying the genes,” she said.

The team is now working out how to transfer part of their brood back into the wild in a way that will allow the population to re-establish.

“They would be radio tracked to see how they fare; we’re aiming for a staged release; we’ll protect them from predators and then open up their area and see how they use it,” Dr Croker said.

An interesting website worth browsing:
"Advocates for Snake Preservation"

https://www.snakes.ngo/

Lots to read and watch on this US non-profit site written by snake enthusiasts.
Read about snake social behaviour, watch videos of rattlesnakes defending their babies, and learn about other interesting snake behaviours.
"You probably grew up hearing stories about snakes, stories that rarely had nice things to say about them. From the biblical tale of the Garden of Eden to the modern story of Harry Potter, snakes are usually portrayed as deceitful and villainous. Real snakes prefer to escape our notice, so myths and fables supply what most people know about them. Consequently, misunderstanding and fear eclipse appreciation of these mysterious and intriguing animals."
The authors believe science, education, and advocacy should promote compassionate conservation and our peaceful coexistence with snakes.

And a reminder: Our next bi-monthly meeting will be Tuesday 16th August 2022, 7pm at the Canberra Reptile Zoo.

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It's a question I have been asked many times over the past half a century. I have mulled over it and think there are three main areas that have interested me in this time:

- A fascination with the behaviour of snakes
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Sounds good! See you there.