

FROG CALL

THE FROG AND TADPOLE STUDY GROUP NSW Inc.

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NEWSLETTER No. 177 FEBRUARY 2022

Southern Barred Frog juvenile *Mixophyes balbus* image Josie Stokes



You are invited to our FATS meeting. It's free. Everyone is welcome.

Arrive from 6.30 pm for a 7pm start.

Friday 4th February 2022

FATS meets at the Education Centre, Bicentennial Pk, Sydney Olympic Park

Easy walk from Concord West Railway Station and straight down Victoria Ave.

Take a torch in winter.

By car: Enter from Australia Ave at the Bicentennial Park main entrance, turn off to the right and drive through the park. It's a one way road. Turn right into P10f car park.

Or enter from Bennelong Rd/Parkway. It's a short stretch of two way road. Turn left.

Park in P10f car park, the last car park before the Bennelong Rd. exit gate.

FATS MEETING 7PM FRIDAY 4th FEBRUARY 2022

The meeting is on but with reduced numbers (25 max). Masks must be worn in the meeting room. SOPA only wants people who have been fully vaccinated attending, so people will have to show proof of vaccination at the door. If you are not double vaccinated or cannot prove that you are double vaccinated, you will not be admitted to the meeting. We will have hand washes and sterile wipes available at the meeting. Seating will be arranged to provide maximum spacing, and numbers allowed into confined areas (such as the kitchen) will be regulated. Please apply to attend, in advance, by emailing Arthur at arfawhite@gmail.com Register via the QR Code on arrival or sign in, if you don't have a smart phone.

6.30 pm Lost frogs seeking forever homes: Please bring your membership card and cash \$50 donation. Sorry, we don't have EFTPOS. Your NSW NPWS amphibian licence must be sighted on the night. Adopted frogs can never be released. Contact us before the night and FATS will confirm if any frogs are ready to rehome.

7.00 pm Welcome and announcements. Our main speaker is Arthur White "The Origin of Frogs". What did frogs evolve from? How were frogs (amphibians) regarded by humans throughout history?

9.30 pm Show us your frog images. Tell us about your frogging trips or experiences. Guessing competition, frog adoptions continue, supper, relax and chat with frog friends and experts.

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THANKS FOR BEING PART OF FROGID!

It is through your FrogID recordings that we continue to build an incredibly important dataset on Australia's frogs, so far recording 85% of the frog species that are currently known in Australia. Your FrogID submissions led to some amazing milestones this year:

- Two [scientific papers](#) based on FrogID data were published, increasing our understanding of how frogs are responding to urbanisation.
- The FrogID database increased to 209 species. This includes the Screaming Tree Frog (*Litoria quiritatus*) and the Slender Bleating Tree Frog (*Litoria balatus*) - two new scientifically described species [thanks in part to thousands of FrogID recordings](#).
- [FrogID Week](#) in November was our biggest event yet - over 20,400 submissions and over 36,800 frogs across 112 species have been verified so far.
- We reached over half a million verified frog records this year, doubling the number of scientific frog records that are available in Australia in just four years of FrogID.

Summer continues to be a critical time to record many frog species across Australia, especially with a wet start to 2022 likely for parts of eastern Australia. While our team will be taking a short break from validating and emails over Christmas and the New Year, please keep recording the frogs around you. From all of us at the Australian Museum FrogID project, thank you for your continued use of FrogID and helping us build a better understanding of Australia's frogs. We look forward to listening to your frog calls in 2022!

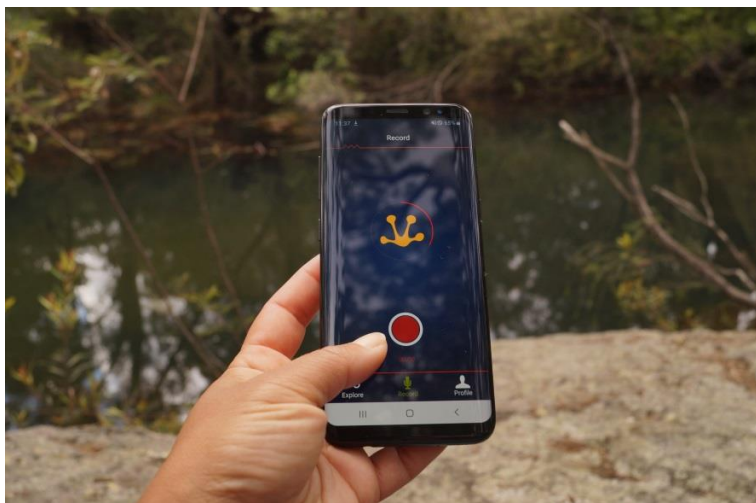


Image: FrogID app by Nadiah Roslan.

Delay in frog call validations

We would like to extend our sincerest apologies as we work through a backlog of over 20,000 submissions pending validation. FrogID has reached a record high! Every FrogID recording is listened to by one or more of our frog call experts at the Australian Museum and

since November, our team have been validating over 10,000 frogs each week. We really appreciate all your wonderful recordings. Please keep them coming to make important contributions towards frog conservation in Australia, and we will get back to you to confirm calling species as soon as we can. If you have any questions or concerns, please contact us at calls@frogid.net.au



Image: Green Tree Frogs (*Litoria caerulea*) in amplexus. Photo by Vicky Mills.

FrogID Week Top Frogger competition winner

With 375 FrogID submissions resulting in 494 verified frog records, Vicky Mills from QLD is our FrogID Week 2021 Top Frogger. Congratulations, Vicky!

We asked Vicky to share some thoughts with us. Here is what she had to say:

I downloaded the frog app in 2017 when we joined Land for Wildlife and did a handful of recordings. On the first day of FrogID Week this year, I joined Brett Malcolm from the QLD Frogs Facebook page and local Danielle Gleeson on a herping trip to Lake Manchester. They gave me the skills to be confident to traipse around the bush at dark to look for frogs.

Our property is aptly named Froggy Creek. Every night for the rest of FrogID Week I dedicated 60-90 mins a night to walk a loop of our 5-acre property including gullies and a creek, recording the frogs I heard. Initially my recordings were mainly insects, but by the end I could differentiate the frog calls and even spot a few.

I thoroughly enjoyed recording during FrogID Week, even if some days my family thought of me a bit nuts to be out late in PJs and wellie boots with torches.



Image by Jodi Rowley The Trieng Tree Frog (*Gracixalus trieng*)

The Trieng Tree Frog (*Gracixalus trieng*) is not your typical tree frog. Brown during the day, the frog brightens up at night to be pink and yellow, and instead of ponds or streams (which are in scarce supply on the steep sided mountain tops), it lays its eggs in water-filled tree holes! My colleagues and I found this frog species during expeditions in the central highlands of Vietnam and have now officially described and named it. It's the latest scientific discovery from the incredibly biodiverse mountains of the region, home to a vast array of plants and animals found nowhere else on earth. <https://australian.museum/blog/amri-news/new-tree-frog-vietnam/>

224 species of vascular plants & vertebrate animals were named as new to science in the Greater Mekong region in 2020. Our team is lucky enough to have co-described 5 of these. Thank you to all our friends and coauthors. A new report from WWF highlights these fantastic and often imperilled species. It's a race against time to understand the biodiversity we have before we lose it, so that we can make more informed conservation decisions. Jodi Rowley https://greatermekong.panda.org/discovering_the_greater_mekong/species/new_species/new_species_discoveries_2020/

224 NEW, GREATER MEKONG REGION SPECIES, WERE DISCOVERED IN 2020.

The Greater Mekong region is one of planet Earth's most important biodiversity hotspots, highlighted by the endless number of new species discovered there every year. The region's biodiversity richness is a result of its complex geological and climatic history, and its diverse landscapes, including extensive karstic regions. Only by using different methods, including comparing physical characteristics and performing molecular analyses, can researchers determine the true dimensions of this partly hidden biodiversity. High species richness and ongoing discovery rates also underscore the conservation importance of the Greater Mekong region and its unique inhabitants. To record this treasure trove of biodiversity before it is completely lost, we must accelerate our work and strengthen international cooperation. Greater support is

required for local and early-career scientists and conservationists to establish and expand international collaborations, because such networks help to record biodiversity more quickly.

Discovery and description of new species is only the first step. Ecological traits, distribution, and population size also urgently need to be studied to assess a species' conservation status. In particular, species that only occur in highly restricted geographic areas need our concerted support because they are highly vulnerable to direct human-caused threats and face increased extinction risks. In this respect, studying the degree of endemism and existing threats is as important as the work of discovery.

Unfortunately, for many species, these data are completely unknown, and we must build the capacity of young researchers to help fill these knowledge gaps. A better understanding of the protected area coverage of threatened species will greatly assist the conservation prioritisation of neglected wildlife. However, many species are not yet included in IUCN's Red List, and many of the current assessments are outdated. Habitat protection is indispensable, but this often does not happen quickly enough.

Here, the "One Plan Approach," supported by the IUCN, is very promising, since it links in situ and ex situ conservation measures and diverse expertise for the best possible protection. Species with a limited range that are threatened by imminent extinction can be housed by local facilities or zoos, serving as modern "Noah's Arks," where conservation breeding programs and networks can be established. In parallel, nature conservation in the wild is our ultimate goal, so that this ark has some land where it can dock later. Nature conservation has been supported by governmental and non-governmental agencies, but more support is needed.

The Covid-19 crisis has made it very clear that humans cannot intervene in nature, its networks, food chains and biodiversity with impunity. In an increasingly globalised world, we have to take a step back and reconsider our behaviours. If we learn to use natural resources more carefully and sustainably, then this current crisis may help us make critical progress in conserving wildlife and wild places.

Public outreach reports like this one by WWF are thus crucial to inform people about the rich species diversity of our planet, a precious and limited gift. We must all learn to be more careful and coexist with all the other creatures on our planet, instead of just exploiting and extirpating them. Continued on page 4

Continued from page 3

This is the most important conclusion of this report, which spotlights one of the world's richest biodiversity hotspots and its desperate call for improved conservation.

Prof Dr. Thomas Ziegler Curator for Herpetology, Ichthyology and Invertebrates, Zoological Garden Cologne; and Coordinator of the Zoo's biodiversity and nature conservation projects in Vietnam and Laos Adjunct Professor, Institute of Zoology, University of Cologne

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Special thanks to the researchers who contributed to the report by providing quotes and photographs, and for their contributions to expanding our understanding of the species diversity of the region. We thank Thomas Ziegler for providing a foreword. Thanks also to Lee Poston for copy-editing, and Reuben Houfe for designing the report. WWF-Greater Mekong acknowledges WWF-Sweden for funding the production of this report. Cover photo: *Megophrys frigida* by Benjamin Tapley



WWF is one of the world's largest conservation organizations, with over 5 million supporters and a global network active in more than 100 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by: conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption. **Text and additional research: Mia Signs, Sofia Venturini and K. Yoganand Research by Antonio Cerezo Tomàs**

An extraordinary 224 new species of vascular plants and vertebrate animals were discovered in the Greater Mekong region in 2020.

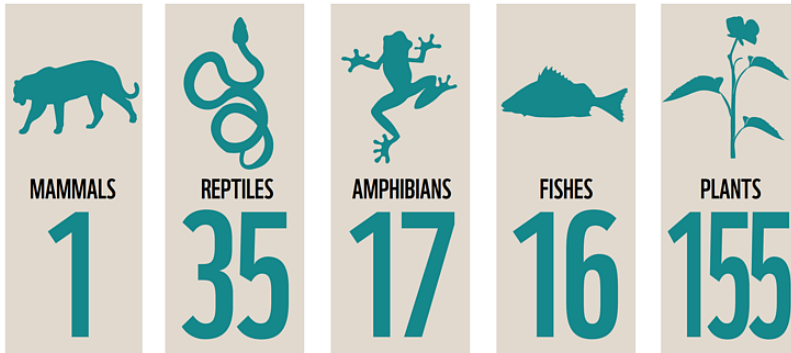
Among the species newly described by researchers in 2020 are 155 plants, 16 fishes, 17 amphibians, 35 reptiles, and one mammal. The Greater Mekong region of Southeast Asia, comprising Cambodia, Laos, Myanmar, Thailand, and Viet Nam, is a biodiversity hotspot. It is home to some of the planet's most iconic and endangered species - the tiger, Asian elephant, saola, Gurney's pitta, and Mekong giant catfish. In addition, new species are discovered here with remarkable frequency and this has brought global attention to the region, along with a concern for the future of these species.

With the addition of the 2020 discoveries, the total species of vascular plants, fishes, amphibians, reptiles, birds, and mammals described in the region since 1997 now stands at 3,007ⁱⁱ. 2020 brought in some amazing new species to the world, including a new primate, the Popa langur; a cavefish that required the creation of a whole new genus; the world's first succulent bamboo, also forming a new genus; and an ⁱ Refers to the official process by which a species is described in the peer-reviewed scientific literature, once discovered or genetically determined to be distinct from other species, and therefore formally determined as new species. ⁱⁱ Refers to the official process by which a species is described in the peer-reviewed scientific literature, once discovered or genetically determined to be distinct from other species, and therefore formally determined as new species. iridescent snake that has an odd, non-overlapping scale pattern.

Continued on page 5

AT A GLANCE

For this report, the Greater Mekong region comprises Cambodia, Laos, Myanmar, Thailand, and Viet Nam, and does not include Yunnan province and Guangxi Zhuang Autonomous Region of southern China.



These discoveries, painstakingly identified and recorded by keen naturalists and taxonomists, and compiled here by WWF-Greater Mekong, demonstrate that the region is still a frontline for scientific exploration and a hotspot of species diversity.

However, these discoveries also are a stark reminder of what we stand to lose if human settlement and development activities in the region continue to destroy the natural environment.

Many species go extinct before they are even discovered, driven by habitat destruction, diseases spread by human activities, predation and competition brought by invasive species, and the devastating impacts of illegal and unsustainable wildlife trade. The discovery of new species year after year highlights the importance of the remaining natural ecosystems and the continued interest of biological explorers in the Greater Mekong. It also brings into focus the urgent and tremendous need for increasing the protection of species and habitats. Without substantial conservation action, we will continue to lose the species that make our region rich and unique. However, with collective conservation efforts by governments, scientists, NGOs, and local communities, we can ensure that incredible new species, like the ones highlighted here, continue to persist and be discovered in the years to come.

The Mount Ky Quan San horned frog (left) was discovered in Bat Xat Nature Reserve on Mount Ky Quan San, Viet Nam's third highest peak. It was collected at more than 2000 m elevation, and in a relatively cold climate for the region, hence its Latin name *frigida*. All of the collected individuals were encountered in forests with relatively open canopies and at night along streams and rocky stream beds. This species is likely the fourth range-restricted species of this genus described from the Hoang Lien Range since 2017, identifying the area as significant for amphibian diversity. It occurs in the same area as other species of this genus and shares similar physical characteristics. "The discovery of this species by our international team was extremely exciting," said Ben Tapley of the Zoological Society of London and the lead researcher on the survey. "Unfortunately, the forest where we found this horned frog is being negatively impacted by fuelwood collection for the tourism industry and by livestock grazing." As a result, it will likely be assessed as Endangered in the IUCN Red List. Tapley, B., Cutajar, T., Nguyen, L.T., Portway, C., Mahony, S., Nguyen, C.T., Harding, L., Luong, H.V., and Rowley, J.J.L. (2020) A new potentially Endangered species of *Megophrys* (Amphibia: Megophryidae) from Mount Ky Quan San, north-west Vietnam, *Journal of Natural History*, 54 (39-40): 2543- 2575.

<https://doi.org/10.1080/00222933.2020.1856952> Photos: Benjamin Tapley

INVASIVE SPECIES

Australia is in the throes of ecological upheaval and our unique wildlife and wild places are in ever-growing peril. In post-bushfire landscapes the omnipresent, creeping impacts of climate change have increased the risks to nature from invasive species. The threats are growing, but the solutions have not been keeping pace. This is why the Invasive Species Council exists. We are leading community efforts to strengthen Australia's national biosecurity system to better protect Australia's natural environment from these invaders. writes Andrew Cox CEO Invasive Species Council

Invasive species: What is the issue?



By Tim Low, Invasive Species Council co-founder, ecologist and author

Australia's extinction Record makes that clear. According to a 2019 journal article, 15 animals have been lost since 1960 and 12 of those extinctions can be blamed mainly on invasive animals and pathogens. The invasive species responsible include wolf snakes, chytrid fungus, foxes and cats.

That article was produced by the Threatened Species Recovery Hub, a consortium of universities and other bodies coordinating research in this area. It reviewed all of Australia's animal and plant extinctions since European arrival to conclude that 43 extinctions were caused mainly by invasive species (including diseases), 31 by habitat loss, and 10 by all other impacts combined.

Species capable of causing extinctions keep entering Australia. Chytrid fungus arrived in the 1970s, wolf snakes in 1987, red imported fire ants in about 2000, myrtle rust in 2010. Three plant species are now critically endangered from the rust. Extinctions are only one form of loss. Wherever invasive species swamp landscapes we lose something of the very essence of Australia.

The waters between Tasmania and Sydney now have stretches of seafloor dominated by New Zealand screw shells (*Maoricolpus roseus*) living at densities of up to several hundred per square metre, at depths of up to 80 metres.

Invasive ants, including yellow crazy ants in the Wet Tropics, are forming vast super colonies in which they eliminate other insects.

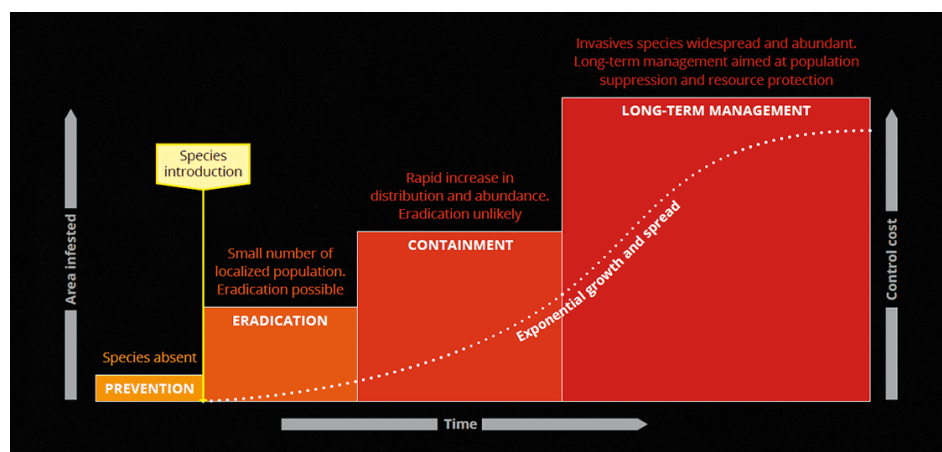
Weeds dominate vast areas, including mimosa, a prickly invasive shrub now in possession of more than 140,000 hectares of grasslands and wetlands on 15 river systems and 3 islands. Four rangers are employed in Kakadu National Park to keep it out. Other weeds include invasive pasture grasses fuelling hotter fires that by killing trees in many places are worsening the impacts of climate change.

As you can see, the continued impacts of invasive species are devastating and the work to tackle this issue is huge. That why the Invasive Species Council was founded by myself and 7 others in 2002. The organisation is determined to lessen the impact of these invaders, and couldn't do this work without its dedicated supporters. Thank you so much for being an important part of our community, fighting for our wonderful, unique country.

The invasion curve, explained

To explain how the issue of invasive species can be tackled effectively, the Invasive Species Council uses the invasion curve – a graph of the invasion process depicting the rising harm and costs as an exotic species becomes established and spreads within its new environment.

In 2013 Australia's governments decided they would not attempt to eradicate smooth newts, which had recently established in waterways in Melbourne's south-eastern waterways, probably after being abandoned as an illegal pet. In failing to take action, our governments were embarking on a dangerous ecological experiment – allowing salamanders, a completely new order of amphibians to this country, to remain in the wild and spread.



Eradication: Smooth newt

Because smooth newts are so different from anything Australian species have encountered before, the potential impacts are hard to predict. But the fact that smooth newts are prolific breeders, have a broad diet and can inhabit many types of habitats is a great cause for concern. They are likely to compete for food and habitat with native frogs and fish, and are potentially carriers of chytrid fungus, which has decimated frog populations in Australia.



Ecology Australia's Katie Stevenson in search of the Smooth Newt in Melbourne. Photo: Andrew Cox

Given the ecological risks, the Invasive Species Council, with pro-bono assistance from ecological consultancy, Ecology Australia, undertook surveys in the spring 2016 breeding season and determined that the smooth newt was still persisting and breeding in suburban Melbourne but had not yet spread widely.

With funding from the Lord Mayor's Charitable Foundation, the Helen Macpherson Smith Charitable Trusts and Melbourne Water, in 2019 we teamed up with Monash University to conduct a full environmental DNA survey of the waterways over a large area to narrow

down the area occupied by the Smooth Newt. This work confirmed that the newt's spread has been limited. They occupy an area of only about 6km² and eradication may still be possible. The Monash team is now undertaking a small-scale trial of control methods to work out how best to achieve eradication.

<https://invasives.org.au/blog/eradication-smooth-newt/> 5 January 2022

Below Smooth Newt caught in Melbourne waterway. Photo: Ecology Australia



SOME ENDANGERED SPECIES CAN NO LONGER SURVIVE IN THE WILD. SO SHOULD WE ALTER THEIR GENES?

Around the world, populations of many beloved species are declining at increasing rates. According to one [grim projection](#), as many as 40% of the world's species may be extinct by 2050. Alarming, many of these declines are caused by threats for which few solutions exist. Numerous species now depend on conservation breeding programs for their survival. But these programs typically do not encourage species to adapt and survive in the wild alongside intractable threats such as climate change and disease. This means some species can no longer exist in the wild, which causes major downstream effects on the ecosystem. Consider, for example, how a coral reef would struggle to function without corals.

What if there was another way? My colleagues and I have developed an intervention method that aims to give endangered species the genetic features they need to survive in the wild.

Bringing theory into practice Over generations, natural selection enables species to adapt to threats. But in many instances today, the speed at which threats are developing is outpacing species' ability to adapt. This problem is especially apparent in wildlife threatened by newly emerging infectious diseases such as chytridiomycosis in amphibians, and in climate-affected species such as corals.

The toolkit my colleagues and I developed is called "targeted genetic intervention" or TGI. It works by increasing the occurrence or frequency of genetic features that impact an organism's fitness in the presence of the threat. We outline the method in a recent [research paper](#). The toolkit involves [artificial selection](#) and [synthetic biology](#). These tools are well established in agriculture and medicine but relatively untested as conservation tools. We explain them in more detail below.

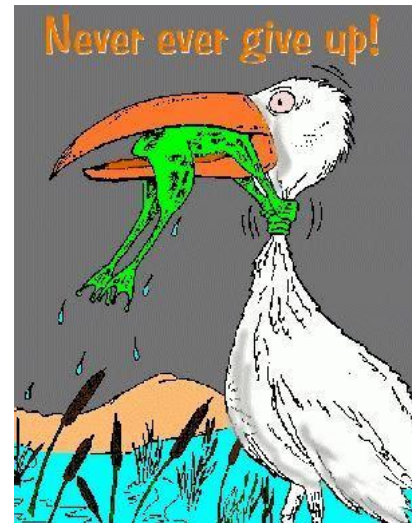
Many tools in our TGI toolkit have been discussed in theory in conservation literature in recent decades. But rapid developments in genome sequencing and synthetic biology mean some are now possible in practice. The developments have made it easier to understand the genetic basis of features which enable a species to adapt, and to manipulate them.

What is artificial selection? Humans have long used artificial (or phenotypic) selection to promote desirable characteristics in animals and plants raised for companionship or food. This genetic alteration has led to organisms, such as domestic dogs and maize, that are dramatically different from their wild progenitors. Traditional artificial selection can lead to outcomes, such as high inbreeding rates, that affect the health and resilience of the organism and are undesirable for conservation. If you've ever owned a purebred dog, you might be aware of some of these genetic disorders.

And when it comes to conservation, determining which individuals from a species are resistant to, say, a deadly pathogen would involve exposing the animal to the threat – clearly not in the interests of species preservation.

Scientists in the livestock industry have developed a new approach to circumvent these problems. Called genomic selection, it combines data from laboratory work (such as a disease trial) with the genetic information of the animals to predict which individuals bear genetic features conducive to

adaptation. These individuals are then chosen for breeding. Over subsequent generations, a population's ability to survive alongside pervasive threats increases. Genomic selection has led to disease-resistant salmon and livestock that produce more milk and better tolerate heat. But it is yet to be tested in conservation.



What is synthetic biology? [Synthetic biology](#) is a toolkit for promoting change in organisms. It includes methods such as transgenesis and gene editing, which can be used to introduce lost or novel genes or tweak specific genetic features.

Recent synthetic biology tools such as [CRISPR-Cas9](#) have created a buzz in the medical world, and are also starting to gain the [attention](#) of conservation biologists. Such tools can accurately tweak targeted genetic features in an individual organism – making it more able to adapt – while leaving the rest of the genome untouched. The genetic modifications are then passed on to subsequent generations. The method reduces the likelihood of unintended genetic changes that can occur with artificial selection. Synthetic biology methods are currently being trialled for conservation in multiple species around the world. These include the [chestnut tree](#) and black-footed [ferrets](#) in the United States, and [corals](#) in Australia.

I am working with researchers at the University of Melbourne to develop TGI approaches in Australian frogs. We are trialling these approaches in the iconic southern corroboree frog, and plan to extend them to other species if they prove effective.

Worldwide, the disease chytridiomycosis is devastating frog populations. Caused by the fungal pathogen *Batrachochytrium dendrobatidis*, it has led to the extinction of about [90 frog species](#) and declines in as many as 500 others. Many frog species now rely on conservation breeding for their continued survival. No effective solution for restoring chytrid-susceptible frogs to the wild exists, because the fungus cannot be eradicated.

Looking ahead As with many conservation approaches, targeted genetic intervention is likely to involve trade-offs. For example, genetic features that make a species resistant to one disease may make it

more susceptible to another. But the rapid rate of species declines means we should trial such potential solutions before it's too late. The longer species are absent from an ecosystem, the greater the chance of irreversible environmental changes.

Any genetic intervention of this type should involve all stakeholders, including Indigenous peoples and local communities. And caution should be taken to ensure species are fit for release and pose no risk to the environment.

By bringing the concept of TGI to the attention of the public, government, and other scientists, we hope we will spur discussion and encourage research on its risks and benefits.



CRISPR technology could potentially be used to edit the genes of endangered species. Shutterstock

[Tiffany Kosch](#) Research Fellow, The University of Melbourne Tiffany Kosch is a member of One Health Research Group at the University of Melbourne. Her research is currently funded by the Australian Research Council (grants FT190100462 and LP200301370). Additionally, the genome of their target species, the Southern Corroboree frog is currently being sequenced at no cost to the group by the Vertebrate Genomes Project.

https://theconversation.com/some-endangered-species-can-no-longer-survive-in-the-wild-so-should-we-alter-their-genes-175226?fbclid=IwAR2g6NAct5j6GpQkTpXkozmW4EWL6Nw7VWlJJ-MZBoXcCS_bY5qSM5W8E4M

WORLD FROG DAY 20 MARCH 2022

By 20/3/2022 FATS will have welcomed over 4,000 members to our Facebook page.



Jayden Walsh *Litoria lorica* Armoured Mistfrog

IN NSW, FROG KEEPER RECORD BOOKS NEED TO BE LODGED BETWEEN 1 & 30 APRIL 2022

Licence holders must keep records of their native animal pets in an electronic record book or 'e-book'. If you hold a Native Animal Keeper Licence you must keep records. There are even simpler requirements if you only have one "companion animal" pet frog.

For licences:

<https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences/native-animals-as-pets/frog-keeper-licences>

To complete your yearly frog returns if you have more than one frog:

<https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences/native-animals-as-pets/native-animal-keeper-record-book>

FATS FROG-O-GRAPHIC COMPETITION

The FATS members Frog-O-Graphic competition opens on the 1st May and closes on the 31st August 2022. Categories:

Best Frog Image,
Best Pet Frog Image,
Most Interesting Image and
People's Choice.

Winners are decided by a panel of judges. **People's Choice** is voted for by everyone present at the October FATS meeting. Alternate arrangements will be made if we can't meet in October.

All entries are by email to photos@fats.org.au

Please state:

- * your name,
- * confirm that you are a financial member,
- * identify the frog species preferably by scientific name (in the file name) and location, if known,
- * whether the image is a pet frog and
- * your contact phone number

Max 6 entries per person

Max attachment size 6 MB

Fabulous prizes awarded. Entries must be original and your own work. They don't have to be recent images. The entries may appear in FrogCall, FATS Facebook, our web site and other FATS publications. **Arthur White**

NEW FROG SPECIES DISCOVERED WHERE CHILDCARE FALLS TO FATHER

Here's one to chalk up for gender equality. A new frog has been discovered where the tadpoles are carried by the dad in a pouch instead of being left to swim. Meet the “hip-pocket” or pouched frog (sometimes called a marsupial frog) *Assa wollumbin*, which after genetic analysis is found to be distinct from its close relation called *Assa darlingtoni*.

The discovery published in the scientific journal *Zootaxa* states the males carry the tadpoles in pouches under the skin from hatching until they turn into frogs. It states: “The name *Assa* is Latin for dry nurse [as opposed to wet nurse] which elegantly describes the unique form of parental care...” There's a reason why it has only just been discovered. It is tiny, only lives in one place and has camouflage the SAS would be proud of.

Minister for Environment Matt Kean said the NSW government had taken immediate action to protect the tiny frogs, declaring their habitat an Asset of Intergenerational Significance under the National Parks and Wildlife Act to give increased protection.

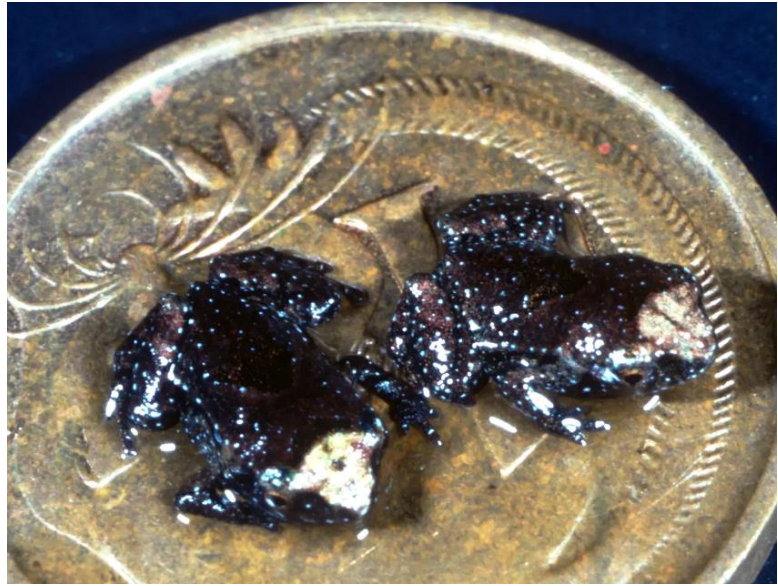


The well-camouflaged new frog species discovered in Wollumbin National Park in northern NSW.

“This incredible discovery shows just how much we don't know about the world around us, with this tiny 16mm frog found on just one isolated mountain in the Wollumbin National Park,” Mr Kean said. “The small population size makes this frog more vulnerable to the impacts of climate change, which is why the NSW government moved quickly to protect its habitat within days of it being formally described.

“A conservation action plan will be developed to ensure the survival of this fascinating frog species, which has been living undiscovered high in the cool forest.” The tiny frog population is confined to around 2000 hectares on Wollumbin Mountain in the Wollumbin National Park, and is within the Gondwana Rainforests of Australia World Heritage Area.

University of Newcastle's Michael Mahony was one of the researchers who identified the species.



This tiny 16mm frog found on just one isolated mountain in the Wollumbin National Park

“The hip-pocket frog is not only unique for its amazing breeding biology among Australian frogs, but it is also unique among frogs of the world, since there are only four of the 4000 species worldwide that have male parental care where the male carries its developing tadpoles,” Dr Mahony said. The new species will likely meet the criteria for listing as critically endangered due to its specific habitat needs and restricted distribution. **By Tim Barlass 7 November 2021**

REHOMING FROGS IN NSW

FATS has received an update on the rehoming policy of frogs in NSW. Based on information gathered during the ongoing investigation of sick, dying and dead wild frogs across NSW and further consultation with key stakeholders, it has been determined that some frogs may be suitable for rehoming.

Provided that frogs that come into care are:

1. Retained for a minimum of two weeks
2. Managed with suitable biosecurity measures, including isolation from any other sick frogs
3. Are otherwise suitable for permanent care (as per the [Standards in the Code of Practice for Injured, Sick and Orphaned Protected Fauna](#))

You are welcome to contact the Wildlife Team via wildlife.licensing@environment.nsw.gov.au for assessment of requests concerning the rehoming of frogs. Conservation Branch NSW National Parks and Wildlife Service nationalparks.nsw.gov.au

Call or email Kathy or Arthur prior to 4 February if you would like to adopt a frog. See page 11 for contact details. **MW**

The FATS meeting commences at 7 pm, (arrive from 6.30 pm) and ends about 10 pm, at the Education Centre, Bicentennial Park, Sydney Olympic Park, Homebush Bay. FATS meetings are usually held on the **first Friday of every EVEN month** February, April (except Good Friday), June, August, October and December. Call, check our web site, Facebook page or email us for further directions. We hold 6 informative, informal, topical, practical and free meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, field studies and trips, have displays at local events, produce the newsletter FROGCALL and FROGFACTS information sheets. FATS exhibit at many community fairs and shows. Please contact Events Coordinator Kathy Potter if you can assist as a frog explainer, even for an hour. No experience required. Encourage your frog friends to join or donate to FATS. Donations help with the costs of frog rescue, student grants, research and advocacy. All expressions of opinion and information in FrogCall are published on the basis that they are not to be regarded as an official opinion of the FATS Committee, unless expressly so stated.

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FATS ON FACEBOOK: FATS has over 3,980 Facebook members worldwide. Posts vary from husbandry, disease and frog identification enquiries, to photos and posts about pets, gardens, wild frogs, research, new discoveries, jokes, cartoons, events and habitats from all over the world. The page was created 10 years ago and includes dozens of information files – just keep scrolling to see them all. <https://www.facebook.com/groups/FATSNSW/>

RESCUED FROGS are at our meetings. Contact us if you wish to adopt a frog. A cash donation of \$50 is appreciated to cover care and feeding costs. Sorry we have no EFTPOS. FATS must sight your current amphibian licence. NSW pet frog licences, can be obtained from the NSW Department of Planning, Industry and Environment (link below). Please join FATS before adopting a frog. This can be done at the meeting. Most rescued frogs have not had a vet visit unless obviously sick. Please take you new, formerly wild pet to an experienced herpetological vet for an annual check-up and possible worming and/or antibiotics after adoption. Some vets offer discounts for pets that were rescued wildlife.

<https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences/native-animals-as-pets/frog-keeper-licences>

FATS has student memberships for \$20 annually with electronic FrogCall (but no hard copy mail outs).
<https://www.fats.org.au/membership-form>



Thank you to the committee members, FrogCall supporters, talented meeting speakers, Frog-O-Graphic competition entrants, event participants and organisers David, Kathy and Harriet Potter, Sarah and Ryan Kershaw. The FrogCall articles, photos, media and webpage links, membership administration and envelope preparation are greatly appreciated. Special thanks to regular newsletter contributors, Robert Wall, George Madani, Karen & Arthur White, Grant Webster, Andrew Nelson, Josie Styles, Wendy & Phillip Grimm and Marion Anstis.



FROGWATCH HELPLINE 0419 249 728

FATS COMMITTEE CONTACTS

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Andre Rank and Luc Streit	General Committee members		

FIELD TRIPS

11-13 March

Smiths Lake Camp-out

Leaders: Karen and Arthur White

All members will appreciate that this venue is booked many, many months in advance. Changing circumstances in COVID restrictions may mean that the University of NSW (owners of the field station), or National Parks and Wildlife Service, may cancel this fieldtrip, or impose severe restrictions on the numbers attending. There may also be restrictions on the types of attendees, e.g. limiting dormitory rooms to a family group only, or one-person-to-a-room etc. Our Smiths Lake trip has become such a popular destination that changes were made to ensure that everyone gets a chance to go. We have changed the booking arrangements, which will include a **non-refundable** pre-payment. This arrangement is in case we have too many people wanting to go on the field trip. Due to fires previously in the area and COVID restrictions, please confirm with Karen, a couple of days before 11 March 2022, if the trip will proceed. Pre-payments are refunded if the university, FATS or National Parks cancels the booking.

1. For the March field trip, you must email Karen White white.kazzie@gmail.com by 20 February and indicate that you and others in your group want to attend and what day you intend to arrive. Karen will then put your name on a list. If you attended the previous Smiths Lake field trip you will automatically go on the Reserve List.

2. Karen will send you a reply email to let you know which list you are on. If you are on the A list you must pay your accommodation by 28 February to confirm your booking. If you do not pay by this date you will be removed from the A list. You can pay electronically to the FATS account. Cost is \$20.00 per person, per night. The price of the trip has gone up, as the University increased their prices about a year ago and we didn't increase our fees straight away but we will need to now.

Account Name: Frog and Tadpole Study Group BSB 082 342 Account No. 285 766 885

3. Karen will send you a confirmation of your booking when your payment has been received.

4. Karen will email people on the Reserve list. You will be told if there are spaces available for you or not. If you or your group are able to go, you will now need to forward your payment to guarantee your place. Payment must be received by 5 March. If not, your place will be given to the next person on the list. We think that this will be the fairest way to ensure that everyone gets a chance to go to Smiths Lake.

FATS, at the very least, will need to see vaccination certificates of all participants. Unfortunately, if proof is not forwarded to Karen in a timely fashion, she will need to allocate those positions to other members. Sighting vaccination certificates is a requirement laid down to FATS, and is therefore not negotiable. We hope that all members might understand this requirement. There may also be added hygiene and cleaning requirements of rooms and general areas. This may add some inconvenience over the weekend. Any booking for this fieldtrip is subject to the conditions laid down to us, particularly by the University, in the final days before the fieldtrip. We will advise all participants as and when we are updated. Please contact Karen white.kazzie@gmail.com and Arthur White 02 9599 1161 for bookings or further information. We apologise for any inconvenience or disappointment that may arise in March. It is unavoidable in the current COVID environment.

In the event of uncertain frogging conditions e.g. prolonged/severe drought, hazardous and/or torrential rain, bushfires etc., please phone 02 9599 1161. Remember! rain is generally ideal for frogging! Children must be accompanied by an adult. Bring enclosed shoes that can get wet, gumboots are preferable, torch, warm clothing and raincoat. Please be judicious with the use of insect repellent. Frogs are very sensitive to chemicals! Please observe all directions that the leader may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience. Parents are asked to help ensure that the leader is able to conduct the trip to everyone's satisfaction. All fieldtrips are strictly for members only. Newcomers are however, welcome to take out membership before the commencement of the fieldtrip. All participants accept that there is some inherent risk associated with outdoor fieldtrips and by attending agree to a release of all claims, a waiver of liability and an assumption of risk. R.W.

Litoria burrowsae tadpole image Craig Broadfield



Smiths Lake March 2019 image by Andre Rank

