




# FROGSHEET

<http://www.qldfrogs.asn.au/> |  questions [at] qldfrogs.asn.au |  /qldfrogsociety |  @qldfrogs

*A Water-holding frog (Cyclorana platycephala) from Kogan, QLD following heavy rainfall late last year.  
Photo by Jono Hooper.*



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**Thank you to  
our supporters**

*QFS President Ashley Keune and his frog-finding apprentices at Heritage Park in Tewantin. Photo provided by Ashley Keune.*



**Public Trust Fund:** Total now stands at \$ 7,926.18  
*Any donations over \$2.00 are tax deductible*



## President's Report

**H**ELLO AGAIN TO ALL OF our QFS members. As froggers, I know the wet weather is something that we look forward to each year, as it brings the frogs out, but the amount of rain that was seen towards the end of February and the start of March this year was something else. I hope people haven't been impacted too badly from the recent deluge and that everybody's families are safe. For all the people who have suffered some form of loss during these extraordinary floods up the east coast of Australia, I wish you all the best with your recovery in the coming months.

My property in the Mary Valley was impacted quite significantly with two to five metres of flood water over the whole property except around the house itself. Thankfully the water stopped just short of the house. While I was rescuing my animals each night I was amazed to see the numbers of frogs that were out calling. I wish I could have taken some photos and enjoyed seeing the frogs that were around but the speed of rising flood waters didn't allow for that. I had a few hundred Graceful Tree Frogs around the house one night and the Striped Marsh Frogs were out in their hundreds as well. Since the rain has eased in the following weeks, I have noticed that the Great Barred Frogs have moved to a new section of the property as well. Hopefully I can enjoy taking a few photos of the frogs around the property before the cooler weather approaches.

The Ric Natrass Research Grant applications closed recently and we had several applications this year that were worthy of consideration. Unfortunately, we are currently only able to give out one grant. A big congratulations to Sheryn Brodie who was awarded the \$1,500 research grant this year. We know that this money will assist you with your study throughout the year into helping frogs in Queensland and on a broader scale. We look forward to hearing all about how your research is progressing later in the year.

On the 18th of March Eva Ford from the Mary River Catchment Coordinating Committee and I took a small group of children and their parents out to Heritage Park at Tewantin to participate in the Find a Frog in February initiative. This had to be delayed from the initial date due to flooding. The children, all from Tewantin State School participated in numerous lessons about frogs as part of a project club for a few weeks prior to the search.

On the night we went out it was a little cooler and the park had been altered quite significantly by the flooding a few weeks prior but we were still able to locate several frogs in the park. We found several Striped Marsh Frogs, a Stony Creek Frog, a Great Barred Frog and we did hear a few other Great Barred Frogs calling as well. We also heard several Tusked Frogs in the park but were not able to see them due to their location in places we couldn't access and being covered in masses of debris. There were also lots of toads present in this location. All the children that attended were enthusiastic and were very well behaved. It was great seeing the kids and the parents enjoying being outside conducting a survey like this. This will be an ongoing project for the school over several years and this continuing data will be able to monitor the changes in the species and the size of the populations at this park.

Don't forget that if you are interested in joining in with our Zoom management meetings, which are held every second month, email one of us on the committee and we will add your email to the list so that you can receive a link to attend. It is always good to have our members attend some of our general meetings where we discuss what the QFS is doing in the coming months. Take care of yourselves, and look out for each other and the environment.

Warm regards,

**Ashley Keune**



*QFS President Ashley Keune and students and parents from Tewantin State School frogging in Heritage Park in Tewantin. The group found several Striped Marsh Frogs, a Stony Creek Frog and a Great Barred Frog, and heard other Great Barred Frogs as well as several Tusked Frogs. Photos provided by Ashley Keune.*



## Ric Natrass Research Grant 2022

**C**ONGRATULATIONS TO SHERYN BRODIE, RECIPIENT of the 2022 Ric Natrass Research Grant! Sheryn is currently undertaking her PhD at James Cook University in Townsville, and she describes her research below.

*For my PhD research, I am using environmental sound recordings to investigate the chorusing patterns of a community of frogs in North Queensland. Acoustic monitoring is an important method for studying frogs in their habitat – males are highly vocal, and their calls give away their location and breeding intentions. Sound recorders designed for recording automatically and continuously in the field are now cheaply available, and this allows us to record the natural vocal behaviour of animals continuously at multiple locations and over longer time frames. This increased scale of acoustic data provides opportunities for studying the chorusing behaviour of whole communities of frogs over seasonal time scales and beyond. Long-duration sound recordings can easily be collected, so the current challenge is how to analyse the vast amounts of audio and extract useful data on the species of interest.*

*I have a large set of sound recordings made at several frog breeding sites at Hervey Range, near Townsville. Every night over a 19-month period (including two wet seasons) I captured the chorusing of 17 frog species. Recording at 6 sites resulted in more than 33,000 hours*

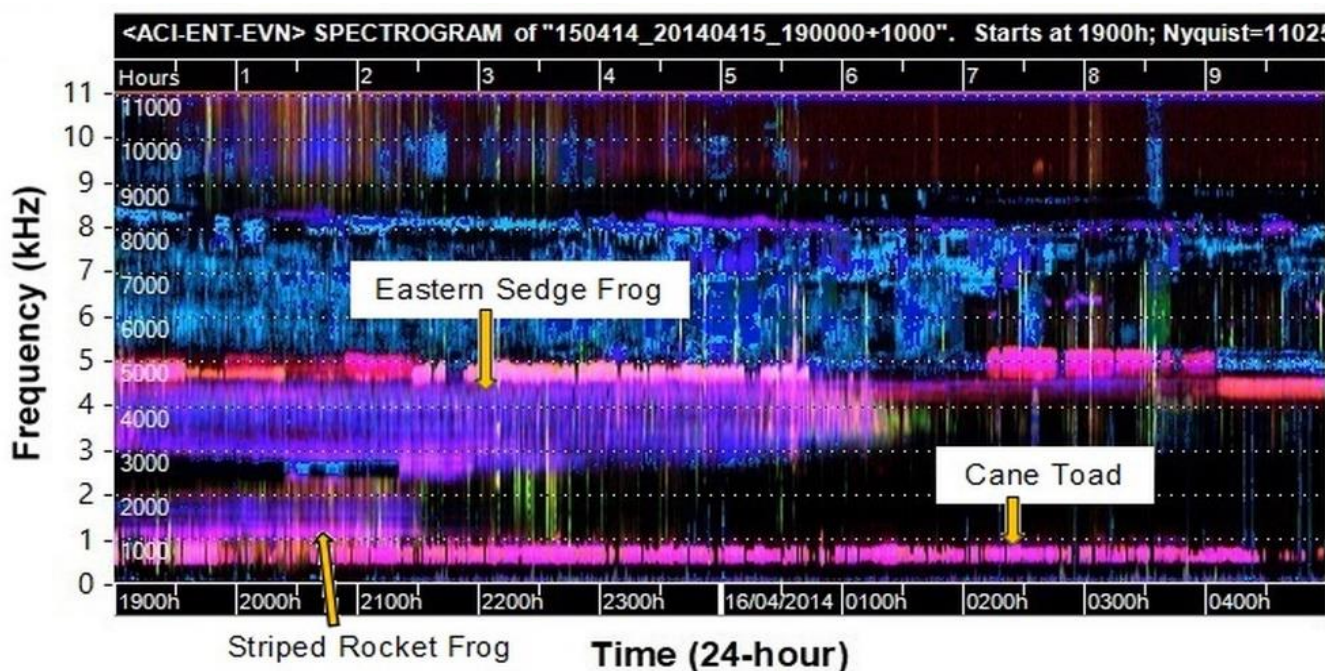


Sheryn Brodie, recipient of the 2022 Ric Natrass Research Grant. Photo provided by Sheryn Brodie.

*of audio - this would take one person working full-time about 17 years to listen to!*

*Using these recordings, the aims of my project are to: (i) investigate computer-aided methods to extract data from long-duration recordings that can be used to answer ecological questions; (ii) describe the chorusing patterns of a community of frogs in a tropical savanna and investigate the main environmental drivers; and (iii) investigate the acoustic interactions and potential impacts of the invasive cane toad on the acoustic behaviour of native frogs.*

*Continued on next page...*



An example of a false-colour spectrogram of a single night recording in Sheryn's project. The images are composed using acoustic indices and give a picture of sound features in the recording. With some familiarity, the trace patterns of some frog species can be identified visually. Sheryn has labelled the choruses of 3 species in this recording. Image provided by Sheryn Brodie.



*In the first stages of my PhD, I investigated two methods for analysing long-duration recordings by applying acoustic indices. The first was an attempt at automated species identification using acoustic indices and machine learning algorithms. This worked okay for commonly calling species, such as Cane Toads and Eastern Sedge Frogs, but it requires a lot of work to label data to train the algorithms and, like any automated method, gives many false-positive detections. Automated species call detection is an ongoing challenge that is not yet readily available for many frog species, particularly for studies of communities of many chorusing species. I then applied a method for visualising sound recordings using acoustic indices called 'false-colour spectrograms', and developed this for detecting the choruses of frogs in my acoustic data set. The false-colour spectrograms, it turns out, are quite useful for 'seeing' frog choruses in*

*sound recordings, and I even learned to identify some species visually.*

*The final chapters of my thesis will use the data I collected from analysing the recordings using false-colour spectrograms to answer the second and third project aims. These studies will describe the chorusing phenology of every frog species detected, investigate the environmental drivers of calling, and explore acoustic interactions among species. So, by the end of this year I will have some very interesting insights into the chorusing behaviour of the tropical savanna frogs of North Queensland to report to the QFS.*

We wish Sheryn all the best with the remainder of her PhD, and look forward to receiving updates later in the year! If you want to read more about Sheryn's work, her previously published research can be found [here](#).

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## The crucifix frog emerges in South West QLD

**T**HE CRUCIFIX FROG, OR HOLY CROSS FROG (*Notaden bennetti*) is a small frog (4.5–6.5 cm) found in South West QLD and inland NSW. The frogs spend much of their lives dormant about three metres underground, emerging after heavy rain to feed and breed.

Crucifix frogs were [recently spotted south-west of Charleville](#), QLD. Their emergence is a sign of good rain but also good land management in regions of ongoing drought, as the frogs only surface when the rain soaks deep enough into the ground to reach them.

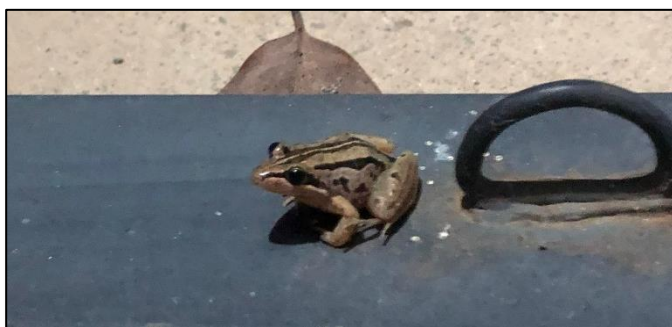
Crucifix frogs are vulnerable to over extraction of water, destruction of habitat for development and prolonged droughts.



*A Crucifix Frog (Notaden bennettii), Photo by flickr user [Jesse Campbell](#).*

### Send us your frogging photos and stories!

Now the wet season is here we have seen lots more frog activity! Don't forget that we love to see pictures and hear stories of the frogs that you find in your area, so get in touch and tell us all about your frogging adventures!



*A little Striped Marsh Frog (*Limnodynastes peronii*) sitting on outdoor workout apparatus in Southport on the Gold Coast. After sitting for photos, the frog hopped energetically into a nearby pile of leaves. Photo provided by Grant Carruthers*

## Frog news from Australia and beyond...

### One hundred Southern Corroboree Frogs released in NSW, Australia

WITH ONLY 30 REMAINING in the wild, the Southern Corroboree Frog is one of Australia's critically endangered frog species. The frogs can only be found in Kosciuszko National Park, where amphibian chytrid fungus and the loss of breeding grounds are major threats to their survival. Previous conservation efforts were largely thwarted by the 2019–20 bushfires, which destroyed large areas of the park and killed two-thirds of the frogs released into disease-free enclosures. However, all is not lost... The Taronga Zoo in Sydney, Victoria Zoos, the National Parks and Wildlife Service (NPWS) and the NSW government's Saving our Species program are collaborating on a captive breeding program, and have recently released 100 Southern Corroboree frogs into five enclosures across Kosciuszko National Park, including a new enclosure that has been built to better withstand future bushfires.

Click to read the recent [ABC story](#), and don't forget to watch the video to see the release of the frogs into the new enclosure!

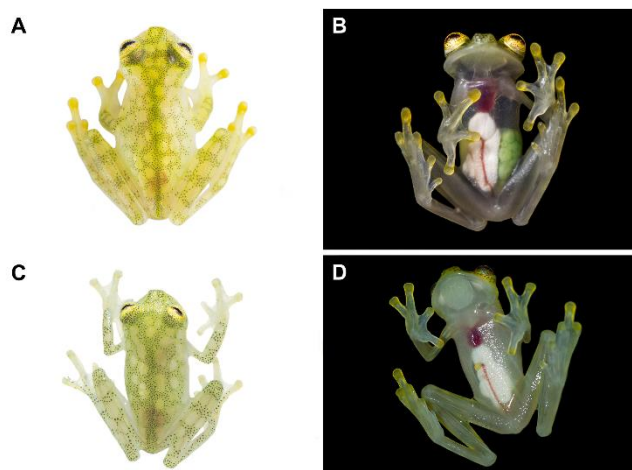


A screengrab of the video from the ABC news article. Click the image to view the ABC article and access the video.

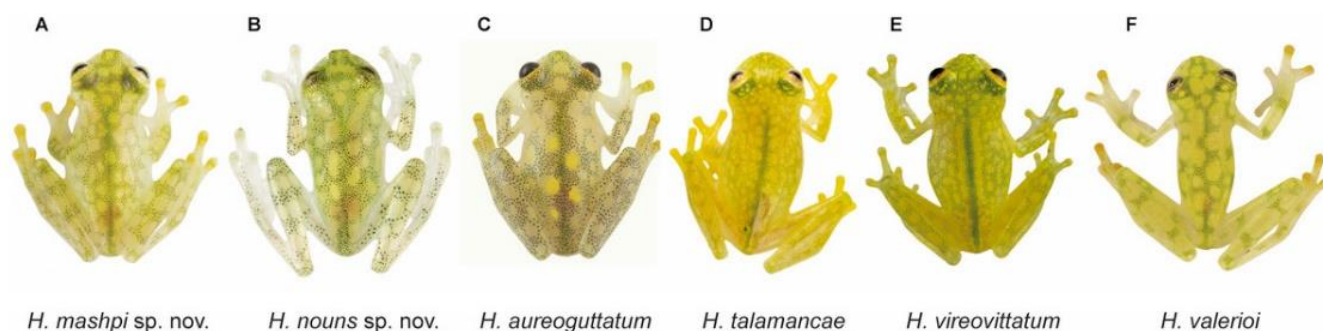
### Two new species of glassfrog from the Tropical Andes have been described

SCIENTISTS HAVE RECENTLY DESCRIBED [two new species of glassfrog](#) in the Andean cloud forests in Ecuador. Both species, *Hyalinobatrachium mashpi* and *H. nouns*, were distinguished from other glassfrogs by appearance. However, they look remarkably similar to each other. It was their genetic and acoustic traits that enabled scientists to confirm the frogs were two separate species.

Due to habitat fragmentation, as well as constant deforestation and mining, the authors concluded both species are of conservation concern and recommended they are listed as Endangered according to IUCN criteria.



Dorsal and ventral photos of the two newly described species of glassfrog. (A) Male of *Hyalinobatrachium mashpi* (B) Gravid female of *H. mashpi* (C) Male of *H. nouns* (D) Male of *H. nouns*. Photos by Jaime Culebras (A, B, D) and Ross Maynard (C). Figure reproduced with permission.



Dorsal patterns of glassfrogs in life. (A) *Hyalinobatrachium mashpi* (B) *H. nouns* (C) *H. aureoguttatum* (D) *H. talamancae* (E) *H. vireovittatum* (F) *H. valerioi*. Photos by Jaime Culebras (A, D, E, F), Jose Vieira (B) and Luis Coloma (C). Figure reproduced with permission.



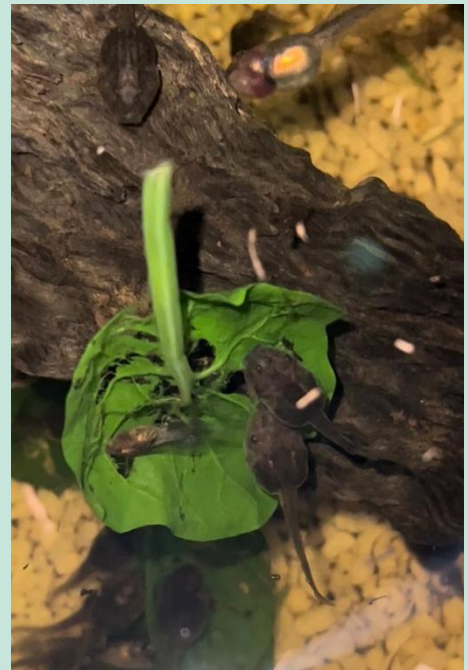
## From the Secretary's Desk

Judging by the drop in queries I would say the summer breeding season has passed, and I hope that backyards are now providing homes for the increased frog populations that were spurred on by the summer rains. The main questions I am receiving now are "why have all the tadpoles not gone yet?" and "why are the remaining tadpoles quite small?". In most spawns there are the tadpoles that are destined to develop quickly and get out of the water. The rest grow at a slower speed, and will sometimes still be developing when the water is cooling down. These late developers will often stay at the same stage and will eat sparingly through winter until the following spring when they will emerge.

Do get in touch if you have any questions or interesting tales – I am always available

Keep safe,

**Jenny Holdway**



*A few remaining tadpoles feeding. Photo provided by QFS member Daila.*

## DATES FOR YOUR DIARY ...

**17<sup>th</sup> April, 2pm**

Presentation for the Toowoomba Bromeliad & Succulent Society, Sacred Heart School Hall

**8<sup>th</sup>–10<sup>th</sup> July**

QLD Garden Expo, Nambour Showgrounds

**3<sup>rd</sup>–4<sup>th</sup> September**

Off Grid Lifestyle Expo, Goomeri



## A warm welcome to new QFS members!

Cathie Culverhouse, Jack Arbuckle, Jacoba Ewan, Tanya Wheeler, Alison Pauli, Billie-Jo McGregor, Sue Lewty, Chantal Lanctot, Colleen Kempys, Chad Beranek, Michael Vella, Stephen Mahony, Cara Binney, Leanne Marshall.

## Executive Committee

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ARTICLES FOR INCLUSION IN *FROGSHEET*

**DEADLINE FOR WINTER *FROGSHEET*  
CONTRIBUTIONS IS 14TH MAY 2022**