

FROGSHEET

www.qldfrogs.asn.au | questions [at] qldfrogs.asn.au | [f/qldfrogsociety](https://www.facebook.com/qldfrogsociety) | [@qldfrogs](https://www.instagram.com/qldfrogs)

FROGGING AT THE COOLOOLA BIOBLITZ

The second Cooloola Bioblitz took place over the 17-19th May, based at Rainbow Beach Community Centre. Experts from various different fauna and flora groups were present to lead teams

of citizen scientists throughout the Great Sandy National Park in search for new species, or new locations and records of known species. QFS President Jono Hooper and keen member Ben Revell were again invited to lead the frog component of the 48-hour bioblitz. This year's event was deliberately scheduled to occur in May in the hope the weather would be warmer and wetter than the inaugural event on August 2018. Warmer and wetter is was!

This event Jono and Ben targeted several other loca-



Credit: J. Hooper

tions in search for new records of threatened acid frog species, as last year frogging focussed on Lake Poona and Seary's Creek day-use area. The warm and wet weather resulted in much increased frog activity over the previous bioblitz event, with a total of seven frog species detected:

- Wallum Sedgefrog (*Litoria alongburensis*) - vulnerable (shown above);
- Wallum Froglet (*Crinia tinnula*) - vulnerable (shown below-left);
- Scarlet-sided Pobblebonk (*Limnodynastes terraereginae*);
- Graceful Treefrog (*Litoria gracilentia*);
- Striped Marshfrog (*Limnodynastes peronii*);
- Emerald-spotted Treefrog (*Litoria peronii*); and
- the Cane Toad (*Rhinella marina*).

12 x Wallum Sedgefrogs were sighted and many Wallum Froglets were heard calling within close proximity and in the distance of the areas we surveyed. WallumFroglet tadpoles were also identified in areas of shallow water along vehicle access tracks. A couple dozen Scarlet-sided Pobblebonks (over page) were also



Credit: J. Hooper

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found along one section of a sandy, forested track. All records were uploaded into the iNaturalist app and can be found via the website. Records are also made available through Atlas of Living Australia (ALA). Locations of threatened species are obscured for their protection.



Credit: J. Hooper

The second Cooloola Bioblitz was another great success with many citizen scientists again participating, and at least 529 total plant and animal observations made (including four vulnerable and endangered species).

UPCOMING EVENTS

12-14 July: QLD Garden Expo, Nambour Showgrounds. Display and Sales.

7-8 September: Native Plants Qld. Spring Flower Show, Towong Botanical Gardens. Display

19 October 19: QFS AGM to be held at Karawatha Discovery Centre. More details later.

FROG QUESTIONS EMAIL

Our Questions email address is again regularly monitored. For any questions regarding frog and toads not already answered on our website, email questions [at] qldfrogs.asn.au

FROG HABITAT WORKING BEES

Bowman Park, Bardon

First Wednesday and Sunday of each month, during the morning. Contact Phil for more info and/or visit <https://www.facebook.com/bowmanparkfroghabitatgroup/>

26% of these observations have been categorised as Research Grade, meaning these records have been verified as accurate. Many more observations are awaiting to be verified, which can be done so by becoming a part of the iNat Community online. On a side-note, spiders within the Cooloola region are still largely undescribed, with 71 new spider species discovered over the two bioblitz events in the region.

Jono Hooper

BRIBIE ISLAND/ CABOOLTURE REPORT

Hi all. Its been a while since I have written a report, it's nice to be able to do some frogging. I have been travelling with the family, this time a road trip to one of the most beautiful places I've been to, Carnarvon Gorge. I know it is on many peoples bucket list, and due to the remote nature of this majestic inland wonderland (9 hours from Brisbane), it is a destination that requires some planning. As I mentioned there were many things to plan for (like how to motivate a 9 Yr old, or how to keep up with a 16 Yr old, or how

RIC NATTRASS RESEARCH GRANT

The QFS Trust Fund was created with the purpose to help save QLD frogs through education and research by means of this Research Grant, and now stands at **\$6,112.46** (- \$500.00 since Autumn edition)

STAY IN THE LOOP

If you have a newer preferred email address, please contact us and let us know.

HELPING HAND

We are always in need of an extra pair of hands to assist at community event display stalls. Many hands make light work, even if you can spare 30 minutes to help unpack and pack up our display gear from and to a vehicle. Most of our displays are within the Brisbane area.

Please contact our Secretary if you can help us out.

to keep the 14 Yr old off his device), so I wasn't fully prepared for my frogging! Despite this I did come across the lovely Scarlet-sided pobblebonk (credit to ID from our members Facebook group), photo below. I love to listen to frog calls, and knew I would be out of season for the chorus of frogs that would be likely to be heard in this region. So I wasn't targeting any frogs when I took the family on a spotlight (searching for gliders). I am so glad I did, because I had my eyes open, shared



Credit: P. Fitzgibbon

experience with my family and saw country not visited by everyone. We saw this frog along a path about 20 metres from the Carnarvon Creek bank, (and, in retrospect, not far from a juvenile red-bellied black snake!, (below). I am proud to say both snake and frog, oh and I'll admit it, most of the gliders, were spotted not by me, but my family. So the years of spotlighting have paid off!

I am truly surprised by how closed people are to our wildlife, it takes a simple effort of a spotlight or torch, a



Credit: P. Fitzgibbon

track that is easy to navigate, and that's it, oh and a pH helps too. I have checked my list of the wildlife I saw at Carnarvon Gorge, and people were surprised. I'm not, but I know I could have done more. Back at home I heard the familiar calls of the *crinia parinsignifera* on Saturday night at the Bites Market at Morayfield. Its been a while since I have heard the numerous chorus, as they do suffer from changes in drainage in the landscape. We are blessed with nocturnal wildlife, so that's the time to see them! So my message is, every now and then, keep your eyes and ears open, you won't be disappointed! P. S I can if your interested try and remember my full list!!

Pauline Fitzgibbon

CANE TOADS: WHAT THEY DO IN THE SHADOWS

19 January 2019 | Macquarie University

Cane toads are picking up some shady habits, according to a new study co-authored by a Macquarie University researcher.

Toads in Western Australia have been spotted awake and active during the day in deeply shaded habitats, despite the species usually being nocturnal in Australia and other parts of the world.

However nearby cane toad populations at more exposed sites remained only active at night.

"We didn't expect them to change such a fundamental behaviour," says Dr Simon Clulow from Macquarie's Department of Biological Sciences. "Particularly given their nocturnal neighbours were only four to seven kilometres away."

"This suggests that cane toads are particularly good at changing their behaviour in response to their environment, something known as behavioural plasticity, which might assist their invasive spread into new environments."

The research, which was published in Scientific Reports overnight, looked at cane toad populations near the invasion front in El Questro Wilderness Park in WA's Kimberley region from 2013 to 2015. It's research that has consequences for managing Australia's cane toad

plague.

The toads first arrived at the sites studied in 2012 or 2013.

“It is rare that an animal species changes activity times in such a short time period,” says lead author Dr Sean Doody from the University of South Florida St. Petersburg.

“Our findings add to a growing list of flexible behaviours in the invasion arsenal of cane toads.”

It’s thought cane toads are nocturnal in Australia to escape northern Australia’s intolerably hot and dry conditions during the dry season.

However, this area of the Kimberley is rich in sandstone gorges. Some of these gorges are the right size and orientation—away from the sun—to offer cane toads more comfortable, shady habitats.

The researchers used remote cameras at eight different locations to monitor the toads’ activity.

They also dissected toads that were active during the day to see if this changed their eating habits.

The researchers found that cane toads living in gorges with an east-west orientation, and therefore in shadow throughout the day, or narrow gorges were mainly active during the day.

Whereas gorges that ran north to south or were wider contained mainly nocturnal toads.

“We also found that toads that were active during the day were significantly more likely to flee from an observer than toads that were active at night,” says Sean.

“This increased wariness may have been due to them being at higher risk from predators at night, or being more conspicuous to predators during the day.”

The researchers weren’t able to tell if the toads preferred being active during the day, or if this change was beneficial, but it’s an intriguing question for further research.

However, the toads’ ability to change their behaviour in response to their environment, as this study reveals, is more bad news for managers attempting to control cane toads.

“Such behavioural plasticity can help invasive species successfully invade new areas,” says Simon. “And

does help explain why cane toads have been able to colonise so much of northern Australia since their introduction in 1935.”

“Given the serious problems they cause, we need to better understand how behaviour contributes to the competitive ability and spread of

cane toads, and other invasive animals.”

The study was co-authored by researchers from Macquarie University, the University of South Florida, the University of Newcastle and Monash University.

‘FRIENDLY’ BACTERIA COULD HELP SAVE FROGS FROM DISEASE

22 June 2019 | Helen Briggs | BBC News

Bacteria living on the skin of frogs could protect them against a deadly virus, according to research.

The work by scientists at the University of Exeter and Zoological Society of London could help save species such as the European common frog from being wiped out by a disease.



A juvenile cane toad (*Rhinella marina*) in Emma Gorge, Western Australia. Photo: M.G. Swan

Amphibians have been hit particularly hard by changes in the natural world.

Up to 40% of species are close to dying out due to factors such as pathogens, habitat loss and climate change.

They found a link between outbreaks of the disease and the make-up of bacteria on the frogs' skin in different populations across southern England.

This gives the first demonstration that in the wild there is a correlation between populations that get disease and populations that remain disease-free, and the mix of bacteria on the skin, said Dr Lewis Campbell from the University of Exeter.

"It's a silver bullet against the virus, potentially," he said.

The researchers hope the work could help save the frog species most often seen in UK ponds.

There is growing evidence that skin bacteria may protect amphibians from chytrid fungus, another deadly frog disease which is common around the world.

Cocktails of so-called friendly bacteria are being developed that might help protect frog species.

"Our work suggests that given enough effort and research, similar probiotic therapies may be effective against ranavirus," said Dr Xavier Harrison also from the University of Exeter.

The research is published in the journal, *Frontiers in Microbiology*.

Vacating Committee Position

After 5 years of serving as President on the Management Committee, Jono has elected not to re-contest the position of President at the 2019 AGM; making way for someone with new energy and enthusiasm to bring to the position. Jono will focus on other current QFS roles and responsibilities.

If you or someone you know would be interested in nominating for the position, or you have questions regarding the position role and requirements, please contact our Secretary at [qldfrogs \[at\] bigpond.net.au](mailto:qldfrogs@bigpond.net.au) or call on (07) 3366 1868.

Please invest in QLD's frogs by renewing your Annual Membership today!

Included in the latest E-News email are details on how you can renew your annual membership online.

Your current membership will expire on 1 July 2019.

Membership is the QLD Frog Society's primary source of financial support. Without it we cannot continue raising awareness of our threatened frog species.

Thankyou!

FROG DISCOVERIES HAVE SCIENTISTS HOPPING

7 June 2019 | Carley Rosengreen | Griffith University

Long-nosed Tree Frog (*Litoria* sp. nov).
Credit: Tim Laman, National Geographic

Frogs from quiet ponds get stressed when exposed to traffic noise, but frogs from noisy ponds are used to the racket.

What do pinocchio, a cheeky monkey and a parachute have in common? They are three new species of frogs recently described by a Griffith University and Queensland Museum scientist and his colleagues.

The trio of frogs were discovered in New Guinea's rugged forest covered mountains and are incredibly rare, with scientists having only seen each of these species just once.

Litoria visissimia. Credit: Stephen Richards

Queensland Museum senior curator Dr Paul Oliver said all three frogs were unique and remarkable.

At first glance *Litoria pinocchio* and *Litoria vivissimia* look like typical small tree frogs, but on closer inspection a small spike like a short nail can be seen protruding from the tips of their snouts.

The third species, *Litoria pterodactyla*, is a parachuting frog, with extensive webbing on its fingers that is used for gliding out of its treetop home.

"It's pretty obvious how we came up with the name *Litoria pinocchio* – it refers to the distinctive spike between the frog's nostrils," Dr Oliver said.

"And *Litoria vivissimia* translates to 'cheeky monkey' – we have probably walked past dozens of them but have only ever seen one. We think they are probably up there in treetops laughing at us."

Litoria pterodactyla. Credit: Stephen Richards

Dr Oliver said the third species, the parachuting frog, is a large green frog with violet thighs.

"Its name translates to 'winged fingers', referring to its extensive violet finger webbing that it uses to parachute out of trees," Dr Oliver said.

Dr Oliver said these elusive frogs were some of the most remarkable species described from New Guinea



***Litoria visissimia*. Credit: Stephen Richards**

over the last decade, and their discovery is yet more evidence that this wet mountainous island is a global hotspot of frog diversity.

Queensland Museum CEO Dr Jim Thompson said the work of Queensland Museum scientists stretches beyond the state.



***Litoria pterodactyla*. Credit: Stephen Richards**

“Queensland Museum has a team of world-class scientists whose work contributes to the overall knowledge of biodiversity around the globe and discoveries such as this are just a small aspect of the work our scientists and curators perform daily,” Dr Thompson said.

The papers featuring the three new species were recently published in Zootaxa. ■

AN ISLAND HAVEN FOR FROGS IN A SEA OF EXTINCTIONS

3 June 2019 | Macquarie University

New Guinea is one of the only places in the world where frogs are safe from the species-destroying

chytrid fungus. An international team of scientists has published a new paper that shows how to keep it that way, but they need help to carry out their plan.

The chytrid fungus has wiped out more than 90 frog species around the world, and it’s driving hundreds more towards extinction. New Guinea -- the world’s largest tropical island, and home to 6% of all known frog species -- is one of the last remaining refuges from the deadly infection.

A team of scientists led by researchers from Macquarie University and the University of New England in Australia think they know how to keep the island’s frogs safe, but they need support to establish a long-term program of monitoring and conservation.

Writing in the journal *Frontiers in Ecology and the Environment*, the group of 30 experts from Australia, the USA, China, Indonesia and Papua New Guinea calls for urgent action.

“You don’t often spot a conservation disaster before it happens and get the chance to stop it,” says Deborah Bower of the University of New England in Armidale, Australia, who is the first author of the article. “We know what needs to be done.”

The infectious chytrid fungus has been described as the most destructive pathogen known to science. It has destroyed more than 90 species of frog entirely and caused declines in almost 500 more.

The international pet trade helped the chytrid fungus spread rapidly from its origins in East Asia over recent decades, and it now infects frogs on every continent. It is one of the key reasons why 40% of the world’s frog species now face the threat of extinction.

New Guinea’s tropical climate and hundreds of native frog species make it an ideal environment for chytrid. But field tests have so far found no traces of the killer fungus.

“A lot of New Guinea’s frogs are closely related to Australian species that have been devastated by chytrid, so we expect they would be just as vulnerable,” says Simon Clulow at Macquarie University in Sydney, Australia, who leads the research team.

“Other New Guinea frog species are unusual because they hatch from eggs as fully formed frogs, rather than going through a tadpole stage, and we don’t know how chytrid will affect them.”

The team estimates that around 100 species of frog would be in danger if chytrid reaches New Guinea, and their decline could have huge impacts across the ecosystem as they are predators of insects and other small creatures but also prey for larger animals.

The research team includes international experts in frog conservation -- including Lee Berger, the Australian who first discovered the chytrid fungus and showed it was responsible for frog species declines and extinctions -- alongside local researchers with deep knowledge of the environment of New Guinea.

They have been studying frogs in New Guinea since 2015, and have already started working with zoos, universities and the Papua New Guinea government to build a program to keep captive frogs and store their sperm and eggs to preserve genetic diversity.

The team has developed a 5-step program of preparation, prevention, detection, response and recovery to keep the deadly fungus off New Guinea and to minimise the impact if it does arrive.

As well as preserving New Guinea’s frogs, the program would build local capacity in science, and disease surveillance and diagnosis that will have applications for animal and public health.



Coast of New Guinea. Credit: Byelikova Oksana

#qldfrogs

Each newsletter will feature a selection of photos by our keen Instagram followers who tag their QLD frog photos with #qldfrogs! Tag yours to be featured here.



Naked Treefrog (*Litoria rubella*) by @jradbarnes



Ornate Burrowing Frog (*Platyplectrum ornatum*) by @calsphotography12



Whirring Treefrog (*Litoria revelata*) by @mccallwildlifephotography

PRESIDENT'S REPORT

As reported, the Cooloola Bioblitz was a great opportunity to seek out more areas where the threatened acid frogs of the region occurred and add new records to the iNaturalist biodiversity records hub. I look forward to attending the next event held by Fraser Island Defenders Organisation (FIDO) and Cooloola Coastcare.

The Management Committee have been busy behind the scenes working through several administrative tasks and procedures. We are also currently in the process of seizing an opportunity which if successful, I hope to share with our members later in the year!

As you would be aware, I have decided not to re-contest the position of President at the upcoming Annual General Meeting on 19th October. I look forward to carrying on with my other current tasks for the QLD Frog Society and expand on seeking and delivering events and activities for our Members and for the ultimate benefit of our frogs here in QLD. If you or

someone you know may like to nominate for President prior to the AGM, or you'd like further details on the role, please contact our Secretary at [qldfrogs \[at\] bigpond.net.au](mailto:qldfrogs[at]bigpond.net.au) or call on (07) 3366 1868.

As the end of financial year fast approaches, please carefully consider your support for our ever-threatened frog species and invest in their future by renewing your membership. We heavily rely on your financial support in allowing us to attend community events, replace exhausted equipment and purchase items to increase our exposure to the community. Furthermore, we're able to financially contribute to other environmental organisations in achieving similar goals of protecting or enhancing habitat here in QLD.

Perhaps you're also in a position to make a tax-deductible donation to the Society before 30 June? We highly value all donations which are used to fund research into QLD frogs via the Ric Nattrass Research Grant we award each year to an eligible student studying frogs in our state.

Cheers,



Whirring Treefrog (*Litoria revelata*) at Binna Burra recently, by J. Hooper

NEXT EDITION

Thankyou to those of you who contributed to this newsletter.

**Deadline for Spring *Frogsheet* contributions is
22 August 2019**

If undelivered, please return to
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SURFACE MAIL



Frogsheet - Winter 2019
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PP424022/00619