MID-WINTER 2021

FROGSHEET

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

*The Kroombit Tinkerfrog (*Taudactylus pleione*) is a highly cryptic species that is more often heard than seen. Males of this species call from concealed perches between rocks and under fallen vegetation. Credit: Ed Meyer.*

Kroombit Threatened Frogs Project update on Page 2

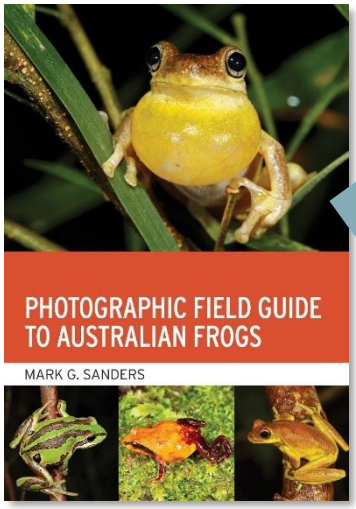
Membership payments now online!

New membership payments and membership renewals can now be done via our new online payment system.

IN THIS ISSUE

What happens to your FrogID recordings?

Find out on pg 3!



Thank you to our supporters

Public Trust Fund: **Total now stands at $4,028.83**

President's Report

Hello again, all of our QFS members. I hope that all of you are keeping safe and healthy, especially with the recent COVID-19 situation across the country.

As many of you will know, our entire society runs on the generosity of volunteers. This month I would like to say a big "thank you" to all of our members, as by being a member you are helping us do more for frogs and the environment. Every single membership helps us to implement the aims of the society.

In order to make new membership and membership renewal payments easier and more secure, the Queensland Frog Society now has an online payment system, and you can pay directly via credit card. (The option for direct bank deposit is still available.) Another big "thank you" to Jono Hooper, our Events and Initiatives Coordinator, who has worked hard over the last few months to set this up.

Last month we put a call out to our current members to see if anyone was interested in volunteering at some of our upcoming informational displays and presentations. We are very pleased that lots of you put your hands up, and we have even been able to call upon some of these new volunteers to help out at our display at the Queensland Garden Expo (Nambour showgrounds, 9th–11th July). We are really looking forward to meeting and working with you all soon!

At the Queensland Garden Expo, we have always been impressed by the number of people coming to us for help identifying frogs they have seen on their properties. I hope this year will be no different. In the meantime, some of the information in this issue might come in useful, including tips to improve your call identification skills (pg 3), and a review of a brand-new field guide to Australian frogs (pg 4).

If you are already comfortable with identifying frog calls, you might be interested in helping us with the analysis of audio recordings from our recent Kroombit Threatened Frog Project trip? More about that below.

Take care of yourselves, and look out for each other and the environment.

Warm regards,

Ashley Keune

Kroombit Threatened Frogs Project Update

In April this year, QFS volunteers returned to Kroombit Tops National Park to conduct further surveys for the critically endangered Kroombit Tinkerfrog (*Taudactylus pleione*; photo on page 1) and Kroombit Treefrog (*Litoria kroombitensis*) as part of QFS's Kroombit Threatened Frogs Project – a project funded by the Queensland Department of Environment and Heritage's Community Sustainability Action grant scheme.

Despite good rain preceding these surveys, conditions at Kroombit Tops were drier than expected, and few frogs were heard or seen at sites surveyed by QFS volunteers. With conditions suboptimal for detection of target species, nocturnal surveys were scaled back, allowing more time for the collection/retrieval of the 50 or so automated sound recorders deployed at sites across Kroombit Tops in December 2020. Thanks to the stellar efforts of our volunteers, all recorders deployed were retrieved successfully.

Downloading recordings from an automated sound recorder at Kroombit Tops National Park. Credit: Sherri Tanner-McAllister.

Sound files have been downloaded from almost all of the recording units deployed at Kroombit during summer, and we now have over 100,000 one-minute recordings ready for analysis!

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Acoustic recorders will have hopefully captured calling activity under conditions more suitable for the detection of our target species (in particular the Kroombit Tinkerfrog). The analysis of these recordings should provide us with a clearer picture of the current abundance and distribution of threatened frog species at Kroombit Tops.

We are looking for volunteers to assist us with the important task of analysing these call recordings! If you're interested in assisting with the review and analysis of call recordings, get in touch with our event and initiatives coordinator, Jono Hooper, at: events_initiatives@qldfrogs.asn.au.

Our next scheduled trip to Kroombit Tops National Park will be in August 2021. QFS volunteers will be erecting pig-exclusion fencing around an area of critical habitat for the Kroombit Tinkerfrog where pigs pose a particular threat (see *Frogsheet* Autumn 2021 issue).

QFS volunteers will be returning to Kroombit Tops in December 2021 to conduct surveys for the Kroombit Tinkerfrog, Kroombit Treefrog and Tusked Frog (*Adelotus brevis*), and for one last time in late summer/early autumn of 2022.

If you would like to know more about these future trips or would like to join us as volunteer, please contact our event and initiatives coordinator, Jono Hooper, at: events_initiatives@qldfrogs.asn.au.

Ed Meyer

New to call identification? ⬇⬇⬇

👊🖐👉 Bird… Insect… Frog…?

CALL IDENTIFICATION CAN BE like a game of chance, with bird, insect and frog groups causing the most confusion.

Diurnal and habitat divisions can help in most cases; Birds tend to call during the day, within vegetation or moving quickly, while most frogs call during the warmer months, at night, close to or on the ground, and near water. But there are always those frogs that call against the rules – take *Litoria peronii*, which calls weakly in low temperatures and sounds exactly like a crow gurgling. Then, there are the insects; Also noisy at night, and many are also close to the ground.

When I first started to learn frog calls, I would repeat them in my head many times. But memory is immensely unreliable! I found the best way to learn the frog calls was to record them and listen to them over and over again while comparing to reference and other frog calls. I found that this method reinforces the learning, as the initial encounter and associated sound are re-experienced many times.

David Stewart's CD 'Australian frog calls (Subtropical east)' was my best friend back then and still is 25 years on. Nowadays there are plenty of apps and websites that provide a wider variety of calls from different parts of Australia, but the principle remains the same: Learn and practice, and sometimes get confused... but no longer leave it to chance!

Eva Ford

Recent insights from FrogID data

HAVE YOU EVER WONDERED what happens to the recordings you submit via the FrogID app? Yes? Well, wonder no more…

Australian and Czech researchers used >126,000 FrogID recordings to understand how 87 of Australia's frog species have responded to modification of their habitats by humans (e.g. buildings, roads, electrical infrastructure and agricultural practices).

The study is the most comprehensive analysis on the topic to date, and the results were published earlier this year in *Global Change Biology* journal.

In short, the study found that 70% of the species under investigation were negatively affected by habitat modification. Some species, on the other hand, showed positive responses to habitat modification by humans, and were commonly recorded in suburban backyards. These included the striped marsh frog (*Limnodynastes peronii*), white-lipped tree frog (*Litoria infrafrenata)*, and the motorbike frog (*Litoria moorei*).

Due to the high number of species intolerant of habitat modification, the researchers concluded that their results show "*an urgent need for … improved conservation measures to ensure the long-term persistence of frog populations*".

The final publication exists behind a paywall, but a non-peer-reviewed version is publicly available here: https://ecoevorxiv.org/ku4mv/

Book Review: Photographic Field Guide to Australian Frogs *by Mark Sanders*

CSIRO Publishing; Recommended Retail Price: $49.95

WRITTEN BY WILDLIFE ECOLOGIST and QFS member, Mark Sanders, '*Photographic Field Guide to Australian Frogs*' is the latest in a growing list of Australian frog field guides, including Clulow and Swan's '*A Complete Guide to Frogs of Australia*', the recently-released second edition of Tyler and Knight's '*Field Guide to the Frogs of Australia*', Frog ID (a smartphone app created by the Australian Museum) and Frogs of Australia (an iPhone app created by Conrad Hoskin and colleagues).

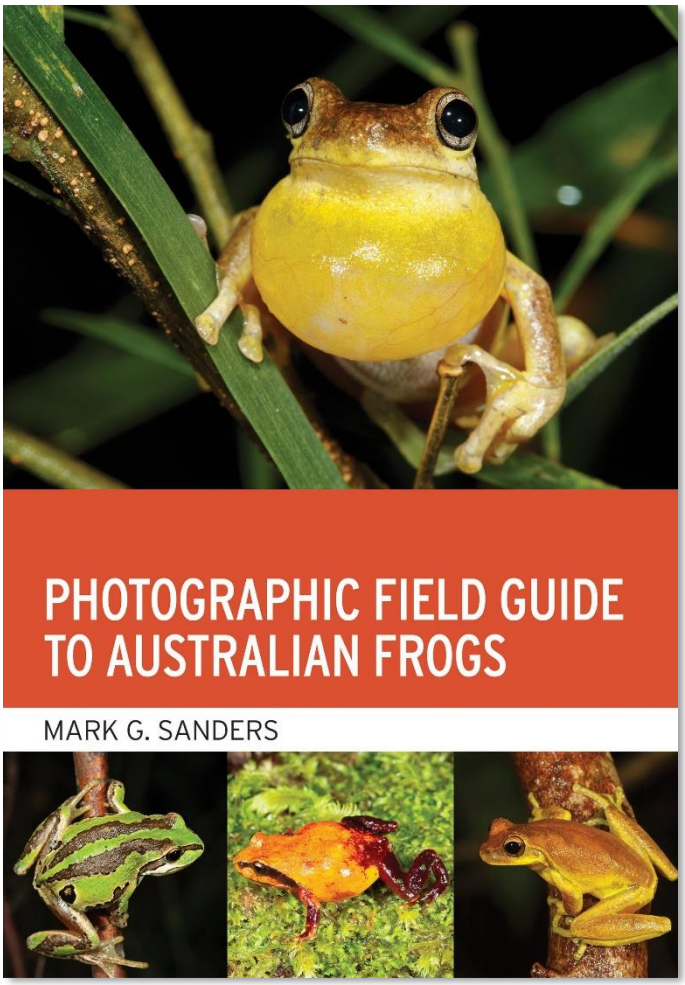
If you already own one (or more) of the aforementioned books or apps – like I do – you might be wondering "why bother with another guide to Australian frogs?" In the case of '*Photographic Field Guide to Australian Frogs*' the answer is simple: the numerous high-quality photos illustrating key diagnostic features of each genus and species as well as the variation in colour and pattern amongst individuals of the same species.

In frogs, individuals of the same species and sex can differ markedly in colour and pattern, making accurate identification difficult, particularly for less experienced froggers. Few, if any, of the aforementioned frog guides do anywhere near as good a job at explaining or capturing this variation.

The high-quality photos and line drawings of key diagnostic features include such features as eye colour, posterior thigh colouration, extent of webbing between the toes, head shape, ventral (underside) colouration and pattern, toe pads, and tubercles on the underside of the feet and hands.

To assist readers with identification, '*Photographic Field Guide to Australian Frogs*' also includes fully illustrated keys to each family and genus of Australian frog, as well as separate tables with text and photos highlighting key similarities and differences amongst 'morpho-functional' groups (i.e., groups of similar-looking and related species). These easy-to-use keys and tables allow one to narrow down the list of candidate species when working out the identity of a frog.

Individual species accounts include a distribution map, information on habitat preferences, a description of calls, and a section on similar species that addresses the key differences. The latter is especially useful for identifying froglet (Crinia) and toadlet (Uperoleia) species, which are highly similar in appearance and difficult to identify, even for experienced observers.



Front cover of Mark Sander's 'Photographic Field Guide to Australian Frogs'.

One of the inherent problems with guide-books is the limited amount of space available for text and photos. With '*Photographic Field Guide to Australian Frogs*', CSIRO publishing have sought to address this issue by adopting a larger format than that of existing frog field guides. The result is a slightly larger, heavier field guide, but '*Photographic Field Guide to Australian Frogs*' still fits snuggly in a small backpack, allowing for easy carriage in the field.

Despite adopting a larger format/size, the large amount of text and photos included in this guide has necessitated the use of smaller text, which makes it a little difficult to read at times (especially for those of us with failing eyesight). This is not only an issue with '*Photographic Field Guide to Australian Frogs*', but most

Continued on next page...

other compact guides, reflecting an inherent limitation of the guide-book format. One solution to this problem would be to develop a digital version of '*Photographic Field Guide to Australian Frogs*' for use on a tablet or smartphone, where the reader can adjust the size of the text as needed. Moving to a digital platform would also allow for the inclusion of more photos, sound recordings (like those featured in the FrogID and Frogs of Australia apps), and an interactive key for identifying frogs (similar to the Lucid™ keys available for Australian grasses, eucalypts and various insect taxa).

Notwithstanding the aforementioned limitations, Mark Sanders' '*Photographic Field Guide to Australian Frogs*' would serve as a valuable addition to the libraries of field ecologists, amateur froggers and anyone else looking for a reliable frog field guide for use anywhere in Australia.

Ed Meyer

*Sample pages taken from Mark Sanders' 'Photographic Field Guide to Australian Frogs'. Left-hand page showing the species account for the Marsupial Frog (*Assa darlingtoni*); Right-hand page showing a table highlighting similarities and differences amongst species in the same 'morpho-functional' group (in this case the* Litroria freycineti *species group).*

Tusked frog (*Adelotus brevis*) call recordings needed!

Researchers at Griffith University need **tusked frog call recordings** to be submitted via the **FrogID app**.

Call recordings required are of populations in the area roughly extending from **Gympie** in the south to **Kroombit Tops** in the north. The researchers are aiming to find out what the current scattered populations sound like, and whether previously recorded populations still exist.

For more information on the tusked frog visit: https://www.frogid.net.au/frogs/adelotus-brevis

'Surprising' new tree frog species in New Guinea described

FROGS FOUND IN BOTH Australia and New Guinea tend to stick to one of two habitats: seasonally wet-dry, savannah habitats, or rainforest habitats. Scientists previously thought that the green tree frog (*Litoria caerulea)* existed in both; savannah habitat in northern and eastern Australia and in the Trans-Fly and Central Province areas of New Guinea, and rainforest habitat in New Guinea's Central Cordillera.

A recently published study investigating the genetic and evolutionary diversity of green tree frog populations found that the rainforest-dwelling New Guinean populations were actually a genetically and morphologically distinct species.

The newly described species of the Litoria caerulea *species complex, the chocolate frog (*Litoria mira*). Photo reproduced with permission. Credit: Steve Richards.*

This means that the newly described species of tree frog, which has been named *Litoria Mira* (common name: chocolate frog!) is actually endemic to New Guinea.

'*Mira'*, the feminine form of the Latin '*mirium'*, means 'surprise' or 'strange', referring to the team's surprise in finding a previously undescribed member of the *Litoria caerulea* species complex.

The chocolate frog lives in lowland swamp forest / swampy rainforest, and due to the low genetic diversity between the populations studied, the research team suspect that the newly described species occupies a wide area of difficult-to-access lowland swamp forests across the island of New Guinea.

Download the full report here: https://www.publish.csiro.au/zo/Fulltext/ZO20071

Letter to the Editor

Dear Queensland Frog Society,

I am the president of a community not-for-profit kindergarten, which is located within hectares of parkland. Caring for nature, and the animals that inhabit it, is one of the cornerstones of our educational program. We encourage the children to be curious about and study the wildlife in their environment, from our resident possums, lorikeets, native bees, worms and more.

Last year we very excitedly installed a frog pond in the hope to attract frogs to our space and to open our children's eyes to the wonderful world of frogs. The frog pond is in a fenced-off area, so the children could view but not cause any accidental harm to the frogs. To date, we have no frogs.

We would love to have a frog haven that provided shelter and safety to some of the froggy local residents, but I think we need some pointers on how to make the pond more enticing!

Name withheld

*Please email us with concerns about frogs or frog habitat in your area, and we will endeavour to provide you with advice and answer any questions you may have. We might also feature your email in our new '**Letter to the Editor**' section, as a way to raise local issues and contribute to wider environmental discussions.*

DATES FOR YOUR DIARY …

21 August 2021, 10am–12pm
Talk: Gardening for Frogs
***$10** – Bulimba Creek Catchment Coordinating Committee,*
(Cnr Wright St & 1358 Old Cleveland Rd)

A warm welcome to new QFS members!

Rebecca Richter, Josie Humphries, Kim Wise, Mariel Familiar Lopez, Christopher Johnson.

Executive Committee

PATRON – Dr Glen Ingram

PRESIDENT – Ashley Keune
Email: president [at] qldfrogs.asn.au

VICE PRESIDENT – Ray Benfer
Email: vicepresidents [at] qldfrogs.asn.au

SECRETARY – Jenny Holdway, Ph: 0491 140 720
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DEADLINE FOR SPRING *FROGSHEET* CONTRIBUTIONS IS 18TH AUGUST 2021