

# FROG CALL

THE FROG AND TADPOLE STUDY GROUP NSW Inc.

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NEWSLETTER No. 141 February 2016

Photo by George Madani *Hylomantis lemur* Lemur Frog



Arrive from 6.30 pm for a 7pm start.

**Friday 5<sup>th</sup> February 2016**

**FATS meet at the Education Centre,  
Bicentennial Pk, Sydney Olympic Park**

Easy walk from Concord West railway station and straight down Victoria Ave.

Take a torch!

By car: Enter from Australia Ave at the Bicentennial Park main entrance,

turn off to the right and drive through the park. It is a one way road.

Or enter from Bennelong Road / Parkway.

It is a short stretch of two way road.

Park in p10f car park, the last car park before the exit gate.

## Meeting Format Friday 5 February 2016

- 6.30 pm** Lost frogs: (one juvenile *Litoria peroni* following successful surgery to stitch up leg and one juvenile Green Tree Frog *Litoria caerulea*) needing forever homes, available to FATS financial members. Please bring your FATS membership card and cash \$40 - \$50 donation. Your current NSW NPWS amphibian licence must be sighted on the night. Rescued frogs can never be released. Sorry we have no EFTPOS. Please contact Monica before the meeting to confirm your interest in adopting a rescued frog.
- 7.00pm** Welcome and announcements
- 7.30 pm** The main speaker: Arthur White "Frogging in Kakadu National Park- frogs of the wet and dry seasons"
- 9.15 pm** Show us your frog images, tell us about your frogging trips or experiences. Guessing competition, continue with frog adoptions, supper and a chance to relax and chat with frog experts.

## CONTENTS

## PAGE

- Last meeting's main speaker  
Graham Pyke 2
- New Frog Species - Jodi Rowley 3
- Frog-O-Graphic competition 2015
- Australian Museum Night Talk 4
- WestConnex impacts on GGBFs
- Holy Cross Frog T Shirts 5
- World Wetlands Day 2 Feb
- 3D images of frog inside frog 6
- Save The Frogs Day 30 April 8
- Knit animal dissections
- Illawarra Reptile Show 3 April 9
- Vatican Church frog images
- New infectious tadpole disease 10
- FATS contacts 11
- Field Trips 12

Welcome back!

Happy New Year FATS members.



Holloway Removals travelling frog icon

### FATS MEETINGS OCT & DEC 2015

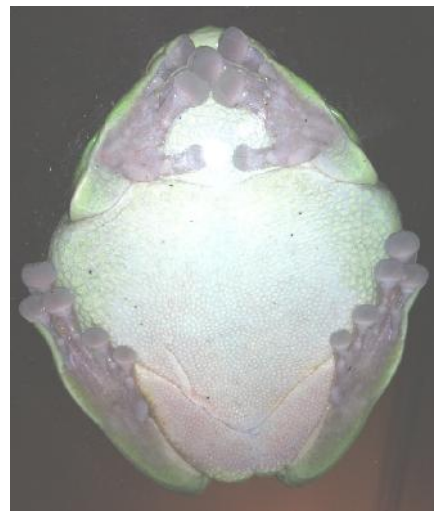
**A**nother two talented and interesting main speakers David Nelson and Graham Pyke presented frog talks at our October and December 2015 FATS meetings! In October, David Nelson spoke about frogging in Costa Rica. The talk became a magnificent lead article with spectacular photos (again) for our colour Christmas edition of December FrogCall No 140. PDF copies of past newsletters are at [www.fats.org.au](http://www.fats.org.au).

Arthur White announced the winners of the 2015 Frog-O-Graphic Competition. Well done all entrants. The People's Choice winner and all the successful entrants received their prizes. FATS members were invited to participate in the Green and Golden Bell Frog auditory surveys at Homebush Bay in November and December 2015.

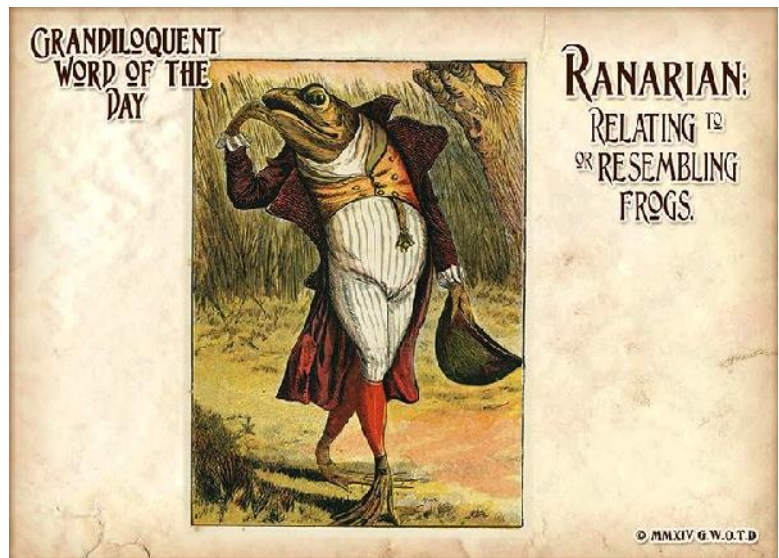
In December our main speaker was Graham Pyke who presented a history of the management of Green and Golden Bell Frogs *Litoria aurea* on Broughton Island. FATS, with the help of Marion Anstis, Jilli Streit and David Potter, attempted the first recording of our meeting. Arthur White shared a few images. Both meetings ended with supper, guessing competitions and relaxed conversation. Thanks again to the Grimms and Whites for organising light refreshments and to Punia, David and Kathy Potter, Vicki Deluca, Karen and Arthur White and all the members of the FATS committee for helping with memberships, sales, frog adoptions and ensuring the meeting had a friendly and relaxed atmosphere. Happily all rescued frogs found forever homes. MW



FATS meet at the Education Centre Bicentennial Park Homebush Bay



Christian Hofmann's pet frog Benson 11/2012.



### Grandiloquent Word of the Day

[https://www.facebook.com/GrandiloquentWords/?fref=photo\\_31](https://www.facebook.com/GrandiloquentWords/?fref=photo_31) July 2014 Ranarian (ra•NARE•ee•an) Adjective: -Of, relating to, or resembling frogs. -Resembling, relating to, or characteristic of frogs. -Frog-like. Used in a sentence: "Have you seen Jessica's ranarian new boyfriend?"

## A NEW SPECIES OF FROG DISCOVERED FROM THE FORESTS OF CAMBODIA AND VIETNAM

**A** tiny little frog that looks almost the same as another species has just been revealed from the imperilled forests of Southeast Asia



*Leptotalax isos* Photographer: Jodi J. L. Rowley © Jodi J. L. Rowley/Australian Museum

Sometimes looks can be deceiving. Although nearly identical in appearance to another species, a new species of Asian Leaf-litter Frog (*Leptotalax isos*) has just been identified from the hilly forests of Cambodia and Vietnam. First seen by biologists in 2007, revealing its identity took detailed comparisons of body size, advertisement calls and DNA. The discovery of *Leptotalax isos* adds to our knowledge of the rich and threatened biodiversity of Southeast Asia.



In 2006, my colleagues and I came across a small brown frog species and an even smaller brown frog species in Virachey National Park in northeastern Cambodia. At the time, we weren't too sure of the identity of either of these frog species. In 2010, after examining museum specimens, DNA and recorded advertisement calls, we described the smaller of the two as the Musical Leaf-litter Toad (*Leptotalax melicus*), after its rather melodious call. The larger of the two small

brown frogs took additional detective work, and finding more individuals of the species in neighbouring Vietnam to convince us that it was a new species, and not the similar-looking Firth's Leaf-litter Frog (*Leptotalax firthi*). We named it *Leptotalax isos* because of this similarity ("isos" means equal or like in Greek).

The new species of frog is less than 3 cm long, lives in forest from ~650–1100 m elevation and breeds in small rocky streams northeastern Cambodia and adjacent Vietnam. Unfortunately, the forests in which it depends are being lost due to logging, agricultural expansion and hydroelectric projects.

The discovery of *Leptotalax isos* adds to our ever-increasing knowledge of the biodiversity of Southeast Asia. Given the high rate of forest-loss throughout the region, even within officially protected areas, it's vital to have a more accurate understanding of the patterns of biodiversity throughout the region, so that we can ensure that our limited conservation resources go to the places and the species that need it most. This little frog is just the latest piece in the biodiversity puzzle of the region, but its discovery will hopefully help inform biodiversity management in the area. **Dr Jodi Rowley, AMRI 16/11/2015**

**More information:** Rowley, J.J.L., Stuart, B.L., Neang, T., Hoang, H.D., Dau, V.Q., Nguyen, T.T. & Emmett, D.A. (2015). A new species of *Leptotalax* (Anura: Megophryidae) from Vietnam and Cambodia. *Zootaxa* 4039: 401–407.

**Acknowledgements:** This research was supported by grants from the ADM Capital Foundation, The John D. and Catherine T. MacArthur Foundation, the Annie Alexander Endowment, Museum of Vertebrate Zoology, University of California, Berkeley, Conservation International and a STMVQG 06G14-16 project.

<http://australianmuseum.net.au/blogpost/amri-news/amri-a-new-species-of-frog-discovered-from-the-forests-of-cambodia-and-vietnam>

## NIGHT TALK: MISTY MOUNTAINS & MOSS FROGS

Australian Museum scientist Dr Jodi Rowley takes us on an intriguing journey throughout South East Asia on her mission to meet some fascinating amphibians. Whilst our February 2016 FrogCall newsletter may reach you too late for this event, Jodi regularly has talks at the museum.



Jodi Rowley and *Cruziohyala calcarifer*

Photographer: Robert Puschendorf © Australian Museum

21 January 2016 6.30 PM to 7.45 PM Australian Museum theatre Admission: Members \$20, non Members \$30

Dr Jodi Rowley is a conservation biologist at the Australian Museum with a passion for amphibians. Jodi has led over 20 research expeditions throughout Southeast Asia and co-discovered more than a dozen new frog species, including the Vampire Flying Frog. Through her stories, videos and photographs of bizarre frogs and the expeditions in search of them, Jodi communicates how fascinating, threatened and important amphibians are, and what we stand to lose.

**About the Speaker:** Jodi is a biologist with a focus on amphibian diversity, ecology and conservation, and a passion for communicating biodiversity conservation.

Her research integrates ecological, behavioural, bioacoustic, molecular and morphological data to uncover and document amphibian biodiversity, understand its drivers, and inform conservation decisions. She is also interested in how interspecific differences in behaviour relate to vulnerability to extinction due to threats such as disease, habitat modification and over-harvesting.

Her research involves expeditions in search of amphibians in often remote, forested mountains in Southeast Asia, particularly Vietnam.

Jodi is currently a Tier I Member of the IUCN Amphibian Red List Authority and co-chair for Mainland Southeast Asia of the IUCN Species Survival Commission Amphibian Specialist Group.

See more at: <http://australianmuseum.net.au/event/night-talk-misty-mountains-moss-frogs#sthash.JeSqQuES.dpuf>  
<http://australianmuseum.net.au/event/night-talk-misty-mountains-moss-frogs>

## SAVE THE ARNCLIFFE GGBFs EIS SUBMISSIONS DUE BY 29 JAN 2016

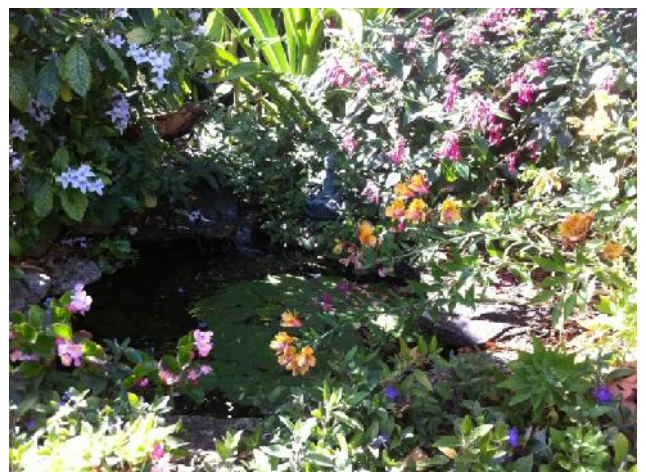
Please take a minute to send in an objection to the destruction of GGBF habitat at Arncliffe. See <http://m5eis.org/2016/01/15/beverly-hills-resident-explains-why-westconnex-impacts-on-south-west-sydney-are-unreasonable/> Suggested wording from Monica Wangmann: *“I strongly object to the appalling destruction of endangered flora and fauna in the WestConnex project, including the Green and Golden Bell Frog colony at Arncliffe and the critically endangered Cooks River Castlereagh Ironbark Forest at Kingsgrove/Beverly Hills. Saving these species in particular was a condition of the previous M5 motorway. Destroying them now makes a mockery of these legal protections. I also object to the unprofessional analysis of the threat posed by the New M5 to these species and to biodiversity in general, as this section of the EIS attempts to downplay the significance of the flora and fauna threatened by this project and the impact of this project on biodiversity overall.”*

Send your submission to

<http://www.westconnexactiongroup.org.au/m5eis>  
or <http://m5eis.org/2016/01/11/westconnex-threatens-few-surviving-green-and-golden-bell-frogs-at-arncliffe/> or the #WestCONnex #NewM5 #EIS by 29/1/2016 MW



Photo Grant Webster  
GGBFs amplexing at Arncliffe Golf Course



Jilli Streit's pond



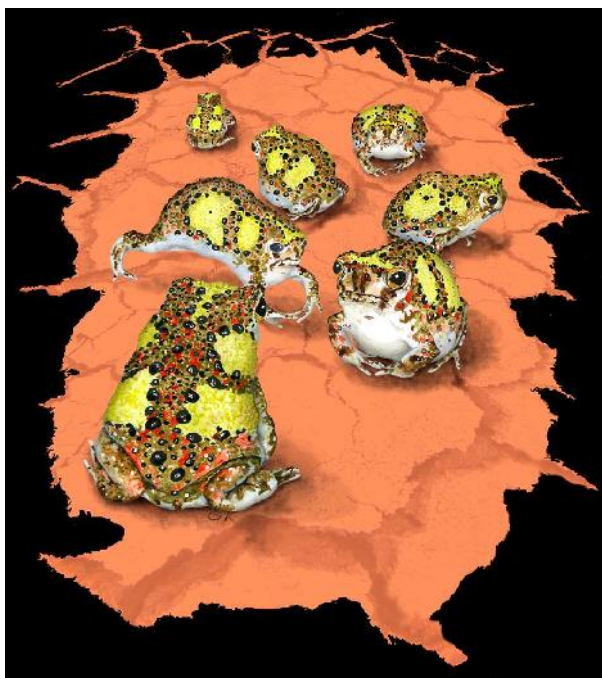
**D**ear Froggers! Artist and wildlife illustrator Gerhard Koertner has been commissioned to produce a frog image for the latest round of frog shirts. He has produced this spectacular display of Holy Cross Frogs - *Notaden bennettii*.

The shirts are \$30 for adults and \$20 for children plus P&H. They come in a variety of colours men womens and children's cuts. They will be available at the February FATS meeting.

The art work has been done by the same artist who did the Mixophyes Tshirts (and they sold out quickly). Sizes at the FATS meeting: 20 mens in black, army green and navy, medium, large, XL and XXL, 23 womens in purple, emerald and royal blue in sizes 8, 10, 12, 14 and 16, 6 childrens T shirts in royal blue and aqua in sizes 6, 8 and 10. **Limited supply. Bring your money to the FATS meeting and dont miss out. Happy Frogging.**

**George Madani**

<http://www.mabuzi.com/shop/item/mens-surf-t-shirt> <http://www.mabuzi.com/shop/item/kids-cotton-surf-t-shirt/products-t-shirts-kids>



World Wetlands Day  
Tuesday, 2 February 2016



Wetlands for our Future  
Sustainable Livelihoods

**A**round the globe on Tuesday 2nd February people will be celebrating World Wetlands Day. This year the theme is Sustainable Livelihoods. For more details go to [www.ramsar.org](http://www.ramsar.org)

**You're invited to our celebration!** Along the Macquarie River we will host an event at Warren's Window on the Wetlands Centre during which we will officially welcome the new lead light windows (of wetland and river characters) as made by local ladies under the guidance of Sarah Williamson. This amazing project resulted in 10 new lead light windows being designed and installed in the former St Mary's church hall, now the Kookaburra kiosk part of the WOW Centre. If you haven't seen them, I've attached a photo of one to encourage you to drop in. Even if you have seen them in all their glory, please drop in to help us publicly thank those involved and marvel at their skill. It starts at 5pm on Tuesday 2nd of February, so save the time and date.



**Unity College, Caloundra students frog pond planting for World Wetland Day 2015 to create frog habitat as well as help protect the Pumicestone Passage. Ramsar wetland area. photo contest Inland wetlands, Marsh, Lake, Pond**

The Warren's Window on the Wetlands Centre event will mark the transition from one art exhibition to another at the Centre, with us saying good bye (for now) to the amazing artworks of the Ngemba Wailwan group to be replaced by those of Dubbo-based Bill O'Shea ([www.billoshea.com.au](http://www.billoshea.com.au)). This exhibition will be with us until near the end of February and at a date to be advised Bill will be at the Centre to give you a chance to meet him and discuss his remarkable works.

Hope to see you there on Tuesday the 2nd. **Dr Bill Phillips**  
**CEO RiverSmart Australia Ltd Also trading as**  
**Macquarie River Trails Mobile 0438 817 470**

## SENSATIONAL 3D IMAGES OF A FROG DISCOVERED INSIDE ANOTHER FROG ARE JUST THE BEGINNING OF A FASCINATING FORENSICS STORY

**L**ooking like scans of a freaky frog-shaped suitcase at airport security, the series of 3D images reveal the “frog concealment” in extraordinary detail. *There was something odd with the animal because it had bones where there shouldn't be bones.*

Packed like some sort of amphibian Russian doll, the frog that was eaten – highlighted by the red colour – is all neatly curled inside the predatory horned frog’s stomach. All, that is, apart from its left back leg. It is still protruding out of the oesophagus, with the foot actually in the horned frog’s mouth, lying on its tongue.

This is, quite literally, a frog with a frog in its throat.

And it’s the beginning of an intriguing journey of discovery about the life and death of a museum specimen frog whose eyes may have been too big for its belly.



To visualize the prey object, the horned frog specimen is rendered slightly transparent; the prey frog is virtually stained red (Credit: Dr Thomas Kleinteich / Kiel University)

This accidental discovery was made by **Dr Thomas Kleinteich** from the Functional Morphology and Biomechanics group at the Zoological Institute of Kiel University, Germany. He generates 3D computer models of animals using a micro-CT scanner, which works in a similar way to a medical CT scanner but is designed for investigating small objects.

“Before I even had a 3D view of the specimen, I realised in a 2D section that there was something odd with the animal because it had bones where there shouldn't be bones.

“It didn't take me long to understand that it swallowed another frog species,” he tells BBC Earth.

*In theory, you could attach a horned frog to the ceiling by its tongue*

South American horned frogs (the *Ceratophrysgenus*) are part of Kleinteich’s current research focusing on tongue adhesion in amphibians – how frog and salamander tongues stick to prey.

His research covers two main aspects: the first is the anatomy of the tongue, for example how it’s attached to the jaw and its surface structure. The second is the forces with which the tongue can pull items towards the mouth before the contact breaks.

The space taken up by the prey frog (coloured red using computer software) can clearly be seen by this side view 3D scan (Credit: Dr Thomas Kleinteich / Kiel University)



“For the anatomical part, I use specimens from museum collections because zoological museums are amazing resources to get access to many different species from all over the world,” says Kleinteich.

The specimen in question, an ornate horned frog (*Ceratophrys ornata*), came from the **Zoological Museum in Hamburg**.

However, aside from its final meal, very little is known about this horned frog. The jar, which would normally have details such as the date when the frog was stored or the circumstances surrounding its death, doesn't have any labelling.

### Pac-Man frogs



Horned frogs often partially bury themselves while waiting for their next unsuspecting victim to pass by (Credit: Dr Thomas Kleinteich)

Horned frogs are best known for two things: their fearless reputation and their feeding habits. If threatened, these frogs have no qualms defending

themselves, leaping at their potential attacker, regardless of size, and can deliver a painful bite.

*Sometimes they will pretend that their toes are worms to lure prey closer to their mouth*

Their capacious mouths, which account for about half their body size, have several odontoid structures – bony, teeth-like projections – along their jaw. In South American folklore, tales describe how these frogs – known locally as *escuerzo* – have bitten fingers and refused to release their grip until after dark, hours later.

And they have a voracious appetite to boot. They will attempt to eat anything they judge can fit in their mouths and, it would seem, some things that can't.

All eight species of horned frogs in the *Ceratophrys* genus are “sit-and-wait” ambush predators, having to bide their time until food comes to them. But some are capable of making that happen a bit more quickly.

“Sometimes they will pretend that their toes are worms to lure prey closer to their mouth,” says Dr Kleinteich, who has filmed *C. cranwelli* exhibiting this behaviour in captivity.

Popular in the pet trade for their decorative skins, horned frogs’ gluttonous behaviour has earned them the nickname “Pac-Man frogs” among owners, after the iconic yellow video game character with an insatiable appetite.

Their relatively unfussy diet consists of a variety of prey, including spiders; insects; crabs and worms, but also larger, vertebrate prey such as snakes; lizards; rodents and other frogs.

**Kleinteich’s previous studies** have shown that a horned frog’s tongue can cope with pulling forces well beyond its own weight, which aids it in tackling these larger prey items.

“In theory, you could attach a horned frog to the ceiling by its tongue,” explains Kleinteich.

### **Frog forensics**

So to discover that this horned frog had eaten another, smaller frog isn’t really that unusual, but there is something strange about this particular duo.

After his discovery using micro-CT scans, Kleinteich dissected the body, revealing some very interesting further information. **The findings are published in the journal *Salamandra*.**

*The foot of the prey frog that was still lying in the oral cavity must have made it harder for the horned frog to breathe and such a state might be lethal*

The prey is in almost immaculate condition so digestion had not really begun, suggesting that its killer died very soon after having swallowed it. Also, Kleinteich tentatively identified the prey species as a juvenile *Lithobates pipiens* frog – but as there’s a level of doubt he prefers to refer to it as a species of *Lithobates*.

If it is *L. Pipiens* then their natural range in the wild doesn’t overlap with the ornate horned frog (*C. ornata*), suggesting that the horned frog was a captive animal either kept as a pet or in a zoo.

Approximately 21% of the horned frog’s total volume was taken up by the prey species. It had swallowed a meal that was roughly a quarter of its own weight – that’s like the average male in the UK eating 192 quarter pound burgers in one go.



A 3D scan of the frog specimen in its natural sitting position. Note the prey frog's red leg behind the horned frog's jaw (Credit: Dr Thomas Kleinteich / Kiel University)

So was this last gigantic meal the reason the horned frog croaked it?

Kleinteich says it “might be possible” but points out that he’s not a frog forensics expert and that without any documentation indicating where this frog came from, it’s speculation.

“I can imagine, however, that the foot of the prey frog that was still lying in the oral cavity must have made it harder for the horned frog to breathe and such a state might be lethal,” postulates Dr Kleinteich.

“However, frogs have a rather low metabolism and a substantial portion of the oxygen exchange happens over the skin. They can definitely survive for several hours with prey in their mouth. So there might have been something else [that caused its death].”

Sadly we will never know for sure if this horned frog’s eyes were too big for its belly and ultimately caused its demise. But this just goes to show how scientists are still revealing secrets from **specimens lying in museums** all around the world.

**Presented by Ben Aviss Follow Ben Aviss and BBC Earth on Twitt r. Like BBC Earth on Facebook or follow us on Instagram. From Andrew Nelson**  
<http://www.bbc.com/earth/story/20150612-a-frog-with-a-frog-in-its-throat>



**SAVE THE FROGS DAY 30 APRIL 2016**

Conceived and coordinated by SAVE THE FROGS!, Save The Frogs Day is the world's largest day of amphibian education and conservation action. The 8th Annual Save The Frogs Day will be held on Saturday, 30 April 2016. On this day we encourage the appreciation and celebration of amphibians by people from all walks of life. Only a small proportion of the public is aware that frogs are disappearing, and amphibian conservation efforts will not be successful with an un-informed public. Our goal is to make the amphibian extinction crisis common knowledge, and Save The Frogs Day is our best way to make this happen!

Since 2009 our supporters have held over 1,051 Save The Frogs Day educational events in 60 countries: Australia, Bangladesh, Belize, Bhutan, Bolivia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Dominica, Dominican Republic, Ecuador, Estonia, Finland, Germany, Ghana, Guatemala, Hungary, India, Indonesia, Ireland, Italy, Kenya, Liberia, Madagascar, Malaysia, Mauritius, Mexico, Nepal, New Zealand, Nigeria, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Portugal, Romania, Sierra Leone, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Tanzania, Turkey, Uganda, Ukraine, United Kingdom and the USA. These events have helped educate tens of thousands of people about the importance of frogs and ways to protect amphibian populations!

Save The Frogs Day events have included protests at the US Environmental Protection Agency for its failure to ban harmful endocrine-disrupting pesticides; parades through major urban centres; frog art and photo exhibits in town centres; habitat restoration at critical frog habitats; nature walks to teach people about their local amphibians; and numerous presentations on amphibian conservation in schools and universities. Because of Save The Frogs Day and our worldwide network of volunteers, the frogs now have assistance all around the planet, and the next generation of humans is growing up with the knowledge needed to protect amphibians from extinction.

Learn more and get involved by visiting: [www.savethefrogs.com/day](http://www.savethefrogs.com/day) Thank you for your time and for your support of SAVE THE FROGS! Cheers, Michael Starkey SAVE THE FROGS! – Ecologist [www.savethefrogs.com](http://www.savethefrogs.com) [starkey@savethefrogs.com](mailto:starkey@savethefrogs.com) Save The Frogs is the world's leading amphibian conservation organization. We work in California, across the USA, and around the world to prevent the extinction of amphibians, and to create a better planet for humans and wildlife. The 8th Annual Save The Frogs Day is 30 April 2016. Get involved!

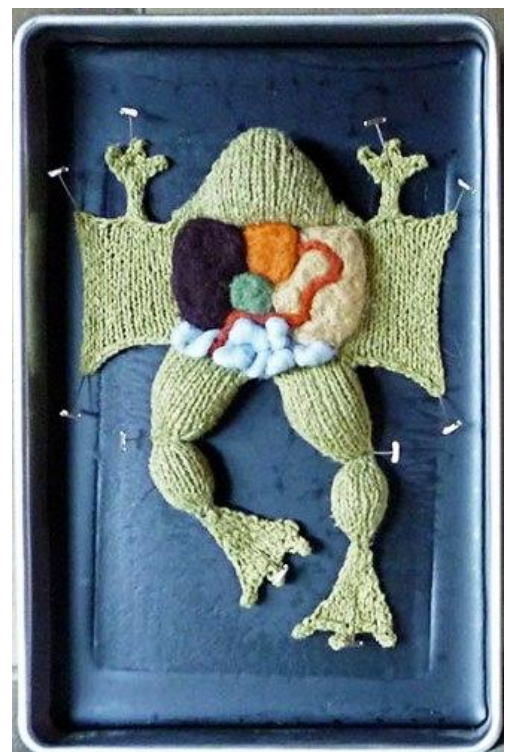


Photo George Madani *Cyclorana verrucosa*  
Warty Water-holding Frog

**KNIT ANIMAL DISSECTION**

I can't say I ever expected to see anyone make animal dissection cute, but knitting artist Emily Stoneking has done it. Her aKNITomy artwork faithfully recreates typical high school dissection projects as arguably cute knit panels.

If you have a visceral or ethical problem with animal dissection, Stoneking's artwork also can potentially help you learn about what makes animals tick without making you hurl or cry. If your memories of those high school classes are less than fond, she also has alien knit dissections as well. Stoneking sells these knitted animals dissections on her aKNITomy Etsy shop, where she has a load of other educational knit projects as well. Check out her shop and read on to see some of her answers to Bored Panda's questions about her work! <http://www.boredpanda.com/knit-animal-dissection-anatomy-emily-stoneking-aknitomy/> Thanks for sharing Andrew Nelson







Illawarra Reptile Society's  
**REPTILE SHOW**  
Illawarra Sports Stadium

Live Reptile Shows    Reptiles Sales & Displays    Retail Shops  
Photo's with Reptiles    Food & Drinks Available    ATM on site

Sunday 3rd April 2016, 10am—3pm



Entry: Family \$25, Adult \$10 & Child \$5

Proudly Sponsored by

Symbio Zoo    Top End Pythons  
Allcrazythings    Scales & Tails    Haines Glass  
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Enquires: Call Joanne 0433 064 460

Email: illawarrareptilesociety2015@gmail.com



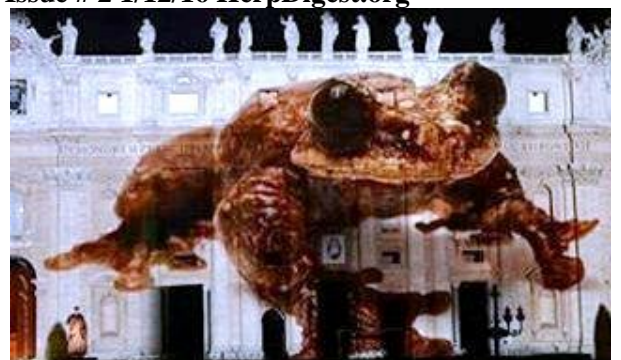
Peter Soltys The Blue Mountains tree frog *Litoria citropa*  
E-BOOK 'FRESHWATER FISHES OF AUSTRALIA V2

**R**ainbowfish, Blue-eyes & Hardyheads' is now available as a 'print on demand' book. See <http://au.blurb.com/b/6815883-freshwater-fishes-of-australia-2> You can view the whole book in full size on your screen. If you like what you see and its within your budget, and wish to order a copy, you can just follow the BLURB instructions now, or do it at your leisure later. Delivery takes about 15 working days. Gunther Schmida [ggg32@bigpond.com](mailto:ggg32@bigpond.com)

**LAST KNOWN FROG OF ITS SPECIES  
PROJECTED ONTO VATICAN CHURCH  
RABBS' FRINGE-LIMBED TREE FROG extracts**

**T**o coincide with the final days of the climate negotiations in Paris, the Vatican has permitted St. Peter's Basilica to be turned into a huge backdrop for a conservation-themed art installation, with huge images of various species being projected on to the building, including mammals, fish, insects and amphibians.

One of the projected amphibians is believed to have dwindled down to a population of one—and the sole survivor lives in Atlanta, Ga.....An extension of the riveting film Racing Extinction, giant images of various creatures covered the walls of St. Peter's Basilica ... in an effort by humanitarian groups to bring attention to the ongoing Paris Climate Talks, and to recognize Pope Francis for his recent encyclical on environmental protection. The Rabbs' Fringe-limbed Tree Frog is one such disappearing species, and his image was among those projected onto the Vatican church. ...Mandica makes the point, "Generally speaking, amphibians are not highlighted as endangered species, but there are more endangered amphibian species than mammals and birds combined," and that "40% of the world's amphibian species are documented as in decline or already extinct and that is just a huge number." by **Tex Dworkin, Herpdigest V # 16 Issue # 2 1/12/16 HerpDigest.org**



**OWING TO THEIR GREAT DIVERSITY,**

**F**rogs pose a challenge to taxonomists the world over. What are simply frogs or toads to the layman are a puzzle that has taken and will continue to take years and years of effort and research for taxonomists to describe and classify. Frogs belong to the order Anura, which contains around 4800 species and accounts for nearly 85% of the world's extant amphibians.

One of the rare occasions in which I had collaborated with someone for a cartoon. This is a gag written by the renowned herpetologist and King Cobra expert, Romulus Whitaker, that I illustrated for his talk on amphibian conservation last year. Enjoy the toon! **This work by Rohan Chakravarty is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. Posted by at <http://www.greenhumour.com/search/label/frogs>**



## NEW INFECTIOUS TADPOLE DISEASE DISCOVERED



Tadpoles swim through a garden pond. Scientists recently discovered a new infectious disease that is infecting tadpoles and frogs globally. Image: Timo Netwon-Syms, licensed under cc 2.0

**S**cientists have discovered that a newly identified infectious tadpole disease exists in a wide range of frog populations around the world. In a new study published in the *Proceedings of the National Academy of Sciences*, researchers from the University of Exeter and the Natural History Museum in London explained the molecular methods they used to test tadpoles around the world for the disease.

The researchers tested tadpoles from six countries across three continents including the United States, the United Kingdom, Tanzania and Cameroon for protists, or single-celled microbes that store their DNA in a nucleus. They detected the parasite that causes the disease in the livers of tadpoles in tropical and temperate sites as well as in tadpoles in all of the continents that they tested.

“Global frog populations are suffering serious declines and infectious disease has been shown to be a significant factor,” said Thomas Richards, a professor at the University of Exeter in a press release. “Our work has revealed a previously unidentified microbial group that infects tadpole livers in frog populations across the globe.”

The researchers identified the infectious agent as a distant relative of *Perkinsea sp.*, a parasite found in marine animals and algae and is known for causing mass-mortality events in commercial shellfish. They believe that this particular infectious disease, which causes frog tadpoles to develop an enlarged yellow-colour liver filled with protist cells of the parasite, is likely aiding in the species decline.

Amphibians, including frogs and tadpoles, are one of the most threatened types of wildlife. Further, amphibian population decline is often used as an example when researchers consider the earth’s sixth mass extinction event — extreme biodiversity loss due to human activity. While researchers have only just scratched the surface of infectious agents like this parasite, the researchers say that more research must be done on the diversity and geographic distribution of diseases caused by agents such as this, especially since amphibians tend to be more prone to emerging diseases whether they are viral or fungal. “We now need to figure out if this novel microbe — a distant relative of oyster parasites — causes significant disease and could be contributing to frog population declines,” Richards said.

**Dana Kobilinsky** is a junior science writer at The Wildlife Society. Email her at [dkobilinsky@wildlife.org](mailto:dkobilinsky@wildlife.org) with any questions or comments about her article. Twitter @danosaur92. 19/8/2015 <http://wildlife.org/new-infectious-tadpole-disease-discovered/> The wildlife society. Posted on FATS Facebook by both members Joe Walker and Francois Falep



George Madani *Opisthodon ornatus*



Photos by Jennifer Ahrens, Stony Creek Frog *Litoria wilcoxi*, a male in breeding colour! Macleay catchment beside a creek.



John Pumpurs *Litoria caerulea* on blue ginger

**FATS MEETINGS** commence at 7 pm, (arrive from 6.30 pm) and end about 10 pm, at the Education Centre, Bicentennial Park, Sydney Olympic Park, Homebush Bay. They are usually held on the **first Friday of every EVEN month** February, April, June, August, October and December but not Easter (Good) Friday. 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 stalls at local events, produce the newsletter FROGCALL and FROGFACTS information sheets.

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 Frog and Tadpole Study Group Committee, unless expressly so stated.

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**FATS ON FACEBOOK:** FATS has over 1,500 Facebook members from almost every continent. Posts vary from husbandry and frog identification enquiries to photos and posts about pets, gardens, wild frogs, research, new discoveries and habitats from all over the world. The page included dozens of information files.

<https://www.facebook.com/groups/FATSNSW/>

**RESCUED FROGS:** are seeking forever homes at most meetings. Please contact us in advance if you wish to adopt a frog. Cash donation required. FATS must sight your current amphibian licence. Licences can be obtained from NSW National Parks and Wildlife Service (NPWS) , Office of Environment and Heritage (OEH).

<http://www.environment.nsw.gov.au/wildlifelicences/GettingAnAmphibianKeepersLicence.htm> We request you join FATS before adopting a frog. This can be done on the night of our meeting. Sorry we have no EFTPOS at meetings. Rescued frogs are only available to re-home at meetings.



**Thank you to the committee members, FrogCall supporters, meeting speakers, Frog-O-Graphic competition entrants, events participants and organisers David, Kathy, Sarah and Harriet Potter for an enjoyable year. The FrogCall articles, photos, media and webpage links, membership administration and envelope preparation is greatly appreciated. Special thanks to regular newsletter contributors, Robert Wall, George Madani, Jilli Streit, Karen & Arthur White, Andrew Nelson, Wendy & Phillip Grimm, Henry Cook, Marion Anstis and Bill Wangmann.**



**FROGWATCH HELPLINE 0419 249 728**

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General Committee members Andre Rank, Jilli Streit, Punia Jeffery and Vicki Deluca			



Plates La Louvre, Paris June 2015 photographed by Vicki and Oscar



## FIELD TRIPS

### Murphy's Glen Fieldtrip. Leader – Peter Spradbrow.

A very large group of FATS members met at Woodford Station. The weather had been really kind to us leading up to this fieldtrip. Lots of heavy

rain throughout the week, only to break in time for the weekend, delivering a really warm Saturday evening.

Peter led us into the Blue Mountains National Park. We stopped at a fire-dam which was buzzing with all sorts of frog calls. We picked up many species here. We heard Eastern Banjo Frogs *Limnodynastes dumerilii*, Dwarf Green Tree Frogs *Litoria fallax*. We also admired the vibrant colour of *Litoria phyllochroa*. We had really good opportunities to photograph the many Peron's Tree Frogs *Litoria peronii*. Perhaps the most unusual find of the night were the great number of Blue Mountains Tree Frogs *Litoria citropa*. This species is regarded as a stream-dwelling species and is not typically found around ponds. It just highlights the risk of presuming too much about frog biology.

All in all, we picked up eight species on the night. It was a night where most FATS members were happy to take advantage of the large frog numbers to just practice their photographic skills. Many thanks to Peter Spradbrow for showing us this site and for once again providing a well-organised fieldtrip. **R. W.**

**Please Note:** It is ESSENTIAL to book in advance on our fieldtrips. There are two reasons for this. Our numbers are limited by National Parks, and we cannot take any more members than we are permitted. It is a long way to travel to a fieldtrip site only to be turned back, something FATS is reluctant to do, but must be done regardless. Also, from time to time, we may consider moving from the advertised site at the very last minute. This will occur when there have been exceptionally good conditions at another site and that site is yielding some particularly good and unusual frogs. We like to take advantage of these opportunities when they arise. A change of venue nearly happened on Saturday night. Only those who have booked onto the fieldtrip will be notified of any move. Those who have not booked will have made a long trip for nothing. Please be sure to let me know you are coming to avoid these problems. **R.W.**

**Please book your place on field-trips; due to strong demand, numbers are limited. Be sure to leave a contact number. Regardless of prevailing weather conditions, we will continue to schedule and advertise all monthly field-trips as planned. It is YOUR responsibility to re-confirm in the last few days, whether the field trip is proceeding or has been cancelled. Phone Robert on 9681 5308.**

### February                      Castlereagh Nature Reserve

This fieldtrip has been cancelled. We will try to squeeze this venue in next year!

### 4 – 6 March                      Smiths Lake Camp-out                      Leaders: Karen & Arthur White

*Provenance* (pronounced “*prov-en-ance*”) is an important concept in zoology. The word is derived from the French word “*provenir*”, which means “to come from”. While the term is used in many diverse fields, from archaeology and art history to palaeontology, it alludes to much the same thing -it describes where an object or an individual specimen comes from. For zoologists, it is important to clearly identify the “home” of a particular individual. This is because there are slight genetic differences between various populations, and it is important to acknowledge which population we are talking about. It becomes a critical consideration when undertaking research and when carrying out things like re-location projects. This weekend, Arthur will explain the importance of provenance and why it has implications for both researchers and enthusiasts alike.

Arthur and Karen have spent many years studying the Smiths Lake area. Most FATS members will already be aware of their unique understanding of the wildlife of this area, and that these weekends are not just about frogs, Arthur and Karen always manage to find us some great wildlife talking points!

Dormitory style/cabin accommodation and camping sites are available. All kitchen facilities, crockery and utensils supplied. Hot showers. There is a **non-refundable** fee of \$17-50 p.p. per night. Limit of thirty people. For bookings and enquiries, please phone Karen and Arthur White on ph.9599-1161.

**In the event of uncertain frogging conditions (e.g. prolonged/severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 9681-5308. 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.**