

# FR GCALL

**THE FROG AND TADPOLE STUDY GROUP NSW Inc.**  
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**NEWSLETTER No. 119 June 2012**

Jake Janos' Green Tree Frog *Litoria caerulea*



Arrive 6.30 pm for a 7pm start.

## Friday 1<sup>st</sup> June

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

Easy walk from Concord West railway station and straight down Victoria Ave. If walking, take a strong torch (Apr - Oct).

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

Or enter from Bennelong Road / Parkway.

It's a short stretch of two way road.

Park in p10f car park, the last car park before the exit gate. See map p12.

To adopt a frog, Office of Environment and Heritage Wildlife (former NSW NPWS) amphibian licence must be sighted at FATS meeting. <http://www.environment.nsw.gov.au/wildlifelicences/FrogKeepersLicence.htm>  
 Sorry, we have no EFP POS, cash required to adopt frogs.

### MEETING FORMAT Friday 1<sup>st</sup> June 2012

**6.30 pm** Lost frogs needing forever homes: Perons, Rubellas & Striped Marsh Frogs. Please bring your FATS membership card and cash \$30 - \$50 donation. NSW NPWS amphibian licence must be sighted on the night. Rescued frogs can never be released.

**7.00pm** Welcome and announcements.

**7.30 pm** Mystery, surprise speakers. To be announced on the night.

**9.00 pm** Show us your frog images, tell us about your frogging trips or experiences, guessing competition, continue with frog adoptions, supper & a chance to relax and chat with frog experts.

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## LAST MEETING 13 APRIL 2012

**P**unia Jeffery welcomed many new visitors to our meeting on Friday 13 April. We hope everyone had an enjoyable time.

There were many frogs adopted.

Frogs still requiring homes are little brown frogs such as *Litoria rubellus*, *Lt. peronii* - Perons Tree Frog and *Limnodynastes peronii* - Striped Marsh Frogs. It's still first come first served (for frog adoption) at the meeting. NPWS amphibian licences must be sighted on the night of adoption. FATS can only accept cash for frog adoptions (sorry - no EFT POS).

We request that you join FATS (from \$25+ PA) if you wish to adopt a frog from us, if you wish to receive our newsletter Frogcall or if you wish to attend a field trip (most are free). Memberships applications can be by direct debit or mailed by cheque before the meeting or cash/cheque on the night. Our meetings and advice on the Frogwatch helpline are free.

For those who adopted frogs in April and earlier, we hope you enjoy them. Let us know if you have any care enquiries. Lothar, Marion and Arthur are our experts on the committee but most of us can answer your questions or find out. FATS have many members with frog husbandry experience and there is a great deal of information from frog organisations on the care of amphibians.

Our main speaker in April was Matthew Bulbert (Macquarie Uni) "It's a hard life being a male Túngara frog: a lesson in dealing with choosy females, eavesdropping bats, blood-sucking flies and the odd nosey researcher". Frogging adventures in South America. Thank you Matthew for such an entertaining and informative presentation.

Arthur White spoke about those strange amphibians called caecilians. FATS members are very fortunate to have Arthur as a regular speaker at our meetings.

Phillip Grimm, with his vast experience in the field, launched the new FATS web site and spoke about its interactive features and future development. Thank you Phillip for all the work building and maintaining our new site. MW



## FROG KEEPERS FAUNA RECORDS DUE 31 MAY 2012

**A**ll licensed native animal keepers are required to maintain a fauna record book and lodge it with the Department's Wildlife Licensing and Management Unit by 30 April each year. I understand that an extension of time has been granted until 31 May 2012.

<http://www.environment.nsw.gov.au/wildlifelicences/electronicFaunaRecordBook.htm>

### CORRECTION

**T**he picture on page 8 of our February 2012 edition of Frogcall No 117, may not be a broad-palmed frog, well not a pure blood anyway. The shape is indeed much like that of the broad-palmed rocket frog and that was my initial thought too, however, the head stripe identifies it as a *Litoria lesueurii*. The stripe is too narrow and does not cover the tympanum. Bit of a strange looking individual and I can see how it could easily be confused. Dr Frank Lemckert Team Leader - Ecology

### FATS AGM NOTICE FOR 3<sup>rd</sup> AUGUST 2012

**T**he FATS AGM will be held on 3<sup>rd</sup> August 2012, commencing 7pm. FATS meet at the Education Centre, Bicentennial Park, Sydney Olympic Park. If you would like to ask questions about joining the FATS committee, please give us a call. Contact our secretary, committee members or myself for further information. See contacts on page 12. There are a diversity of roles within the committee to accommodate your interests, skills and available time. You only need to devote whatever time you can spare. New committee members help develop fresh ideas and keep our organization interesting and fun. No previous experience or qualifications are required. Please contact our secretary Wendy Grimm or myself for further information or a nomination form. Arthur White

### MEMBERSHIP RENEWALS ARE DUE

**F**ATS membership renewals are due. Please check inside your Frogcall envelope, for enclosed notice. Members who joined since 20 January 2012 (usually 1 February) remain financial until 30 June 2013. For the rest of us...could you please pay as soon as possible, to save us posting renewal reminders in July. Memberships can be paid by cheque in the mail, at FATS meetings or direct debit bank transfer

BSB 082 342

Account name: Frog and Tadpole Study Group

Account number: 285 766 885

When using direct debit you need to identify yourself by name if there is an option or FATS membership number (on your notice). Please Email Karen White at [1arthur@tpg.com.au](mailto:1arthur@tpg.com.au) to advise that you have just banked the membership fee, how you identified yourself and how much you paid.

### FROGCALLS CAN BE EMAILED OUT AS A PDF FILE

**L**et our editor Monica know, via email, if you would like the current and/or ten back copies of FATS Frogcall newsletter emailed to you. Email [wangmann@tig.com.au](mailto:wangmann@tig.com.au) The digital colour newsletters are pdf file attachments are less than 2.5 MB in size, sent to your email address six times a year – automatically, if you like. Current size is 1.2MB and getting smaller. We also have a variety of word documents on frog husbandry that can be emailed out. MW

## SYDNEY OLYMPIC PARK AUTHORITY TOUR

**S**ydney Olympic Park Authority (SOPA) are trialing a tour product to the floor of the Brickpit 10am on 3 June, tour duration is 1 hour with 15 minutes for evaluation. SOPA wanted to offer FATS members the opportunity to join. Jen has included the tour description below. Booking essential, as spaces are limited. The tour is free for FATS members, however SOPA are seeking your critical feedback for the purposes of evaluating the activity and will need you to fill in a short evaluation form upon finishing. You may be photographed.

Here is an opportunity to be the first to join a guided tour and venture to the bottom of the Brick Pit. This area is restricted and has never been offered to the public as a tour. Hear about the work carried out in this former industrial precinct and see the environmental management controls that are in place to conserve this area.

Good fitness is required as there are steep paths to negotiate. Please wear solid covered in shoes, bring water, insect repellent and wear a hat. Suitable for Adults and children 10 years +.

Please bring your FATS membership card for SOP to sight.

A good level of fitness is required; steep grades on gravel paths. No walking devices will be accepted.

Clothing needs to cover all exposed areas of skin. Wear comfortable clothing that is easy to move in. Solid closed in shoes with good grip soles. Shoes will be sprayed before entering restricted area. A hat is essential. Please bring water and insect spray. Limit your personal effects to a load you can carry. There are no storage areas for backpacks or bags. Camera and taking photographs is permitted.

**Call Bookings Coordinator, phone 9714 7888**

**Jennifer O'Meara Sydney Olympic Park Authority**  
[http://www.sydneyolympicpark.com.au/whats\\_on/things\\_to\\_do\\_and\\_see\\_events/brickpit\\_ring\\_walk](http://www.sydneyolympicpark.com.au/whats_on/things_to_do_and_see_events/brickpit_ring_walk)  
[www.sydneyolympicpark.com.au](http://www.sydneyolympicpark.com.au)

## STRIPED MARSH FROG *Limnodynastes peronii* WIRES RESCUE



**R**ecently one of our WIRES rescuers, Rebecca, called up to say that a small Striped Marsh Frog had found its way into her outdoor cat run and her cat had managed to catch it.

It had a small wound on its side so advice was sought from the Frog and Tadpole Study Group, (FATS). A visit to the vet and an antibiotic bath was suggested. The vet phoned Taronga Zoo to confirm the best treatment for the frog and it was given Baytril with a supply to give it each two days of the treatment course. The dosage is important – too much kills, too little doesn't help. Some pathogens are resistant to Baytril so vets are best to make an informed decision. Pancur is used as well but also carries some risks.

Sadly the frog died but we had contacted Monica and Arthur who were very helpful. FATS have kindly sent through some basic information to help us with any injured frogs that may come into care.

Most of the frogs WIRES used to receive into care came from interstate on bananas and were transferred to FATS for care. Frogs remain in FATS quarantine and are passed on to licensed members to keep as pets. They can't be sent back as WIRES and FATS have no idea where they originated.

In more recent years, fewer frogs are reaching Sydney, hitchhiking in transport trucks, as growers check the bananas prior to shipping. The animals are released by plantation staff, back into the wild - northern NSW and Queensland coasts - banana plantations. Many frogs that do make it through, are given to FATS as they can't be released and neither can they be sent back.

Our frogs are now at serious risk from emerging diseases. The amphibian Chytrid fungus (*Batrachochytrium dendrobatidis*) is spreading through much of Australia and is a major factor in the deaths of wild and captive frogs. Ranavirus (family *Iridoviridae*) has recently also been found in Australia and may likewise become a severe problem for frogs. Therefore any frog coming into WIRES care needs to be handed on to FATS. Disease can be transmitted from pond to pond so unless you know exactly where the frog was found, it cannot be released and needs to be taken into the FATS quarantine care.

**Call Frogwatch Helpline: 0419 249 728. If unanswered, leave message and they will respond.**

Until the frog can be delivered to FATS, if possible, use disposable gloves to handle it. Gently clean the frog in a bath of warm tap water. If there are cuts or damage, add a little plain liquid Betadine (100 parts of water to 1 part of Betadine) to a warm water bath.

If the frog has broken limbs, leave it in a small, clean container with the frog positioned in a corner in a sitting position with the legs folded. The container should have tap water damp paper towelling substrate with a place to hide, such as a polystyrene cup or a tea towel placed over the container so the frog feels safe and unexposed to predators. Keep in a warm area if its winter and in a cooler area if it is hot weather. You do not need de-chlorinated water. Pam Strykowski, Secretary WIRES Central Coast PO Box 34, OURIMBAH NSW 2258

**E: [pam@strykowski.com](mailto:pam@strykowski.com)**

**GREEN TREE FROG *LITORIA CAERULEA***  
**The debate on its name**



**Artist: S. Stone Original print of the Green Tree Frog, published in John White's Journal of a Voyage to New South Wales.**

I've found absolutely nothing in the literature that backs up the story that the Green Tree Frog *Litoria caerulea* specimen sent in 1790 for classification, was leached blue by the alcohol and received its name that way. The fact that the specimen was accompanied by a painting of a blue frog of a very different blue to a pickled member of the species suggests the other way round i.e. that it really was a blue individual that was first collected and sent back by John White and quite possibly with notes to that effect. All speculation however, with the original evidence destroyed.

Such blue frogs of this species although uncommon, do turn up regularly in the wild. The Australian Museum has had several handed in over the years and even more photos sent in of this colour form.

Similarly green frogs in alcohol would have been sent to the British Museum for years before this 1790 specimen, and the authorities would have been well aware of this loss of yellow pigment.

Alcohol pickled *Litoria caerulea* are actually more purple or dolomite blue-grey, and nothing like the cerulean blue colour of the living blue coloured frogs of this species and the painting of the original.

I know it's not a popular refute, as people seem to want to believe that scientists of the past were unaware of the effects of alcohol on pigment and didn't notice the specimen was 'leached blue'. I've mentioned this every time the origin of the name comes up and no-one ever remembers that but they ALWAYS seem to remember the alcohol one! Just my two bobs worth. You'll probably hear it again the next time it comes up. **Martyn Robinson, Naturalist and Educator, Australian Museum.**



Photo by Gina Morris, FATS Facebook Friend



Green & Golden Bell Frog *Litoria aurea* Photo Ben Brown

**FROG-O-GRAPHIC COMPETITION 2012**

All Fats members are urged to start taking lots of frog photos, indulge in frog drawings or frog art and submit up to six entries in the competition. You might win fabulous prize and have your entry included in next year's Fats calendar. There are separate prizes for frog images, frog artwork, most interesting frog images at both senior and junior levels. In addition, there will be a People's Choice award that will be decided at the October meeting.

To enter you need to submit a medium quality electronic image of your entry to Arthur White at [1arthur@tpg.com.au](mailto:1arthur@tpg.com.au) Entries close on the 31<sup>st</sup> of August. For junior members, please also state your age along with your contact details. **Arthur White**



Previous year's entries by Rhys Little, aged 11 and Ryan Little aged 9, " Lace Lid Frog.



## HOT FROGS

**W**inter is nigh, and cold frogs can die.

**If you keep tropical or warm-temperate frogs, then you will probably have some way of heating their cage already, or you may still be thinking about it. Phone calls to the Frogwatch Helpline (0419 249 728) about cage heating have increased a lot recently.**

**Heating is no problem if the cage is in a room that is stiflingly warm (like my fish room or my kid's computer room). And no problem if you have a heatable glass-fronted cabinet that you can put the cage or cages into— especially if in the cabinet you have an infrared heat lamp on a thermostat. And no problem either is you have an aqua-terrarium for your frogs, properly set up with good filtration and of course with an aquarium heater that comes with its own thermostat.**

If you go to a pet shop, they might sell you a heat pad that you are supposed to put under the cage and that will quite likely crack your glass. Or that can't push enough heat through whatever substrate you have on your cage floor. Or they sell you a "hot rock" where small frogs get stuck onto like flies on flypaper. Or they talk you into a heat lamp that makes your whole bedroom look like a red-light shop. And where by the next morning the small frogs also got permanently stuck onto the bone-dry walls – unless your cage has a nice damp substrate and much reduced ventilation. Or you use a lamp or heat lamp during the day only and then comes a cold night and your frogs have sicked all their crickets up again. I may sound grumpy, but none of this works too well, does it? And the equipment can cost a lot.

The aqua-terrarium solution is great but can be a bit difficult for newcomers. ("Which filter can get interlocking drowned crickets out?"; "I can't find the frogs in that jungle"; "I can't see through the condensation on the glass" etc, etc)

So for the rest of us it's back to the simple cage with the water bowl that we lift out, empty down the sink twice a week, fill up again and put back in the cage. All you need to do with this set-up is three things:

1. Put a small aquarium heater into the water bowl. One with a plastic protector sleeve is ideal; 10W is fine and 25W is still ok; adjust it to a medium-to-high temperature setting. Make sure it fits horizontally into the bowl. Run the cable out of the cage through a small hole somewhere and close the hole up with plasticine or chewing gum if frogs or crickets could get out.

2. Find a rock the size of a half brick and put it on the heater so that the frogs can't dislodge it, even if they climb on the cable.
3. Fill the bowl with water so that the rock sticks out a bit. The heater must always be well covered by water. (Which means you can burn the heater through if it's not under water, and which also means that you must switch it off at the wall before you take it out of the bowl when you change the water.)

Your frogs will quickly learn to sit on the rock or in the water whenever they want to warm up. They will also like the extra humidity provided by the warm water.

Now, a heated cage gets the air circulating, and unless you block off most of the air vents the air space itself won't warm up very much. Remember to open them again when heating is no longer needed.

A nice variation is using a mist-maker instead of an aquarium heater. My 7W one warms the small water volume easily enough, and the frogs like it. You can't put a rock on top of course, but you can wedge it between rocks and put another stone on the cable outside the bowl. Then keep the water level at the right height if you want the mist effect.

If you know of any other simple, affordable and hopefully fool proof frog heating ideas that actually work, please let us all know. Because winter is at frogs' door. **L.V.**



### IT'S NOT EASY BEING BROWN

**A**t the last FATS meeting we were given the rare opportunity to obtain licensed, for indoor keeping, homeless Striped Marsh Frogs. NPWS placed 17 of them with FATS, after their last owner suddenly vacated his premises while the law was looking for him. We managed to sell only one at the meeting, so there are now 16 still available for adoption at the next meeting. Your last chance!

And their last chance too. After that, any remaining ones will go back to the Department, and that will most likely be the end of them.

Striped Marsh Frogs have big, trusting eyes. Look into them – and save these little souls. **L.V.**

## HERPDIGEST CONSERVATION VICTORY FOR ONE OF WORLD'S DEADLIEST ANIMALS

**C**onservationists are celebrating the establishment of a new nature reserve in Colombia that provides the first sanctuary for the endangered golden poison frog, an animal that also has the distinction of being possibly the world's deadliest animal. Its poison is so toxic that even coming in contact with a paper towel that has touched the frog has been fatal to animals. Although they are only two inches long, it is estimated that each golden poison frog has enough toxin to kill ten adult people within minutes.

In one of the wettest tropical rainforests in the world, along the Pacific coast of western Colombia, World Land Trust, American Bird Conservancy, and Global Wildlife Conservation have helped purchase 124 acres of threatened Chocó forest, creating the Rana Terribilis Amphibian Reserve named for the Spanish word for frog – rana – and the frog's Latin name *Phyllobates terribilis*. The reserve is owned and managed by Fundación ProAves, Colombia's leading conservation organization. This is the second amphibian reserve owned by ProAves in Colombia – the first is the Ranita Dorada Reserve.

This frog is named because of its bright orange skin that is covered by a secretion of deadly alkaloid poison (batrachotoxins). The toxin prevents nerves from transmitting impulses, leaving muscles in a constant state of contraction – leading to heart failure. Death comes within minutes.

The species has long been recognized by indigenous cultures for its lethal poison and is strongly embedded within cultural traditions. The Chocó Emberá Indians use the frog's toxin as poison in their darts used to hunt food; by gently brushing the tips of arrows and darts on the frogs back, without harming it, the weapons can keep their deadly effect for over two years.

The frog's poison is entirely for self-defense, yet it does little to help its chances of survival against its single biggest threat – bulldozers. Habitat damage and destruction continues to escalate due to illegal gold-mining (an estimated 100 bulldozers and excavators are destroying the area), and illegal logging.

Despite this frog's infamous reputation and its importance to indigenous cultures, it is considered by many to be on the edge of extinction, and until now the species was completely unprotected. Dependent on primary forest, the golden poison frog occurs patchily across an area less than the size of the tiny Caribbean island of Barbados. Due to its restricted range and low population, the frog was added to the list of some of the world's most imperiled creatures identified by the Alliance for Zero Extinction.

Notably, the reserve will also afford protection for several key bird species, including the endangered Baudó Guan, a medium-sized game fowl whose worldwide population is estimated at 10,000-20,000 individuals; the vulnerable Brown Wood-Rail, a medium-sized, mostly rufous-brown rail whose population is estimated to be between only 1,000 and 2,500 individuals; and the vulnerable Great Curassow, a large, pheasant-like bird whose population is estimated to be between 10,000 and 60,000 individuals.

“The support from our partners made the creation of this critical new reserve possible, and one of the world's most amazing creatures, the beautiful and deadly golden poison frog, is now protected.” said Lina Daza, Executive Director of Fundación ProAves.

“That this effort is helping to save even a portion of a rainforest is significant, and we're glad we have been a part of it. We need to halt the continued, rapid disappearance of rainforests and the resultant loss of wildlife that depend on them,” said Dr. George Fenwick, President of American Bird Conservancy.

Acclaimed journalist Simon Barnes, a WLT council member, wrote in The Times of London newspaper in September 2011: “Astonishing: we are on the edge of wiping out one of the most extraordinary and thrilling creatures on the planet. No matter how well a creature is protected by nature and by evolution, it is always vulnerable to humans. There's nothing we can't do when we put our minds to it. Still, at least we are now beginning to put our minds to saving the golden poison frog: we would all be much poorer without such a creature to give us nightmares.”

The new reserve is also the initiation of an ambitious project called the Chocó Corridor that will connect many highly threatened habitats, from the mangroves on the Pacific Coast to cloud forests on the highest peaks of the western Andes. The Golden Poison Frog Reserve and Choco Corridor is supported by Conservation International, the International Union for the Conservation of Nature, the Beneficia Foundation, and private donors. **Contact: Robert Johns, 202-234-7181 ext.210, Washington, D.C. HerpDigest.org The Only Free Weekly Electronic Newsletter That Reports on the Latest News on Herpetological Conservation, Husbandry and Science Volume # 12 Issue # 21 9/5/2012 Publisher/Editor- Allen Salzberg**



Story on page 7



## FLASHY FROG

**O**ur Emerald-spotted Tree Frog (or Peron's Tree Frog, to those into personality cults) also delights those Queenslanders up there, but only up to around Hervey Bay. "Their" Northern Laughing Tree Frog (Roth's Tree Frog to those who think frogs ought to be named after people) happens to stop around Hervey Bay and ventures no further south. It so happens that they both look pretty much the same, especially in pitch black darkness.

So when Brian and Mel found one climbing all over their garden table a few nights ago, it could have been either, and probably it was. But this one was nothing short of amazing. It seemed it had swallowed a yoyo! A steadily blinking one, one that blinked bright, bright green out of its throat and then out of its tummy. And then out of its leg!

Alas, the many photos taken and sent to the FATS Helpline all happened to be between the flashes and only showed a very dark blob on a very dark table. Luckily, Brian and Mel then switched to video, and I was able to go through that, frame by frame. Here is one of them. **Brian and Mell**

### THIS TINY TREE FROG IS RIGHT AT HOME ON THE GROUND.

**A** new species of tree frog that only lives on the ground has been found by scientists in a remote part of Cape York.

A small population of the small ground-dwelling amphibians was found in a field of granite boulders near the Pascoe River during extensive animal surveys in the Kaanju Ngaachi Indigenous Protected Area.

The Indigenous Protected Area stretches across nearly 2000 sq. km between the Lockhart River, Coen and Weipa on Cape York. The survey was carried out by the Chuulangun Aboriginal Corporation, the Pew Environmental Group and the Nature Conservancy. It was the first time that scientists have surveyed wildlife in the area.

The researchers recorded 263 native species, including 46 species of mammals, 140 species of birds, 25 species of amphibians and 52 species of reptiles.

Pew Environmental Group Australia spokesman Barry Traill, who was on one of the expeditions, said the frog was found at night by one of the researchers conducting a spotlight survey. "He spotted it one night in a rainforest thicket and there it was- he recognised it was something new instantly" Mr Traill said. "And its been confirmed since by a DNA sample". The brown frog is about the size of your thumb.

A rare population of Cape York rock wallabies have also been found. "There is very little known about this rock wallaby" Mt Traill said. "In fact, the rangers took what we understand is the first photo of it during the survey in the wild". **Cairns Weekend Post 21 May 2011. Forwarded to FATS by Arthur White**



**It shows a green light shining out of the frog's leg! If you already know what it is, then there is no need to turn to page 10. L.V.**

### EXCELLENT WEB SITE

[http://amphibiaweb.org/resources/decline\\_resources.html](http://amphibiaweb.org/resources/decline_resources.html)



*Litoria peronii* Perons tree frog Photo Wendy Grimm

## WHAT'S AT THE BOTTOM OF YOUR GARDEN ?.....here in Oz or overseas



Spotted Marsh Frog *Limnodynastes tasmaniensis*  
spawning Photo by Ben Harrington

### ROUFIOUS NIGHT HERON DISMEMBERING CANE TOADS

**H**ere is some latent information from a birder who previously conducted scientific research on Cane Toads and other frogs in North Qld. The toxic parts of adult Cane Toads are the paratoid glands on the shoulders, the dorsal skin and the ovaries. Quite a number of animals have learnt to eat the non-toxic parts by flipping the toads and chomping through the underbelly.

Mostly they eat the internal organs (except the ovaries) and the thigh muscle meat. In Townsville in the 1990s I recorded Aust White Ibis, Black Kites, Australian Ravens and Water Rats doing this regularly. None however, left a tiny hole in the throat, they sliced the belly wide open. All searched for them systematically, apparently following the theory of search pattern behaviour. At one point I had 24 open pens in a cow paddock by a dam, each with a single adult and 10-30 tiny metamorphs (i.e. newly metamorphosed from tadpoles). The adults started mysteriously disappearing after a couple of days. Turned out that a flock of Ravens that had learnt to check the pens at dawn each day, flip and kill the toads and then cache them in trees. The sympatric Torresian Crows showed no interest in the Toads, but the Ravens would defend my pens from their rival Crows all the same.

It does not surprise me that Night Herons also eat Cane Toads, and I'm sure many other herons do too. However, I would be surprised if Night Herons did so by making a small incision in the throat. They might be able to get the gut that way, but not the heart or the thigh meat. I'm not sure what would eat them that way, but suspect it might be something capable of crawling inside, a centipede perhaps? Dissecting one of these victims might help.

Few things can eat a toad whole. A lot of snakes, goannas and quolls have apparently died trying to do so. The widespread decline of these predators still puzzles me a little, because the Common Green Tree Frog is just as toxic as the Cane Toad. These predators learn not to eat Green frogs, but often don't learn to not eat toads. Many of your listeners will know that their puppies learn not to eat toads and green frogs alike after only lick of each, but might be sick for a day or two afterwards (and then

pretend not to notice frogs for the rest of their lives). The Keelback, a common water snake that specialises in eating frogs, eats the young metamorphs whole, and even seems to prefer them to other frogs, at least sometimes. Meat Ants swarm and devour small toads. Green Tree ants will carry flattened and dried road killed toads in one piece up a tree to their nests in extraordinary displays of determination. A photo of a Papuan Frogmouth with a frog in its bill was published on the back cover of wingspan maybe 15 years ago, with the suggestion it may have been a Cane Toad, but who knows. In my pens, I observed naive juvenile Pied Butcherbirds trying unsuccessfully to eat my metamorph toads. They would pick them up and fiddle with them in their bills but quickly drop them (alive and unharmed) and try another. I assume the small parcel of edible meat wrapped in poisonous skin is too difficult to process, unlike the adult toads.

The question is often asked by frog researchers "why are metamorph Cane Toads diurnal when most other frogs are nocturnal?". They usually offer answers like the night is too cold or some other reason why metamorphs are unable to be active at night. I would suggest that they are able to be active by day when most other frogs (including adult toads) cannot be, because they have better defense against predatory diurnal birds.

Incidentally, the tadpoles are very poisonous too, and few predators can handle them. This allows them to breed in water with fish, unlike native frogs. A colleague was studying what did and did not eat the tadpoles, but so long ago I can't recall much. Dragonfly larvae snip the tails off the taddies, which leaves them to die floundering helplessly.

**David James, in Jakarta**

Over some years I have had a programme "Bird Talk Back" on ABC Far North in Cairns. Yesterday (31/01/2012) I fielded ten calls in thirty minutes. Early in the programme a caller from Walkamin (between Mareeba and Atherton) had found four dead cane toads with a small incision in their throat by her small backyard pond.

I told her plainly that it was a good mystery thinking that it would be animal attack rather than bird predation. About three calls later a gent from Gordonvale south of Cairns assured us that he had watched White-tailed Rats and (surprise, surprise!) Northern Brown Bandicoots kill and eat the non-toxic underside parts of cane toads. Minutes later the mystery was solved when George who owned a piggery at Walkamin called in to tell us about Roufous Night Herons. He related that after an early evening storm one time he checked the piggery and that a night heron was moving through the pig pens and systematically flipping cane toads on their back and taking out their innards.

Given the shape and dexterity of their pointed bill the night heron would be well able to extract the gut through a small incision. On my next programme I will endeavour to follow the thread on birds and cane toads in an effort to derive some more latent information that is held out there by everyday non-scientific observers. **1 February 2012 Del. Richards, Fine Feather Tours, Mossman, NQ. <http://birding-aus.org> Forwarded to Frogcall by Barbara Harvey**





Does anyone know why this Cane Toad is green around the head? It was found in a garden in Brisbane. **Lothar Voigt**



Strathfield - Perons Tree Frog – Photographed by Helen



We are just back from a few days in Hong Kong, where we were surprised, and a bit dismayed, to see several food stalls (you couldn't really call them restaurants) that had frog dishes on their menus. The one above is for "deep fried frog" and the pic shows a poor little shrivelled up frog amongst the vegies. The second below is soup made of "frog oviducts"! OMG How many frogs do you have to kill and dissect to make one bowl of oviduct soup? LOTS, by the look of the picture! Needless to say, we were not tempted by either of these items! I didn't find out if these frogs are harvested from the wild (if there is such a thing in Hong Kong!), are farmed, or are imported from mainland China. **Cheers Alan Lane**



Photos of developing Striped Marsh Frogs taken by Peter Street, while helping Veronica G. collect for her research project.



**FESTIVAL OF WILDFLOWERS,  
KU RING GAI**

**26 AUGUST 2012 FATS needs your help**

**O**ur frog group are well represented at this major and fun event. The Festival of Wildflowers has drawn larger crowds every year and we need assistance at the frog stall and at the dip netting for tadpoles activities. Please contact Wendy Grimm (see page 12) by return email if you are able to help us and make yourself known to her at the next FATS meetings in June or August. **Many thanks Monica**

**FLASHY FROG** (Continued from page 6)

Photo by George Madani *Helioporus eyrei* Moaning Frog



**Photo: Wofl**

There was a firefly crawling all over the Hervey Bay frog. Even when it was behind the frog's leg, it appeared to shine right through it as if the flash had come from inside the leg. And at one stage it must have been all the way inside the frog's mouth!

A party trick well worth remembering. Thank you, Brian and Mel. **L.V.**

PS – What's the difference between a firefly and a glow-worm beetle? Could some kind reader please 'enlighten' us?



**Photo by Jake Janos**  
**Well done at the Royal Easter Show Jake!**



Sculpture at Ulladalla, sent to Frogcall by Nina Rogan



Photo by George Madani Humming Frog *Neobatrachus pelobatoides*

## HERPDIGEST - ATHLETIC FROGS HAVE FASTER-CHANGING GENOMES (extracts)

**Physically fit frogs have faster-changing genomes, says a new study of poison frogs from Central and South America. Stretches of DNA accumulate changes over time, but the rate at which those changes build up varies considerably between species, said author Juan C. Santos of the National Evolutionary Synthesis Center in Durham, North Carolina.**

In the past, biologists trying to explain why some species have faster-changing genomes than others have focused on features such as body size, generation time, fecundity and lifespan. According to one theory, first proposed in the 1990s, species with higher resting metabolic rates are likely to accumulate DNA changes at a faster rate, especially among cold-blooded animals such as frogs, snakes, lizards and fishes. But subsequent studies failed to find support for the idea. The problem with previous tests is that they based their measurements of metabolism on animals at rest, rather than during normal physical activity, Santos said.

To test the idea, Santos scoured forests in Colombia, Ecuador, Venezuela, and Panama in search of poison frogs, subjecting nearly 500 frogs -- representing more than 50 species -- to a frog fitness test. He had the frogs run in a rotating plastic tube resembling a hamster wheel, and measured their oxygen uptake after four minutes of exercise. The friskiest frogs had aerobic capacities that were five times higher than the most sluggish species, and were able to run longer before they got tired.

To estimate the rate at which each species' genome changed over time, he also reconstructed the poison frog family tree, using DNA sequences from fifteen frog genes. When he estimated the number of mutations, or changes in the DNA, for each species over time, a clear pattern emerged -- athletic frogs tended to have faster-changing genomes. Santos tested for other factors as well, such as body and clutch sizes, but athletic prowess was the only factor that was consistently correlated with the pace of evolution.

Why fit frogs have faster-changing genomes remains a mystery. One possibility has to do with harmful molecules called free radicals, which increase in the body as a byproduct of exercise. During exercise, the circulatory system provides blood and oxygen to the tissues that are needed most -- the muscles -- at the expense of less active tissues, Santos explained.

When physical activity has stopped, the rush of blood and oxygen when circulation is restored to those tissues produces a burst of free radicals that can cause wear and tear on DNA, eventually causing genetic changes that -- if they affect the DNA of cells that make eggs or sperm -- can be passed to future generations.

Before you ditch your exercise routine, Santos offers some words of caution. The results don't debunk the benefits of regular physical exercise, which is known to reduce the risk of cancer, heart disease, and diabetes. **The findings appeared in the 10<sup>th</sup> April issue of Molecular Biology and Evolution. ScienceDaily 12 April 2012 HerpDigest.org Volume # 12 Issue # 18 14/4/12 Publisher/Editor- Allen Salzberg**

## NEW SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL BOOK

**Sustainable Development and Environmental Issues: examined through essays and questions and answers, by Jack Singh, BA, BSc, MEL (Master Env. Law) ACIS, ACIM.**



It is an excellent book especially for high schools and university, libraries etc., as a text or resource book for learning all aspects of sustainable development and environmental issues, from: Philosophical; Scientific; Sustainability; Economic; Globalisation; Environmental Degradation; Ecology; Pollution and Human Health; Nature- based Tourism; Environmental Case Studies; International Environmental Law; Management of Water; Environmental Dispute Resolution and many other related topics' points of view. Jack Singh has examined sustainable development largely through the mechanism of environmental philosophy and scientific analysis and such other sustainable developmental topics. Jack hopes that a variety of readers will pursue their interests in Sustainable Development and other environmental issues and thereby develop a conscious environmental culture of their own.

Dept. Of Education, Tasmania recommends the book for all schools. "By reading my book, which is well referenced, I hope readers will pursue their interests in sustainable development and other environmental issues, and develop a conscious environmental culture of their own," Jack said.

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**Web: [http:// members.optusnet.com.au/jjssingh](http://members.optusnet.com.au/jjssingh) The book is available directly from the author at discount price. ISBN: 978-0-9871596-0-1 366 pages.**

### Runners at Seattle Save the Frogs Day 5K starting line



**<http://www.savethefrogs.com/newsletters/>**

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## INSURANCE DISCLAIMER

FATS has public liability insurance for its various public functions. This insurance does not cover FATS members; it covers the public and indemnifies FATS. We are currently checking with insurance firms to see whether a realistic group policy can be organised to cover FATS volunteers and people who attend field trips.

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**FATS MEETINGS** commence at 7 pm, (arrive 6.30pm) and ends about 10pm at the Education Centre Bicentennial Park, Sydney Olympic Park, Homebush Bay and are usually held on the **first Friday of every EVEN month February, April, June, August, October and December (but not Good Friday)**. Call, check our web site or email us for further directions. Easy walk from Concord West railway station and straight down Victoria Ave. Take a strong torch in winter. By car: Enter from Australia Ave at the Bicentennial Park entrance and drive through the park (one way road) turn off to the right if entering from the main entrance or enter from Bennelong Rd/Parkway. It's a short stretch of 2 way road and park in p10f car park (the last car park before the exit gate). See map



We hold 6 informative, informal, topical and practical free meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, other field studies; produce the newsletter FROGCALL and FROGFACTS information sheets.