

# FROG CALL

NEWSLETTER No. 87  
February 2007

THE FROG AND TADPOLE STUDY GROUP OF NSW INC  
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Time to restore some swamps - photo by Lothar Voigt



Northern Banjo Frog, Tyagarah Swamp

Join the Frogmobile helpers any time from 10am to 4pm  
Sunday 28 January 2007, at the Centennial Park duck pond.  
Meet new people. Learn new skills. Help our frogs, whilst  
having fun. Bring a picnic. No previous experience required.  
Call Lothar Voigt on [lothar@exemail.com.au](mailto:lothar@exemail.com.au) or 9371 9129  
or the Frogwatch Helpline 0419 249 718.

\*\*\*\*\*THE APRIL MEETING IS LIKELY TO BE  
CHANGED TO FRIDAY 13 APRIL. BECAUSE THE FIRST  
FRIDAY IN APRIL IS GOOD FRIDAY.\*\*\*\*\*

## MEETING FORMAT for 2<sup>nd</sup> February 2007

- 6.30 pm Adult White Lip *Lt infrafrenata* and Green Tree Frogs *Lt caerulea* lost frogs need permanent homes. To foster them, bring your FATS membership card & Amphibian Licence.
- 7.00 pm Welcome and announcements.
- 7.30 pm Main Speakers: Arthur White:- Where do Papua New Guinea frogs come from and how do they relate to Australian frogs?  
Matt and Brad McCaffery:- Northern NSW and Southern Queensland field trip report.
- 8.15pm 5 Favourite Slides. Tell us about your recent frogging trips or experiences. If you have slides or other images, bring them along as well. Door prize and guessing competition, light refreshments and pleasant conversation.

You are invited to our next FATS meeting  
at 6.30 pm for a 7.00 pm start  
**Friday 2nd February 2007**

Follow signs to Building 22  
Jamieson Street off Holker Street  
Sydney Olympic Park



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LAST MEETING 1<sup>ST</sup> DECEMBER 2006

Following the announcements and short presentations Henry Cook (on behalf of George Madani) described surveys currently occurring at big private stations Theda and Doogan, in the Northern Territory. These properties were specifically purchased to preserve indigenous art.

During the survey process, unexpected traces of nearly extinct Australian species have turned up in dog scats. Hairs of Golden Bandicoot *Isodon auratus* have been discovered and recovery plans are being prepared.

Refer

<http://www.deh.gov.au/biodiversity/threatened/publication/s/recovery/i-auratus-m-macrorus/pubs/i-auratus-m-macrorus.pdf> and see extracts below



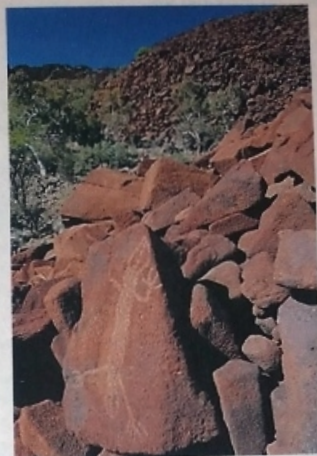
"Most information on the ecology of the Golden Bandicoot comes from a single short-term study on Marchinbar Island (Southgate et al. 1996). Like other peramelids, the Golden Bandicoot is omnivorous. From scat analyses, Southgate et al. (1996) concluded the diet on Marchinbar Island was comprised mainly of beetles and ants but included cockroaches, spiders, centipedes and plant material. On the Western Australia mainland the diet includes insects, arachnids and plant material (McKenzie et al. 1995). On Barrow Island Golden Bandicoots have been observed eating turtle eggs and reptiles (McKenzie et al. 1995)"

"The Golden Bandicoot appears to be a solitary species (McKenzie et al. 1995) although home ranges have some overlap (Southgate et al. 1996). On Marchinbar Island, male home ranges vary from 4.4 ha to 35 ha while female ranges varied from 1.7 ha to 12.7 ha. Sample sizes were small in the NT study and home ranges of males and females did not differ statistically. Home ranges also tended to be larger in the dry season, although again the difference between seasons was not significant. A preliminary radio tracking study by Graham (1996) in the north Kimberley indicated that Golden Bandicoots have defined areas of activity centred on nest sites."

Travel to these open savannah, big stations is done by helicopter. The fertile black soils, floodplains, creekbeds and grasslands are host to a wide variety of native animals and indigenous art.



NT indigenous art



The King Edward River area was full of frogs and reptiles, including *Litoria rothii*, *Crinia bilingual*, *Lt coplandi*, *Lt inermis*, *nasuta*, *Lt wotjulumensis*, *Limnodynastes convexiusculus*, Green Tree Frogs, bicolours, *Limnodynastes lignarius* Carpenter or Woodworker Frog (below).



Mertons Monitors are in a lot of trouble because they are eating Cane Toads. In addition to numerous excellent amphibian slides, we viewed fabulous slides of goannas, lizards, rock art, skins, snakes, turtles and freshwater crocodiles. Thank you for sharing the experiences with us Henry.

Lothar Voigt displayed and explained the building of varieties of tree frog ponds. These help protect tree frog populations and their tadpoles from the unwanted invasion of ground frogs eg Striped Marsh Frogs.

Inexpensive materials like 160 litre Bunnings tubs, plastic sheets for surrounding marsh areas and polystyrene boxes painted yellow and covered with creamy sand and brown soil (ground into the wet paint), magically transform simple items into smart looking stone ponds. What a creative imagination! Thanks again Lothar. MW

## PORT MACQUARIE CANE TOAD MUSTER

### **F**roppers Needed for Toad Muster. Port Macquarie may become the first town in Australia to rid itself of Cane Toads.

For the last ten years, people in the Port have been helping by reporting toad sightings and taking part in toad round-ups. These activities have been so successful that toads are now scarce.

To try to get rid of the last of the toads, specially trained sniffer dogs have been flown in to flush out the last of the toads. But froggers are needed to do the actual catching of the toads.

The muster will take place on the weekend of the 10th/11th of March- the toad catching will take place on the Saturday night after the sniffer dogs have found the sites. If you would like to help the muster contact Arthur White on (020) 9599-1161.

This is your chance to be part of history. **AW**

### **FROG DAY AT BOBBIN HEAD WITH COAST ALIVE VOLUNTEERS, 5.11.06**

**D**rizzling rain threatened to wash out the Frog Day talk and puppet show at Bobbin Head this year. Instead we were able to use the Gibberagong centre and had a good roll-up of children, parents and the new intake of volunteers at the National Park.

A petition to take care of the environment was launched by Frog, Platypus and Kangaroo, puppets handled by Kerrie, Wendy K. and Jeff and introduced by Margarita. FATS new poster illustrated my talk about frogs of Sydney, and a few posters were given out. The afternoon concluded with a visit to the aquarium next door. **WAG**



Frog Day at Bobbin Head photo by Wendy Grimm

Marion Anstis (centre) identifying tadpoles on one of our many FATS field trips - using her Tadpoles of South-Eastern Australia field guide and Robert Wall our Field Trip Co-ordinator (right). FATS members are encouraged to attend these free evening trips. The field guide is for sale at FATS meetings. Photo by Wendy Grimm



### **2007 INAUGURAL FROGOGRAPHIC PRIZE**

**O**pen to all FATS members.

Do you have a favourite froggie photo or drawing? **Yes?**

Email a copy of your entry to the FATS Editor, Monica Wangmann c/- [wangmann@ihug.com.au](mailto:wangmann@ihug.com.au) or post a copy to **The secretary, FATS at PO Box 296 Rockdale NSW 2216**, to arrive no later than 15 July 2007. Please include your name, age (if you are under 16 years of age, including date of birth) and contact details.

All entries must be the entrant's own work. Maximum, six entries per person. Entries will be judged by the FATS committee and may win a small prize, appear in future Frogcall newsletters and our web site.

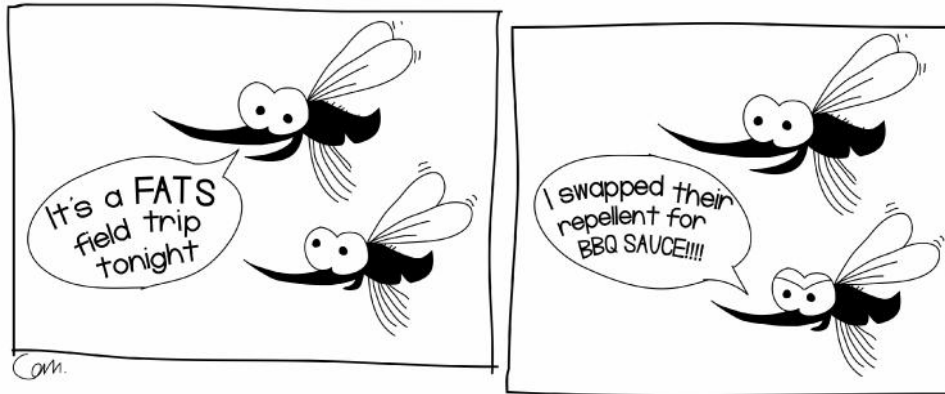
Categories:-

- 1
  - a) Best frog photo (open to all ages)
  - b) Best frog photo - youth section (15 years and under as at 1/2/2007)
- 2
  - a) Best frog artwork such as drawing, cartoon or painting (open to all ages)
  - b) Best frog artwork such as drawing, cartoon or painting - youth section (see above)
- 3
  - a) Most interesting image
  - b) Most interesting image - youth section (see above)

4 A "people's choice" award will be judged at the August meeting of FATS. (open to all ages)

**The FATS committee**

## BEATING THE MOZZIES THIS SUMMER!



**T**here isn't anything more likely to ruin a serene night of frog watching than the annoying buzz and bite of mosquitoes. Unfortunately, mozzies like to live in the same places as frogs, whether they're in our backyards or bushland, so we sometimes need to take precautions to avoid those pesky pests.

Mozzies are a natural part of the environment and provide food for birds, bats, frogs, reptiles, fish and macroinvertebrates but they can often cause severe nuisance biting. Only the female mozzies bite because they need the protein hit in the bloodmeal to develop eggs but can sometimes transmit disease causing pathogens like Ross River virus and Barmah Forest virus. These viruses can cause a range of symptoms including fever, rash, arthritic pain and fatigue so after a night chasing frogs it isn't just an itchy bite you could end up.

The easiest way to avoid being bitten by mozzies is to stay locked up indoors but that's not much fun is it? If you're going out looking for frogs, it will probably be during the early evening or night and that's when mozzies can be most active. Wearing a long sleeved shirt and long pants will certainly deter some mozzies but there are also repellents that will help keep the bites at bay.

There are plenty of insect repellents available from your local supermarket but most fall into two main categories, those containing a chemical repellent and those containing plant extracts with repellent properties. The most effective chemical repellent is DEET and is a common ingredient in commercial insect repellents. Check the label for the DEET concentration that can range from less than 5% through to 80%. A formulation around 20% is pretty good and will generally provide protection for over 4 hours. Picaridin is another chemical used in insect repellents and like DEET, provides good protection and is thought less likely to cause less skin irritation.

There are a lot of 'natural' insect repellents based on plant extracts including eucalyptus, peppermint, catmint and citronella. While the chemical repellents block the sensory organs of the mosquitoes, these 'natural' products tend to stop bites by confusing the mosquito. These products can be handy when you are outdoors for short periods or there aren't many mozzies about but be

warned, most of these repellents usually offer less than an hour's protection.

Scientists are even looking to frogs to find new (and potentially more effective) repellents! Studies using the secretions from the Green Tree Frog (*Litoria caerulea*) found that the 'frog juice' had enough repellent properties to stop mozzies biting mice in the laboratory but human trials are yet to be undertaken. A commercially available product could be many years away but please be patient, as, although it may seem like a good idea, our local frogs probably wouldn't appreciate being squeezed and rubbed along our arms and legs to keep the mozzies away.

It is important to note that if you're heading out frogging, take care not to over use the repellent, particularly if you're planning on handling frogs. It doesn't matter if the repellent is chemical or natural, due to the highly permeable skin of frogs, exposure to these substances could be nasty indeed.

So, when you're off frogging this summer, make sure you pack some insect repellent containing DEET (along with your field guides and torches) but make sure you don't get any on the frogs!

**Cameron Webb,**  
**Dept of Medical Entomology,**  
**Institute of Clinical Pathology and Medical Research,**  
**Westmead Hospital**  
**cameronw@icpmr.wsahs.nsw.gov.au**

Below: Gerry Marantelli (foreground), Corroboree Frog Rescue Program, Kosciuszko National Park



## NEW FROG SPECIES ENDANGERED BY GLOBAL WARMING

A new species of frog has been discovered in North Queensland by a University of Newcastle researcher but is under threat from the effects of global warming. Co-discoverer Dr Michael Mahony from the University of Newcastle estimated that the new species of frog discovered could be under threat of extinction.



*Mixophyes Carbinensis*, is found only in the cool temperate high altitude rainforests of the Carbine Tablelands north of Cairns, an area increasingly affected by global warming.

Dr Mahony said plant and animal communities in restricted geographic areas near climatic extremes would disappear because warming would most rapidly impact on these areas.

"Even with moderate predictions of global warming, the species' habitat will disappear before 2050," Dr Mahony said. "The frog species is unable to migrate to other sites because of the high altitude of the habitat and will not be able to adapt to the warming of the environment, which is occurring at an unprecedented pace."

The *Mixophyes Carbinensis* species was discovered with another new frog species, *Mixophyes Coggeri*. Both belong to a group of frogs known as Barred Frogs. The barred frogs, so named because of their distinctive barring across their arms and legs, are Australia's largest frogs, reaching more than 14 centimetres in length. Dr Mahony and his team used extensive field surveys and laboratory techniques which examine and compare the genes of the animals, to discover the two new species. The researchers' studies revealed there is a greater species diversity of barred frogs in the wet tropics rainforest than previously known.

"The rainforests of the wet tropics covers a tiny proportion of Australia - less than one per cent - yet they contain the highest animal diversity of all Australian habitats," Dr Mahony said. For comment: Dr Michael Mahony on 02 4921 6014.

**Thursday 11 January 2007, Forwarded by Steve Weir.**

**<http://www.newcastle.edu.au/news/2007/01/newfrogspecies.html>**

One of many enjoyable and easy FATS field trips



Punia Jeffery, Karen White and Wendy Grimm

Contact our Field trip Co-ordinator Robert Wall (see page 12) for field trip information



Darkes Forest field trip



Darkes Forest – photos by Wendy Grimm

## THE COMET FROGGER



Rob McNaught at Siding Spring

**F**ATS member Rob McNaught has been a frogger for many years, but he does his surveys differently from the rest of us. He looks upwards. Or so I had thought. "Actually", he told me, "I spend most of my time looking straight ahead at computer screens. I look for things that jump between photos." Don't we all, I thought, remembering how hard it is to snap a frog in mid-jump. But Rob has his gaze on comets, asteroids and supernovae. He explains one doesn't have to toggle between zillions of pictures any more, to see something blinking – software helps detect it now.

Well, I thought, maybe we other froggers can learn something here. Frogs blink; frog populations explode – so do stars. Around 20 years ago Rob got a major astronomy medal for the discovery of an amazingly large number of supernovae; he is an old hand. Which is just as well, because only he and a colleague carry the main responsibility for alerting us here in the southern hemisphere of potentially hazardous near-earth objects. At the FATS Group, where we try to make some impact on frog decline, we think nothing of having dozens of our members on our frog surveys. Governments think nothing of having only two full-time workers doing a critical sky survey, where the impact could be quite a bit more dramatic.

Comet McNaught, January 2007



Of course, a nasty impact would threaten frogs too, but because of astronomers like Rob, we humans would probably find out about it first. It may seem a tad farfetched, but we have become the environmental indicators for frogs!

Rob explained how he keeps evicting Peron's Tree Frogs from the Siding Spring Observatory. "None of them have managed to get into the telescope yet. They could cause a lot of damage in there." And wouldn't they look scary? Frogzilla has landed!

He says the other frogs he finds around Siding Spring are mostly Crinias and Broad-palmed Frogs. "Luckily", he says, "if people who are out at night want to familiarise themselves with the local frogs, there are only a few species around in most inland areas, and their names and calls can be learned with little trouble." So, all you amateur stargazers, if the sky clouds up in the night or if something climbs up your tripod, get your camera out and your tape recorder. Rob suggests that frog searchers could likewise expand their horizon: "Frogging is often begun at dusk, before it's too dark to see where you're going. When it's properly dark, start looking at the sky. You can often see impressive meteorite showers, especially around each October and November." Next time, froggers, bring your binoculars, wrap some red cellophane round the torches and keep looking up. You might make a big splash!

That's what Rob did, when the comet he discovered last August became one of the brightest ones ever seen. A comet with a beautiful tail that had everyone guessing about it. I just got back this evening from the Dover Heights football field for a final view. There was as a small band of people, all crowding together at the field's brightly lit western edge. (The eastern edge was much darker. But we felt we really wanted to be closer to that comet.) They were strangers but were all talking to each other, mainly about the tail. Whether it was curved. Which way it was pointing. But mostly, what was eventually going to happen to it. They could have been talking about tadpoles.

We in Australia are especially proud of that comet, the Sunset Comet, to go with the Sunset Frog which also caused quite a splash when that was found. And we in the FATS Group, we are proud of our member although he does his nightly surveys in an unusual way. We are all basking in Comet McNaught's reflected glory. Thank you, Rob, and many more near-misses, please. L.V.

## SAVE CRANEBROOK

**T**here was a huge fire at the old Air Services Australia site at Cranebrook 11 December 2006. Media reports say it was caused by lightning strikes. If this site was in the hands of the NSW National Parks and Wildlife Service fire mitigation measures would be in place to keep fuel loads at acceptable levels. images Geoff Brown  
<http://www.savecranebrook.com/Cranebrookbushfire.htm>

## THE GIANT SPACE FROG

There came a time when the Pope of the Frogs decreed that every spawn was sacred, every tadpole good. The planet quickly became twice its size and consisted of frogs all the way through. After the Great Carnivorous Act all that was left was the GSF, the Giant Space Frog. The GSF then jumped at the Moon and ate it. Then the GSF proceeded to eat all the planets and finally the Sun. This was when he became truly magnificent, for the Sun shone out of his cloaca. The Sun also propelled him forwards, and by pursing his cloaca in the right way he steered to other solar systems where he appeared as a comet in their skies before he consumed them all.

The GSF grew and grew. Between the galaxies he left a swathe of darkness, intent on eating the remaining ones on his way back when he would make the Universe shrink again.

In the end God's neighbours became concerned. "You have an annoying frog on the loose in your Universe" they said, "we don't want him translocated to our universes." And God said in His deep, resonating voice, "I shall make him pop", and He made him pop. And in that instant of the Big Pop, when our present Universe began, there were spawnions and tadinos and frogotrons flying everywhere, to condense eventually into ordinary matter like us.

Those people who were in tune with nature thought that God must have done something. Only, they thought it was humans who had been created in His image, and many died with surprised looks on their faces.

A few others began to understand the Miracle of the Metamorphosis and worshipped the Trinity: the Spawn, the Tadpole and the Holy Frog. They followed their Calling and went out into the swamps and wilderness to Save the frogs. They began to show people how to make damp places. Wherever they went they made the Sign of the Frog and converted others to record the sounds of the frogs. Frog future became inextricably wrapped up with sound recording tape, for each species has been given its own distinctive call. And if recorded, their calls will be heard so that those species in greatest need will be spared.

Thus the planet will become a lovely damp place once again and the frogs' chorus will be beamed into space on many frequencies. As our beacons, for the next comet to home in on. L.V. (Reprinted from FrogCall No. 10, January 1994. In those days, we lived in some fear of the universe collapsing around us again.)

The Daily Telegraph 12/1/2007  
Keen on frogs .... Dr Michael Mahony  
with a Red-eyed Green Tree Frog



Gerry Marantelli releasing juvenile Corroboree Frogs at KNP

## FROGBITS AND TADPIECES

Chinese mythology has it that there is a three-legged frog in the Moon. There's another one in the Frogmobile. Do we have any astrologers amongst us to bestow any of this with some meaning?

**Combining frogging and astrology** could be a really potent mixture. Frogs are held to be great predictors of everything, from unwanted pregnancies to environmental degradation and calamities. Frogs beat the pants off all you conventional astrologers. Come to our meetings, guys, and get your frog!

**New members** who sign up from February onwards for their 2007/2008 membership get the rest of the old financial year for free. Our tradition to simplify matters; but it might come handy if you want to bring a few new folks to the meeting.

**The Easter Show** people have asked FATS to provide lots of speakers again – same as last year in the horticultural pavilion. A 20-minute talk in return for a free ticket. If interested, please contact me.

**Crimson-spotted Rainbowfish** can be useful for at least medium-sized suburban Striped Marsh Frog ponds. I have picked up another lot of surplus ones from the DEC Ecotoxicology lab. There will be some at the meeting.

**The Frogmobile**, for those of you who read this in time, will be in Centennial Park at the Duck Pond on Sunday, 28 January. This time, we are doing a Frog Dance in the water! We still have the big rainedance wading pool from Frogweek. (It was raining then anyway, so we did other things). And we're going to get the public to join us in there! L.V.

## Unique frog hops into the record book



## SMITH'S LAKE- LEAPING FROGS AND OTHER SWIMMERS - SPRING 2006



**A** brief shower of rain early on Friday evening put everyone in the mood for a fruitful night's frogging. Far-flung FATS members took advantage of the long weekend to participate. Cheyne travelled south from Wauchope, Marion travelled north-east from Kangaroo Island and the Weir's drifted across from Lake Macquarie, evidence of the popularity of the Smith's Lake field trip. Chloe and Elizabeth were first-timers but Hannah is now an old hand at the ritual of frogging. The water level in the lake was very high, creating a safe beach area for toddlers to swim.

There was a variety of wildlife in the national parks around the field station and the koala up a thin eucalypt just out of camp had many admiring visitors. Andrew befriended a beautifully coloured diamond python basking on the track, much to Fiorella's surprise.

George's reputation with kangaroos is such that a large grey kangaroo took to the swamps and swam across the creek rather than risk passing him on a narrow bridge.

We had several opportunities to see owl nightjars when driving through the parks.



And then there was the frogging.....

17 species of frogs were found over the weekend.

A quiet, torches off, "earballing" period at each location gave everyone a chance to assess the number of species calling around the ponds. Arthur described the habitat and where each species would be likely to be found. Friday night we visited a new frogging site, the quarry near Sandbar, where a black-bellied swamp snake was lurking in the reeds amongst eight species of frogs. *Uperoleia fusca* and a pink-tongued skink were found at a distance from the pond. A circuit of Sugar Creek yielded Peter and John, a few more frogs and some juvenile leaf-tailed geckos at the little quarry near where we usually find *Pseudophryne coriacea*. A cool Saturday afternoon change sent the swimmers back to camp from Seal Rocks but not before they had a chance to see a wobbegong and dolphins in the surf.

Cricket on the lawn warmed everyone up and gave us all an appetite for dinner.

Everyone kept busy at Twin Dams finding plenty of frogs and an obliging *Adelotus brevis* displayed his tusks with a bit of encouragement from Karen. The weekends find included *Crinia tinnula*, *C. signifera*, *Limnodynastes peronii*, *Paracrinia haswelli*, *Litoria tyleri*, *L. fallax*, *L. freycineti*, *L. latopalmata*, *L. jervisiensis*, *L. phyllochroa*, *L. peronii*, *L. revelata* and *L. verreauxii*

A good mix of frogging enthusiasts young and old, new and experienced contributed to a most enjoyable time for all. Thanks again to Karen and 1/2 a White. **Photos and report Wendy Grimm**

### FROG CARVINGS

**L**ong time FATS member and plant expert, Danie Ondinea, saw some wonderful carved (striped with pale and dark timbers) Corroboree Frogs at a small version of the old Craft Show, this time held at Randwick Town Hall.

The carver's details are Terry O'Callaghan, Studio - Broadsmith St, Scullin ACT 2614 mob 0412 997 905 His son's email: [vb4mepls@hotmail.com](mailto:vb4mepls@hotmail.com) (he said his son has grown out of the joke of his email name!)

The animals he carves are stylised, sleek versions of the original animal. Danie now has an echidna, a Tassie devil, a wombat and he had wonderful striped emu chicks - which, to her, really capture the essence of the animal and are beautiful.

Danie regrets that she doesn't get to the meetings now but the pull of my Illawarra home is great. Hopefully we will see her in 2007. **MW**



## Croak Addiction

A zoologist roaming the wilds of Papua New Guinea has found dozens of frog species unknown to science  
BY RORY CALLINAN

It was just after midnight when frog researcher Steve Richards heard a strange melodious whistle amid the patter of rain in the Papua New Guinea cloud forest. The sound swept away the Australian zoologist's exhaustion as he struggled through the thorny vines and stinging nettles covering the remote mountain slope in the Southern Highlands. "When I heard this, I knew it was going to be fantastic," he says. Switching on his tape recorder and headlamp, he moved carefully toward the sound, trying not to blunder into one of the limestone sinkholes that dot the area.

After an hour's searching, Richards and his companion, a local hunter, found the source: a "warty brown blob" squatting on moss in a patch of nettles. When he reached over and gently took hold of the blob, it twisted viciously in a very unfroglike manner and bit him on the hand. "I was shocked," he says. "Frogs don't normally bite you. There's only one other frog in P.N.G. that does that." The animal's bite, coupled with its unique cry and strange appearance, told Richards he had snared a place in the zoological textbooks with the discovery of a new species. It was an exhilarating moment for the 44-year-old—but such discoveries aren't new to him.

In 15 years of scouring P.N.G., Richards, who's attached to the South Australian Museum, believes he has discovered almost 100 new frogs. Of these, he has managed to "describe," or scientifically classify and name, 30; he still has about 70 whose features must be studied carefully before they can be classified as a new species. "We are really only scratching the surface," he says. "Every time anybody goes searching in P.N.G. anywhere, they find new things." Richards estimates that 350 species of frog have been identified on the island of New Guinea, but predicts the number will eventually pass 600. With frog populations worldwide under threat from habitat destruction, fungus infections and introduced predators, Richards, whose research is funded by Conservation International, believes recording the amphibians is of vital importance. "New Guinea, outside of the Amazon and some areas of central Africa, has the largest areas of rainforest left," he says. "Nobody is working there, and what's there is so spectacular."

Late last year Richards was a member of a scientific expedition to the neighboring Indonesian province of West Papua that found dozens of new animal and insect species in the remote Foja Mountains. As for the warty blob he discovered in the Southern Highlands, he has yet to finish the classification process. But it's likely to have a name associated with its snappy temperament. "I like a frog with attitude," he says.

Forwarded to FATS by Adam Crawford.

From the Nov. 13, 2006 issue of TIME South Pacific magazine  
<http://www.time.com/time/pacific/magazine/article/0,13673,503061113-1555158,00.html>

FATS wishes Peter Spradbrow  
a speedy recovery from his  
climbing accident. We are very relieved  
that he is out of intensive care.

LISTEN TO THE FROGS!



**THE BLOB** The frog that bit Richards was found in the Kikori River area, in Southern P.N.G.



**EVIL EYE** Officially named in August after the Lord of the Rings character Sauron, this frog was found in Kikori.



**HATCHERY** In Kikori's rainforest, an unnamed male frog tends eggs laid in hollowed-out vines

## FROGS AND BANANA PLANTATIONS

**A**mphibians are used by the Great Barrier Reef Marine Park Authority to assess the environmental quality of banana plantations, the use of fertilizers and the quality of water run off. I understand that the frogs are counted after the cut hands of bananas pass through a wash/cool down/trough system. High counts of frogs at the end of each day indicate the better use of appropriate fertilizers on plantations.

The frogs are collected from the water spray bars, put in buckets and returned to the farm. I would like to know how it happens and to hear from plantation managers or any FATS members who are aware of this process. I have "visions" of frogs sitting on the cool water spray pipes, being collected like pieces of fruit.

Since the implementation of the frog rescue strategies at Sydney Markets, the numbers of trans-located frogs has dropped from over 200 in 2000 to about 30 by 2006. We used to see dozens of *Litoria gracilentia* (the banana box frog), *Lt rubella*, *Lt caerulea* (Green Tree Frogs), *Lt infrafrenata* (White lips) and *Lt fallax* (Reed or Eastern Dwarf Frogs). I have been told that the drop in "lost" frog numbers is more likely to be the drought, chytrid or some other factor. MW

*Bananas are washed before dehanding*



## PRINCIPAL WATER QUALITY INFLUENCES ON GREAT BARRIER REEF ECOSYSTEMS (extracts)

**C**orals and other reef organisms are influenced by a range of water quality variables. In general, they are adapted to tolerate variations in water quality, however when critical thresholds are exceeded they may be adversely impacted. Major water quality variables affecting coral reef health include water temperature, salinity, nutrient and suspended sediment concentrations, as well as toxicants including pesticides.

Nutrients River discharges are the single biggest source of nutrients to the inshore areas of the Great Barrier Reef World Heritage Area. Most of the nutrients are discharged to the Great Barrier Reef World Heritage Area during tropical monsoon flood flows. Elevated nutrient concentrations result in a range of impacts on coral communities, and under extreme situations can result in coral reef community collapse. Elevated nutrient concentrations affect corals by promoting phytoplankton growth, which in turn supports increased

numbers of filter feeding organisms such as tubeworms, sponges and bivalves that compete with coral for space..

Excessive phosphorus concentrations result in coral colonies with less dense, and hence weakened skeletons, which make colonies more susceptible to damage from storm action. Additionally, neither macroalgae nor most filter feeders add to reef consolidation through calcification. Elevated nutrients can inhibit fertilisation rates and embryo formation of corals, as well as causing direct coral mortality.

**Other Pollutants:-** Agriculture, urban settlement and industrial activities around the world have contributed to the widespread contamination of global marine ecosystems with pesticide residues, organochlorine compounds and heavy metals. These types of pollutants are persistent, highly toxic and many are essentially permanent additions to the environment.

**Organochlorine:-** Pesticides Organochlorines are carbon-based chemicals that contain bound chlorine. These compounds are mostly artificial and enter the environment mainly through human activities. Chlorinated organic compounds have had a wide range of industrial and agricultural applications, although many of them are now banned from use. They include pesticides such as DDT (dichloro-diphenyl-trichloroethane) and lindane (g-HCH or gamma-hexachlorocyclohexane), and polychlorinated biphenyls (PCBs), which are also used in a range of industrial applications including dielectrics in electrical transformers. Pesticides and PCBs have been implicated in reproductive and immunological abnormalities observed in terrestrial bird populations and in marine mammal populations. While the impact of organochlorines are still unclear for lower invertebrates such as corals, their potential toxicity to immune systems and reproductive processes is of concern.

A number of new generation insecticides and herbicides are now used by the Queensland agricultural industry. Insecticides in use include chlorpyrifos and herbicides in use include atrazine, diuron, 2,4-D, glyphosate and paraquat. Chronic herbicide exposure from agricultural run-off has the potential to harm seagrasses and other photo-autotrophic reef organisms, including corals.

Crops grown in the catchment include sugarcane, cotton, bananas and other fruit and vegetables. Cropping involves the application of fertilisers (such as nitrogen, phosphorous) and pesticides and their use has increased significantly since the 1950s. Fertilisers and pesticides are taken up by the crop but a significant portion applied to the land ends up in coastal waters. Poor agricultural practice results in soil erosion and the discharge of sediments, nutrients and pesticides into rivers, estuaries and eventually the Great Barrier Reef World Heritage Area

## Frogweek 2006!



Green and Golden Bell Frog, Rosebery  
**It's time to give them a hand.**



Cane Toad, translocated to Sydney  
**Time to stop translocating them.**



Green Tree Frogs, homeless  
**Time to understand their plight.**  
**We can only value what we understand.**  
**L.V.**

### **FACULTY FIND N.E. AMPHIBIAN EGGS CAN DEFEND SELVES**

**A** group of Boston University researchers say they have found amphibian embryos in New England that have the ability to protect themselves against dangerous water moulds.

For the past three years, biology department research associate Ivan Gomez-Mestre has

collaborated with biology professor Karen Warkentin and graduate student Justin Touchon to research the embryonic response to mould in nine vernal pools in Lynn Woods. The group's discovery was published in the October issue of *Ecology*, a journal printed by the Ecological Society of America, with Touchon's photograph of wood frog egg clutches appearing on the cover.

According to Gomez-Mestre, the group's research shows how the defence systems of three species of amphibians protect against water mould in different ways. The spotted salamander coats their clutches with a thick jelly that surrounds eggs and insulates them against the mould. Wood frog eggs lack the protective jelly, but develop so early in the season that the water is still cold enough to slow down the rate of mould formation. American toad embryos are able to sense the infection of water mould and hatch up to 40 percent more prematurely to avoid the danger. Warkentin said the American toad eggs hatch surprisingly early, before they are capable of motion.

"This is the first study that shows an aquatic amphibian egg can hatch early to avoid pathogens," she said. "It shows that eggs can detect the pathogen and naturally defend themselves. Most people probably don't think of eggs as really doing much or paying attention to their environment," she continued. Touchon said the idea of pro-active eggs might be surprising to many people.

"The discovery that these eggs can actually defend from pathogens shows how sophisticated these animals are," he said in an email. "People think of amphibians as simple creatures, but it is important that people realize how truly amazing these little critters are."

Warkentin said American toads are unique because the embryos do not use movement to escape from the eggs. "With the toads, we now have something that is really not at all behavioural, and presumably reflects an enzymatic, or chemical, breakdown of the membrane or capsule," she said. In addition to their own ability to flee from mould, American toad embryos escape infection by relying on another species common to their environment.

Wood frog tadpoles are usually predators of American toad tadpoles; however, wood frogs can protect toad clutches from infection by eating the mould that grows on the strings of toad eggs. Gomez-Mestre said the discovery may not be unique to New England.

"However, it is true that in other areas, such as upstate New York and the Pacific Northwest, water moulds have caused massive mortalities of amphibian eggs," he said in an email. "These differences could be due to different species and/or strains of water moulds, differences in the effectiveness of egg defences or synergisms with additional stressors, such as increased UVB-radiation [and] pollutants." Warkentin said the amphibian struggle against water mould is a global issue.

"Mould is all over the world," she said. "It affects amphibian eggs in a lot of places. We should look for this in other species in other parts of the world as well." Warkentin said she first thought to research embryo defence mechanisms when she was doing research for a 1991 field course. She said she discovered "red-eyed tree frogs can hatch up to 30 percent prematurely to run away from egg-eating snakes."

She continued her experiments with tadpoles after joining BU in 2001. Since the spring of 2002, she has explored local ponds around Massachusetts and performed pilot experiments leading up to the discovery of amphibians' resistance to water moulds.

**EXTRACTS - Rachel Rose-Sandow, 27/10/06, The Daily Free Press Ind. Student Newspaper of Boston University [www.herpdigest.org](http://www.herpdigest.org)**

## FIELD TRIPS

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

**February 10. 8-30p.m. Yeramba Lagoon - Panania. Leader : Robert Wall.**

Yeramba Lagoon lies on the northern side of Henry Lawson Dr. at Panania ( approx 0.9 km. east of Sylvan Gr or 1.9km west of The River Rd). Please exercise extreme care when turning/parking at this site, traffic flow can be fast along this section of road. Wetlands are amongst our most threatened group of habitats. Few realise they include a bewildering variety of forms including lakes, swamps, mudflats, mangrove forests, saltmarshes, rivers, creeks, overflows, anabranches, irrigation channels, bogs & ditches. In fact, just about any water body, permanent or ephemeral, may be considered a wetland. Tonight we will look at one of our more precious urban wetlands. Yeramba Lagoon lies unobtrusively beside one of Sydney's major arterial roads. Robert will take us around this largely-overlooked site.

**March 2-4 SOLD OUT Smiths Lake Camp-Out. Leaders : Arthur & Karen White.**

Smiths Lake is one of the most reliable sites to encounter the Great Barred Frog. This beguilingly beautiful frog prefers a rather solitary life on the damp, dimly-lit floor of our wetter forests. It remains one of our more private, elusive & charismatic species. This weekend, amongst the luxuriance of the Wallingat forests, we will search for this very special frog. Arthur's work & extensive scientific output has proven pivotal in the understanding of many frog & reptile species. He & Karen together enjoy a reputation as leading figures of frog conservation & advocacy in Australia. They are also key figures of the Riversleigh Society, which is at the forefront of Australian palaeontology - Riversleigh being the location of many of Australia's major fossil finds. Cabin/dormitory accommodation & camping sites available. All kitchen facilities/utensils/crockery supplied. A **non-refundable** fee of \$14 p.p. per night applies. Phone Arthur & Karen directly on 9599-1161 for bookings & further details. Limit of thirty people.

**\*\*\* DON'T FORGET** our specialist research field trips with Graham Pyke & The Australian Museum.

Ideal for all students & serious enthusiasts. Locations at Long Reef, North Avoca & Broughton Island.

Contact the Field Trips Co-ordinator for further details.

**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 field trips are strictly for members only - newcomers are however, welcome to take out membership before the commencement of the field-trip. All participants accept that there is some inherent risk associated with outdoor fieldtrips & by attending agree to; a release of all claims, a waiver of liability, & an assumption of risk.**

**FROGWATCH HELPLINE 0419 249 728**

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**INSURANCE DISCLAIMER** FATS has public liability insurance for its various public functions. FATS members should be aware that this insurance does not cover FATS members (it covers the public & 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.