FROG CALL

NEWSLETTER No. 96
The Year of the Frog
August 2008

THE FROG AND TADPOLE STUDY GROUP OF NSW INC
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ABN 34 282 154 794

Pseudophryne covacevichae photo by Wendy Grimm

Photo taken near Millaa Millaa on the Atherton tablelands

The FATS Annual General Meeting commences on Friday at 7pm 1/8/08, for about 30 minutes and followed by our usual meeting.

3 large glass tanks for sale, make us an offer, see p12

Arrive at 6.30pm for a 7.00 pm start.
AGM commences 7pm
followed by our usual meeting

Friday 1st August 2008

end of Jamieson St. (off Holker Street),
Follow the signs to Building 22
Homebush Bay, Sydney Olympic Park
Accessible by bus or train. Call us for details.

MEETING FORMAT for 1st August 2008

6.30 pm	Lots of White Lips, Gracilentas, Perons, Green Tree Frogs, Fallaxes and Rubellas need homes. Please bring your FATS membership card, donation & amphibian licence to the meeting and take home a lost froggy friend.
7.00 pm	Welcome and AGM
7.30 pm	Announcements.
7.45 pm	The main speaker is David Nelson :- "Bufo for breakfast. How Cane Toads affect native predators and their prey"
9.00 pm	Field trip reports and five favourite slides.
9.45 pm	Tell us about your recent frogging trips or experiences. If you have slides or other images, bring them along as well. Evenings end with our regular guessing competition, light refreshments and pleasant conversation.

CONTENTS

LAST MEETING 6 JUNE 2008

Arthur White welcomed our new guests and regular members and visitors to the meeting. He announced the farewell for our Frogmobile. Its last outing for FATS was held at Centennial Park, Sunday 12 July 2008

Photos Phillip Grimm

Karen and Arthur White, Wendy Grimm and Grant Webster.

The FATS Frogmobile requires a new home and an organisation or person that is able to continue to maintain and house it, possibly out of the weather. It has been a wonderful educational tool and given the public many years of enjoyment. We hope it gives the new owner many years of pleasure and good use.

Arthur White presented a talk about the Kimberleys. His group passed through Broome, Derby to see the "prison tree", Gibb River Road, detouring through gorges, Wyndham, Kununurra, Bungle Bungles, Gantheaume Point to see the dinosaur tracks (top of page 3), Roebuck Bay where migratory birds from Russia, China and Japan feed up big time after their long flight and Horse Creek. At Matzo's, Broome they are so serious about Cane Toad eradication, 10c from every beer goes to the Cane Toad Project.

Gibb River Road

Rock hole frogs were seen at Tunnel Creek, a limestone Devonian reef system. Fresh water crocodiles were seen at Windjana Gorge. Rock-hole frogs were a common feature at Leonard Gorge and Mertons Water Monitors at Bell Gorge.

Bungle Bungles

Uperoleia lithomoda and indigenous art abounds at Imintji Creek. King Edward River had *Litoria bicolour* frogs. Munda Bidi Camp had *Litoria rothii* in the toilets!

Photo David Nelson *Litoria rothii*

Gantheaume Point dinosaur tracks

Arthur flew over Prince regent River and Mitchell Falls. Drysdale Station had taken up the challenge of stamping out toads. Toad warnings were everywhere. Dragons were seen at Cockburn Ranges and Flecked Monitors, geckos, the pointy nosed *Litoria wotjulumensis* and *Litoria coplandi* were seen in the cool gorges.

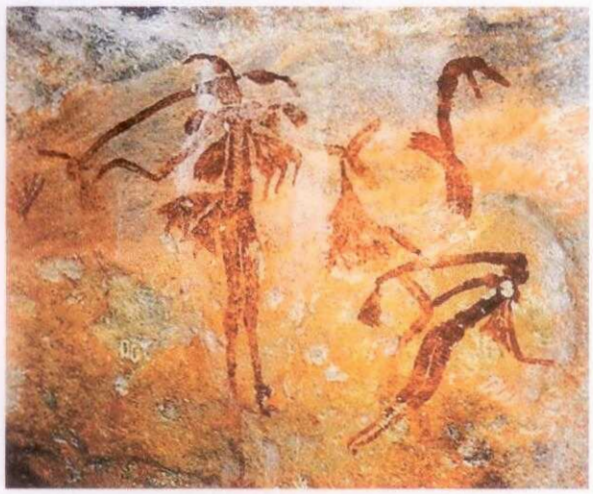
Wandjina rock figure

Other frogs seen were cave dwelling *Litoria cavernicola, Litoria rubella*, *Litoria nasuta* and *Lt. spendida*, as well as Childrens Pythons. Red-winged Parrots, Blue-faced Honeyeaters, Bradshaw Rock carvings Gwion Gwion figures with tassels (top of page), yellow-spotted sand goannas *Varanus panoptes*, Pied Herons, Bower Birds who prefer to collect white objects, a fresh water croc on Lake Kununurra that was definitely longer than three metres, rock wallabies, flying foxes, water monitors, spectacular sunsets, a black dingo and wallaroos. Fitzroy Crossing (River) is the second largest river in the world.

Mark Semeniuk spoke about cane toad breeding sites research, at selected water bodies. What do cane toads do at the southern edge of their range? Mark investigated the micro habitat of 23 breeding sites and 23 non-breeding sites. Each pair of ponds needed to be close to each other. One was a breeding pond and the other without cane toads breeding. Why did the toads choose one pond and not the other?

They preferred shallow ponds, gently sloping banks, open ground around the pond, low vegetation and warmer water. This research has implications for toad control. There is potential to exploit their selectivity of breeding sites.

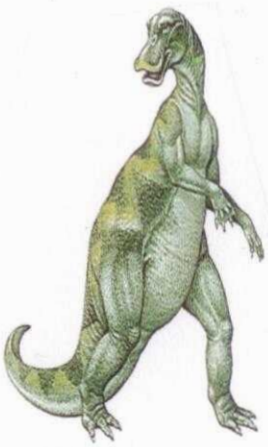
"The Bradshaw Paintings are incredibly sophisticated, yet they are not recent creations but originate from an unknown past period which some suggest could have been 50,000 years ago." (See below) Peter Robinson, Project Controller of the Bradshaw Foundation.



Grant Webster talked of his time in Canada in search of frogs. There are three species of frogs in Edmonton. Some of the frogs found in the region are the Wood frog *Rana sylvatica* that is most cold tolerant, *Pseudacris maculate* the Boreal Chorus frog (P9) and the American bullfrog *Rana catesbeiana.* Grant found Spring Peepers *Pseudacris crucifer* calling loudly from the centre of an very cold pond.

"Slides and frog experiences" speakers included Peter Spradbrow and Henry Cook. Henry presented a short video clip of an Eastern Whipbird escaping from an Elliot trap. The meeting ended with door prizes, light refreshments and pleasant conversation.

See page 10 for information about the FATS AGM at our meeting in August. MW



Riverine Grazier 7 5 08 Hay NSW
Sent in by Barbara Harvey

Crucial Southern bell Frog breeding event under way

A crucial Southern Bell Frog breeding event is under way on the Lowbidgee Floodplain with hundreds of young frogs observed.

Department of Environment and Climate Change Director of Water for the Environment, Derek Rutherford said young frogs have been observed at Yanga National Park and on private property near Maude following targeted environmental water releases.

"The Lowbidgee floodplain is home to NSW's most significant population of the endangered Southern Bell Frog, however, most of the floodplain has been very dry in recent years," Mr Rutherford said.

"There has been a massive population decline over the past six years, so this breeding event is vital to their population.

"The Lower Murrumbidgee wetlands received 8,300 megalitres of environmental water between December and March which created and sustained the necessary habitat for Southern Bell Frog breeding.

"The flows also provided drought refuge habitat for other wetland dependent species such as water birds and turtles. It has also rejuvenated vegetation and improved the health of the floodplain environment.

"The release of the environmental water during the Southern Bell Frogs breeding season was critical to the protection of the species and we were pleased to be able to make the release.

"The water release, delivered after significant rain, used water set aside for the environment, so it did not affect the water allocation for local irrigators."

Pet Expo 2008 11 to 13 September
Sydney Convention & Exhibition Centre
Darling Harbour Sydney

Inner West Courier 18 3 2008
Frogs leg it to local gardens

Xanthe Kleinig

INNER West residents are being asked to make their backyards frog friendly in a bid to attract the amphibians.

The Foundation for National Parks and Wildlife said March was the time when tadpoles grew legs and left their ponds looking for new homes.

Putting in a pond or a self-watering pot plant, planting shrubs and trees and leaving leaf litter and rocks in gardens can attract frogs, Foundation spokeswoman Leonie Gale said.

"Having frogs in your backyard is a sign of a healthy environment," she said.

Cleaning products, pesticides and pets can pose a danger to frogs.

"It's a good idea to keep cats inside when you know there are frogs around," Ms Gale said.

Frogs native to the Inner West include the common eastern froglet, spotted marsh frogs and Peron's tree frogs.

More tips to encourage frogs into your garden can be found at www.backyardbuddies.net.au

New Scientist 23 Feb 2008
Amphibians run out of space

It's no longer a mystery why amphibians are marching towards extinction. Loss and degradation of habitat is by far the most important factor in their alarmingly rapid decline, according to the largest global analysis to date.

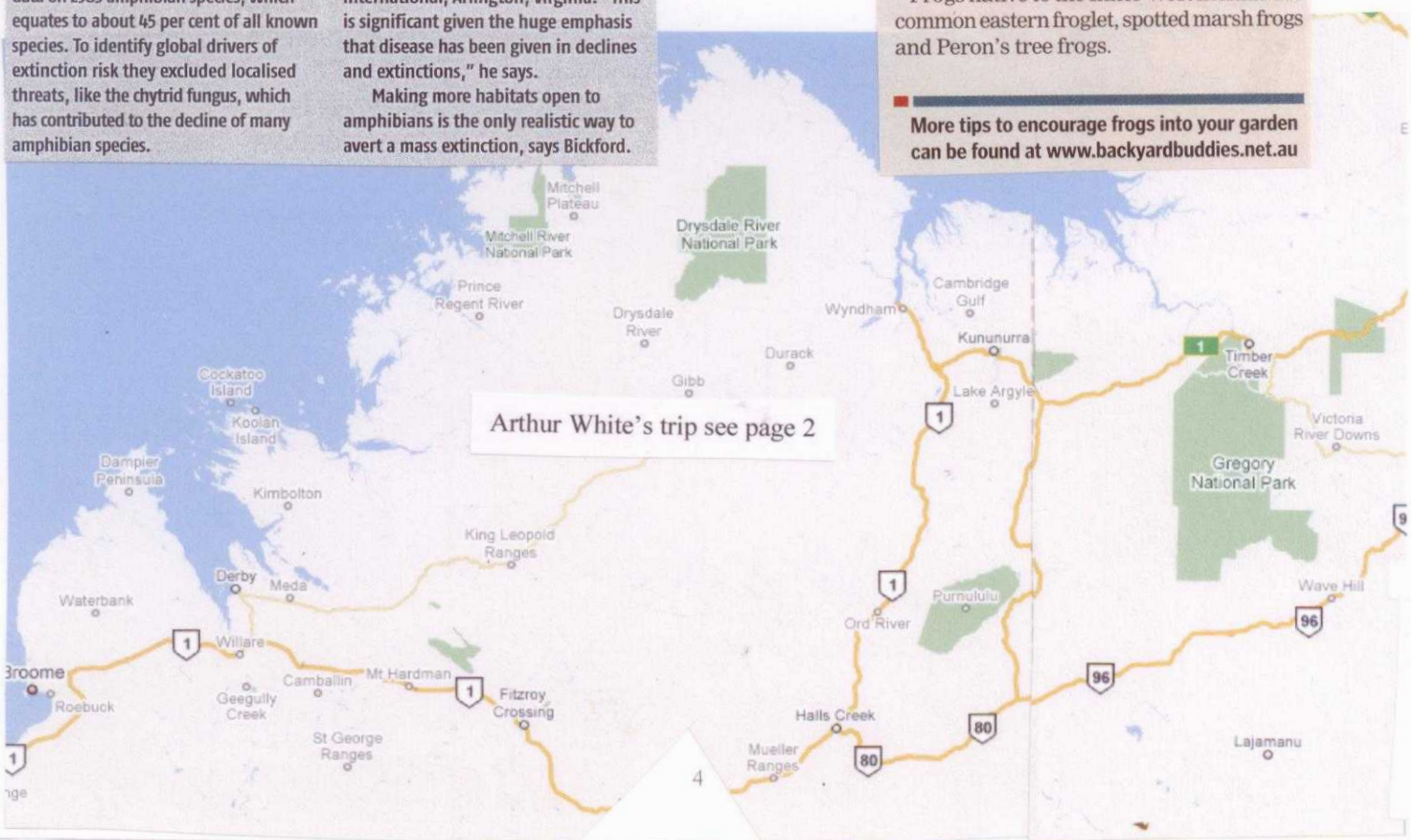
About a third of the world's amphibian species are threatened with extinction, and almost half of all known species are dwindling. Researchers have identified various threats, but until now the relative importance of each has not been clear.

Navjot Sodhi at the National University of Singapore and colleagues studied environmental and ecological data on 2583 amphibian species, which equates to about 45 per cent of all known species. To identify global drivers of extinction risk they excluded localised threats, like the chytrid fungus, which has contributed to the decline of many amphibian species.

They found that living in a restricted geographic range – 5000 square kilometres or smaller – was the most important factor in predicting extinction risk (*PLoS Biology*, DOI: 10.1371/journal.pone.0001636). "It was surprising how much more important geographic range size was, relative to other factors," says team member David Bickford.

About a third of amphibians now live in restricted ranges, and nearly all of their habitats are shrinking. This work provides solid evidence for the importance of habitat loss as a threat, says Robin Moore of Conservation International, Arlington, Virginia. "This is significant given the huge emphasis that disease has been given in declines and extinctions," he says.

Making more habitats open to amphibians is the only realistic way to avert a mass extinction, says Bickford.



Arthur White's trip see page 2

PHARYNGULA

Evolution, development, and random biological ejaculations from a godless liberal

PZ Myers is a biologist and associate professor at the University of Minnesota, Morris.

…and this is a pharyngula stage embryo.

A TASTE OF PHARYNGULA Recent Comments

Gerobatrachus hottoni

Category: **Evolution** • **Fossils** • **Organisms** • **Science**
Posted on: May 25, 2008 3:15 PM, by **PZ Myers**

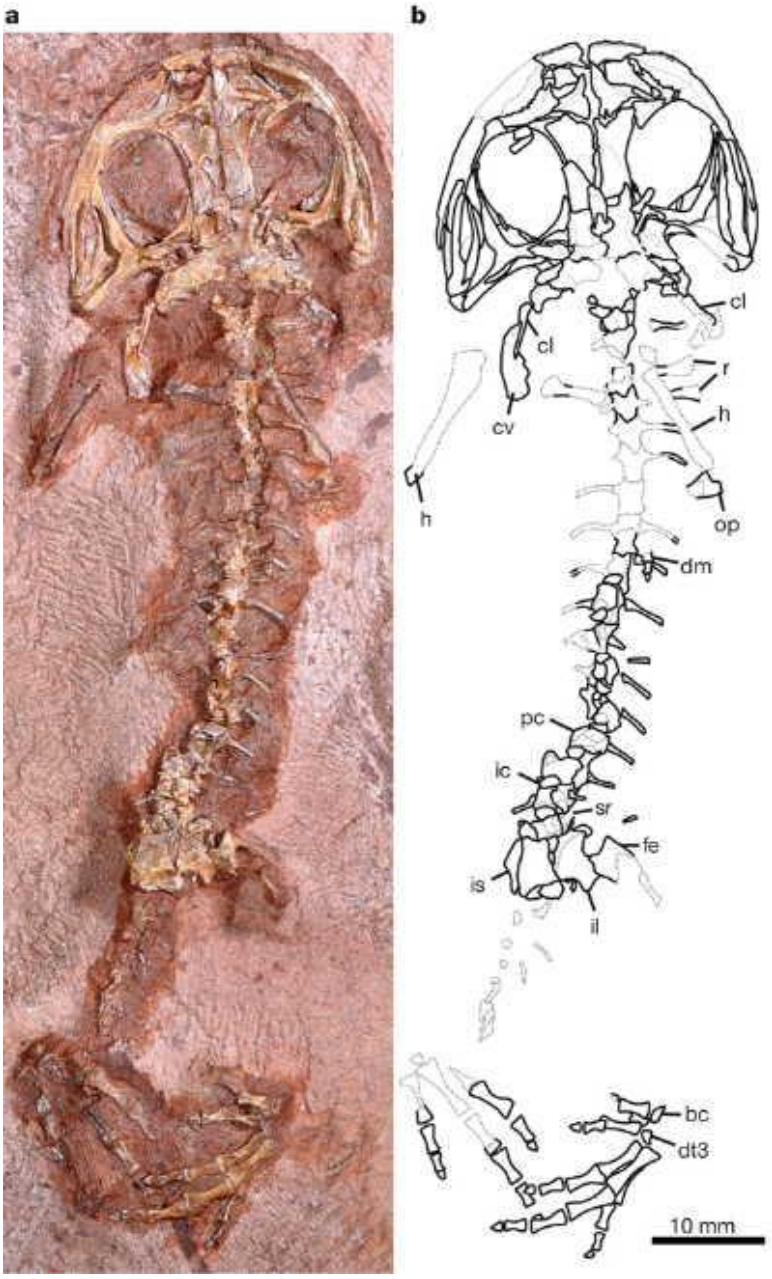
It's another transitional form, this time an amphibian from the Permian that shares characteristics of both frogs and salamanders — in life, it would have looked like a short-tailed, wide-headed salamander with frog-like ears, which is why it's being called a "frogamander".

Complete specimen in ventral view, photograph (left) and interpretive outline drawing (right). Abbreviations: bc, *basale commune*; cl, cleithrum; cv, clavicle; dm, digital elements of the manus; dt3, distal tarsal 3; fe, femur; h, humerus; ic, intercentrum; il, ilium; is, ischium; op, olecranon process of ulna; pc, pleurocentrum; r, radius; sr, sacral rib.

For those of you with a more technical bent, here's the list of diagnostic characteristics that bridge both amphibian groups.

Amphibamid temnospondyl with 21 tiny pedicellate teeth on the premaxilla, and 17 presacral vertebrae; shares with crown group salamanders a *basale commune* (combined distal tarsals 1 and 2) and tuberculum interglenoideum ('odontoid process') on atlas; shares with salientians and caudates an anteroposteriorly reduced vomer; shares with *Triadobatrachus* and crown group frogs a rod-like, laterally directed palatine; shares with *Karaurus*,

Triadobatrachus and crown group frogs a broad skull, shortened presacral vertebral column; shares with most temnospondyls, frogs and basal salamanders a pedal phalangeal formula of ?-2-3-4-3; shares with frogs, *Amphibamus*, *Doleserpeton*, *Platyrhinops* and *Eoscopus* a large otic notch closely approaching the orbit; shares with frogs, salamanders, caecilians, *Amphibamus*, *Tersomius* and *Doleserpeton* pedicellate teeth; shares with *Amphibamus*, *Doleserpeton* and *Platyrhinops* a foreshortened supratemporal; shares with *Amphibamus*, *Doleserpeton*, frogs and salamanders a foreshortened parasphenoid basal plate with wide lateral processes.



Now maybe some of you paleontologically-minded people can help me out with something. Molecular evidence places the divergence point between frogs and salamanders at some point in the late Carboniferous, between 308 and 357 million years ago. This animal is from the Early Permian, so it's more recent than that. Strangely, the authors claim that the discovery of *Gerobatrachus* places a *lower* bound on the divergence time, which I don't see at all; *Gerobatrachus* could be a late representative of a significantly earlier common ancestor. Am I missing something here?

Anderson JS, Reisz RR, Scott D, Fröbisch NB, Sumida SS (2008) A stem batrachian from the Early Permian of Texas and the origin of frogs and salamanders. Nature 453(7194):515-518. **Forwarded by Andrew Nelson**

BACTERIA COULD STOP FROG KILLER

The disease that is devastating amphibian populations around the world could be tackled using "friendly" bacteria, research suggests. Scientists have found that certain types of bacteria which live naturally on amphibians produce chemicals that attack the disease-causing fungus.

Recent results indicate the bacteria help frogs survive fungal infection. The chytrid fungus is a major reason for the global decline which sees one third of amphibians facing extinction. But the latest findings, reported at the American Society for Microbiology meeting in Boston, may give conservationists a new way to tackle the scourge.

Reid Harris and colleagues found that treating the mountain yellow-legged frog *Rana muscosa* with extra helpings of bacteria reduces the weight loss seen when the fungus attacks, and appears to keep them alive longer as well. "In the group we exposed to chytrid, about 50% to 60% have died," he told BBC News. "But of the ones where we added the bacterium (*Janthinobacterium lividum*) none have died, and we're about 140 days in now."

The mountain yellow-legged frog of the Sierra Nevada mountains in the western US is categorised as Critically Endangered, with numbers believed to have fallen by 80% within about 15 years.

Natural defences

The waterborne fungus *Batrachochytrium dendrobatidis* has emerged as a major threat to amphibians in the last decade, and conservationists have been left grasping for a way of stopping its apparently inexorable worldwide spread. But although it has devastated many species, some appear to have an innate capacity to withstand infection. Even within species that generally succumb, the odd population survives.

What gives these communities immunity is not clear; but one answer, as Professor Harris's group has been finding, could be bacteria such as *Janthinobacterium* which live naturally on their skin.

Earlier lab experiments, also involving the red-backed salamander *Plethodon cinereus*, showed that the bacteria produce chemicals able to attack the fungus. "We detected anti-chytrid metabolites on the skin itself in high enough concentrations to kill off the chytrid," he said. "One of our hypotheses is that the bacteria live in some kind of defensive symbiosis with the frogs and salamanders."

Another piece of evidence came with the finding that amphibians in colonies which survive the passage of the chytrid wave tend to carry higher levels of the bacteria.

This all raises questions as to why, if the bacteria are protective, they are not present in large enough numbers in all colonies; and whether some other factor - perhaps habitat loss, pollution or rapid climatic shifts - can reduce the bacterial cargo, opening up the door to fungal attack.

In Spain, scientists have found that rising temperatures appear to increase amphibians' vulnerability to infection.

Not in isolation

Whatever the history, the findings carry the promise that perhaps these bacteria could be used in the wild as a defence against the chytrid.

Chytrid-infected frogs often show a characteristic hunched posture

First true amphibians evolved about 250m years ago. Adapted to many different aquatic and terrestrial habitats. Present today on every continent except Antarctica. Undergo metamorphosis, from larvae to adults

This is definitely a line of research that could become a tool applied to saving species in the wild.

The JMU team applied protective bacteria to frogs in the lab

Don Church IUCN Amphibian Specialist Group and Conservation International "It's tremendously exciting, because the other treatments for chytrid have problems," commented Don Church, a scientist with Conservation International and senior director of the Amphibian Assessment Group which monitors trends worldwide.

"The classical method of treatment with a fungicide leaves animals open to re-infection, and it's not a solution for use in the wild - it's a solution for animals that can be kept isolated or quarantined.

"So I think this is definitely a line of research that could become a tool applied to saving species in the wild, but we would have to develop a whole set of criteria for deciding where and how to use it - we have had so many catastrophes in the past through introducing species, so we have to be very careful."

Dr Church advocates more research on amphibians that survive chytrid attack, in order to catalogue what other varieties of defensive bacteria exist.

Soiled good

Reid Harris's team at James Madison University in Harrisonburg, Virginia, will continue to follow their treated mountain yellow-legged frogs to confirm that bacterial treatment really does keep them alive longer.

If the positive findings continue, they would like to start projects in the wild within a few years.

"Interestingly, some of the probiotic agricultural products that you can buy from hardware stores contain pretty similar bacteria to what we're using," he said.

"Using them doesn't seem too controversial in an agricultural setting, although of course people get a lot more cautious when you're talking about national parks and soon.
"In something like *Rana muscosa* where the frogs pretty much stay put in ponds all year you might be able to add bacteria to soil or ponds and stay in front of the infection wave. It's harder to see how it would work in a tropical rainforest."

The last few Panamanian golden frogs were taken into protective captivity

Scattering bacteria in ponds and soil might seem like a risky strategy.

But so dire is the chytrid situation that a few years ago, amphibian specialists were saying that the only solution for some species was to take the few remaining specimens into captive breeding programmes in the hope, rather than the certainty, that they could be re-introduced to the wild at some point in the future.

Having said that, a defence against chytridiomycosis would not by itself arrest the striking decline in amphibians, which are also threatened by habitat loss, pollution, climate change, viral disease, hunting and introduced predators.

Richard.Black-INTERNET@bbc.co.uk
http://news.bbc.co.uk/1/hi/sci/tech/7438205.stm
By Richard Black Environment correspondent, BBC News website Sent to Frogcall by Alan Lane

Dahl's Aquatic Frog, *Litoria dahlia* Photo David Nelson

Calling Red Treefrog, *Litoria rubella* Photo David Nelson

Giant Burrowing Frog metamorph, *Heleioporus australiacus*
photo by David Nelson

HICCUPS HAVE A PURPOSE FOR TADPOLES

First of all, hiccups are shared amongst mammals.

If there is any consolation for getting hiccups, it is that our misery is shared with many other mammals. Cats can be stimulated to hiccup by sending an electrical impulse to a small patch of tissue in their brain stem. This area of the brain stem is thought to be the center that controls the complicated reflex that we call a hiccup. The hiccup reflex is a stereotyped twitch involving a number of muscles in our body wall, diaphragm, neck, and throat. A spasm in one or two of the major nerves that control breathing causes these muscles to contract. This results in a very sharp inspiration of air. Then, about 35 milliseconds later, a flap of tissue in the back of our throat (the glottis) closes the top of our airway. The fast inhalation followed by a brief closure of the tube produces the "hic."

http://pandasthumb.org/archives/2008/02/your-inner-fish-1.html#more

So how does the hiccup links us to our common ancestor? The story is fascinating. Our tendency to develop hiccups is another influence of our past. There are two issues to think about. The first is what causes the spasm of nerves that initiates the hiccup. The second is what controls that distinctive hic, the abrupt inhalation–glottis closure. The nerve spasm is a product of our fish history, while the hic is an outcome of the history we share with animals such as tadpoles.

Nerves and our inner fish

Shubin points out how the arrangement of the nerves which stimulate breathing in fish, cause an unfortunate side effect in mammals. The problem is that the brain stem originally controlled breathing in fish; it has been jerry-rigged to work in mammals. Sharks and bony fish all have a portion of the brain stem that regulates the rhythmic firing of muscles in the throat and around the gills. The nerves that control these areas all originate in a well-defined portion of the brain stem. We can even see this nerve arrangement in some of the most primitive fish in the fossil record. Ancient ostracoderms, from rocks over 400 million years old, preserve casts of the brain and cranial nerves. Just as in living fish, the nerves that control breathing extend from the brain stem.

However, the nerves leave the brain at the same place as they do in fish but they have to travel further down to our diaphragm. This convoluted path creates problems; a rational design would have the nerves travelling not from the neck but from somewhere nearer the diaphragm. Unfortunately, anything that interferes with one of these nerves can block their function or cause a spasm.

Pattern generators and amphibians

As Shubin pointed out earlier, the hiccup itself is an outcome of a history we share with amphibians. While in humans, the hiccup is mostly an annoyance (vestigial?), in tadpoles, which have both lungs and gills, the hiccup is used to breathe with their gills. What a wonderful example of a living 'transitional fossil'.

It turns out that the pattern generator responsible for hiccups is virtually identical to one in amphibians. And not in just any amphibians—in tadpoles, which use both lungs and gills to breathe. Tadpoles use this pattern generator when they breathe with gills. In that circumstance, they want to pump water into their mouth and throat and across the gills, but they do not want the water to enter their lungs. To prevent it from doing so, they close the glottis, the flap that closes off the breathing tube. And to close the glottis, tadpoles have a central pattern generator in their brain stem so that an inspiration is followed immediately by a closing glottis. They can breathe with their gills thanks to an extended form of hiccup.

The parallels between our hiccups and gill breathing in tadpoles are so extensive that many have proposed that the two phenomena are one and the same. Gill breathing in tadpoles can be blocked by carbon dioxide, just like our hiccups. We can also block gill breathing by stretching the wall of the chest, just as we can stop hiccups by inhaling deeply and holding our breath. Perhaps we could even block gill breathing in tadpoles by having them drink a glass of water upside down.

It is adapted from "Your Inner Fish" by Neil Shubin (Pantheon Books, 2008) and is widely quoted on the internet. See web reference in column one.

Sent to Frogcall by Andrew Nelson Your Inner Fish – Hiccups ARCHIVES By PvM on 24 February 08, Neil Shubin, author of "Your Inner Fish" can be heard discussing the fascinating story of evolution. Shubin discusses a variety of strong evidences that support our common ancestry, one in particular caught my eye/ear.

Hiccups… Richard Dawkins' site has an article (reposted form The University of Chicago Magazine which explains the link between hiccups and our 'inner fish'.)

Forwarded to Frogcall by Andrew Nelson

Cane toad, *Bufo marinus* photo David Nelson

CANE TOADS IN OZ

Cane Toads!!

Just hearing those words creates fear and loathing in many Australians. These feral amphibians have become a major invasive threat to Australian biodiversity since their introduction in North Queensland. Reports that these poisonous amphibians have invaded the Northern Territory and are heading for Western Australia fuel this national sense of fear and loathing. Community groups have been mobilized in the attempt to quell this stampede.

CaneToadsInOz.Com invites you to the Northern Territory to see firsthand the research being conducted on *Bufo marinus*. CaneToadsInOz.Com will take you behind the scenes with award winning Australian scientist Professor Rick Shine and members of his research group from the University of Sydney, TEAM BUFO, to see the work they are undertaking to better understand this animal and its impact. Their research is producing startling outcomes.

CaneToadsinOz.com will tell you how these toads live, what effect they have on native species, and most importantly, how science may be able to help us control these troublesome pests.

http://www.canetoadsinoz.com/

About Us

The web page is about Team Bufo - the people who are doing the scientific research on cane toads in the Northern Territory, Queensland and New South Wales. We are **TEAM BUFO**.

Rick Shine is a Professor of Biology at the University of Sydney, and a Federation Fellow of the Australian Research Council. He's also the person who created TEAM BUFO a few years ago, and he still heads the group.

Rick has been passionate about wildlife, especially reptiles and amphibians, since he was a small child in Brisbane. He turned that passion into a career, doing an undergraduate degree in science at the Australian National University (in Canberra), then a Ph.D at the University of New England (in Armidale). Then, after a few years' postdoctoral work in the USA (where he met Terri), they both returned to Sydney in 1978. Rick has been employed at the University of Sydney ever since.

Rick has conducted research all over the world, mostly on the ecology of snakes (which was the subject of his Ph.D). He's published about 600 papers, and received many national and international awards for his research – the "official" university website has all the gory details if you're interested.

Rick Shine's University of Sydney web page

http://www.bio.usyd.edu.au/Shinelab/shine/shine.htm

One place that became more and more important for Rick's research was a small dam on the Adelaide River floodplain about 60 km east of Darwin, in the Northern Territory. Rick initially started working in the Territory in 1981, based at Jabiru in Kakadu National Park, looking at filesnakes, goannas and frillneck lizards. He soon shifted his focus to Fogg Dam, because it had terrific numbers of snakes and some friendly locals at the Coastal Plains Research Station, who helped out with advice and accommodation. Rick started ecological studies on the local pythons, and soon got funding from the Australian Research Council (ARC) to expand the study. He employed Thomas Madsen as a post-doctoral fellow to collaborate on his research. Tom still works on snakes and lizards at Fogg Dam but nowadays is based at the University of Wollongong. More funding from the ARC brought Greg Brown into the system on more snake studies, and the project just kept getting bigger and bigger.

Rick Shine holding a cane toad

Sent to Frogcall by Wendy Grimm

GREENWASH, BOTTLED WATER & COCA COLA

(Remember the comments about the Ourimbah aquifer in the last newsletter? ED)

The Minister for Emergency Services and Water - Nathan Rees – has paid tribute to Coca Cola - a major ALP donor - by presenting them with a 5-star rating for water management at one of their bottling plants. Whilst their bottling ratio makes 1 litre out of every 1.3 litres of water used, the true consumption over the life of the product is closer to 2.4 litres for every litre sold.

The Department of Environment and Climate is discouraging staff from drinking bottled water. About 200ml of oil is used to produce each litre bottle of water. More than 60,000 tonnes of greenhouse gas emissions are created each year when 250 million litres of bottled water are consumed in Australia – equivalent to the emissions from 13,000 cars. Coca Cola are also in the NSW Land and Environment Court trying to gain permanent rights to draw 66ML from the aquifer at Peats Ridge. The proposal is controversial as there is argument about the sustainability of the 66ML allocation.

CANE TOADS

Ian's experiment with taxidermying cane toads for their leather has caught the imagination of radio audiences in Queensland and NSW. After dispatching some toads by cooling them for an hour, then freezing them, Ian had their hides treated, dyed and bound onto a notebook. It's all part of the national debate about what to do with the vermin as they make their way into new territories.

As he said to the Sun Herald: "It's really good quality leather. And the rear legs make great French cuisine. The poison gland is useful for Chinese and Western medicine."

IAN COHEN MLC www.iancohen.org.au
iancohen@parliament.nsw.gov.au

Extract from The Greens E-Brief which contains information about the activities of NSW Greens MPs. It also contains events happening over the next month. If you wish to subscribe or unsubscribe, go to http://www.john.nsw.greens.org.au/ebrief.

Photo Wendy Grimm *Pseudophryne covacevichae* near Millaa Millaa on the Atherton tablelands

FATS AGM at 7PM FRIDAY 1st AUGUST 2008

It is time to consider joining our FATS committee. FATS needs you now! The committee's roles vary and are all are very rewarding. Don't be shy. No experience required! FATS can't continue in its current form without the support of a committee. Feel free to contact any of the current committee members (see page 12) to discuss being nominated and what would be required of you. What about an assistant role? We look forward to your fresh ideas and strategies. **MW**

99.97 per cent of cane toads die before they become adults. ABC News: File photo

CANE TOADS ARE VULNERABLE, SCIENTISTS BELIEVE

Researchers say there is new evidence the cane toad is not as tough as many believe. Professor Ross Alford from Queensland's James Cook University has found that 99 per cent of all cane toads die as spawn or tadpoles. However, he says the number of cane toads across northern Australia continues to increase by 20 per cent each year.

"They certainly are increasing very rapidly, but that actually means that 99.97 per cent of them die before they become adults. "If we could get that 0.03 per cent down to 0.02 per cent, they would actually start decreasing instead of increasing." **Sent to Frogcall by Steve Weir**

http://www.abc.net.au/news/stories/2008/07/10/2299970.htm

Calling Cane toad, *Bufo marinus* **Photo David Nelson**

KU-RING-GAI WILDFLOWER FESTIVAL

How does your garden grow?

FATS will have a stall at the Ku-ring-gai Wildflower Festival, Ku-ring-gai Wildflower Gardens, 420 Mona Vale Road, St Ives on the weekend 30-31st August, 10 am to 4 pm. There will be dip-netting and frog and tadpole talks and many other eco displays as well as native plant displays and sales. It is a great venue with extensive grounds to explore and entrance is free. Marion Anstis, Punia Jeffery and Wendy Grimm will be manning the FATS stall. This year's festival theme encourages sustainable gardening behaviours, planting native species and conserving local fauna. **WG**

Photos taken by Phillip Grimm – Centennial Park

FATS FROGMOBILE LAST DAY 12-7-2008

I would like to offer my sincere appreciation to Lothar Voigt (and his family), who have put many years and incredible personal commitment into the building and running of the Frogmobile. I can think of no-one in the community who has dedicated as much of themselves, their expertise and perseverance. Lothar's dedication to amphibians and the Frogmobile has given so many people so much fun and understanding.

Lothar, you are one of a kind! MW

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INSURANCE DISCLAIMER FATS has public liability insurance for its various public functions. 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.

FATS MEETINGS commence at about 7.00pm and end about 10.00pm, on the first Friday of every EVEN month (February, April, June, August, October and December), at Building 22, RANAD, off Jamieson St, Sydney Olympic Park, Homebush Bay (accessible by car, train or bus). We hold 6 informative, informal, topical and practical meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, other field studies, produce the newsletter FROGCALL & FROGFACTS information sheets. All expressions of opinion and information 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. Material from FROGCALL MAY NOT BE REPRODUCED without the prior consent of the Editor or President of FATS. Permission from FATS and/or author/s must be obtained prior to any commercial use of material. The author/s and source must be fully acknowledged.

Thank you to the many FrogCall contributors (including regulars such as Lothar Voigt, Steve Weir, Robert Wall, Karen & Arthur White, Wendy Grimm, Matthew Kemplay-Hill, Brad & Matt McCaffery, Grant Webster, Marion Anstis, Punia Jeffery, Fiorella, Andrew & David Nelson and Al MacDougall) for forwarded articles, mailed media clippings, webpage uploads, membership administration, mail-out inserts & envelope preparation.

♥♥

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 <u>YOUR</u> responsibility to re-confirm, in the final days, whether the field-trip is proceeding or has been cancelled. Phone Robert on ph. 9681-5308.**

September 5-7. Smiths Lake Camp-Out. Leaders : Arthur & Karen White.

Habitat loss is not necessarily accompanied by large-scale clearing or obvious changes to the landscape. Collecting firewood, removing fallen logs or interfering with bushrock can wreak havoc on many animal species. It can have the effect of targeting species that rely on these resources, directly or indirectly, for their survival. In the modern urban environment, the removal of old car-bodies from the bush further reduces already critically low stocks of ground habitat. This weekend, we will look at some of the frog, reptile & mammal species that depend on a variety of groundcover resources for their food, shelter, reproduction, social structure & travel movements. Karen & Arthur figure prominently in many of the scientific/ natural history organisations of NSW. They are at the forefront of scientific research in Australia. The geology & biodiversity of the Smiths Lake area is a specialty in their broad-ranging portfolio. 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.

October 18. 6-30p.m. Murphys Glen, Woodford. Leader : Peter Spradbrow.

Follow the Gt. Western Highway to Woodford. The turn-off to the station is sign-posted. Meet in the carpark (Railway Pde) on the southern side of Woodford Railway Station. Frogs & reptiles make up nearly half of our terrestrial vertebrate fauna. Tonight we will take a broader look at the herpetological world. We will look at the ways that frogs & reptiles together form part of an ecological community & how their lives & lifestyles are interconnected. We will also spend some time appreciating both the high elevations & rough dissected sandstone country of the Blue Mountains & how the cooler & wetter environments affect herpetological lifestyles. Peter has had a lifelong passion for all reptiles & has earned a reputation for his pursuit of excellence in herpetology. He has helped raise the profile of herpetology as a credible scientific discipline & has worked tirelessly to improve protocols in fieldwork & reptile handling.

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.

GOODBYE FROGMOBILE Photo by Phillip Grimm

<u>Three donated glass tanks for sale. All offers considered. Pick up from Ashfield.</u>

38cm high x 62cm long x 31cm deep (15 x 24 x 12 inches) water tight lids may be incomplete
48cm high x 90 cm long x 36cm deep (18 x 36 x 14 inches) water tight lids may be incomplete
48cm high x 90 cm long x 36cm deep (18 x 36 x 14 inches) not water tight (very slow leak somewhere) lids may be incomplete
MAKE AN OFFER THEY NEED TO GO !