

FROG CALL



THE FROG AND TADPOLE STUDY GROUP NSW Inc.
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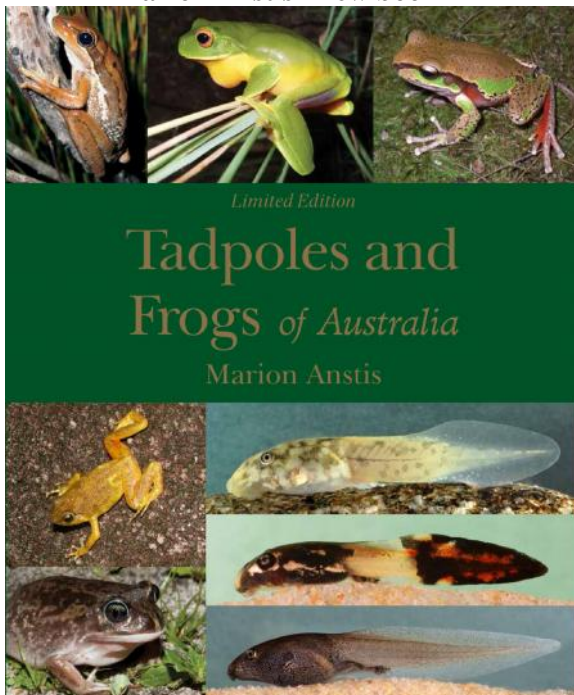
Frogwatch Helpline 0419 249 728

Website: www.fats.org.au

ABN: 34 282 154 794

NEWSLETTER No. 127 October 2013

Marion Anstis' new book



Arrive 6.30 pm for a 7pm start.

Friday 4th October

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

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

By car: Enter from Australia Ave at the

Bicentennial Park main entrance,

turn off to the right and drive

through the park. It is a one way road.

Or enter from Bennelong Road / Parkway.

It is a short stretch of two way road.

Park in p10f car park, the last car park

before the exit gate.

MEETING FORMAT Friday 4th October 2013

6.30 pm There are a few lost frogs needing forever homes with financial FATS members. Please bring your FATS membership card and cash \$40 - \$50 donation. Your NSW NPWS amphibian licence must be sighted on the night. Rescued frogs can never be released. Sorry we have no EFTPOS at meetings. Please call Monica or Lothar before the meeting to confirm your interest in adopting.

7.00pm Welcome and announcements.

7.45 pm Main speaker: Ken Griffiths talking about "A Naturalist's Rambles through Central Australia and the USA".

The winners of the Frog-O-Graphic competition will be announced. The Peoples' Choice winner will be chosen by those at the meeting. Grant Webster may (if time allows) do a short presentation about the Schyeville Field trip.

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.

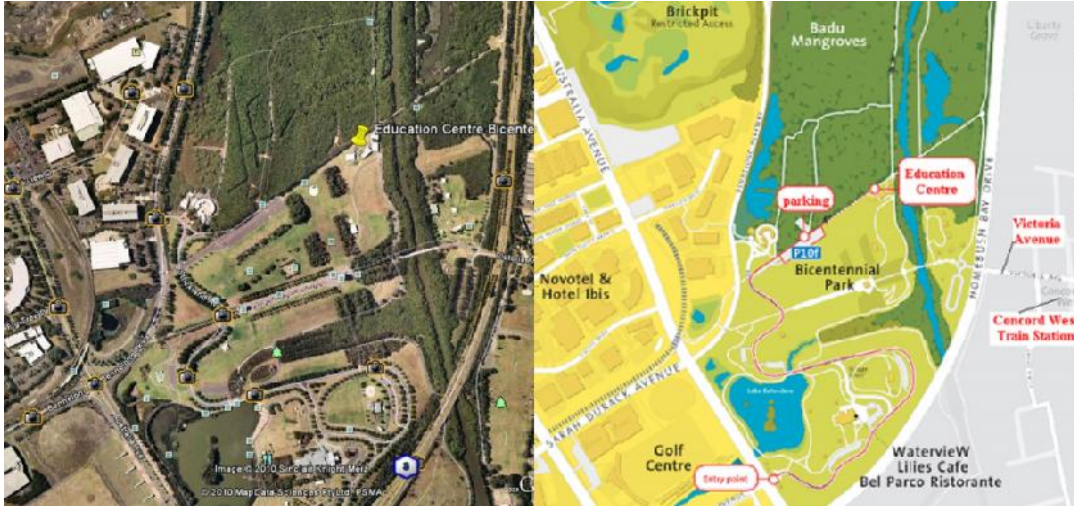
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LAST FATS MEETING 2 AUGUST 2013

Punia's welcome to newcomers and FATS members was followed by the AGM with President's report, Treasurer's report and election of officers. The main talk provided sound advice from Karen Russell and Marie Callins on the basics of frog keeping. See page 3. From an Australian focus, the talk moved to highlights of Marion Anstis's visit to Madagascar and her superb photos of people, plants, scenery, lemurs and of course frogs. Arthur wound up the formal part of the evening with "What lives in deep dark Caves" about the presence on bats and cane toads in some of the caves of northern Qld around Riversleigh and Camooweal. Thank you to all of the speakers for such a varied program. **Wendy Grimm**



How to get to our FATS meeting :

<http://www.sydneyolympicpark.com.au/maps/getting-to-the-park?type=venue&id=384059>

THE AUSTRALIAN REPTILE DIRECTORY

BREEDERS

Albino Designer Carpets
A.M. Pythons
Aussie Exotic Pets
Aussie Reptiles
Australian Morelias
Bazzas Reptiles
BlueTongueLizard
BFR Reptiles
Bretix Reptiles
Carpetpythons inc
Charman Reptiles
Chondro Addiction
Classic Pythons
Craig & Gabrielle's Turtles
Creatures of Habit
Designer Serpents
Dicky Reptiles
Denpythons
Extreme Reptiles
Gavn Bedford Pythons
Gecko Dan
Gippsland Reptiles
Gold Coast Monitors
Hawkesbury Reptiles
Hunter Valley Pythons
Jake The Snake
Kalrissan Bearded Dragons
Kalang Reptiles
Keen For Critters
Kel & Julie Worley
Klassic Reptiles
Leigh's Reptiles - Elapids
Mark & Pia's Reptiles
Michael Frith Turtles
Morelia Magic
Ozzyreptiles
Paramount Pythons
Pedigree Python Morphs
Pilbara Pythons
Pimms Pythons
Premier Pythons
Pure Reptiles
Red Earth Reptiles
Reedy's Reptiles
Reptile Territory
Reptiles by Request
Rogers Reptiles
SA Quality Reptiles
Shire Reptiles
S&M Morelia
Snake Farmer
Simno's Reptiles
Snakelady's Reptiles
Sonnemane Snakes
Southern Cross Reptiles
T's BHP's
The Green Effect
The Green Scorpion
The Slithering Effect
Totally Reptiles
Turtletown
TurtlesRus

FORUMS

Adelaide Reptile Forum
Aussie Pythons & Snakes
Aust. Reptile Forum
Australian Invertebrate Forum
Australian Freshwater Turtles
Australian Gecko Forum
Bearded Dragon Forum
Morelia forum
Reptica Downunda
Trueblue Reptile Forum

REPTILE FOOD

Crittersnax
DOAroderts
Dolittle Farm
Frozen Lizard Food
Kevins Rodents
Livfoods Unlimited
New Zealand Biosuppliers
Repeat Industries
Rodent Farm

PRODUCTS

ABDF Reptile Supplies
Brookfield Reptile Incubators
Custom Reptile Enclosures
F10 Veterinary Products
Kittyscrumble
Reptile Insecticide
Reptile Tanks Australia
Precision Reptile Gear
Pro Herp Reptile Products
PVC Reptile Cages Australia
ReptileOne
Scaley Supplies Online
Snake Whisperer Enclosures
Stein Enclosures
Vetafarm
Virides Enclosure Enhancements

VETS

David Valla Sydney
Karingal Centre Vet
Lee Peacock
Michelle Bngley - Sydney
Peter Barratt Cairne

EXPOS

Castle Hill Reptile Expo

BOOKSELLERS

Andrew Isles
Herp Books
Reptile Publications
Scales and Tails Magazine

RETAILERS

ABDF Reptile Supplies
Amazing Amazon
Aussie Reptiles
Brisbane Pets Superstore
Bcronia Aquarium Victoria
Crystal Pet and Wire Centre
Diamond Reptile Supplies
Everything Reptile
Extreme Pets
Extreme Reptile Supplies
Finepets
Herp Trader
Hiss n Bits Reptile Supplies
Kellyville Pets
Living Jungle Animal Kingdom
Mentone Reptiles
Outdoor Reptile Enclosures
Pails for Scales
Pet Care 2000 Warehouse
Pet Supersavers
Reptapets Australia
Reptile City
Reptile Direct Australia
Reptiles Inc
Reptile Factory
Reptile Gully Reptile Centre
Snake Ranch
Stein Enclosures
St Marys Pet Centre
The Reptile Shop
Ultimate Reptile Supplies
Upmarket Pets
Warrawong Produce - Reptile Supplies

REPTILE CARE VIDEOS

Adrian's Reptile World

CLASSIFIEDS

Australian Reptile Classifieds

COURSES and DISPLAYS

Camosreptiles
Snakehancler
Animalwise Reptile Courses
Educational Reptile Displays
Reptiles Rule
Cool Companions
Crocodiles and Dragons
Roaming Reptiles

CLUBS

NSW

Australian Herpetological Society
Hawkesbury Herpetological Society
Illawarra Reptile Society
Macarthur Herpetological Society
North Coast Herpetologica Society
New England Herpetological Society
NSW Frog and Tadpole Group
Riverina Frog and Reptile Group
Society Of Frogs and Reptiles (SOFAR)

QLD

Atherton Tablelands Frog Club
North Queensland Herpetological Society
Queensland Frog Society
The Herpetological Society of Queensland

VIC

Victorian Frog Group
Victorian Herpetological Society

ACT

ACT Herpetological Association
Austrian Society of Herpetologists
Monaro Reptile and Amphibian Club

SA

South Australian Herpetology Group

WA

Western Australia Herpetological Society

PARKS

Alice Spring Desert Park
Alice Springs Reptile Centre
Armada Reptile Centre
Australian Reptile Park
Crocosaurus Cove
Naturalists Reptile Park
Snakes Downunder Reptile Park
Territory Wildlife Park

ONLINE LICENSING BY STATE

New South Wales
Queensland



Litoria chloris
Red-eyed Tree Frog
Photo by Jake Janos



Litoria aurea Green and Golden Bell Frog above and below
Photos Ben Brown



<http://www.reptiles.com.au/index%201.htm>

MARION ANSTIS' BOOK
TADPOLES AND FROGS OF AUSTRALIA
PUBLISHED BY NEW HOLLAND

**BRIEF POINTS ABOUT
KAREN AND MARIE'S TALK**

is expected to be posted out to those who have ordered it, in late November 2013. The book will be officially launched at Taronga Zoo on 3 December.
Some copies may be on sale at the FATS meeting on 6 December. Orders for the regular edition only can be placed online through New Holland and other booksellers.

KEEP IT SIMPLE. This is the only way. We have experimented over the years & found that this works best for us. We keep and have bred: Greens, Red Eyes, Magnificents, Green & Golden, Dainties and L. fallax.

Decide on species to work out tank size and if heating required. Their talk was geared to Green Tree Frogs. Ideal tank size 60cm H x 60 cm W x 45 cm D. Substrate – Astro Turf best. Coco peat can irritate the frogs and it is harder to find uneaten crickets. Sphagnum moss is easily ingested.

Shelving magnetic shelves. No living plants – reduces risk of Chytrid fungus. Lighting UVBS – turn on for daylight hours using timer.

Calcium – only D3 once a week (3 times when frogs are young). Deep water bowls – without space underneath. Temp 25-26°C heat mat/cord in winter.

Be aware frogs shed their skin. Clean tank with paper towel & water/chux. No chemicals like fly spray near frogs or on hands. Big clean – use betadine. If bleach is used then remove all traces. Heat items to disinfect in oven or black plastic bag.

Worming – Panacur. Food size – judge distance between eyes. Feed crickets, woodies, moths, flies. Don't feed too many pinkies – fatty liver – too much protein - like eating jelly beans. Always have clean water – age in sun or air to get rid of chlorine. Don't let wild frogs get into water while outside. Keep like-sized frogs together.



Limited Edition

Tadpoles and Frogs of Australia

Marion Anstis



**THE SYDNEY OLYMPIC PARKLAND AUTHORITY
FROG AUDITORY SURVEY**

Volunteers are needed for the Sydney Olympic Parkland Authority Frog Auditory survey, listening for Green and Golden Bell Frogs. The surveys will be in late November/early December. Volunteers can register at the October FATS meeting to be contacted when final details are known. Alternately send your contact details, name, phone & email to surveys@fats.org.au **Phillip Grimm**

FATS MEMBERSHIP CAN BE PAID BY direct bank transfer BSB 082 342 account name Frog and Tadpole Study Group account 285766885 You need to ID yourself by name if there is an option and if possible membership number or email Karen White 1arthur@tpg.com.au to say you have just done it.



TURNING TURTLE TO FIND NEW SPECIES

Turtle man Palaeontologist Dr Arthur White looks for turtles in Louie Creek. This creek is home to many species not found anywhere else in Australia. Boodjamulla National Park, North West Queensland.

"Come on, take off your clothes and get in." Scientist Arthur White is neck-deep in a murky creek about 200 kilometres north of Mount Isa, making me an offer I'd rather refuse. The hot spring-fed creek is covered in a thick film of algae and is a likely home for a few crocodiles - a hazard that doesn't seem to bother Dr White. "Don't worry, they'll only be freshies," he says.

By the time I lower myself into the silty water, he has disappeared below the surface in search of a less fearsome reptile, the endangered gulf snapping turtle.



Research: Arthur White in Louie Creek.
Photo: Tony Walters Photo: Tony Walters

In the 1980s, Dr White was the first person to describe the species, but his study came from a specimen that had been buried for millions of years in the nearby Riversleigh World Heritage fossil site.

A decade later, scientists were surprised to learn the species was not extinct when a university student captured a live gulf snapping turtle in a nearby creek. The experience struck Dr White as an embarrassing reflection of how little we know about our wildlife. "We were in this silly situation where we knew the fossil fauna better than the modern animal fauna," he says. "We'd described the gulf snapping turtle from a fossil at Riversleigh, but it was here swimming around the whole bloody time."

This prompted Dr White to start an annual fauna survey. For two decades, the scientist and a team of volunteers

travelled to Boodjamulla (Lawn Hill) National Park to catalogue the wildlife, spending up to six weeks a year surveying the animals. The team have collected many species unknown to science, including reptiles, amphibians, insects and a variety of rock wallaby.

As part of the survey, the team started trapping turtles. Which brings us to the warm waters of Louie Creek. There's a splash as Dr White dives below the surface. A minute later he's holding a Worrell's turtle, but he releases it when another animal gets his attention. "There's a two-to-three metre croc under the bank over there," he says, pointing a few metres ahead of where we are treading water.

I take a breath and put my head below the surface. As my eyes adjust, I see the crocodile's long, narrow snout. It doesn't move. We watch it for a few more minutes. Then it's time to go. "Shall we swim back now?" Dr White asks. I'd rather walk, I say.

<http://www.smh.com.au/environment/conservation/turning-turtle-to-find-new-species-20130824-2sie6.html#ixzz2gCgWrCJD> 25 August 2013

<http://www.smh.com.au/environment/conservation/turning-turtle-to-find-new-species-20130824-2sie6.html>
Nicky Phillips Passed on to FATS by Lothar Voigt.

BLEEDING FROM THE MOUTH

Seeing blood dripping or gushing from the mouth of any animal is distressing to observe, and often distressing (and sometimes fatal) for the animal. Frogs, like other animals, can develop this symptom and it is more common than we would wish.

There are many different causes of bleeding from the mouth and the following discussion provides a basic outline of some of these causes.

Things to consider in a frog bleeding from the mouth:

- Identifying the source of bleeding is critical to diagnosis. It may be that the bleeding is coming from the lip, inside the mouth, or alternatively from the oesophagus (food pipe), stomach or upper intestines. Different diseases and problems occur in different body parts.
- Identifying the cause is vital for treatment but sometimes difficult to ascertain at first glance. Causes include:
 - o **Trauma**
 - Sharp objects such as pins, needles, plant thorns, wire pieces, metal filings or glass filings/shards can cause ulcers or punctures in the mouth, oesophagus, stomach and intestines.

- Large, heavy or hard objects such as stones, or simply a massive overload of food (unlikely unless the food has been forced by hand) can cause a tear or pressure necrosis (death and breakdown of tissue) in the oesophagus or stomach.

Removal of the offending object and repair of the puncture may require surgery. Radiographs (X-rays) and ultrasounds may be required to locate the problem.

○ **Infection**

- Can be bacterial, viral, fungal or some parasites. These can cause ulcers in the mouth, oesophagus, stomach or intestines. There are more infections than names and some common tank water and commensal organisms erroneously get the blame!
- Infections can be systemic travelling in the bloodstream (septicaemia a.k.a. blood poisoning) and involving multiple organs or simply be at the site of the bleeding.
- Infections can arise from within the tank environment (old or unclean water, faeces, rotting plants or wood, contaminated or old natural substrates), from contaminated food, people, or from new frogs added. There can be more than one infection involved and so more than one medication may be necessary and the source of the infection needs to be removed. Samples including tank water, skin/mouth smears, blood and faeces may be needed to diagnose an infection correctly. Occasionally a biopsy (a sample of tissue taken to be prepared and stained for microscopic examination) is required.

○ **Organ dysfunction or failure**

- Liver failure has many causes including inappropriate diet and nutrition, toxins (including natural toxins from bacteria and fungus, as well as man-made toxins), infections, or cancer. The liver is vital in producing clotting agents. So tiny, otherwise harmless, gastrointestinal ulcers can bleed excessively.
- Kidney failure also has many causes including inappropriate diet and nutrition, toxins, infections, degeneration (eg old age), cancer, or severe dehydration. Kidney failure can sometimes result in ulcers in the mouth and oesophagus. Anaemia (low numbers of red blood cells) is also seen in chronic kidney problems and makes any bleeding even more dangerous. These animals often (but not always) need to stay in hospital to receive medications to improve clotting as well as injectable fluids and other medications to

support organ function. Unfortunately some cases are fatal despite treatments. Blood tests and/or biopsies of kidneys and liver may be required to locate the problem. Some medications including home remedies can worsen organ function so treatments need to be considered carefully in these cases.

○ **Cancer**

- Cancer can occur in frogs like any other animal. Sometimes there are minimal or no other symptoms before the bleeding, although sometimes some weight loss +/- fussiness with food is noticed. Cancers can be genetic, secondary to trauma or infectious (viral). Surgery to remove the cancer or to take a biopsy may be the only way to stop the bleeding and to correctly diagnose a cancer – some infections look like cancers. Not all cancers can be safely removed and it depends on the type, how big it is, and where it is located.

Bleeding can be more complicated than at first it seems and this is why early and correct diagnosis of the cause of the bleeding is vital to knowing whether and how it can be treated. Correct diagnosis of the bleeding frog may also help prevent (or at least predict) similar problems occurring in any other frogs at home.

Veterinarians familiar with frog and amphibian diseases are able to take the necessary samples and carry out the appropriate tests either at the clinic or with the assistance of a laboratory. There are multiple veterinary laboratories in Australia (government, university and private labs) and more than one lab may be used for a single case according to the available tests at each lab. If the worst should happen, and your frog passes away before a diagnosis is made, it may be worth considering allowing samples to be taken from the body – this may be the only way to determine the cause of bleeding and whether your other frogs at home are at risk. Only very recently deceased frogs kept cool (NOT frozen) can be used for sampling due to a rapid rate of decomposition which can sometimes result in loss of microscopic detail within half an hour.

I hope this discussion lends an understanding that bleeding from the mouth in a frog is NOT normal and in most cases requires a trip to a veterinarian familiar with amphibian diseases ASAP – remember for every drop of blood you see coming out of the mouth, there may be many more being swallowed and not seen and your frog can lose too much blood in a very short period of time.

by **Lee Peacock BSc(vet) BVSc(hons) MANZCVSc (Avian Health) lee_peachick@yahoo.com.au**

MARION ANSTIS TALKS TO WOLLI CREEK PRESERVATION SOCIETY

On a fairly chilly night on 1 August Marion Anstis drove all the way to Earlwood in inner south-west Sydney to present a most interesting and informative talk, with slides of frogs, their tadpoles and eggs and recordings of their mating calls to members of the Wolli Creek Preservation Society (WCPS). Her extensive knowledge and obvious passion were very much appreciated by all of us.

The Wolli Creek Valley is a 50 hectare bushland gem in a densely populated area close to the city, loved by local and the many visitors from near and far, though lots of people living in Sydney have not heard about it. It's the only significant area of remnant native bushland in inner south-west Sydney. The Valley contains a surprising range of habitats and diversity of plant and animal life, in particular an amazing variety of birds and even a sizeable camp of Grey-headed Flying foxes. To date there has not been a detailed study to find out what frogs still exist in the Valley. A 5 km bush track traverses the Valley from the tall forest at Bexley North through sandstone escarpments to the mangroves and wetlands at Tempe, where it links up with the walking trails along Cooks River to form the Two Valley Trail. Detailed information can be found on our website at www.wollicreek.org.au. You can also follow us on Facebook to keep up with what's going on, and on Twitter @wollipossum.

The Valley has been described as a 'battlefield' due to long-time and on-going action to save its bushland. Had the NSW government's early plans for the M5 motorway to be built as an eight-lane surface road through the valley been successful, the bushland would have been totally destroyed. Fortunately, WCPS members and residents fought long and hard, and eventually the M5 was constructed in a tunnel and the Valley saved. In 1998 the NSW government declared it would become a Regional Park. The process of handing over the area to National Parks and Wildlife is still in progress. In the meantime WCPS continues its endeavours to improve the Valley and encourage its use for educational and recreational activities. WCPS volunteers conduct bushcare on six different sites, leading walks and kayak trips and generally spreading the word about the Valley.

In spite of past success the Valley remains vulnerable to inappropriate developments. Of particular interest at this stage is a renewed threat from motorway construction that will wipe out two hectares of significant bushland with mature trees at the western gateway at Bexley North, if it proceeds. Proposals for the duplication of the M5East tunnel involve the tunnel portal construction using a 'cut and cover' technique that would destroy the bushland beyond redemption. This is part of the hugely expensive WestConnex project, which we are fighting as part of NoW Public Transport, an alliance of many community and environmental organisations, advocating more investment in public transport instead. Our website has more information about this issue, also a link to an online petition against WestConnex at <http://westconnex.info>. The attached photos are from our celebration of National Tree Day on 28 July where we celebrated the trees we fear may be lost, with a number of activities that included sketching, a jazz band and a cellist, amongst the trees. **Ute Foster fosteru44@gmail.com Wolli Creek Preservation Society**



28 July National Tree Day Deb Little, Vice President of WCPS



Cellist Jenny Templin

LET'S TALK ABOUT

OUR DISAPPEARING FROGS & TADPOLES

Tuesday 20 August
11am - 12pm

Join Marion Anstis, frog expert and author, to hear about the worldwide decline of frogs, and why some species are okay while others may be hopping back!

DURAL LIBRARY

FREE | BOOKINGS ESSENTIAL online from Monday 22 July



Marion Anstis Spoke at Dural Library about our disappearing frogs.



Litoria ewingii in Donna's lettuce, a Whistling (or Brown) Tree Frog.

THE HILLS
Sydney's Green State

VISIT www.thehills.nsw.gov.au/library

Elaine Davies is a reluctant and unusual eco warrior. But to the City of Sydney she is the very model of a modern eco hero.

The Davies family's above-ground backyard pool in suburban Rosebery has been the difference between life and death for the threatened green and golden bell frog, according to a flora and fauna survey by the council.

"We didn't even realise what they were," Mrs Davies said. The frogs took up residence 30 years ago in the pool that her husband had refused to dismantle despite her nagging.

"We were sitting out the back and suddenly we realised that we were

being observed by frogs, these very pretty green and gold frogs," said Mrs Davies, who is in her late 70s.

The city has identified 63 native birds, eight mammals, 11 reptiles and five frog species plus many plants and trees, many of which were thought to have died out altogether in the inner-city area alone.

As well as the green and golden bell frog, other threatened species living between the high-rises and the highways included the powerful owl, the grey-headed flying fox, and the long-nosed bandicoot. Some venomous red-bellied black snakes were found near the Glebe light rail stop.

"To find we have naturally occurring native plants and animals in

such a disturbed environment is pretty incredible," said Joel Johnson, the manager of parks, trees and aquatic facilities with City of Sydney.

"And the numbers we found were incredible," he said.

"There are 365 native plant species, and 87 native animals."

The city has allocated \$14 million over five years to its Urban Ecology Strategic Action Plan to expand these animals' habitats and restore areas where indigenous plant species were found. That would include workshops on how to create natural habitats, and offer matching grants for community groups, neighbours and schools that provided the labour. It would also include a website

where the public could record sightings, and upload photos.

Mr Johnson cited Sydney Park in St Peters as an example of what could be done. "It was once a landfill, and now it is a fabulous wetland system with freshwater wading birds that visit every year, and resident birds."

Lord mayor Clover Moore said every citizen had a role to play in protecting this "amazing wildlife, before it's gone forever".

While most people focused on animal sightings, the city discovered many species of plants in the area such as saltbush and mangroves in Rozelle Bay that were thought to have disappeared.

In Glebe, volunteers had restored the population of the endangered Superb fairy-wren by planting mixed height shrubs, including prickly and thorny plants, that protect them from larger predators.

Mrs Davies said she did little to preserve the frogs.

"They came of their own volition, they'll probably go on their own volition, too," she said.

She was saddened to see that frog numbers were down, and her pond had started attracting marsh frogs.

While the green and golden bell frogs had a beautiful call, the marsh frog sounded like a metronome. "It is not a call, it is just a sound," she said dismissively.

Forwarded to FATS by Phillip Grimm Sun Herald 11th August 2013 Page 14

BELOW Ku-ring-gai Wildflower and Garden Festival 25/8 Guided bushwalks, dip netting, experienced rangers, expert talks / Celebrity Gardener, children's entertainment and activities, live music, native plant sales, wildflower displays, environmental educational displays and demonstrations, a range of stalls relating to the environment, gardening, the outdoors and family and food stalls and more. Many thanks to Kathy & David Potter, Marion Anstis, Wendy & Phillip Grimm, Andre Rank and all who were there representing FATS.

... as suburban pool shelters precious frogs



All photos are from Andre Rank St. Ives Wildflower Festival





LEADING THE WORLD IN FROG RESEARCH

In a quiet corridor on the bottom floor of the Biology building at the University's Callaghan campus, a team of frog researchers is leading the world on research into amphibian protection.

The Faculty of Science and IT's Amphibian Research Group, led by Professor Michael Mahony, has worked with colleagues in Sydney, Melbourne and Adelaide to revive and reactivate the genome of the extinct Australian frog *Rheobatrachus silus*.

The bizarre gastric-brooding frog, – which uniquely swallowed its eggs, brooded its young in its stomach and gave birth through its mouth – became extinct in 1983. But the 'Lazarus Project' team has been able to recover cell nuclei from tissues collected in the 1970s and kept for 40 years in a conventional deep freezer. The 'de-extinction' project aims to bring the frog back to life.

In repeated experiments over five years, the researchers used a lab technique known as somatic cell nuclear transfer. They took fresh donor eggs from the distantly related great barred frog, *Mixophyes fasciolatus*, inactivated the egg nuclei and replaced them with dead nuclei from the extinct frog. Some of the eggs spontaneously began to divide and grow to early embryo stage – a tiny ball of many living cells.

Although none of the embryos survived beyond a few days, genetic tests confirmed that the dividing cells contained the genetic material from the extinct frog.

The work is just one of many projects underway by the group. The team has also successfully developed a method to freeze frog embryonic cells in a world-first breakthrough that could slow the threat of extinction to hundreds of frog species.

The researchers have separated, isolated and frozen the embryonic cells of an Australian Ground Frog (the Striped Marsh Frog, *Limnodynastes peronii*), using cryopreservation techniques that will now allow for cloning.

"Almost 200 frog species have been lost in the past 30 years due to disease and a further 200 species face imminent threat – this is the worst rate of extinction of any vertebrate group," Michael said.

"The new technique will act as an insurance policy to buy us time for species on the edge of extinction, as we search for answers to diseases and other threats."

The group also recently released the last of approximately 5,000 tadpoles into a newly constructed research habitat on Ash Island in Newcastle, created to protect the Green and Golden Bell Frog. The habitat is part of a three-year collaboration with the Newcastle Coal Infrastructure Group (NCIG).

"We have 16 ponds and wetland vegetation that will provide us with an understanding of the frog's preferred environment and pond variables," Michael said.

"We're able to monitor the development of the species and help to minimise possible threats to population including changes in habitat, introduced predators, diseases and pollution."

Once the monitoring program is complete, the fence will be removed and the habitat will become part of the natural landscape to enable the frogs to interact with nearby Green and Golden Bell Frog populations.



The Striped Marsh Frog (*Limnodynastes peronii*)

The Seahorse edition 1 2013 p29 www.newcastle.edu.au forwarded for Frogcall by Wendy & Phillip Grimm



Read full story P56 in PETS Oct/Nov 2013 magazine. Thanks to Carrol Baker for a great write up on FATS and frogs.
www.facebook.com/petsmagazine MW



FATS often have Haighs chocolate frogs as prizes at our meetings.

CROAKUS INTERRUPTUS

During frogs' hectic mass breedings, females often die. But one species appears to have found a work-around: males harvest and fertilize their partners' eggs after her death.



DEAD STILL: A male *Rhinella proboscidea* frog (top) attempts to squeeze mature oocytes from a dead female.
COURTESY OF DOMINGOS RODRIGUES

For many frog species, mating is a risky proposition. Males and females gather in veritable orgies that may last days or mere hours. Male frogs can become so desperate to find a mate that a group of writhing males will crush or drown the objects of their desire. But at least one species of Amazonian frog can apparently still produce offspring even if one partner dies in the process. Researchers have observed male *Rhinella proboscidea* frogs extracting and fertilizing their dead partners' eggs.

The finding was a surprise, says Henrique Caldeira Costa, a herpetologist at Federal University of Viçosa in Brazil. Other researchers have seen males of various species, from squirrels to penguins, attempting to mate with dead partners, but none "showed a situation where the necrophilia can bring a fitness gain." Costa and colleagues published a report of a lizard engaging in the phenomenon in *Herpetology Notes* in 2010.



MATING MELEE: The bodies of dead female frogs (bottom) litter the forest floor after a mass-breeding event.
COURTESY OF DOMINGOS RODRIGUES

The drawback is that females often die in the mating melee, apparently losing their chances to reproduce. But if a species is reproductively successful, a few dead females won't tip the evolutionary balance against explosive breeding, explains ecologist William Magnusson of the National Institute of Amazonian Research (INPA) in Brazil, who coauthored the paper

announcing the frog behaviour (*Journal of Natural History*, 46:2961-67, 2012).

The notion that dead females could still successfully reproduce first occurred to Thiago Izzo and Domingos Rodrigues in 2001, during field work in Brazil under the auspices of the Program for Planned Biodiversity and Ecosystem Research (PPBio), an initiative aimed at surveying biodiversity worldwide. The researchers stumbled onto a group of reddish-brown *R. Proboscidea* frogs in the process of mating. From a "mating ball" of about 100 males, the scientists pulled 20 dead females. Four years later, they came upon another explosive mating event and collected 5 dead females from a mating ball of 50 males. The researchers dissected the dead females to look for eggs—and found none, suggesting the males had successfully extracted all the oocytes from their unresponsive partners.

But the *R. Proboscidea* frogs were doing something unusual. As a male clasped his dead female, the scientists saw him squeezing rhythmically, coaxing a string of sticky eggs from her body. But had the males wasted their time?

Stored in water-filled plastic bags, the eggs from several of these one-sided pairings began to develop—confirming that the males' strategy was successful. But these observations can't be definitively cited as evidence of a "functional necrophilic strategy" just yet, cautions Diego Gómez-Hoyos of the Wildlife Conservation Society.

It's likely that male *R. Proboscidea* frogs are probably just doing what frogs do—and still reaping the benefit, says Magnusson. The stroking motion is "frog foreplay" and normally stimulates egg release, which apparently works even when a mate no longer responds. Szatecsny and his colleagues noted that a common toad female easily releases eggs immediately upon becoming aware of more than one male clasping her—possibly to end the encounter before too many more males arrive. So the ability of *R. Proboscidea* females to release eggs after death might be the consequence of easy egg release designed to help females survive the attentions of too many males.

Izzo and Rodrigues speculate that the "functional necrophilia" they observed helps maximize every frog's mating investment. Magnusson considers it very likely that other frogs engage in similar postmortem reproduction—but acknowledges it will be hard to spot. Many frog species congregate in temporary pools to mate, so most researchers come across them only by happenstance. "We published the paper so that people who [encounter explosive breeding] by chance will think about checking."

**Extracts <http://www.the-scientist.com/?articles.view/articleNo/35675/title/Croakus-Interruptus/> The Scientist 14 6 2013
By Sabrina Richards June 1, 2013**



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HERPDIGEST

BATS AND SNAKES ARE THE LATEST VICTIMS OF MASS KILLERS IN THE WILD (KILLER FUNGI)

Jeremy Coleman was on the trail of a ruthless serial killer, recently studying its behaviour, patterns and moves at a Massachusetts lab. The more he saw, the more it confirmed a hunch. He had seen it all before. He was looking at a copycat. The mass killer of bats under Coleman's microscope, *Pseudogymnoascus destructans*, has a lot in common with *Chytridiomycosis*, a mass killer of frogs and other amphibians. The culprits resemble a third killer, *Ophidiomyces*, which kills and disfigures snakes.

They are fungi, and they arrived in the United States from overseas with an assist from humans — through travel and trade. They prefer cold conditions and kill with precision, so efficiently that they're creating a crisis in the wild. The death toll among amphibians, bats and snakes from fungi represents "potential extinction events," said Coleman, a U.S. Fish and Wildlife research biologist who coordinates the government's response to the bat-killing infection known as white-nose syndrome. It's so large, he said, that it can't be measured "as far as numbers of dead organisms" and is "decimating populations as we know them."

Together with a little-understood disease that is destroying honeybees, the mass die-offs are a huge concern. "We anticipate there will be direct impacts with the loss of so many animals on a massive scale," Coleman said. Honeybees pollinate crops, and bats eat billions of pests that ruin them. Frogs and other amphibians help researchers find medical cures, and snakes eat tick-infested rodents that spread Lyme disease. But with little public and private funding scientists are almost powerless to stop the plague.

The pathogens wiping out 10 species of bats, including 93 percent of little brown bats in the Northeast, and at least six snake species in nine states, such as the pygmy rattlesnake and common rat snake, may have been around for decades. But they have been mostly overlooked until

recently, because "they're affecting wildlife that do not have a direct agricultural or human health impact" — unlike swine flu — "so they fall outside the traditional model of disease response," Coleman said.

As the threat grows, federal and state officials are beginning to coordinate teams of scientists trying to stop it. In addition to working on the response to white-nose syndrome, Coleman is leading the effort to arrest the progress of the fungus affecting snakes. Fish and Wildlife was directed by Congress to pursue white nose and other fungi, but was not provided with funding for staff. **Extracts Washington Post, by Darryl Fears, 9/15/13 Herpdigest Volume # 13 Issue # 42 9/17/13**

THREE NEW SPECIES OF TINY FROGS FROM THE REMARKABLE REGION OF PAPUA NEW GUINEA

Three new species of tiny frogs from Papua New Guinea are described in the latest issue of *Zookeys*. Dr Fred Kraus, University of Michigan, who in 2011 in *Zookeys* described the world's smallest frogs *Paedophryne dekoti* and *Paedophryne verrucosa*, now adds another 3 species from the genus *Oreophryne* to the remarkable diversity of this region. The three new species *Oreophryne cameroni*, *Oreophryne parkoporum* and *Oreophryne gagneorum* are all rather minute, with total body lengths of around 20 mm. These tiny frogs, however are still substantially larger than the species that claimed the smallest frog prize in 2011. *Paedophryne dekoti* and *Paedophryne verrucosa* are only half of the length of the three new additions to the frog diversity of Papua New Guinea, with an astonishingly small body size ranging between 8-9 mm.

The subfamily to which the new species belong is largely restricted to New Guinea and its satellite islands. Of the constituent genera, *Oreophryne* is presently one of the largest within the Papuan Region. The above story is based on materials provided by Pensoft Publishers. The original story is licensed under a Creative Commons License. Note: Materials may be edited for content and length. For further information, please contact the source cited above.

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Helen's "wild" Perons Tree Frogs *Litoria peronii* at Strathfield are quite big especially when found in the house!

FATS ON FACEBOOK

We have 577 FATS facebook members from almost every continent. Posts vary from husbandry enquiries to fabulous photos and posts about pets, wild frogs and habitats from all over the world. Teenager Talise from Victoria currently has a post about her spawn rescue (left) in her backyard puddle, that was about to dry up. Riona Twomey Tindal and Barrie Hall amongst others have promptly come to her aid with excellent advice including reference to our web site, Frogfacts 6 on collecting and caring for tadpoles and information on frog chat rooms such as <http://frogs.org.au/community/>. We have enjoyed following Talise's detailed observations and thorough research posted to our facebook page.



FATS MEETINGS commence at 7 pm, (arrive 6.30pm) and end about 10pm at the Education Centre Bicentennial Park, Sydney Olympic Park, Homebush Bay. They are usually held on the **first Friday of every EVEN month** February, April, June, August, October and December (but not Good Friday). Call, check our web site or email us for further directions. 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. 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 writer, photographer, 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 sources must be always fully acknowledged.



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FIELD TRIPS

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

19th October 7-30 p.m. Castlereagh Nature Reserve. Leader: Peter Spradbrow.

Meet at the Shell Service Station, Richmond Rd, Berkshire Park (opposite Windsor Downs Estate). It is between St Marys Rd and Llandilo Rd.

During the Tertiary period (65- 2 million years ago) the ancestral Hawkesbury River coursed its way through present-day Castlereagh and Agnes Banks depositing sequential layers of sand, silt and gravel. The Castlereagh Woodlands is the name given to the pocket of vegetation that grow along these low-nutrient alluvial deposits. The Castlereagh Woodlands are listed as an endangered ecological community, as they only occur along the shallow, ancient drainage lines of the Hawkesbury. In a curious anomaly, these woodlands, despite being surrounded completely by Cumberland Plain vegetation, has more affinity with the Sydney sandstone woodlands of the coast. This is due to the similarity in nutrient-poor sands. Tonight, we will spend some time looking for any subtle differences or unusual patterns that may occur in the frog populations of the Castlereagh area. Peter today has a distinguished reputation in herpetology, and has spent much time as a professional wildlife educator. Castlereagh is the area where he acquired his great appreciation and understanding of Australia's herpetofauna.

8-10 November. Smiths Lake Camp-Out. Leaders: Arthur and Karen White.

Used with increasing frequency in biology studies is the word *refugia* (singular form is *refugium*). The term was first used in an ecological sense in the 1960's to help explain the high rates of endemism in the Amazon Basin, particularly after the wildlife-diminishing events of the Pleistocene glaciation. The equatorial rainforests, although greatly reduced in size from its former range, provided a safe-haven from the changes sweeping in from the poles. Today, the term *refugia* is used more broadly and is used in discussions about small-scale threats (such as fire, agricultural clearing etc.) as well as large-scale climate events. All students should note that the term "refugia" immediately infers that there is some environmental threat (or sometimes called a "key threatening process"). All *refugia* are a consequence of some threatening process. They are opposites in the same story. This weekend we will look at the concept of *refugia*, and we will consider its ecological flipside of key threatening process. We will also discuss why our administrators use the concept of refugia and key threatening process as a criterion for the nomination of parks and wilderness areas.

We are fortunate that Arthur and Karen once again offer this unique weekend to FATS members. Regular attendees are well familiar with the expertise that Arthur and Karen bring to this weekend, and their knowledge of the Smiths Lake area is indeed extraordinary. Cabin/dormitory accommodation and camping sites available. All kitchen facilities/utensils/crockery supplied. There is a **non-refundable** fee of \$14.00 p.p. per night. Phone Arthur and Karen directly on 9599-1161 for bookings and further details.

The Australian Reptile Park, Pacific Highway, Somersby will hold the Annual Christmas Inter Club Herp BBQ on **Sunday 1st December** and have generously invited us again. admin@reptilepark.com.au www.reptilepark.com.au
P: +61 2 43401022 Free entry for financial members of FATS. Please take your membership card with you.

7 December. 7-30 p.m. The Watagans. Leaders: Brad and Matt McCaffery.

Take the freeway north. After approx. 83 km, take the Cooranbong/Morisset exit. Turn right and travel approx. 2 km. Meet at the corner of Mandalong Rd and Freemans Dr, Morisset.

In the past, we have discussed why Latin names are essential for clarity and avoiding duplication and why Latin has become the scientific standard when referring to plants and animals. Equally important, we need to correctly write Latin names when completing assignments for school or university. The Latin name should always be written in italics simply because it is Latin – just as any foreign word would be italicised in an English text. The first word commences with a capital letter (it is akin to somebody's name!) while the second name (the specific epithet), is written entirely in lower case. The Green Tree Frog therefore becomes *Litoria caerulea*. Tonight, Brad and Matt, who have a wonderful mastery and understanding of scientific Latin, and will spend some time with us discussing the use of Latin and will also use their impressive frogging talents to find us some of the most spectacular frogs of this region.

In the event of uncertain frogging conditions (e.g. prolonged/severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 9681-5308. Remember!, rain is generally ideal for frogging! Children must be accompanied by an adult. Bring enclosed shoes that can get wet (gumboots are preferable), torch, warm clothing and raincoat. Please be judicious with the use of insect repellent – frogs are very sensitive to chemicals! Please observe all directions that the leader may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience – parents are asked to help ensure that the leader is able to conduct the trip to everyone's satisfaction. All fieldtrips are strictly for members only – newcomers are however, welcome to take out membership before the commencement of the fieldtrip. All participants accept that there is some inherent risk associated with outdoor fieldtrips and by attending agree to; a release of all claims, a waiver of liability, and an assumption of risk.