

# FROG CALL



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

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PO Box 296  
Rockdale NSW 2216

**OUR NEW WEB SITE**

<http://www.fats.org.au>

EMAIL [fatsgroupnsw@hotmail.com](mailto:fatsgroupnsw@hotmail.com)  
[wangmann@tig.com.au](mailto:wangmann@tig.com.au) for editorial material

6.30 PM for a 7.30 PM start, **COMMENCING WITH THE AGM, FRIDAY**  
**1<sup>st</sup> June 2001** AUSTRALIAN MUSEUM, WILLIAM ST ENTRANCE

*If you have an email address please advise  
our membership secretary, Steve Weir on  
[fatsgroupnsw@hotmail.com](mailto:fatsgroupnsw@hotmail.com)*



Photo: Steve Parish

## MEETING FORMAT for 1<sup>st</sup> June 2001

- 6.30pm: - Some of the Rescued Frogs dispersed to FATS members
- 7.30 pm **Frog and Tadpole Study Group AGM**
- 8.00 pm Frog and Reptile Smuggling Video
- 8.45pm Panel Question Time
- 9.00pm 5 favourite frog slides or 5 minutes
- 9.30 pm Guessing competition and Auction
- 9:45pm Remaining rescued frogs placed with FATS members
- 10.00 pm Finish for tea, coffee & biscuits

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**A**fter a warm welcome to visitors and regular attendees, Arthur White introduced David Nelson our FATS internet co-ordinator, who reported on the new FATS web page that he and Steve Weir have created, <http://www.fats.org.au>. This is an extraordinary effort, as our web builder is still at school. Many thanks to David and Steve for their commitment to the project.

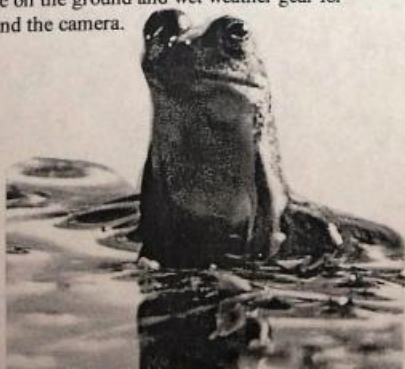
Our main speaker was Lou Petho. Members were treated to an excellent presentation about photography with magnificent slides.

Photography is a mix of technical and creative skills. Both are just as important as each other, but when photographing frogs you also need to know your frog. This article will take you through some of the basic skills you'll need to take better frog photos.

The first thing you need to consider is camera equipment. Frogs are unlikely to wait for you so you need a camera that responds quickly to your needs. This makes a 35mm SLR (Single Lens Reflex) camera the better choice. If you can, select one with a power winder or motor drive, this way you keep your eye on the frog as you take successive shots. The camera is most likely to come with a TTL (Through The Lens) metering system and may have a TTL flash system as well. Good exposure is very important and given you have to work quickly with frogs this sort of automation is important.

The most important part of a camera is the lens, this is where the 3D world is converted into 2D and captured onto a piece of film. You will find that a standard lens is not all that useful for frog photography. The more you take pictures of frogs the closer you will want to be to your subject. A macro lens will let you get very close, but as we will discuss later it comes at a price when focusing. These lenses can be expensive so if cost is an issue consider either extension tubes which moves the lens further from the film or close up lenses that screw onto the front of the lens. The other lens to consider for your kit is a telephoto lens. It lets you take pictures from a distance, which becomes essential if you want to capture natural behavioural.

Other equipment you should consider is a flash for night and close-up work; a tripod to help keep the camera still, a sand-bag will also do a good job and allow you to be at eyelevel with frogs; a cable release to lessen camera shake; a 90 degree viewfinder to look down the camera when low to the ground; knee pads if you are spending much time on the ground and wet weather gear for yourself and the camera.



Choosing the right film is important and these days digital cameras are a whole new option. The main point to think about is what speed film to use. The slower the film the better quality image, but that means you need more light. The faster the film you choose the less light you need, but the grainier the image becomes.

Now that we have our camera loaded with film we need to build a few basic technical skills. The first is making sure the camera is as steady as possible when we take a picture. Ideally you would have the camera on a tripod or sand bag with a cable release. If this is impractical then brace yourself against a solid object like a tree. If you have to take the picture without any support then make sure you gently squeeze the shutter release.

It's worth taking the time to practice; without film in the camera try taking shot after shot so that you see no or little movement through the camera.

Focus is more critical with frog photography because of the narrow depth of field. Depth of field is the area of the picture that is in focus. Because we are generally close to our subject the depth of field can be as little as a few millimetres. We can widen the depth of field by using apertures of f11 or f16, this generally means using a flash. The important thing to remember here is to keep the eyes of your subject in focus.

Most cameras have a TTL metering system, which takes the worry out working out the correct exposure. Even so you may have to override your camera in certain situations. Such as using a flash at night, the background can become black and the frog over exposed. This is because the metering system averages the dark and light areas rather than focusing on your subject. If you know this is the case then you need to close the aperture, depending on the situation this can be between .5 and 1.5 of a stop.

Once you feel confident about taking a steady, well exposed pictures you need to think about how you are going to take the photograph. This is where composition, or where you put your subject in the frame, is important. The main idea here is make sure the frog is the centre of attention. When most people start out they see the frog, point the camera, press the shutter and in their minds eye they have this great shot of a frog, but what they end up with is a small frog somewhere in the middle of the frame. That's because we see things differently to a camera. Firstly, get used to looking through the camera and the idea that what you see in the frame is what you end up with. This may sound obvious, but your mind's eye can make the frog larger than reality. So try and fill the frog in the frame. The only time you would brake this rule is when you are trying to show the frog in relationship to it's environment.

Try and take your picture at eyelevel with the frog. If you are looking down on the frog you are giving it less power, you are "looking down on it". If you are looking up at the frog (not easy to do) you are giving it more power, you are "looking up to it". Being at eyelevel is a good neutral angle. Though if you wish to give the subject more of less power, then use the different angles.

## SCIENCE WEEK AT THE MUSEUM

**Y**ou should have seen it yourself - the boiling and splashing, the jars, the giant bacteria, the pickled snakes even! No, it's not the local deli we're talking about. The fare at the Australian Museum may have been a bit less nutritious but far more educational.

And there was the FATS Group in the thick of it. Days one and two (that's 19<sup>th</sup> and 20<sup>th</sup> of May for those without their science calendar) saw us in the Biodiversity Gallery where our frogs were amongst the highlights of the entire floor. Greg Coorey helped me set it all up and Joan Young, Rainer Enke, Michael and Cindy Grant and David Buchanan held the fort. Just as we were running short of hands, from out of nowhere Cliff Hobden and his kids came to the rescue. The kind, helpful and friendly Museum staff and Martyn Robinson (who is also all those things, but he's also one of us) then dragged our sloshing taddy tanks and frog cages and posters and handouts down to our new ground floor cubicle, our home for the next three days. It then fell upon Jackie Birch, Adam Crawford, Robyn Law, Richard Newman, Wendy Grimm and Tony Bray to work the crowds, before I took the whole lot home again. (No, not the Frog Explainers, not the crowds, they had other plans, just the frogs and things.)

The frogs, with their homing drive satisfied and back in their regular cages, and I took stock. There were more frogs than when we had set out: Lots of taddies had metamorphosed before the public's very eyes. But also lots of questions were asked and answers given, stories told and sightings divulged. And a great deal of good-will was sprinkled all over frogs and Frog Explainers alike. If we had dealt in pickled snakes or giant bacteria, we would not have had it quite as easy. **L.V.**



**I**t never ceases to amaze me how exciting and surprising is nature. We have recently moved to a new home and while I was standing at the back of the house talking to my wife Wendy and my daughter Jennie, my daughter suddenly pointed out a frog. This frog was perched close to eye level on one of our potted rose plants. I could not see it initially until a leaf moved and there it was a gorgeous tiny green tree frog. I had to race inside to get our camera and take this picture for proof that wonderful moments can be just around the corner.

**Ben Pawlutschenko**

Most people will put the subject in the middle of frame. This tends to be boring. A simple way to get around this problem is to use the "rule of thirds", imagine your frame cut into thirds, both horizontally and vertically. This leaves you with four intersection points. Now try and place the most interesting part of your subject in one of these intersections. This could be the frog itself or if you are close enough to it, an eye. You should also have the frog looking into the picture. So if the frog is on the left hand side of the frame have it looking to the right.

Backgrounds can sometimes be annoying, the subject can get lost, that's because we are converting a 3D world into a 2D image. The idea is to separate the subject from the surrounding so it sticks out. One good way to do this is to use a lowers aperture and narrow the depth of field. You have to take more care when focusing, but this can be used to great advantage. You can also separate your subject by using contrast. An example is when using flash, the background turns much darker or if the subject is strongly coloured, then having it against a different colour.

When photographing frogs the third important skill to have after technique and creativity, is to know your frog, where it lives and when it comes out, how it behaves and when. You can either take the picture in the wild or create an artificial environment to put them in. If you are taking them in the wild you may have to sit around for some time till they get used to your presents. The more you blend into the surrounding environment the better. An artificial environment that restricts the frog's movement can easily be set up with a small box and some of the local vegetation. Either way you can make life easier for yourself if you have someone helping you move the frog into position.

Worst come to worse, set the camera to auto and make sure the eyes are in focus. **Lou Petho** [lou@tarantula.com.au](mailto:lou@tarantula.com.au)  
**Stoney Creek Productions** MOB: 0414 994 991

Lou displayed some of his favourite shots and why. After fielding questions, Lou was asked to return again to display more fantastic slides. Thank you Lou for sharing with us the secrets of good photography and many thanks for the write up for our newsletter.

Trent Penman presented great slides including *Litoria dentata* Bleating Tree Frog (calling), *Cyclorana*, *Limnodynastes peronii* Striped Marsh Frog, *Limnodynastes dumerilii* Banjo Frog aka Eastern Pobblebonk,, *Mixophyes fasciolatus* one of the Great Barred Frogs.

Arthur White gave us an update on the frog common name review. Outcomes include the allocation of better descriptive names by reassessing the value of common names such as "Hill Frog". Comments from the general community, academics and enthusiasts are being sought.

Panel members Marion Anstis, Lou Petho, Stan Orchard and Lothar Voigt responded to members questions, such as "what is the rarest frog?", acquiring appropriate native fish and "dragonfly larvae eating baby tadpoles".

FATS member challenge:-The Editor is offering a mystery prize to the first FATS member to report any error in the newsletter! ☺ .Corrections and winners names will be publicised in future FrogCall newsletters. **MW**

## FROGGY WORDFINDER

All the words in capitals from the passage below can be found in the puzzle. The words are hidden down, across or diagonally, and may be forwards or backwards.

FROGS are also known as ANURANS, and are a type of AMPHIBIAN. Most Australian frogs are either treefrogs or GROUND frogs.

Two GENERA (plural of genus) of Australian TREEFROG are LITORIA and CYCLOPORA. Three common SPECIES of Litoria are CAERULEA, the GREEN treefrog; GRACILENTA, the DAINTY treefrog; and CHLORIS, the REDEYED green treefrog. All Litoria have TOE discs, the SIZE differing between species along with the amount of WEBBING between the toes, and the MATING CALL.

A GENUS of ground frog is LIMNODYNASTES. Two common species are PERONI, the BROWN STRIPED MARSH frog, and DUMERILI, the EASTERN POBBLEBONK. These frogs do not have toe DISCS. MALE *Limnodynastes peroni* have ENLARGED THICK FOREARMS for HOLDING securely onto females during AMPLEXUS. Steve Weir.

Wordfinder created by edHelper at edHelper.com

S N D E N L A R G E D J Z H T S H A K A R  
G W B K L D U M E R I L I R I M S E I U Z  
O O M A T I N G E Y W L E R A T E L N R Z  
R R C Y C L O R A N A E O R Y F T U O V Y  
F B G N I D L O H R F L S A O C S R R N V  
G R O U N D J S E R H H M R A A A E E N V  
T O P S E T T D O C V P E M E T N A P R I  
K F I P E R E G S R L A P O F N Y C G E C  
C I O Z I Y A Q A E R H T J P E D S N T O  
I E I P E P S I X M I P H H D L O N I S B  
H S E D I X R U S B G C E W E I N A B A M  
T D H F K O S U I K G E E W W C M R B E C  
D A I N T Y N A C E A R N P M A I U E V K  
S Y R I T E N T C L R Z E E S R L N W B U  
N U L S G D I S C S N K M E R G M A L E F  
P O B B L E B O N K J F B C N A J C M C Y  
V V T C I P G I T L J V X F G X O V O L P

Word List  
FROGS  
ANURANS  
AMPHIBIAN  
GROUND  
GENERA  
TREEFROG  
LITORIA  
CYCLOPORA  
SPECIES  
CAERULEA  
GREEN  
GRACILENTA  
DAINTY  
CHLORIS  
REDEYED  
TOE  
DISCS  
SIZE  
WEBBING  
MATING  
CALL  
GENUS  
LIMNODYNASTES  
PERONI  
BROWN  
STRIPED  
MARSH  
DUMERILI  
EASTERN  
POBBLEBONK  
MALE  
ENLARGED  
THICK  
FOREARMS  
HOLDING  
AMPLEXUS

## CLOSING CEREMONY

The party's almost over,  
the final race is run.  
No more get set, get ready,  
no crack of starter's gun.

No man get up and go  
or chirpy leafhopper flies,  
no honing good dead-slovers  
or darning do-or-dies.

Now the real party's started,  
the real fun's begun.  
I'm going home to dinner  
with my dad and with my man,  
who'll ask what I've been up to,  
where I've been and when I've been.  
I'll put Taddy on my plate

and introduce  
him as my pet.



CARE FOR YOUR PETS  
TO CONSERVE NATIVE  
ANIMALS



## TOADY MISSES THE BALL

For a toad  
who was bold,  
he's been left out in the cold  
because he cannot take his girlfriend to the ball.

He'd had his chance  
to romance  
when he told her of the dance,  
until he said that he escort her, warts and all.



## HOW?

How do you make a toad jump backwards?  
Turn it round the other way.

A BUCKET OF TOADS

SPOTTED GRASS FROG



### FROGGING WITH VICTORIANS

## FATS, FROGS and INTERNET (Or simply just e-Frogging)

As many of you may be aware, the FATS group website has moved to a new location with an easy to remember address, <http://www.fats.org.au> and undergone some renovating. As is typical with any renovation, it is ongoing, and just keeps getting bigger. The plan is to eventually have all the FrogFacts updated and available on-line, with a FAQ section, and links to other sites with relevant information. Much of the work involved in this mammoth undertaking has been done by David Nelson in his own free time using his own resources. A very big thank you from all of us to you David.

As part of the new e-FATS we are also hoping to have a list of the email addresses of FATS members so we can contact you when post or telephone are either inadequate or inappropriate. It is hoped to use this list to call for volunteers to be Frog-explainers at FATS exhibits where we were given short notice, to notify members of hastily convened field trips, and eventually to provide the Frogcall newsletter in an electronic version for those who prefer it.

If you would like to be on this list and have not already received the invitation, send an email to [fatsgroupsw@hotmail.com](mailto:fatsgroupsw@hotmail.com) asking that your name be added, or fill in the line provided for your email on the membership renewal form. I should point out that FATS does not intend to abandon the tried and trusted techniques of telephone or post, but that email is considered easiest and quickest for contacting large numbers of members.

So while you're on-line, take a look at the following recommended sites ;

The Queensland Frog Society, <http://www.qldfrogs.asn.au/>

The Victorian Frog Group. <http://www.frogs.org.au/>

The Complete Treefrog Homepage  
<http://www.megsinet.net/~treefrog/index2.html>

The Frogs section of the Queensland Environment Protection Agency  
<http://www.env.qld.gov.au/environment/feature/bump/frogs>

The ozfrogs email list <http://groups.yahoo.com/group/ozfrogs/>

The Somewhat Amusing World of Frogs  
<http://www.csu.edu.au/faculty/commerce/account/frogs/frog.htm>

A Compilation of Frog/Chytrid Links  
<http://www.mycoinfo.com/frog-chytrid.html>

If you find any more let me know and we may put them onto the website. **Steve Weir**

Victorian Herpetological Society (VHS) -  
Web site now live <http://www.vhs.com.au>

Environment Australia Online Dept of Environment and Heritage, Regional Forest Agreements  
<http://www.environment.gov.au/>

One of our members, Barbara Harvey was fortunate enough to be able to recently go frogging with the Victorian Frog Group (VFG). Barbara was kind enough to write up a trip report for our newsletter.

### Corranderk Bushland Field Trip.

The Corranderk Bushland Field Trip conducted by the VFG was held on the 28th April. As luck would have it the heavy rain around Melbourne had just stopped and although cold (8°C ?) there was no wind.

We were met at the Healesville Sanctuary by Craig Cleeland and escorted to the Corranderk Bushland which is kept locked. It is 162 ha of bush with a very good hut where some people slept (wood fire, kitchen, bathroom etc, big BBQ outside), others had tents, but we (Tom Smith(Tullamarine), & I opted for a motel nearby. After a BBQ dinner there was a talk on the frogs by Craig - by which time Gerry Marantelli and Raelene Hobbs had arrived. Craig had done a reconnoitre the Tuesday before, finding *Geocrinia victoriana* eggs and *Pseudophryne semimarmorata* calling. We headed straight for those sites and very rewarding they were too.

Gerry, Craig & Raelene triangulated and presto - a magnificent *P. semimarmorata* was found in a burrow (no eggs). Its ventral surface (including legs) was the most amazing shade of red with a spectacular band of blue & white stipples across its middle. Stunning frog!

Next we turned up a *G. victoriana* male with eggs in the top of a grass tussock and a gravid female was found nearby. Julian the photographer introduced these to each other and lo! a perfect match. We left them in a fond amplexus!

There were a lot more *G. victoriana* calling than *P. semimarmorata* and only one of the latter had been found by the time Tom & I left. Craig said it became too cold later in the evening for frog activity. *Litoria ewingi* and *Crinia signifera* were also found at same site. Other animals also spotted included a *Nannoscincus maccoyi* (Highlands Forest-skink), Boobook Owl, a couple of Ringtails & a Potaroo. Earlier in the afternoon Tom & I had stopped at the Upper Yarra River and found *Litoria ewingi* and *Limnodynastes tasmaniensis* - so we were pretty pleased at a five species field trip.

I was especially pleased to see *G. victoriana* as I had spent a frustrating hour trying to find it at Mt Baw Baw in March where there were quite a few calling from a roadside ditch at the National Park's pay station. And of course being a fan of *P. australis*, I was really excited to see *P. semimarmorata*.

The evening was very well organised by Craig and very well attended by about 35 froggers, of which I was the only one from interstate. **Barb Harvey**

### A TOAD, BY ANY OTHER NAME



Toad!  
What's in my name that you don't want to cuddle or kiss me?  
The shame that no one will miss me!  
No wonder I'm down in the mouth,  
heading south where, I'm told,  
it is cold.  
but where—they say  
—good things to eat  
fall at your feet  
and greet you, all along the way.

Written by Islwyn Williams and illustrated by Anton Kressnig (Islwyn is a FATS member!)



## FROG DISEASES AND FROG HYGIENE WORKSHOP

**O**n a cold and wet Saturday, a bunch of very keen frog experts and enthusiasts (including many FATS members) attended the Frog Diseases and Frog Hygiene Workshop, held at Centennial Park.

Starting at 10am, and finishing sometime after 4pm, the workshop served to highlight various aspects of frog disease- with a focus on Chytrid- and frog hygiene, including procedures to handle frogs in the field and quarantine frogs.

Arthur White started the morning off with a brief outline of the days agenda, followed by a talk addressing the biological needs of frogs and tadpoles (including food, water, air, shelter and space)- fundamental considerations in captive husbandry that are nonetheless often overlooked.

Frances Hulst followed with a necessarily technical overview of frog diseases and their veterinary treatment. I don't think anyone quite realised the vast array of diseases that frogs were able to succumb to, but it was a relief to learn that treatment was often available and that frogs can recover from some seriously scary diseases! The notes accompanying the talk were so comprehensive that they have become my "Frog Disease and Treatment Bible"

After a morning tea where we all gorged ourselves with Karen Whites' delicious slices (or was that just me?- Thankyou Karen!), Michael Mahoney scared the daylights out of us all by revealing the extent of Chytrid in eastern NSW. In Michael Mahoneys' study, Chytrid was found to some extent in populations of both tree frogs (*Hylidae*) 8 out of the 16 species examined- and ground frogs (*Myobatrachidae*) six out of the 12 species examined.

Frances Hulst followed Michael Mahoneys' depressing revelation with a talk dealing with the diagnosis of Chytrid. Of special interest was a detailed explanation given regarding the nature and workings of the various (and much anticipated) Chytrid test kits.

Frog hygiene in captive frogs was explained by Lothar Voigt and his host of innovative frog cages after lunch. Cage designs and maintenance for tadpoles, metamorphs, young frogs, small frogs, large frogs, and frogs in intensive quarantine were explained and demonstrated, proving yet again that Lothar certainly is an amazing inventor.

Ross Wellington (NPWS) elaborated upon the NPWS Hygiene Protocol for the Control of Disease in Frogs that should be read by anyone who is in contact with frogs. All procedures should be adopted in order to stop us- the people who care most about frogs- from spreading frog diseases. Most procedures are simply commonsense- such as disinfecting footwear and gloves when moving from one froggy site (such as a pond) to another. If you haven't read this protocol- please do!

Due to the absence of Dominic Borin, Lothar took charge and discussed maintaining hygiene for a large number of frogs, followed by a warning regarding potential disease in commercially-purchased frogs.

Monica Wangmann followed afternoon tea with a talk on the displaced, lost and rescued frogs we all know and love. Note that helpers are still required as either a collector, frog quarantine person, or as a frog carer.

Wrapping up the day was Arthur White, with a brief talk on backyard frogs. I heard rumours of cheese and wine following this, but unfortunately many of us had to leave at 4pm. Thankyou to everyone who spoke on the day and to all the organisers. The information provided during the talks (and in the workshop notes) was invaluable and very timely. Jodi Rowley

## FENNER CONFERENCE

### Fenner Conference on the Environment Biodiversity Conservation in Freshwaters

Australian Academy of Science "Shine Dome" Canberra  
5-7 July 2001

A/Prof Arthur Georges, Program Leader, Conservation Ecology Program, CRC for Freshwater Ecology, Univ. of Canberra, georges@aerg.canberra.edu.au

## NORTH AMERICAN REPORTING CENTER FOR AMPHIBIAN MALFORMATIONS (extract)

**T**he NARCAM Web site has been updated  
1) "What Do the Malformations Look Like?"  
<http://www.npwr.usgs.gov/narcam/pictures/pictures/looklike.htm>  
has been completely revised ... Non-biologists  
<http://www.npwr.usgs.gov/narcam/form/form1.htm>  
2) A new page, "Know Before You Go", an in-depth protocol for surveying for malformed amphibians.  
3) As some of you may have noticed, the Internet discussion group "Amphibian Malformations" [amphibian\\_malformations@pastel.cr.usgs.gov](mailto:amphibian_malformations@pastel.cr.usgs.gov) is now back in service. We encourage herpetologists, wildlife biologists, aquatic toxicologists, parasitologists, veterinarians, land managers, and others to enter the discussion, raise questions, and keep others informed of their observations and efforts to investigate this phenomenon.  
Ralph Tramontano [narcam@usgs.gov](mailto:narcam@usgs.gov)  
[rtramontano@usgs.gov](mailto:rtramontano@usgs.gov)

Ken Griffiths



SPOTTED MARSH FROG

*Limnodynastes tasmaniensis*

## GREEN & GOLDEN BELL FROGS AT LONG REEF GOLF COURSE

**F**rog surveys continue all year, just less frequently in winter. Just thought I'd let everyone know about a project that I'm co-ordinating at Long Reef Golf Course (just north of Dee Why, on the northern beaches of Sydney). I've copied and pasted text from the leaflet that is being circulated. If anyone wants to be involved in frog surveys, just contact me!

The Story So Far...The Green & Golden Bell Frog (*Litoria aurea*) is considered endangered in NSW and has disappeared from over 90% of its former range. It is likely that the Green & Golden Bell Frog once occurred at Long Reef up until about 1930. With the creation of a series of ponds at Long Reef Golf Course in 1997, suitable habitat was created for the Green & Golden Bell Frog. This led to the idea that this species could be reintroduced to Long Reef.

Taronga Zoo has a captive breeding colony of Green & Golden Bell Frogs derived from an existing population. Since 1998, tadpoles from this breeding program (and some adult frogs) have been released into ponds at Long Reef Golf Course, with mixed success.

Working together, the Australian Museum, Long Reef Golf Club and Taronga Zoo (supported by the Natural Heritage Trust and Warringah Council) hope to have Green & Golden Bell frogs hopping around Long Reef headland once again.

What's happening now?

There are lots of things going on at Long Reef Golf Course to help a variety of frog species (including the Green & Golden Bell Frog), birds and the environment in general. Bush regeneration and native revegetation is ongoing, as is the monitoring of water quality in the ponds (vital for ensuring healthy frogs).

Scientists regularly survey frogs and tadpoles in and around the ponds at Long Reef Golf Course. Tadpoles are scooped out of the water, identified and measured. Frogs sheltering under specially placed wooden boards are also identified, measured, weighed and micro-chipped-enabling recognition of frogs caught again later. At night, frogs calling are identified and counted. Any frogs seen (with the help of torches) are captured and identified, measured, weighed and micro-chipped.

Get Involved!

Anyone is welcome to participate in frog surveys. This provides an opportunity to learn first-hand about frogs in your local environment and to play a part in the establishment of the Green & Golden Bell Frog at Long Reef Golf Course. Frog surveys at Long Reef take place on Wednesday nights and Thursday mornings (every second week in the warmer months, and less often in the cooler months). By joining Long Reef Frog Conservation Group (send your name, phone number and address to me) you can show your support and also receive regular newsletters informing you of our progress, along with other frog news and information. For further information regarding survey dates, contact **Jodi Rowley** 0417 489 962 or email [jodi@student.unsw.edu.au](mailto:jodi@student.unsw.edu.au).

## CLIMATE CHANGE LINKED TO DECLINE IN AMPHIBIANS

**A** series of environmental dominoes beginning with global climate change may explain one of the decade's most perplexing biological mysteries--the sharp decline in amphibians--according to a new study of toads in Oregon.

A team of researchers studying western toads in the Cascade Range has tied together a series of seemingly unrelated events: warm weather patterns over the South Pacific, decreased rainfall in the Pacific Northwest, ultraviolet radiation and a fungus-like pathogen.

Simply put, the research team found that unusually dry winters caused by El Niño meant ponds in which toad embryos mature contained less water, making them more vulnerable to both ultraviolet radiation and a destructive fungus. **DEBORAH SCHOCH**, *Times Environmental Writer Los Angeles Times Thursday, April 5, 2001* [forwarded by Stan A. Orchard National Co-ordinator - WWF Frogs Program World Wide Fund for Nature Australia, GPO Box 528, Sydney.; 61 2 9281 5515 Fax: 61 2 9281 1060 [sorchard@bigpond.com](mailto:sorchard@bigpond.com)

I must confess that I've always thought climate change and UV increases are behind most of the amphibian declines including those in Australia. I think it is just too much of a coincidence that all these diseases, fungal outbreaks, and whatever should all start happening from 1980 onwards all over the world. These, I suspect, are symptoms of a larger problem/s causing stress to amphibians ie. climate change, UV increases or both. Stressed populations of anything (including people) are far more likely to catch and die from diseases that they could normally fight off.

**Martyn Robinson** [martynr@austmus.gov.au](mailto:martynr@austmus.gov.au)

In regards to your latter points, I have to agree. Since doing my own research on UV-B, I have suspected that the interaction between a number of biotic and abiotic stressors may have antagonistic, additive or synergistic effects.

However, getting at measuring "stress" per se., seems to be pretty problematic (at least in frogs). For example, measuring levels of stress hormones, such as corticosteroids, introduces a whole new suite of difficulties and confounding effects.

Recently I have been doing research on how temperature and pesticide exposure affects correlates of fitness in eggs and tadpoles. I hypothesised that a natural, or historical stress such as temperature may alter how a chemical contaminant affects non-target organisms ... the results show some interesting interactions and the implications are definitely worrying. I think there is more to the idea of interactions between stressful challenges in an organism than has been given credence in the past. **Sara Broomhall**

## FROG HOSPITAL WEBSITE

We've just added more stuff to our frog hospital website and redesigned it as well. You can have a look at [www.fdrproject.org](http://www.fdrproject.org) In particular, there are two pages in the disease section which might be of far greater interest to you. they are the page on disease precautions and the researchers page: [www.fdrproject.org/DISprecaution](http://www.fdrproject.org/DISprecaution) Any and all comments welcome. Cheers, **Deborah Pergaloti**

## FROGBITS AND TADPIECES

**A**sk a Junior Ranger. Want to know about local frogs and frog ponds? There's a group of youngsters that was last seen leaping through Centennial Park (on 18.4. to be exact) who can tell you all about it. The depth and perceptiveness of their questions at the end of the FATS frog talk gave them away as hard to keep up with. And off they went again, jumping and croaking.

**Centennial Park's training room was a great site for our Frog Diseases and Frog Hygiene workshop on 19.5.** - and best of all, for us the venue was free. Many thanks to Rachel Ely and to the Centennial Park and Moore Park Trust.

**WIRES and frogs.** At a WIRES meeting on 3.5., lots of froggy issues were on the table, plus the froggies themselves. The FATS talk was meant to be about ponds, but frog talks tend to go on about everything. Finally the place had to be locked up, with or without the speaker.

**Ted's tanks:** WIRES member Ted Hulbert kindly donated 3 large aquariums to us. They used to have WIRES mice in them (I was told that their rescue service and their catch-and-release service also includes mice, but more in the form of edibilia.) We are planning to use the tanks initially as nice large post-quarantine holding cages. Many thanks to Ted and to WIRES. L.V.



Clinging on: understanding the green and golden bell frog has had benefits for other species - even share brokers.

Lincoln Hall

**L**ife in the wild is a lottery, with premature death the most common prize. Disease, natural and feral predators, pollution and habitat destruction are major threats. Although there is still abundant bushland in Australia, much of it has been compromised. The initial changes are not always obvious, except to frogs and other sensitive animals.

Frogs - bless their little hearts, gulping throats, sticky toes and bulbous eyes - have moist, permeable skin which is particularly susceptible to environmental changes and easily absorbs toxic pollutants. Their disappearance, therefore, can be an early warning sign of impending environmental disaster - and Australian species are vanishing fast.

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In the survival lottery, however, one amphibian is on course to be a winner - the green and golden bell frog.

**Another Hamburg show is coming up on June 2nd.** Something interesting I saw at the last one was baby crocodiles. I don't think that is a practical purchase but am sure I'll find something. There will be lots of frogs there. <http://www.pythons.com/hamburg/> I'm kicking around the idea of getting some *Scaphiophrene gottlebi* and still have a few wants on my dart frog list. **Michael Shrom shrommj@ptd.net**

**2001 Wildlife Society (TWS) Annual Conference**  
A web site has been created to highlight the activities occurring in conjunction with the 2001 Wildlife Society (TWS) Annual Conference, September 25 - 29, 2001, in Reno, Nevada. The site includes information regarding the Student Quiz Bowl, which includes sample questions and answers compiled from various TWS student quiz bowls and regional contests, and new questions and answers will be posted each week. These questions will not be repeated at the upcoming TWS conference, but we hope you enjoy this prelude to the quiz. <http://www.tws-west.org/tws2001/activities.html> and includes information not contained on the main Conference web site located at <http://www.wildlife.org/2001.html>.  
**Bill Standley standleyb@wildlifer.com**

**Cane toads have taken their toxic toll on the Northern Territory's Katherine Gorge, where eight freshwater crocodiles have been found floating belly-up. A crocodile that swallows a toad will die in about an hour.** Simon Stirrat, conservation management officer of the Northern Territory Parks and Wildlife Commission, said yesterday the gorge was the first tourist spot in the territory where the effects of the toad invasion from Queensland had become evident. **MW**

When the parameters of the frog's preferred environment were identified, attempts were made to establish the frog in "ideal" habitats elsewhere in Sydney. On the northern beaches, this was achieved at Long Reef Golf Club, while to the south, the Cronulla sewage treatment works incorporated the successful elements of the Homebush Bay development, including a frog colony. More recently, 600 frogs have been bred in captivity and released in suitable habitats in the Bega area.

Understanding the ecological parameters of isolated, stable

populations of any species is important for planning rescue projects in places where the species is declining. If research funding can be found, the Victorian populations can provide this information for the booroolog frog.

The publicity surrounding the green and golden bell frog has raised the overall awareness of the importance of frogs as environmental indicators. An investment in understanding frogs is an investment in the future, which is perhaps why the Australian Stock Exchange is sponsoring a frog education program - a different kind of futures trading.

**Extract  
Great Leap Forward  
SMH**



## CALGA SPRINGS WILDLIFE SANCTUARY

**F**erals need not apply: Salvaging a slice of heaven for the wild ones Keeping the world at bay ...Barry Cohen's son, Stuart, will act as an adviser at the family's Calga Springs Wildlife Sanctuary.

It took 300 million years for the plants and animals of the Cohen family's patch of Sydney sandstone to evolve, and 14 years for this site to get a protective fence around it.

Today the east coast's first feral-proof reserve, the 70-hectare Calga Springs Sanctuary, near Gosford, opens to the public. It is an expensive experiment in tourism, conservation and education. The former Federal environment minister Mr Barry Cohen has dedicated almost his entire post-parliamentary time and income to the project, and is just beginning the task of restocking his land with animals that have become extinct because of cats and foxes.

Blessing the sanctuary yesterday, the former prime minister Mr Gough Whitlam referred to the area as a Garden of Eden. As a salve to tourists hoping for a quick wildlife fix, Calga Springs already has more than 100 species of birds, 260 species of native plants, kangaroos, pademelons and an introduced wombat. Admission will be charged.

But it is the little invisible mammals that the Cohen family and the new sanctuary's scientific supporters wish to see protected so they can breed in peace.

Taronga Zoo's manager of conservation and research, Dr Jack Giles, and the Australian Museum's director, Professor Michael Archer, have had considerable input into the establishment of wildlife protocols for the sanctuary. Dr David Blyde, veterinarian at Western Plains Zoo and expert in the breeding of endangered animals, has also been heavily involved. The museum has also provided help with the sanctuary's cultural heritage; it has extensive rock paintings and engravings.

Dr Giles is keen to see a network of such sanctuaries established. Feral-proof sanctuaries gave wildlife a safe place, he said. "We have to have the capacity to hold large numbers [of endangered animals] until we can manage the processes that have driven them towards extinction."

The difference between a zoo and a sanctuary was that in semi-wild conditions wild traits were retained, whereas in close captivity animals tended to become too placid to ever be released. For Mr Cohen the biggest difficulty will be balancing the needs of visitors to see native animals and the natural tendency of Australian animals to keep a low profile.

**James Woodford, Environment Writer SMH**



### BROWN FROG

Hey folks!  
What kind of frog is this?

**Lee Daynes**  
minky2121@hotmail.com  
Those are great frogs.

Try to breed as  
many as possible  
to keep cat numbers down.  
**David Nelson**

### NOTICE OF AGM

**T**he Annual General Meeting of the Frog and Tadpole Study Group NSW inc will be held on Friday 1<sup>st</sup> June 2001 at 7.30pm. Nomination forms are available from Arthur White, at the April meeting or write to our Rockdale post office address. Anyone interested in nominating for any position is greatly encouraged to do so as the committee is always short of at least a couple of people, (in particular secretary and a field trip officer). MW

# The Brindabella bulldozer massacre

Transgrid, the State-owned electricity supplier, has cleared a 35-kilometre scar through three NSW national parks and faces prosecution by at least four government agencies.

Nothing but dirt is left on the 60-metre-wide path, which was bulldozed early in May in what Transgrid's manager, corporate, Mr Joe Zahra, referred to as "not one of our finest moments".

Tens of thousands of native animals and plants are feared destroyed and many waterways are left at risk of siltation.

It is seen as one of the worst cases of unauthorised recent land clearing in the State and Transgrid has launched an internal investigation.

"You can imagine how sick we feel - it's fundamentally against our core value system," Mr Zahra said.

The company contracted out the clearing work around its existing cables through Brindabella, Namadgi and Kosciuszko national parks, Bimberi Nature Reserve and Bago State Forest.

This would normally involve pruning and lopping large trees close to the cables, but retaining all shrubbery. Licences should have been obtained to minimise harm to wildlife and vegetation, and extensive pollution control measures used.

But the contractor and Transgrid, without seeking approval from the National Parks and Wildlife Service, turned the entire easement into a moonscape.

The NSW Environment Protection Authority's director for the western region, Mr Gary Whytcross, said bulldozers had scraped the ground bare.

The NSW and ACT Environment Protection Agencies, NPWS and the NSW Department of Land and Water Conservation are all investigating.

The NSW EPA has issued two notices demanding that the damaged areas be rehabilitated - a job that will take decades and cost many millions of dollars.

A research fellow at the Australian Museum, Dr Hal Cogger, who has just done a paper on the impact of clearing for Environment Australia and the Humane Society International, said yesterday that at least 15,000 reptiles would have been killed by the operation.

The Environment Minister, Mr Debus, said: "There is a real risk of major soil erosion in an environmentally sensitive area that includes important fish breeding streams and threatened species habitats."

Weekend Edition, May 26-27, 2001 smh.com.au

James Woodford  
Environment Writer



6. ON THE BATRACHIANS OCCURRING IN THE NEIGHBOURHOOD OF SYDNEY, WITH REMARKS UPON THEIR GEOGRAPHICAL DISTRIBUTION. BY GERARD KREFFT.

It must be interesting to every naturalist, and highly gratifying to Dr. Albert Günther, to learn that his estimate of the Batrachofauna of the Australian region has not been exaggerated, and that the more we know of this fauna, the closer it appears to be allied to that of South America, as the learned Doctor first pointed out in his famous paper "On the Geographical Distribution of Batrachians." Dr. Günther, in summing up, places the Australian region, with regard to its richness of forms, at the head of his list,—namely, one species to every 33,000 square miles. This ratio will soon be realized, if not surpassed, as the following figures will show.

When Dr. Günther published his 'Catalogue of the Batrachia Salsientia' in 1858, he enumerated twenty-six Australian species, seventeen of which have been observed by me in the neighbourhood of Sydney. My collection at the International Exhibition contained five new species (two new genera). Five other species, as yet undescribed, I have forwarded to Dr. Günther; and seven more are in my hands. If we go on discovering at this rate, we shall soon surpass in richness the South American, or rather the "Neotropical Region" of Dr. Sclater.

1863.] MR. G. KREFFT ON THE BATRACHIANS OF SYDNEY. 387

The following species occur in the neighbourhood of Sydney:—

LIMNODYNASTES DORSALIS.

Very rare. Found under stones in damp rocky ground during the cold season only. Occurs at Port Macquarie, Clarence River, and on the Lower Murray (Swan Hill), amongst the reed-beds, generally in old cattle-tracks or hoof-marks where moisture has accumulated. Nocturnal.

LIMNODYNASTES TASMANIENSIS.

Common near Sydney, on the borders of lagoons in summer; under logs and stones, often upon rocky ground, during the cold season. Deserted sandstone-quarries appear to be a favourite resort of this species. Young subjects vary in colour a good deal; they are often marked with a dorsal stripe, which probably disappears as they approach the adult age.

LIMNODYNASTES KREFFTII, Gthr.

Common. Of larger size than *L. tasmaniensis*, without black throat, but similar in habits and economy. A single specimen from Waroo, Port Curtis, is in my possession, showing an extensive geographical range. Nocturnal.

UPEROLEIA MARMORATA.

Common during the cold season, under stones; rare in summer. Nocturnal. The spots, which appear white in spirit specimens, are bright orange or yellow in the live subject. Feeds on small species of *Blatta*. Found on the Clarence River also.

PSEUDOPHYRNE AUSTRALIS.

Common on rocky ground only, in moist places, under stones, in particular in deserted sandstone-quarries. The male has a peculiar, sharp voice, which may be heard from 20 to 30 yards off. Females full of ova are taken as late as April, and many places abound now (May 22) with the tiny larva of this species. Seldom found in company with other Frogs. The beautiful red spots on the back and head in the live animal turn white in spirits. Nocturnal.

PSEUDOPHYRNE BIRONII.

Common, representing the former species in the level and flat country. Similar in habits to *P. australis*; under logs and stones. Nocturnal.

LITORIA NASUTA.

LITORIA PUNCTATA.

LITORIA MARMORATA.

These three species occur near Sydney, but are perhaps varieties

of *L. nasuta* only. Specimens in different stages of growth, and differing considerably in coloration, &c., have been forwarded to Dr. Günther for examination. In all the specimens, the first finger is opposed to the others. The members of this genus are true Jumping Frogs, often bounding as high as one's head—the Kangaroos amongst the Batrachians. They inhabit grassy moors and swamps, seldom, if ever, rocky ridges, and when chased are apt to entice their pursuer into quagmires. They are diurnal in their habits—often basking on the leaves of Banksias, in a burning sun, watching for insects. I observed large numbers of young ones, in the beginning of March, which had just emerged from the larva state, and were almost as plentiful as grasshoppers, on the sandy flats towards Botany Bay. I noticed not a single half-grown or adult specimen.

HYLA AUREA.

All the species of *Hyla* which Dr. Günther enumerated in his Catalogue in 1858 are found near Sydney, *Hyla rubella* excepted. *Hyla aurea* is the most common of all the Australian Frogs, being found in every lagoon or stream of water, and furnishing food to the Black Snakes, which swallow this *Hyla* as a gourmand does an oyster. I have watched a *Pseudoechis* taking in fifteen frogs one after the other, after which the aggressor was conveyed into my collecting-bag. Of a hot summer's evening their loud, rolling, quacking noise may be heard for miles; now (May) it has entirely ceased. During the cold season this frog retreats to the high ground, seeking shelter under rocks and stones; but many bury themselves in the mud.

This species is very voracious, feeding upon almost any Batrachian, no matter what, as long as it can be swallowed. I have seen them devour Lizards and large *Blatta*; in fact, nothing appears to come amiss to them, if hungry. The natives eat this species: returning unsuccessful from the chase at night, they light some boughs and catch frogs. Hundreds may be gathered by the light of a fire,—a fact of which poor Burke and Wills do not appear to have been aware when starving on Yardoo at Cooper's Creek. This species has an extensive geographical distribution, and is found in almost every part of the Australian continent and Tasmania. But west-coast specimens differ from those in this neighbourhood in having a tubercular back, and almost always a rather broad vertebral line from the top of the snout to the vent.

HYLA CITROPUS.

This rare species has been observed in winter-time only, when I have found it under stones in creek-beds, always upon elevated rocky ground, never in the plains. It grows to a considerable size, and, I believe, frequents the high branches of the *Eucalypti* during the summer. A fly often deposits its eggs close to the tympanum of *H. citropus*, and the larva lives there until ready for transformation into the chrysalis state, when it drops out, looking similar to a large yellow maggot. It then forms a black covering, attaches itself to the

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under side of a rock or stone, and emerges in course of time as a perfect insect. Whenever I have squeezed the larva out, it has invariably caused the death of the Frog. I know nothing of the geographical distribution of this species, not having received specimens from other parts of the country.

HYLA PERONII.

Tolerably common. Frequently found under the loose, moist, paper-like bark of the Tea-tree (*Melaleuca*?). The bright yellow covering of the legs is soon lost in spirits. Like most Frogs, *H. peronii* has the power of changing colour; and on a hot sunny day basking on some broad-leaved plant, it looks almost white.

The present species appears to be distributed over almost every part of the continent, from Tasmania to Port Essington. Specimens from Port Macquarie, the Clarence River, Brisbane, Port Curtis, and Port Denison are in the collection of the Australian Museum at Sydney.

HYLA EWINGII.

This pretty little *Hyla* is rather a rare species, and I do not think that I ever found more than six or eight specimens of it, generally under stones during the cold season. Dr. Günther mentions it as occurring in Tasmania and North-eastern Australia.

#### *HYLA FERVESIENSIS.*

Common near Sydney, in deep rocky places between ferns; in fact almost all my specimens were taken from between fern-clusters. A constant visitor in "hothouses" at the Botanical Gardens, and a great expert in the art of catching flies. I am unable to give an account of the geographical range of this species.

#### *HYLA VERREAUXII.*

A rather rare Frog, which I have occasionally taken from under the bark of the Tea-tree, and from under rocks in moist localities; never taken during the summer. No specimens from other parts of Australia have as yet come under my notice.

#### *HYLA KREFFTHI, Gthr.*

A very common species all over the eastern part of Australia. Well known to every colonist on account of its shrill singing noise, which almost resembles that of a Grasshopper; and yet very few persons have seen this Frog, as it frequents the high trees at night, and sleeps under the bark during the daytime. Before and during rain, thousands of these little creatures begin to whistle, producing a most deafening noise, and puzzling every "new chum" who listens to such a concert for the first time. During protracted dry weather little or nothing is seen of this Frog; but after the ground has become thoroughly saturated, and pools have been formed under the high trees, this species may be observed in thousands, in company

DR. W. O. AYRES ON THE SEBASTOID FISHES [Nov. 10,

with *Hyla aurea* and *Pelodytes caerulea*. The specimens I have kept for observation are constantly changing colour, being dark during the daytime, and almost white at night.

#### *PELODRYAS CAERULEA.*

This Giant Tree-Frog is widely distributed over almost every part of Australia, and, on account of its frequenting waterspouts and taking up its quarters under the shingles of roofs, may be considered quite a domestic animal. I have seen young ladies nearly go into hysterics when on a sultry summer's night the deep croak of this large Batrachian sounded from various corners of the roof—particularly when, after an unsuccessful attempt at catching some moth, it has fallen with an uncomfortably dull noise upon the floor of the verandah. *P. caerulea* is a most voracious feeder, and, like *Hyla aurea*, devours all the other Frogs and its own immature kindred. In its habits it is also nocturnal, though now and then a stray specimen may be seen during the daytime.

There are several species of Batrachians of the genus *Hyla* and *Cystignathus* as yet undescribed; so that the number of Frogs found in this neighbourhood may be fairly estimated as twenty distinct species.

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We hold six informative, informal, topical and practical meetings each year at the Australian Museum, Sydney (William Street entrance).

Meetings are held on the first Friday of every even month (February, April, June, August, October and December) at 6.30 pm for a 7.30pm start. **NO MEETINGS ARE HELD ON GOOD FRIDAY so check newsletter for alternate dates.** Visitors are welcome. We are actively involved in monitoring frog populations and in other frog studies, and we 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.

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Thank you to all those <sup>12</sup> who helped with the newsletter

#### LIST OF VETERINARIANS

in greater Sydney who may Treat Frogs - phone first as not all vets in the practice may be on call and willing to look at your sick frog

Northern Beaches Vet Clinic  
cnr Palm and Barrenjoey Rd Newport  
9997 4609

Mark Campbell Harbord Vet Clinic  
29 Carrington Pde Harbord  
9938 4262

Taronga Zoo Vet Centre  
Whiting Beach Rd Mosman  
9969 2777

North Shore Vet Hospital  
94 Alexander St Crows Nest  
9436 1213

Denistone Vet Surgery  
15 Allars Rd Denistone  
9874 0150

Marsden St Vet Clinic  
41 Great Western Hwy Parramatta  
9633 4354

Linda Vogelnest  
Uni of Sydney  
Werombi Rd Camden  
02 46 552 000

Julian Smith  
Jannali Vet Clinic  
544 Box Rd Jannali  
9528 3244

Heathcote Vet Clinic  
1335b Princes Hwy Heathcote  
9520 0655

Menai VetSurgery  
cnr Menai and Billa Rds Menai  
9541 1455

Randwick Vet Hospital  
15 Botany St  
Randwick  
9398 1222

