

# FROG CALL



THE FROG AND TADPOLE  
STUDY GROUP OF NSW INC.

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**1<sup>st</sup> FEBRUARY 2002** AUSTRALIAN MUSEUM, WILLIAM ST ENTRANCE

6 pm official launch of Marian Anstis'  
"A Field Guide  
to the Tadpoles of South-eastern Australia"  
Level 2 Australian Museum  
FATS members welcome

7.15pm FATS meeting  
Level 4 "The Terrace"  
Australian Museum



Photo of a baby Green and Golden Bell Frog  
From Jodi Rowley



## MEETING FORMAT for 1<sup>st</sup> February 2002

- |         |   |
|---------|---|
| 6.00 pm | Marion Anstis Book launch L 2 Australian Museum                                   |
| 7.15 pm | Lost Frogs for FATS members to collect  |
| 7.30 pm | Main speaker Stan Orchard<br>"Frogs in Canada.. you have got to be joking"        |
| 8.30 pm | Marion Anstis Tadpoles, tadpoles and more tadpoles                                |
| 8.45 pm | Melissa De Britt introducing the frog CD<br>prepared and released by Taronga Zoo. |
| 9.00 pm | Five slides or 5 minutes, auction and guessing<br>competition.                    |

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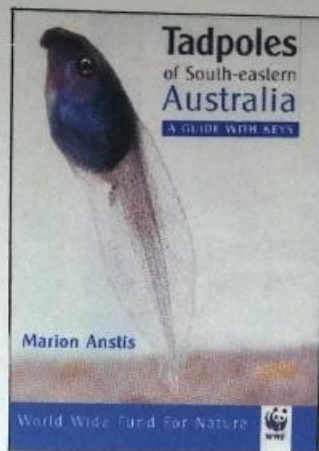
## What happened at the Trivia Night

Instead of our normal December meeting a Trivia Night was held in the Museum Terrace on Sunday the 9<sup>th</sup> of December. The Trivia Night was being held to celebrate FATS' 10<sup>th</sup> anniversary. The Terrace was a great venue as we could gaze over Hyde Park and the city while the sun was up and watched the flying foxes swirl around the buildings at dusk.

Everyone was placed at a table and tables competed as a team against other tables for prizes. In addition to the trivia questions that were asked, other tasks were required including doing frog calls, making origami frogs and solving number riddles. In all it was a hectic night. We had a few cultural interludes commencing with Punia and Katherine's fertility dance as symbolic Striped Marsh Frogs liberally hurling spawn into the assembled throng. We were also treated to some video footage of three frogs (Anne Miehs, Marian Anstis and Liz Margery) singing the Little Frog Song at Centennial Park during Frog Week. As if this wasn't enough, Marian Anstis also belted out a special composition penned by Stan Orchard entitled the Frog Blues. The crowd was agog.

After sets of harrowing trivia questions, the winning group was not determined until the final round. The winners were the Laughing Tree Frogs. This table had the least number of people on it (only 4) – perhaps that was the secret to their success. The winners were Jodi Rowley, Liz Margery, Paul Scanlon and David Nelson. Paul is a new FATS member and this was the first meeting that he has been to.

The number riddles went to a sudden death playoff. The ultimate winners were the Narrow Mouthed Toads. Several groups were successful in the frog origami as were others with the frog call impersonations. Best frog costume went to Monica Wangmann for her Long John Silveri frog. Best frog call of the evening went to Punia Jeffery for her rendition of the Eastern owl Frog. The Lucky Door Prize was won by David Nelson (some people have all the luck). Everyone enjoyed the evening- especially the winners. We may arrange another trivia night in the future. Arthur has been banned from writing any more trivia questions (take note all of you who found the questions too obscure). Many thanks to the organisers, especially Karen and Arthur White, Wendy, Andrew and Phillip Grimm, Monica Wangmann and Punia Jeffery. More thanks to all of those who came and made it a fun night.



Be the next  
to  
BOOK  
LAUNCH  
at  
the  
next  
meeting

Every FATS member is invited to the official launch of Marian Anstis' "A Field Guide to the Tadpoles of South-eastern Australia". Come along and meet the author. Discount copies of the book will be available for sale. Have your one signed by Marian as well. It is an opportunity to find out about the trials of book writing and experience the joy of its final publication.

The book launch will start at 6.00 pm on the second floor of the Australian Museum on Friday the 1<sup>st</sup> of February 2002, immediately before the regular FATS meeting. When you arrive at the William Street entrance to the Australian Museum, there will be signs and people to direct you to the right area. Nibbles and drinks will be provided. So come along, this doesn't happen very often.

The FATS meeting will commence as soon as the book launch has finish (about 7.15-7.30 p.m.). The meeting will not be held in the theatre but up on the 4<sup>th</sup> floor of the Museum in the Terrace. Those of you who attended the Trivia Night will realise what a great venue it is. Great views over Sydney.

Marian Anstis (author of "A Field Guide to the Tadpoles of South-eastern Australia" will also speak on her favourite subject- tadpoles, tadpoles and more tadpoles. If you thought all tadpoles were the same, you are in for shock.

Melissa De Britt from Taronga Zoo will present the latest frog CD prepared and released by the Zoo. The CD was supported by the Australian Stock Exchange and is ideal for budding froggers (kids to grannies). The CD is now available commercially and Melissa will explain how to use it and where to buy it. If enough people are interested we may be able to get a bulk discount through FATS.

In addition, we expect people to bring along frog slides, talk about their christmas field trips and various frog encounters. A limited number of frogs from the Frog Rescue Service will be available at the start of the meeting. A W

**T**he Australian Museum is kindly listing FATS in the Society pages of Australia Nature. This is a wonderful natural history magazine that covers a range of animal groups, not just frogs (although frogs features often in it). If members do not subscribe to Australia Nature they should do so. The magazine is designed for animal buffs and is full of prize-winning photos and current research stories. FATS members may also wish to join The Australian Museum Society (TAMS). TAMS holds various activities in the Museum and conducts field trips and journeys to far flung places. Membership to TAMS includes the subscription to Australia Nature. AW

## Smiths Lake Field Trip

**A**nother frogging trip to Smiths Lake in the Myall Lakes National Park has been set down for 22<sup>nd</sup>, 23<sup>rd</sup> and 24<sup>th</sup> of February 2002. This is a regular survey area for FATS and many people have been one or more times already. We are able to use the University of New South Wales' Field Station at Smiths Lake which has dormitory-style accommodation, kitchen (no microwave) facilities, plates and cutlery, table sand chairs, toilets and showers. Come for the three days or just come for the week-end.

It is a safe place to bring young children. There is a shallow lake at your doorstep and we are not far from surf beaches at Seal Rocks. It is also a haven for bird watching, forest walks or snoozing under a tree in the sun. At night, those who are awake venture out to favourite frogging spots to check out the local frog action.

The costs of the use of the field station is \$12 per adult per night, children (under 10, \$ 6 per night. If you are interested in going ring Karen or Arthur White on 9599-1161 and let them know. If you need directions on how to find the field station. also let us know. You do not need to be a seasoned frogger to enjoy Smiths Lake. AW.

# Frogs and Fertilizers

**Z**oologists at Oregon State University have determined that several species of amphibians are harmed by concentrations of nitrates and nitrites that fall within Environmental Protection Agency standards for safe drinking water. Larval amphibians are especially affected by these by-products of nitrogen fertilizers.

The study, published in the December 1999 issue of *Environmental Toxicology and Chemistry*, focused on five amphibian species. When exposed to moderate amounts of nitrates and nitrites, some tadpoles and young frogs exhibited decreases in feeding and swimming activity, disequilibrium, physical abnormalities, paralysis, and death. Over half of one species, the Oregon spotted frog, died after 15 days of exposure to nitrites. The Oregon spotted frog has largely disappeared from its native range, most of which is commercial farmland. Study leader Andrew Blaustein says the effects of the compounds may be intensified by environmental factors such as acid rain and UV-B exposure. <http://ehpnet1.niehs.nih.gov/docs/2000/108-3/forum.html#beat>

**The Beat** edited by Erin E. Dooley forwarded to FATS by Adam Crawford

## \$1m deal to save threatened species

By SIMON BENSON  
Environment Reporter

THE State Government will today announce almost \$1 million in funding for recovery schemes for six endangered species across NSW as part of Threatened Species Day.

The bulk of the money will be spent on the southern corroboree frog, which experts believe is under imminent threat of extinction from its Mt Kosciuszko home.

"The corroboree frog is on the brink of extinction and on the present evidence there is not a lot of time to turn the situation around," Environment Minister Bob Debus said.

"We have already lost eight species of frog in Australia. I am hopeful that this recovery plan will give this species a brighter future than it is facing now."

Recovery plans were also approved for the western pygmy possum, the Blue Mountains skink and three rare native orchids.

Mr Debus said the corroboree frog



Endangered... the corroboree frog

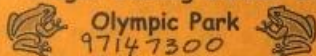
recovery plan focused on an egg-hatching program, habitat protection and further research.

National Parks and Wildlife Service recovery team co-ordinator Dr Stephen Clark said the park's corroboree frog population had plummeted in the past 25 years.

"They may number fewer than 900 and the population has declined abruptly in the past 18 months," he said.

## Summer Frog Fun

All ages evening wander at



Wed 2, Mon 7, Wed 16, Mon 21

and Tues 29 January 2002

Mon 4, Wed 13, Thur 21, Wed 27

February 2002

Time: 7.30 pm to 9 pm

- Explore the habitat of the Green and Golden Bell Frog
- Join in the frog chorus
- Enjoy the park at night
- Learn about our amphibian friends

• Meet at Homebush Bay Visitor Centre, Herb Elliot Drive, Homebush Bay.

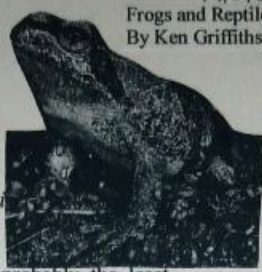
Cost (GST Inclusive):

\$8.80 adults

\$6.60 Children (under 15 years)

Family rates apply

# Frog Information Profile



**Scientific Name:** *Litoria littlejohni*

**Common Name:** Heath Frog

**Distribution:** The heath frog is probably the least known and most infrequently encountered frog in New South Wales (and so anything I say may not be entirely correct, just what I think is right). It was only officially described in 1994, although there had been an attempt to describe the species in 1980, and was listed under the Threatened Species Act of the NPWS only in the last few years. There are records of this species from the coast and adjacent ranges from the Gosford area of NSW south down to the Gippsland area of eastern Victoria (a number of years ago I heard a frog that sounded much like the Heath Frog calling at a forest west of Coff's Harbour, so it is possible that the range is greater still). Despite this rather large distribution there are in fact, very few records of this species from NSW and Victoria (I think not more than 20 sites from each state). This frog is known only from areas of natural vegetation ranging from sea level to at least 1000m and so has a broad distributional and altitudinal ranges.

**Physical Description:** This frog is one of the whistling tree frog group most commonly represented by *Litoria verreauxii* and *Litoria ewengii*. As such it looks like a much larger and more robust version of these two frogs (that grow to only 40mm). Females grow to 70 mm and males a little smaller at around 50mm. They are greyish-brown above (darkness depending on the background they have been against) with many darker spots and flecks and a black mask running from the nose to past the eyes and over the eardrum to the shoulder. The belly is cream to pink in colour and there are orange flash markings in the armpits, groin and backs of thighs.

I don't have any good information on the tadpoles of this frog, but you need only refer to Marion Anstis' excellent new book for all the information you need. These will be on sale at the next FATS meeting where she will cheerfully autograph them for you (and they'll become much sort after collectors items).

**Breeding Biology (including call):** These frogs have a spring calling season that may span the entire year, but is generally considered to be concentrated in the warmer months. However, I have heard it calling most often during the colder months, which is typical of the whistling tree frog group. Some further work on its calling season would be useful. Males call from vegetation above the water, with ponds being the preferred breeding habitat, although they have been recorded from streams. The call is a slowed down version of a whistling tree frog and rattles a bit (a very useful description I am sure) so comes out as

a reeeeeee reeeeeeeee reeeeeeee reeeeeeeee repeated 6-14 times. The eggs are laid in small clusters attached to submerged vegetation as is the case for other members of this group. One trick regarding finding the Heath Frog is that they have a very sporadic and relatively unpredictable calling habit. Sites can be visited many times under apparently good conditions without this frog being present, only for it to turn up the next time the site is surveyed. Returning to the site the very next night is just as likely to find Heath Frogs have again abandoned the pond. Part of its considered rarity may be due to this unpredictable nature as recording it, even when it is known to be at a site, is very much a matter of very good luck and a lot of effort. The tadpoles may present a better option for surveys.

**Habitat Requirements:** Heath Frogs are found in dry sclerophyll forest, dry woodlands and heathland. To me in fact, they have a remarkably similar localised distribution to that of the Giant Burrowing Frog (they share many of the same breeding sites in the Watagans) and their may be some important habitat features that both species use. They are not known to occur in substantially modified environments and so may be somewhat intolerant of habitat loss or changes. However, one site they are well known from is the old Darkes Forest Colliery which was obviously subject to some clearing and various types of disturbances and are also known from a number of sites in forestry areas. Hence, they do not appear to be intolerant of any disturbance, as has been suggested, although the actual effects of disturbance still need to be looked at to assist in the long-term conservation of this species.

The habits of individuals of this species outside of the breeding season are, as for most Australian frogs, not known. They are not seen at all when not breeding, which suggests quite secretive behaviour, but the lack of observations can just as easily be attributed to their rarity. The rest of the group appear to spend their time in the leaf litter and low shrubs and this may be the same for the Heath Frog. They may however, be more inclined to climb and have well developed suckers on their toes, which would make them hard to find when not breeding (I hope to radio-track a couple of them this year to see what they get up to). They presumably eat invertebrates, but their diet has not been investigated.

**Similar Species:** As noted before, the Heath Frog is similar in appearance to the Whistling Tree Frogs (*Litoria verreauxii* and *L. ewengii*), but is much larger and more robust. It was confused for a very long time with the Jervis Bay Tree Frog (*L. jervisiensis*) and some more of its apparent rarity may also be due to this confusion (they have very similar calls). I don't however, find these two species hard to tell apart as the Jervis Bay Tree Frog is rather slender frog for its size with a pointyish nose whereas the Heath Frog is robust and has a rather standard rounded nose. **Frank Lemckert**



▲ Green and Golden Bell Frog  
LITORIA 8 cm

*Litoria aurea*

## Green & Golden Bell Frogs at Long Reef Update

**T**housands of frogs of six species of frog call the wetlands at Long Reef Golf Course home (such as The Striped Marsh Frog *Limnodynastes peronii*, The Common Brown Froglet *Crinia signifera*, The Dwarf Tree Frog *Litoria fallax* and the Perons Tree Frog *Litoria peronii*). While we love all these frog species, only for one species frog will cause Long Reef Frog Conservation Group volunteers to plunge head-first into ponds in order to capture. This frog is the endangered Green and Golden Bell Frog (GGBF) *Litoria aurea*, and there isn't anything much cuter than a baby GGBF.

The most recent tadpole release at Long Reef is now producing good numbers of tiny GGBF's, which sit upon the reeds during surveys carried out by the LRFCG. A keen eye and swift (but gentle) hand is all that's needed to capture these frogs during surveys, and help is needed more than ever to help us catch and 'process' frogs. 'Processing' entails identifying, sexing, weighing, measuring and often, micro-chipping the frogs, before placing them back where they were found.

For more information (and photos), see <http://www.thesodapop.com/frogs>. If you're interested in joining Long Reef Frog Conservation Group (it's free and you receive quarterly newsletters) or have any questions, contact Jodi Rowley ([jodi@student.unsw.edu.au](mailto:jodi@student.unsw.edu.au), 0417 489 962).

## NARCAM UPDATE

**L**inks to other sites. The page "Other Web Sites" has been revised and updated. It contains over 60 links to sites with topics related to amphibians and amphibian malformations. These have been divided up into the following categories to help you find the information you are looking for: Malformed Amphibian Issue, Monitoring Web Sites, Other Ways To Get Involved, Declining Amphibian

Issue, Identification Aids, Regional Identification Aids, Taxonomy, General Information. An extract of these sites can be found under "How Can I Get Involved?" in the main menu. This page is a short cut to information for those who wish to start or participate in an amphibian monitoring program. **Ralph Tramontano, Coordinator North American Reporting Center for Amphibian Malformations Northern Prairie Wildlife Research Center**  
E-mail: [narcam@usgs.gov](mailto:narcam@usgs.gov)  
Web: <http://www.npwr.usgs.gov/narcam>

## ADI Site - Protest Vigil

**W**e hope that you have all had a relaxing break and are looking forward to a happy New Year.

But some ADI people have already been busy conducting a vigil outside the Catholic Education Office in Parramatta, in protest at the proposed development of part of the ADI Site for a Catholic High School.

We need some extra support, so if you can spare just 3 hours to help, please give Gabriel and Hugh a call ASAP (see below) regards Noel Plumb

Come and support the ADI Vigil at the Catholic Education Office. We need people for Thursday the 24th and Friday the 25th.

The Vigil, which started last Friday, is still running each afternoon from 3pm to 6pm opposite the office at 12 Victoria Rd in Parramatta. If you have time, come and visit the people doing the vigil. Come and meet Addy the Kangaroo or give out some flyers.

If you have time to do an afternoon please contact Hugh or Gabrielle on 9673 4098 or email [hughandgab@hn.ozemail.com.au](mailto:hughandgab@hn.ozemail.com.au). We have been working in pairs and we need people for Thursday the 24th and Friday the 25th, 3pm to 6pm.

The Vigil takes the message right to the doorstep of the Catholic Education Office and lets them see that we don't agree with what they are doing. It also spreads the campaign a little wider so that the people of Parramatta start to learn about what is going on. The response has been very positive and stories have appeared in the Penrith, St Mary and Parramatta press as well as in the Herald. So come along and keep the vigil going.

# Kooragang Island

We are having a major problem in trying to conserve a unique freshwater wetland, around Creek 3 at the western end of Kooragang Island, that supports/did support a large population of the Green and Golden Bell Frog. Things haven't been good lately with continuing saltwater inundation of just about the whole site, increasing death of the old trees, and the oozing of toxic materials from the hypersaline salt pans now forming. However, there has been an increasing response by the community and government, and there is talk in the wind of the implementation of a management plan administered by parties sympathetic to the conservation of the GGBF. However, not much on ground activity has occurred and the frogs really need some help. Most of the salt water is now over double the salinity of seawater now as it dries up in the hot dry conditions. We just don't know what has happened to the frogs in the area, I suppose they are dead from salt or through predation, just about everything else is.

We may be forming a special society with a specific goal of looking after the frogs on Kooragang, keep you in touch. The web site will be updated next week with the continuing sad story, and hopefully with some rays of hope.

Robert Browne

<http://www.bioteck.org/index.html>

## Kooragang Island

Western Kooragang Island is/was the home of a Green and Golden Bell Frog population of national environmental significance. This population has had greater than 60% of its habitat destroyed in the last four years through saline flooding and vegetation clearance. The area is managed by the **Kooragang Wetland Rehabilitation Project** under the umbrella of the Hunter Catchment Management Trust. **Click here to find out how you can assist in conservation.**

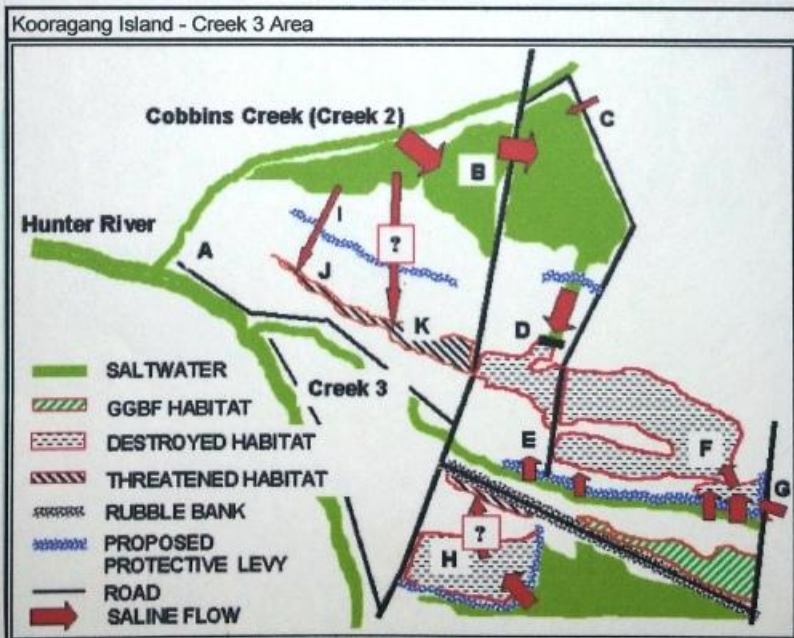
● Kooragang 1997-2001

● Kooragang 2001-2002

## Gillieston

Gillieston used to be home to the second largest population of the Green and Golden Bell Frog after western Kooragang Island and the newly discovered population near Kooragang Island at Sandgate. The fate of the population after this massive habitat alteration in December 2001 is unknown.

● Gillieston 2000-2001



Most of the last remaining breeding habitat (specifically protected) of the endangered Green and Golden Bell Frog at western Kooragang Island was destroyed by saltwater flooding between October and December 2001.

Destruction of Green and Golden Bell Frog habitat has been occurring at an increasing rate at the western end of Kooragang Island since 1998 and is of great concern to frog conservation.

Between Christmas and the new year most of the small surviving area of habitat was destroyed by saltwater flooding from the opening of Creek 3. **Click to see a history of Creek 3 (70kb).**

Saltwater flooding could have been stopped by a small amount of fill to create levies (less than 30cm depth).

Immediate remediation of damage through the provision of levies and desalination of destroyed frog habitat may still support the survival of the population of this critically endangered frog.

Dense mangroves which shelter a low diversity of wildlife have been established by saltwater flooding in almost all areas surrounding the Green and Golden Bell Frog colony. For a balanced ecology freshwater habitat would be maintained for the Green and Golden Bell Frogs, birds (such as the threatened Australasian Bittern) and other wildlife.

**The destruction of Green and Golden Bell Frog habitat to the north of Creek 3 is almost complete. In the Creek 3 Area there is only one swale not affected by salt water flooding.**

**Although many trees have already died the destruction could be remediated by the provision of levies, the reduction of flow in Creek 3, and removal of salt from affected habitat.**

**The unique freshwater ecosystem supporting the Green and Golden Bell Frog colony has taken more than 60 years to establish and is now being destroyed in a matter of months by uncontrolled salt water flooding.**

#### *Where is the saltwater coming from?*

A high tide occurred in the Hunter Estuary at 11 am on the 31st of December 2001 which allowed a better determination of the source of salt water destroying the habitat of the endangered Green and Golden Bell Frog.

#### *Creek 2 (Cobbins Creek).*

Large amounts of salt water were flowing from Creek 2 over the road into the salt flats north of Creek 3 (**site B**). A small amount of salt water was also flowing into the flats at the NE corner (**site C**). A large amount of salt water from these flats was flowing from the north over the old road crossing into the Northern Swale (**site D**). It would appear that the source of increased flow into Creek 2 was due to enlarging of the Creek mouth.

#### *Another freshwater swale on the death-list.*

Die-off of vegetation had been observed before the 31st of December in the only remaining freshwater swale to the north of Creek 3. The source was not apparent although salinity of 5.0% (seawater is 3.5% salt) was found in water pooled in the swale on the 21 st of December 2001. Investigations showed that salt water flow was entering the swale through at least two sites (**site I/J/K?**).

#### *Creek 3. Green and Golden Bell Frog habitat destroyed by increased flooding due to modifications to the Creek 3 culvert.*

The "new culvert" was offering little restriction to the flow of salt water into the Creek 3 with little difference in tidal height either side of the barrier. Water was flowing from Creek 3 into GGBF habitat at several points. At (**site E**) salt water was flowing through two channels to the north inundating surrounding Casuarina forest and sedge land. At (**site F**) a large flow of salt water was flowing from Creek 3 into the flat to the north inundating it with 30-40 cm of salt water in places. A substantial quantity of salt water from this area was then flowing into the eastern end of the Northern Swale. A small amount of salt water was flowing over the road from the other side of Creek 3.

#### *Saltwater flooding gets worse.*

With the high tide a greater quantity of salt water than usual was destroying frog habitat at the NW side of the Creek 5 flood plane (**site H**). In addition, although the exact source of salt water was difficult to identify salt water pooling and extensive death of Typha (a refuge for Green and Golden Bell Frogs) was noted in the last remaining swale south of Creek 3 at the Ne corner of the Creek 5 floodplane. There is now only one swale not affected by salt in the freshwater ecosystem supporting the Green and Golden Bell Frog population around Creek 3.

Hon. Mr Robert Debus  
Minister for the Environment

Dear Sir

I am a member of the Frog and Tadpole Study Group of New South Wales (FATS). Ours is a community group that is concerned with the conservation of frogs and the protection of their habitats. It has been brought to my attention that an important population of Green and Golden Bell Frogs, an endangered frog species in New South Wales, is likely to be lost. In the Hunter District of New South Wales, the largest and most secure population of Green and Golden Bell frogs inhabit Kooragang Island in the Hunter River near Newcastle.

Plans are in progress to open up tidal channels across the island to recreate salt marsh and mangrove areas. While the creation of a range of habitats is laudible, it will result in the salt water inundation of Bell Frog breeding habitat. To deliberately destroy the habitat of an endangered species while trying to recreate other habitats seems to be folly. At present, the Kooragang Island Bell frogs are secure on the island whereas they have perished in the nearby Hexham Swamp. Bell Frogs have also been lost from many other mainland areas and the island offered one of the few secure breeding areas for the species.

The opening up of the salt water channels, particularly Creek Three on Kooragang Island, will result in the loss of Bell Frog habitat and may displace the population to other, far less secure sites. I request that you consider the wisdom of allowing the salt water flooding of parts of Kooragang Island and are able to prevent this destructive action from taking place. The flooding is being carried out by the Kooragang Wetland Rehabilitation Project (part of the Hunter Catchment Management Trust).

Yours Sincerely

Your letter can be e-mailed: [bluemountains@parliament.nsw.gov.au](mailto:bluemountains@parliament.nsw.gov.au)  
or faxed on (02) 4751-1245.

NOW THAT I'M IN A SMALLER POND,  
I SUPPOSE I'LL HAVE TO LOWER MY EXPECTATIONS!



from Orana



## Herp Search Australia

Stewart and I have just been feverishly updating Herp Search Australia, and now there are almost 400 searchable entries with links to Australian herpetological resources. Everything from husbandry info and species profiles, to book titles, herp clubs and online photos - if its Australian and herpetological, we hope its there! (and if its not, feel free to submit it for addition!)

For the new people out there, you can see the searchable database (aka search engine) at: <http://www.reptilesdownunder.com/herpsearch/>

If you have a link or resource to add to the database, go to the submit page, and fill in the details! (But PLEASE, check if it is listed already > by searching for the title).

Stewart and I built this 'search engine' so that a large amount of herpetological information is available to everyone in one easy to access place. So its there for the use - go forth and enjoy!

Matthew O'Brien

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[australianherps@yahogroups.com](mailto:australianherps@yahogroups.com)

## Herp Digest newsletter

I have subscribed to Herp Digest for a couple months. It's a neat newsletter about reptiles and amphibians that is sent out by email once a week. Allen Salzberg, who is a turtle guy, puts it out. A lot of it concerns scientific research, conservation, and legal matters. There are usually several articles about amphibians in the newsletter. I am particularly interested in the articles about research, amphibian decline, smugglers, and legal issues. It's free. I recommend you try it for a little to help you stay on top of reptile and amphibian news.

Go to [www.herpdigest.org/](http://www.herpdigest.org/) for more information.

Michael Shrom [shrommj@ptd.net](mailto:shrommj@ptd.net)

To [anuran@bb-elec.com](mailto:anuran@bb-elec.com) [frognet@bb-elec.com](mailto:frognet@bb-elec.com)

### Twilight Walks through Mount Annan Botanic Garden

6.30 pm to 8.30 pm, Monday 14, Wednesday 16 and Friday 18 January.

Experience the Gardens at twilight and discover the secrets of the night. Bring a torch and spot kangaroos, owls, frogs and other creatures.

Cost: \$8.80 per person or \$26.40 for a family of 4.

Includes entry to the Gardens.  
Bookings essential: 4634 7930.

Tomorrow will be Froggy:  
Weird Weather Facts



1. On 24 October, 1987, the *Daily Mirror* published the world's weirdest weather report – a story about a heavy downpour of pink frogs.

Residents of Stroud in Gloucestershire were pelted by the little creatures during a sudden cloudburst. They bounced off brollies, hopped on pavements and headed in their hundreds to the nearest rivers. Local gardens were full of them.

with compliments Matthew Remplay-Hill

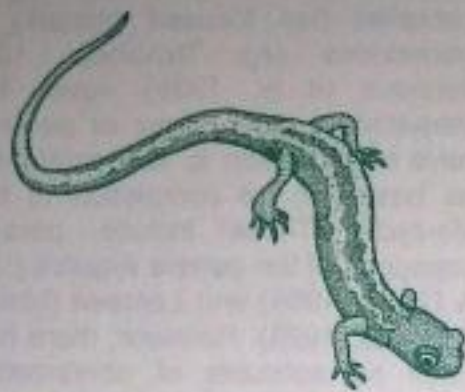


A most unusual pairing?

Wildlife Australia Winter 2001 [www.wildlife.org.au](http://www.wildlife.org.au)

MRS PHYLLIS PARKER, from the Queensland town of Mackay, sends us this photo of a most unusual pairing — or is it? For her efforts, she receives a copy of New Holland Publishing's, *Green Guide: Frogs of Australia*.

Mrs Parker reports she first observed this toad and frog in her garden at about 1.00p.m. one Sunday afternoon in February. The two amphibians were sitting in semi-shade. They remained in this position until about 5.00 p.m., when the toad opened its eyes, stretched its legs and climbed off the frog and back into the garden.



# FROGLOG

Newsletter of the Declining Amphibian  
Populations Task Force

August 2001, Number 46.



## Successful Treatment of Chytridiomycosis

By Donald K. Nichols and  
Elaine W. Lamirande

*Batrachochytrium dendrobatidis* is a recently discovered species of chytridiomycete (chytrid) fungus (Longcore et al., 1999) that has been isolated from many different amphibian species with fatal skin infections (Longcore, 2000). In experimental studies with dendrobatid frogs (*Dendrobates tinctorius* and *D. auratus*), we showed that *B. dendrobatidis* can be a primary pathogen (Nichols et al., 2001). The earliest clinical sign of chytridiomycosis in dendrobatid frogs is excessive shedding of skin; ante mortem diagnosis of chytrid infection can often be made through microscopic examination of shed skin and/or skin imprints (Nichols et al., 2001).

In another study, we experimentally infected juvenile *D. tinctorius* and then, once excessive skin shedding had begun, we treated them topically with one of three antimicrobial drugs: trimethoprim-sulfadiazine (TMS), miconazole, or itraconazole (Nichols et al., 2000). A powdered form of itraconazole was suspended in 1% methyl cellulose to make a 1% suspension of itraconazole; this was then diluted with 0.6% saline to a final concentration of 0.01% itraconazole in suspension. A 1% solution of miconazole was diluted with 0.6% saline to a final concentration of 0.01% miconazole. A 48% solution of TMS was diluted with saline to a final concentration of 0.1%. Infected frogs were treated by immersion in one of the three solutions or suspensions for five minutes per day for either eight (miconazole) or 11 (itraconazole and TMS) consecutive days. At the end of the study, all frogs were euthanized and examined histologically.

Although treatment with TMS prolonged the frogs' lives compared to untreated controls, it did not eliminate the chytrids from the frogs. All frogs treated with either miconazole or itraconazole were cured of chytrid infection. However, the miconazole treatments were poorly tolerated by the frogs which caused us to end that part of the experiment earlier than planned; in retrospect, this was probably due to ethyl alcohol in the original 1% stock solution.

We have subsequently used topical baths in 0.01% suspensions of itraconazole to successfully treat other experimentally infected *D. tinctorius* (Nichols and Lamirande, 2000) and naturally infected *Litoria caerulea* (unpublished data). This appears to be a highly effective treatment for chytridiomycosis in captive juvenile and adult anuran amphibians. Further studies are needed to determine if this treatment is efficacious and safe to use in tadpoles and caudates.

Itraconazole is a potent drug with fungicidal activity against a wide spectrum of fungal organisms. Therefore, it should not be indiscriminately used to treat wild populations of amphibians or to prophylactically treat captive animals.

Itraconazole is commercially available as a 1% solution (Sporanox, Janssen Pharmaceutica, Inc.), rather than the suspension that we formulated. This solution contains hydrochloric acid and propylene glycol as solvents and has a pH of 2; we do not know if this solution is safe to use on amphibians. Our experience with the frogs' reactions to the diluted miconazole solution clearly illustrates that caution must be exercised when attempting to use various drug formulations to treat amphibians.

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## The Frog Princess and Other Projects

By Mark Pestov and Vladimir  
Anufriev

The Nizhny Novgorod Society for the Protection of Amphibians and Reptiles (NNSPAR) was formed in 1998 as a department of the large nonprofit organization "Dront" Ecological Center. NNSPAR now has more than

# Tadpoles of South-eastern Australia

## A GUIDE WITH KEYS

*'Fifty years ago, when frog populations appeared to be quite stable, we took it for granted that they would always be around. Now world interest is focused on declining populations of frogs, and the need for a guide to our tadpoles has become urgent.'*

Marion Anstis

The mysterious disappearance of frog species throughout the world is causing consternation among zoologists and environmentalists. In mountain and rainforest streams of Queensland and eastern Australia, some species are presumed extinct, while others are in rapid decline.

Environmental agencies, community groups and concerned individuals everywhere are desperately seeking clues to what is really happening. The first step is to find out what frogs are where – and that's not as easy as it sounds. Most Australian frogs are small, elusive and nocturnal. Tadpoles, however, are easier to find.

*Tadpoles of South-eastern Australia* provides us with a valuable tool for identifying and protecting 84 species of frogs that can be found in various habitats within Victoria, Tasmania, New South Wales and just over the border into Queensland. While amateur naturalists will be attracted to the colourful major part of the book featuring frogs and tadpoles, those seeking further assurance of correct identification will be able to work their way through the meticulously constructed scientific keys. Complete with detailed drawings, colour photography and distribution maps, this is the essential guide to tadpoles in the field and in the laboratory.

After 30 years of research and work with tadpoles, Marion Anstis has produced a work of major significance. Much of the information contained in this book has never before been readily available to the public. Its January release will open the door to a whole new area of study.

*'Given the well-documented declines of many species of frogs in Australia in recent decades – especially along its eastern coast and ranges – Marion's book has now become a vitally important tool in monitoring the presence or absence of different species at a given site, together with their breeding success. We in Australia now have a more comprehensive treatment of our tadpoles than any other region of the world.'*

Hal Cogger

Marion Anstis is becoming something of a legend among the frog-watching community of Australia due to her lifelong fascination with the life histories of frogs, and her quest for tadpole identification. With backing from the likes of the CSIRO, Environment Australia and WWF, Anstis has made an invaluable contribution to our understanding of frogs. With her acute eye for detail, she has executed every one of the 300 drawings in this book and taken most of the 268 photographs.

ISBN 1876334630

PRICE \$59.95 HB

To order, please print order form on page 2 of this PDF and fax back your details



For further information please contact Melissa Wilson, Publicity  
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# It's not easy being green, especially when it takes 46 steps to a miracle

**James Woodford**  
Environment Writer

The sports car turns into a frog. Your Monet painting turns into a frog. A new watch turns into yet another slimy green hopper.

This sounds like a fairytale gone wrong but to the frog, it is as real as life.

Not many creatures can beat the humble croaker at changing

its shape as it grows. This miraculous transformation from egg to tadpole into froglet and finally into a full-blown amphibian holds a singular fascination for almost every child and actually takes place in 46 distinct stages.

But in spite of the vast differences in mature frogs, which in-

habit ecosystems ranging from foredunes near wild beaches through to the summits of the nation's highest mountains, most people assume all tadpoles are the same.

According to Miss Marion Anstis, who has just written *Tadpoles of South-eastern Australia*, every frog species produces different tadpoles. Some are so transparent that looking at them is like watching the moving parts of a clear plastic watch, others are dotted like a Monet painting and at least one species is so sleek that it looks more like a sports car than a future frog.

In NSW it is illegal to keep frogs, without the permission of the NSW National Parks and Wildlife Service. Only a small number of tadpoles from non-threatened species are allowed to be kept and these must be released once they metamorphose.

What's the scoop? Miss Anstis snares another wriggly bunch of research material in the Stanwell Tops area. Inset: A tree frog tadpole. Photos: Ben Rushton.

Tadpole species even behave differently, which can be the first step to working out what potential frog is currently a sediment munching wriggler in your pond.

The tadpoles of tree frogs tend to swim near the surface of ponds, Miss Anstis says, whereas ground dwelling frogs generally inhabit the bottom of a waterway.

Some tadpoles have mouths, while others have a mere slit and no feeding parts. They fuel their metamorphosis with yolk that remains inside their bodies.

Some tadpoles become frogs in just a few weeks while others take up to two years. Some never go near the water, instead metamorphosing on the adult male's back.

But by the time a frog begins to hop and hunt it has undergone a transformation that would stretch the imagination of even the most creative 3-D animators.

"Their mouthparts change, their eyes bulge and move up higher onto the head, they get legs, they lose their gills and their breathing organs become lungs. Even their gut transforms," Miss Anstis said.

Her book means that for the first time it is now easier for anyone to tell what kind of a frog a pet tadpole will become.



*The FATS Committee would like to thank David Urquhart and Debbie Saunders for their assistance with our publications.*

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*And a big thank you to all the FATS members who regularly assist with Frogcall*

- |                            |  |                                      |   |
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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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# Tadpoles of South-eastern Australia

A GUIDE WITH KEYS

The New South Wales Frog and Tadpole Study Group  
and

New Holland Publishers  
Invite you to the launch of

## ***Tadpoles of South-eastern Australia***

**Date:** Friday 1st February, 2002

**Time:** 6pm start

**Venue:** Australian Museum, Hallstrom Theatre. Entry via William Street

**Guest speakers:** Hal Cogger and Stan Orchard

**RSVP** by 18th January, Marion Anstis, [marion@zeta.org.au](mailto:marion@zeta.org.au)

Signed books will be available for purchase from the Australian Museum Bookshop on the night.



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