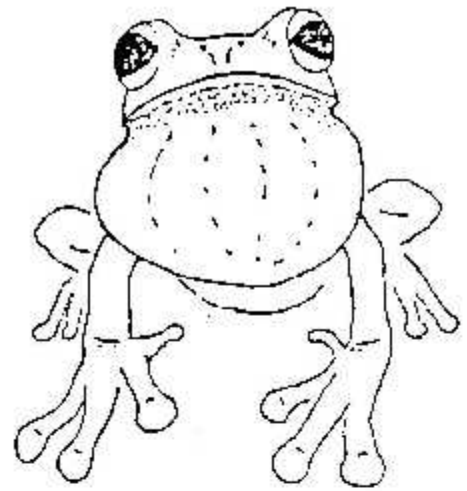


**THE FROG AND TADPOLE
STUDY GROUP (FATSG)**
- a Special Interest Group of the
Australian Herpetological Society Inc.

PO Box A2405
SOUTH SYDNEY NSW 2000



FROGCALL No 12

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Committee (and telephone enquiries):

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Consultants to Endangered Frog Survey:

Michael Mahony (049) 772 773 (h)
Arthur White (02) 599 1161 (h)

NEXT MEETING

*****Friday 5th August***7:00 for 7:30 pm***Australian Museum**

SPEAKERS

Lothar Voigt "Water quality for frogs"
Everyone "My most recent frog observation(s)"
Everyone (exceptions "My five (5) favourite frog slides"
can be handled!)
Angus Adair (at end of meeting, "How to use the Endangered Frog
for all those staying back) Survey form and guidelines"

REGULAR FEATURES

News announcements and discussions
Updates on projects
\$2 donation at the door (a custom that will be
abolished for members after October)
Refreshments and informal atmosphere provided
Visitors welcome (vell, ve vant them very much)

Current major FATSG activities

Endangered Frog Survey:
a study of the habitat characteristics, present distribution, and population sizes of 21 species of 'at risk' frogs in NSW. Partly funded through the National Estate Grant Program. Proudly sponsored by Nissan Australia.

Frogweek 1994:

First week in November, many activities planned to focus public attention and interest in endangered frogs. We anticipate considerable public involvement.



We hold live informative, informal, topical and practical meetings each year at the Australian Museum (William Street entrance) Sydney. Meetings are held on the first Friday of February, May, August, October and December at 7 for 7:30pm. We are actively involved in monitoring frog populations and frog studies, and we produce a newsletter FROGCALL.

DECISIONS FROM THE LAST MEETING

SPECIAL GENERAL MEETING

Separate Incorporation

The SGM voted in favour of the FATS Group becoming incorporated separately, rather than under the umbrella of the Australian Herpetological Society as at present. The vote was taken after much soul-searching and financial Angst over insurance and incorporation fees. We will need an effective membership drive to help spread these overheads.

The meeting also resolved to thank the AHS for their start-up assistance and to continue to work closely with them.

Rules of Association

The SGM voted in favour of adopting a "constitution" or set of rules drafted by Lothar, Martyn and Shane. The rules are compatible with the Government's model rules and are almost identical to those of the AHS.

ANNUAL GENERAL MEETING

Convener's and Treasurer's Reports

Harald's report is included in full hereunder.

Lothar reported on revenue and expenditure of (a) the DEP/Heritage grant for the endangered frog survey (1/3 of the grant spent over 1/3 of the project duration) and (b) the FATS ledger, showing a current balance of \$402.80. The Treasurer's report was accepted by the meeting.

Committee Positions

A new committee was elected, with names and contact numbers as above.

THE LAST MEETING'S FROGGISH EVENTS

Dion Hobercroft brought some stunning slides of Torrent Frogs (*Taudactylus*) to the May FATS Group meeting. Most *Taudactylus* species are in alarming decline; some have not been seen for years. Dion then went on to show shots of Gastric Brooding Frogs and of some great overseas frogs.

A number of other members (Arduin, Frank, Jacquie, Karen, Shane, Trevor) each showed a short sequence of slides, and since all of them had to do with frogs, all were enthusiastically received. By the way, they were good stuff as well!

To top it off, Harald showed pix of Eastern Pobblebuk (*Lim. dumerilii*) tadpoles with tail fins that were not only unusually large but also had an unusual blackish rim around the edge and had ominous bites chopped out of the tails. He found that the culprits were dragonfly larvae which had induced the tads to grow special "bite me here" places.

GREEN-AND-GOLDEN BELL FROGS

At the June AHS meeting, Alan Greer talked about *Litoria aurea* and about declining frogs in general. Some highlights, for those who missed this show:

* In round numbers, of the 2000 frog species worldwide, Australia has 200 and the survival of at least 20 of those in Australia is of very serious concern.

* Three basic theories:

(a) The decline may be benign and part of natural population fluctuations (i.e. "We didn't start the fire").

(b) There may be a single global factor, such as UV. (Hence the likening of frogs to canaries that were taken down: the coal mines - the canaries asphyxiated first and gave miners warning.)

(c) There may be a variety of different reasons. (And there is a lot of money riding one which one(s) you choose!)

* The Green-and-Golden Bell Frog, which is now in the most threatened category, must have been common until a few decades ago. No quantitative historical data is available though - apparently nobody thought of recording it.

* Some 15 locations with aureas have been recorded in the wider Sydney area over the last two years, mostly around sandy areas (e.g. Botany Bay) or disturbed sites (e.g. Roseberry, Hornbush Bay).

* In almost all cases, the villain for aureas in the Sydney area is the introduced Mosquito Fish (*Gambusia affinis*).

* Thunderstorms and lightning turn aureas on.

- * They bask in full sunshine, even in January. They go dark when cold, and light with individualised markings when warm.
 - * The young disperse early; and dispersal may be limiting their density at the Homebush site (with 50-100 breeding adults, the largest aurea site in the Sydney area and right in the way of the Olympic development).
 - * The Olympic Corporation proposes to build adjacent aurea habitats, in exchange for the brick pit.
 - * The Roseberry site, with 7-10 breeding adults, has 600 home housing units planned next to the pond.
- (Since aurea is our only threatened frog that will breed in people's back gardens, it should be worth targeting a tailored Frog facts at residents in their dispersal path. - LV)

DECLINE OF QUEENSLAND RAINFOREST FROGS

Pilgrimage to Canberra by Barbara, Jacqui, Karen and Shane to the Canberra Herp Group meeting, Michael Mahony speaking:

- * There is a pattern emerging - the disappearing Queensland rainforest frog species are predominantly daytime baskers and high altitude ones. [The jury is still out, but in the meantime, don't bask through the ozone hole.]
- * Sick frogs have been found with a virus on or in them. [Do they get sick from something else, or weakened, and then the virus gets them? Or is it the cause or is it a harmless one just sitting there?]

ENDEROGS SURVEY SHEETS

For the Endangered Frog Survey, we would love a minimum of ten field survey data sheets for each of the target species - a tall order for some species, but these are just the ones where we should try the hardest!

As decided at a committee meeting of 9.5.94, everybody on the project please do the following:

- * Send your completed data sheets to Harald Ehmam (via FATS Group PO Box). Harald will then send a copy to Michael Mahony for logging into a data base, and will lodge a copy with the Australian Museum's Herp Section.
 - * If you have claimable expenses, send your claim sheet and receipts to Martyn Robinson (via FATS Group PO Box). Remember: no data sheet, no claim sheet!
 - * If you need blank data and claim forms, Shane, Martyn, Harald or Lothar can fix you up.
- If you are new to this and would like to participate (and are a member):
- * Ring Lothar to be put on list for Sydney-based field trips or to be put in contact with local field trip organisers.
 - * Attend Angus' training session at the end of the next meeting.
 - * Harald is working on a sawn off version of data form and instructions, for the more occasional users.

MINISTER'S APPROVAL

NSW frog people will remember the AHS proposal, with input by FATS Group and the professional herp establishment, on which species should be exempt from licensing, which should be able to be collected and kept after an over-the-counter licence and which should have more protection.

The Minister has now given her approval to the proposal, apparently as it stood (subject to "and amphibians" being added into the Act). It will come into effect after gazettal in January and when the Department has drawn up procedures to administer it.

Our thanks to Gerry Swan and Glenn Shea who have tirelessly and successfully pushed this through.

BETTER FROGWATCHING BY WEATHERWATCHING

by Harald Ehmam

Weather and frogs go together like sound and music. There's a lot of unsuitable weather (noise) and much less suitable weather (music) for frog activity. Of course the sweetest music to our ears is a healthy chorus of breeding frogs! So how can you make your frogwatching more successful and rewarding? - by improving your weatherwatching skills.

If you have done the weather homework and you know your species' breeding times (winter, summer etc) and needs (warm and humid, flooding, heavy rain etc) you are much more likely to have an enjoyable and productive night with the frogs.

There are several weather reporting and forecasting products now available that can help you enormously.

Rainfall reports from the Bureau of Meteorology include district rainfalls on a daily, weekly, monthly, three monthly, nine monthly and 18 monthly basis. These are usually in map form and they provide information on how wet your area/district is, how much rain has fallen recently etc. Examples of weekly, monthly and three monthly maps are included with this issue of FROGCALL. Some use actual rainfall (in mm - see weekly rainfall maps), while others use a comparison with the long-term average rainfall (expressed as an excess or deficit in percent or as a decile).

Take a look at the four most recent weekly average rainfall maps and notice how rainfall varies across the state from week to week. You can "keep track" of the moisture (humidity, rain) and the likelihood of free water (for breeding) in your part of the state. Weekly, monthly (and other) rainfall mapping is obtained regularly for the FATSG survey work.

Rainfall forecasts that are available include Seasonal Climate Outlook which uses the Southern Oscillation Index to predict the likelihood of above or below average rainfall. The Australian publishes maps of the likelihood of rain in the next day, and SBS Television transmits a Weatherwatch Satellite image each day. All these can help considerably in getting the earliest possible notice about frog weather for your excursion. Some of these forecasts are also obtained for the FATSG survey work.

The SBS satellite image is transmitted twice each day as "Weatherwatch", usually around 10:30 am and 2:20 pm weekdays and earlier on weekends (check your TV programme). If you want a detailed information sheet on this image phone the Bureau of Meteorology for a copy. Besides time and date text there is a colour-coded uppermost surface temperature scale ranging from black (+30 deg. C) to red (-25 deg.) to white (-80 deg.). Cloud masses with upper surface temperatures lower than -80 deg. often result in heavy rain. If you check the map each day you will be able to "track" the cloud masses that are likely to produce good downpours in your part of the state.

As any meteorologist or fisherperson will tell you there is a lot to weather forecasting. But with only a bit of effort you can greatly improve your weather skills which in turn will definitely improve your frogging skills and the frog music you will hear in the field. Who knows, frog watchers may even replace fishermen as the weather oracles!

The rainfall reports (mapping) and forecasts are readily available (free) to FATSG Group members who are actively involved in our Endangered Frog Survey work. Contact me on 018-257-585 or Lothar Voigt on (02)371-9129 to arrange access.

May you enjoy better frogwatching by better weatherwatching!

YOUR MEMBERSHIP FEES

As previously announced, FATSG Group membership fees will be due by the 7th October meeting and will be for the following six months:

Membership with <i>Frogcall</i> and <i>Herpetofauna</i>	\$10
Membership with <i>Frogcall</i>	\$ 5
Family membership with <i>Frogcall</i> and <i>Herpetofauna</i>	\$15
Overseas membership with <i>Frogcall</i> airmailed	\$10
Overseas membership with <i>Frogcall</i> and <i>Herpetofauna</i> airmailed	\$15

These are the six-monthly rates to take us to the end of the financial year. From next May, annual fees will apply (which also brings us in line with AHS fees and procedures).

A most convenient, fun-to-use membership and payment form is enclosed with this FROGCALL. The frogs need you.

EARLY PAYMENT RAFFLE:

**PAY AT NEXT MEETING ALREADY AND ENTER THE RAFFLE
AND GET A SECOND CHANCE AT THE OCTOBER RAFFLE!!!!**

MEMBER NEWS

from Shane Gow:

Post card from Tasmania: Found a new Southern Bell Frog (*Litoria raniformis*) site with 5 metamorphs, one of them deformed. Also 15 Brown Tree Frogs (*Lit. ewingi*) under one log, others calling - together with Spotted Marsh Frogs (*Limnodynastes tasmaniensis*). But lost a favourite old study site to bulldozers; now under 2 m of soil and salt bush. Wish you were here.
P.S. About 30 people wrote in after Burke's Backyard's frog flick - most of the requests getting redirected to RANA in Queensland though.

from Martyn Robinson:

A couple of interesting calls to the Museum:

1) A Cromer fruit shop has supplied 11 frogs to one of their ranophile (sounds better than frog loving, doesn't it?) customers over the last 8 months or so. Apparently the majority are White-lipped Tree Frogs, but they haven't been positively identified yet.

2) A North Ryde resident brought in a bunch of Common Eastern Froglets (*Crinia signifera*) infested with *Batrachomyd* fly larvae. I haven't heard of *Crinia* being infected in the past. If anyone elsewhere observes fly parasites in frogs please send the live pupae (damp) to:-

Entomology Division
Australian Museum
PO Box A285
Sydney South 2000

complete with locality and ID of frog concerned.

from Lothar Voigt:

A crescendo of Brown Tree frogs (*Lit. ewingi*) from the back garden, after the rain in early July. And last October they were still eggs themselves! Now they spawned at least 8 egg clumps in one night. And not a peep out of the resident Brown-striped Marsh Frogs (*Lim. peronii*) during this racket! Mixed blessings for the neighbours indeed.

The gardening expo at Darling Harbour netted nearly 100 dollars in donations from friendly Frogfacts fans flocking to the FATS display. As before, Martyn did all the photocopying.

My Gray's Banjo tads (*Lim. dumerilii grayi*) had developed large black-rimmed tail fins with bits missing, just like the hugeye-bitten tadpoles in the slides Harald showed at the last meeting. So I rang him up, saying that I definitely didn't have a dragonfly larva in with mine. "Oh yes, you have. Just have a closer look." "Oh no, I haven't." This went on and on. At my expense - my phone call. Being the more reasonable one, I finally did have another look - and there was the little horror! Now, three weeks later, the mudeye is still in there with them, but the tads must have outgrown it. Their tails look normal again.

Phone call from Harald: "My tads are growing better with your Annona." "Course they do! Nobody likes annonia in their chook."

What would induce YOU to write in? With YOUR recent frog news?

A One-way trip to Danke's Forest, all expenses paid?

Everlasting fame for adding to this repository of tadbit & frogbit knowledge?

The need to publish at last?

Or simply the opportunity to record something that may be important?

Just name it!

And sent your news to the FATS Group PO Box.

OF MEN AND MICE, AND OF THE CANARY IN YOUR PYJAMAS

by Lothar Voigt

The canary in the coal mine might strike much closer to home. Perhaps as close as the frog in your throat. Five seemingly unrelated events:

(1) A recent ABC FM "Green and Practical" broadcast drew attention to findings of drastic decreases in the sizes of human male genitalia since earlier this century. A 25% higher incidence of undescended testicles was revealed, together with a loss of vital measurements too painful to contemplate. Implicated were pesticides which appear to act as oestrogen mimics: The problem of overpollution has now been cast squarely into the lap of man.

(2) Earlier this year a New Scientist article showed a correlation of the onset of heavy DDT usage with the appearance of thin brittle egg shells in ospreys, together with other examples to frighten the readers.

(3) An SMII article a few years back was about organochlorine-contaminated ocean fish caught 30 km off Sydney. (The reason I remembered the article at all was because I was about to have the house sprayed against termites!)

(4) A recent Scientific American article on embryonic development revealed the following: In pregnant mice, where a male embryo is surrounded by female embryos, that male is also surrounded by an above-average amount of oestrogen and grows up to become a male with more female traits than average. Conversely, where a female embryo is surrounded by male ones, it becomes a mouse with some male characteristics. And in cattle, in the rare event of twins, a female twin born with a male twin apparently cannot be used for breeding, having been formed in an environment too high in testosterone.

(5) At the 2nd World Congress of Herpetology in early January, a worry was expressed at a workshop that low-level pesticides throughout the environment, being suspected oestrogen mimics, may have to do with the problem of declining amphibian populations.

If this is so, then frogs may be indicators of more than we think. Is man heading for a quiet little population implosion? Perhaps Goya's revenge? In any case, I won't show my lack of thumb pads and vocal sack to my pet frog. I don't want to be his canary either.

FROG DECLINES, VIRUSES AND YOU

by Brad Cullen

Amphibian declines are apparently occurring on a world-wide scale, with many of these declines taking place in pristine areas and so are not thought to be the consequence of man's activities. The role of pathogens, particularly viruses, in these declines has been largely ignored. Studies are currently being undertaken at the Department of Biomedical and Tropical Veterinary Sciences, James Cook University, Townsville, to elucidate the role of viruses in amphibian declines. Australia has two recognised iridoviruses which are known to cause rapid and almost devastation to some frog and fish species, these being Bohle iridovirus (BIV) and epizootic haematopoietic necrosis virus (EHNV). A major portion of the study involves testing as many species of frogs as possible for susceptibility to the known viruses, as well as to examine field populations of amphibians for evidence of viral infection.

One of the problems encountered has been obtaining a sufficient number and species range of amphibians. A request is therefore made to anyone who may be able to supply amphibians to help with this research. All native species are acceptable, of any life stage from egg to adult. A minimum of 3 to 5 individuals of any particular species is required, with an optimal number of around 40 to 50. Appropriate transportation and holding permits shall be obtained from those states which require them, and transportation costs will be met by James Cook University. For further information please contact:

Brad Cullen
Department of Biomedical and Tropical Veterinary Sciences
James Cook University
Townsville (QLD) 4811
Ph. (077) 815029, Fax (077) 791526

P.S. Brad is also interested in any sick frogs, especially ones found in the field. Ideally, he'd like them live ASAP but if this cannot be done or they are likely to die in transit, he asks if they can be frozen and sent up to him. He recommends a 6-pack polystyrene esky with a freezer brick and overnight delivery.

AT CLAUDE'S HARDWARE CORNER

by Lothar Voigt

Do you have any frog bowls?

Dog bowls? Here.

Frog bowls.

You mean like goldfish bowls?

No, frog bowls.

Look, a dog drinks from its bowl, right? It doesn't swim in it. A goldfish bowl is for swimming in, not for drinking from, right? So, what's a frog bowl for?

Well, both, really.

Yuck!

Do you have any?

I'm gonna get the boss. - Clad!!!

Bonjour, Monsieur, my name is Claude.

He wants a frog to drink his bath water.

A countryman of mine? To drink your bath water, Monsieur?

Actually, it's a Banjo Frog. I just want it to have a soak and a paddle and I want to keep the water clean, that all.

Ah, oui. What does it 'ave now?

A soup bowl. I change the water almost every day, but sometimes I'm not home on weekends, and when I get back it's, well, it's ...

Frog soup, Monsieur?

Yes.

Alors, then you must use a larger bowl. Also, put some activated carbon into the water, in a stocking which you must acquire, Monsieur. Change the carbon when it can no longer keep the water sweet, after such weekends of yours.

Okay. I try to keep my tank really clean. But it also goes to the toilet where it burrows. I had red soil from the inland but now I use mostly brickie's sand that sticks together a bit.

Excellent, Monsieur. You can also mix activated carbon into your sand to keep it fresh longer. Anything else I can use carbon for?

Oui, oui, of course! If you are sometimes away for longer than these weekends, put two hoses into your frog bowl and connect them to a pump and carbon filter. You can then also make an aqua-terrarium, with a little waterfall and with fish as well if they are big enough or fast enough to not get eaten. Then you will need plenty of carbon so that the frog's skin secretions don't affect the fish.

That would be nice, Claude. Does carbon also condition tap water?

Oui, Monsieur, but only to some extent. It is easiest to let the water stand in the sun for a week, with a few water plants in it. For tadpoles and very small frogs, use only well conditioned water, also if you have a biologically active undergravel filter.

Active?

Covered with good bacteria that take bad ammonia out of water. The chlorine in tap water would kill your bacteria. Monsieur, do you like undergravel filters?

Well, I ...

Tres bien, that is wonderful! They are perfect for aqua-terrariums with rain bars because you can make above-water gravel filters so your bacteria also get fresh air to thrive. And you can build up terraces with plants on them, and you can hide stockings full of carbon under the top layer of gravel, and and and - oh, they are very very good, Monsieur.

Do they also take the really big frog poo out? From large frogs?

Such matter accumulates in the lowest underwater part where the gravel is thinnest and the suction strongest. You can syphon it out from there, stir up the gravel a bit with your finger as you syphon, remove part of your water like this, then replace it with your conditioned water.

Do you sell any undergravel filters, Claude?

But there is no need! You can make the best one possible from electrical conduit pipe with slits sawn in everywhere, connect them with elbows - exactly like the rain bar you have made. Only

put it at the bottom, under at least 5cm thickness of 3-6mm gravel and attach a vertical pipe at one end that leads up to the water surface. Either put an air stone and air hose down the riser pipe or, if you want a waterfall, attach a powerhead to it. Voilà! That is all there is to it, Monsieur.

Gee, I didn't think I'd end up buying conduit for a frog bowl. Thanks, Claude.

Hey, Claude! Here's this woman again. Boy, is she mad!

Ah, Madame, how nice to ...

Claude!!! You've done it again! You can live with him if you like; I'm not! There's conduit on the bathtub floor, there's conduit in the garbage bins, it's in the laundry tub, the wading pool, everywhere! He puts it on plastic liners with brick surrounds. He's even got lengths of plastic roof gutter nailed all the way along the fence, with conduit in it, you guessed it. Claude, stop him. I'm worried the new swimming pool is next.

All this for your 'usband's Banjo Frogs?

He' only got one frog.

Mon Dieu!

It's his tadpoles. He found this frog spawn. There's thousands. One per litre, he says. And there's going to be pumps and hoses for dozens of containers, all humming and bubbling and making my whole carpet wet!

Then he must be stopped! Here, Madame, stop him with this.

With a bag of gravel? Hit him, you mean?

Not gravel, zeolite! A natural ion exchanger. Aquarium shops now have many brands. This one removes ammonia without any undergravel filtration. The ammonia that tadpoles release into the water simply goes away before it poisons them. Tell him to put a small handful into each tadpole container, either directly or in a small bag so it can be regenerated instead of thrown away.

Will that keep the water fresh enough for him?

He should also add a small handful of activated carbon, but that is all the technology he will need for his tadpoles, Madame. No gravel, conduit, pump, hoses, just some detritus, some water plants and his tadpoles. Much simpler, no?

I must get home before it's too late. You are an angel, Claude!

Au Revoir, Madame. And tell him there is a talk at the next FATS Group meeting about water quality.

FROG AND TADPOLE STUDY GROUP

I/we wish to apply for membership. The sum of \$..... is enclosed for the membership category I/we have chosen below. Please make cheques, money orders and drafts payable to the FATS Group. Mail your application and dues to the Secretary, FATS Group, PO Box A2405, Sydney South NSW 2000, Australia.

Name(s):

Address:

..... Postcode:

Phone number(s):

Interests:

.....

Membership fees are due by the May meeting each year. If you join in October or later you pay only half the fee.

The following fees are due for the half year from October 1994 to May 1995:

Please
tick

..... Membership with <i>Frogcall</i> and <i>Herpetofauna</i>	\$10
..... Membership with <i>Frogcall</i>	\$ 5
..... Family membership with <i>Frogcall</i> and <i>Herpetofauna</i>	\$15
..... Overseas membership with <i>Frogcall</i> airmailed	\$10
..... Overseas membership with <i>Frogcall</i> and <i>Herpetofauna</i> airmailed	\$15

A donation of \$ is also enclosed.

Signature: Date: