FROGCALL

THE FROG AND TADPOLE STUDY GROUP OF NSW INC.
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FRIDAY 5th APRIL 2002 at the AUSTRALIAN MUSEUM, WILLIAM ST ENTRANCE
6.30 PM for a 7.30 PM start,

Our frog group is in need of members to run one or occasional local evening field trips

Marion Anstis's Book .
"Tadpoles of South-eastern Australia":

A special offer to FATS members has just been negoliated (r.r.p $ 59.95). Copies can be purchased for $40.00 or ordered at the meeting.

Tadpole Posters $5.00.

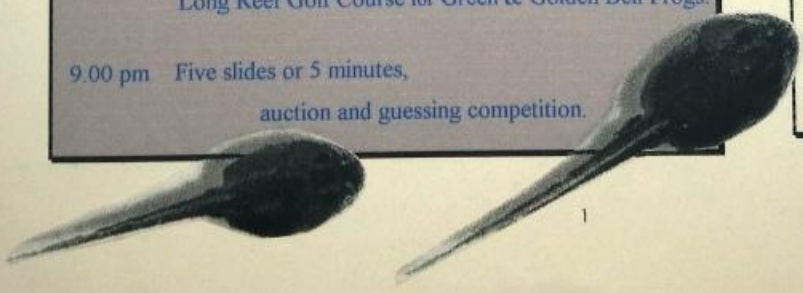
MEETING FORMAT for 5th April 2002

6.30 pm A limited number of lost frogs are ready for collection by FATS members with amphibian licences.

7.30 pm Our main speaker is Lou Petho, talking about and showing film footage of the "Natural History of Green and Golden Bell Frogs".

Our second speaker is Jodi Rowley who will discuss the monitoring and conservation program at the Long Reef Golf Course for Green & Golden Bell Frogs.

9.00 pm Five slides or 5 minutes, auction and guessing competition.



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THE LAST MEETING 1st FEB 2002

FATS members were treated to a spectacular book launch , by New Holland Publishers, with tasty nibbles and refreshments at the Australian Museum, for Marion Anstis's book "Tadpoles of South-eastern Australia".

Guest speakers Hal Cogger and Stan Orchard added to the impressive evening. Marion remained to sign copies of the book whilst guests continued to enjoy the Australian Museum's spacious gallery on level two. Invitees were able to purchase the book and tadpole posters, the latter kindly donated to FATS by the World Wildlife Fund.

Fats members continued upstairs to the terrace for our normal meeting. We were once again fortunate to have a most extraordinary venue - clear glass "ceiling to floor" walls overlooking Hyde Park and the parade of hundreds of Grey Headed Flying Foxes (Fruit Bats) setting out for the nightly forage.

We take this opportunity to thank the Australian Museum for their generous support of the FATS group for over a decade.

As usual, our guest speakers delighted the large group. Despite technical difficulties, Stan Orchard spoke about Frogs in Canada, Marion Anstis elaborated on tadpoles and her book, Melissa De Brit introduced the frog CD prepared and released by Taronga Zoo and supported by the Australian Stock Exchange (ASX). Anyone wanting to donate a slide projector that works can email me!

Many regular and new members were present including representatives from WIRES and the Inner West Environment Group (Ms Bronwyn Englaro) and Greens (Ms Liz Kelso) – who donated a great "Frogs against the bomb" auction T Shirt. Thanks to all who donated auction items.

Please note

1 The Greens Bush Dance flyer for Saturday13th April in this issue. Herb Greedy Hall Marrickville with Swim-Two-Birds, Irish Band. FATS are specially invited guests with a discounted entry rate of $10 pp. Children under 15 free. Proceeds to The Greens.

2 The "No Charcoal" Giant Rally 2pm Sunday 7th April Sydney Domain. Refer South East Forest Alliance 8800 8303 nplumb@idx.com.au and Wilderness Society 02 9282 9553 glen.kiatovsky@wilderness.org.au

Monica Wangmann

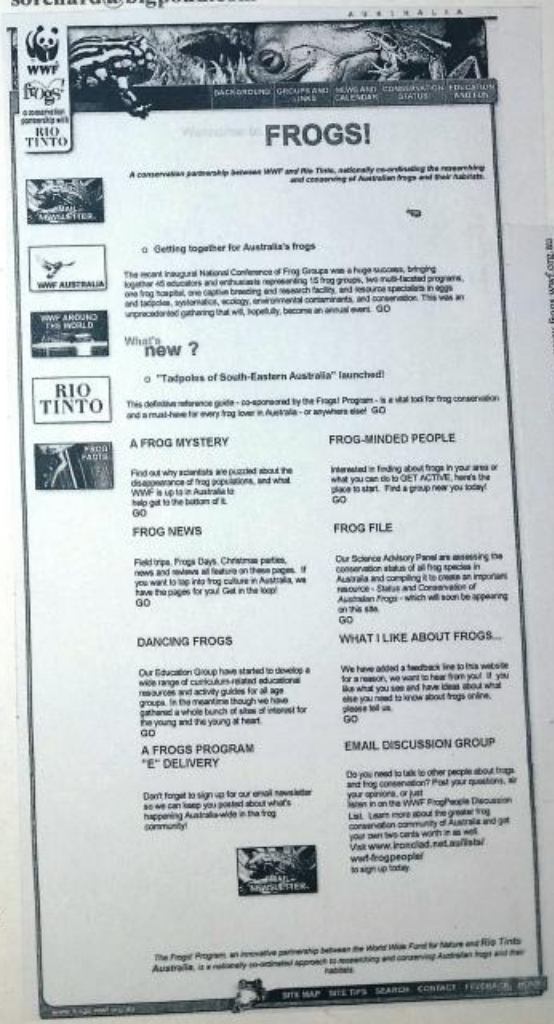
WWF FROGS! PROGRAM WEBSITE

From the editor's desk : Dear Stan and all, Thank you so much for the great frog web site! Congratulations to Rio Tinto, yourself, WWF and all who made this possible. M.W.

For your information, the WWF Frogs! Program website has gone live. If you get a chance to look at it, please let me know what you think. There are many components under construction that will be posted very shortly. A summary of the results of the First National Conference of Frog Groups is also included on the site. See Homepage printed below.

Website address: www.frogs.wwf.org.au

Stan A. Orchard National Co-ordinator - WWF/Rio Tinto Frogs! Program World Wide Fund for Nature Australia GPO Box 528 Sydney, New South Wales AUSTRALIA, 2001 Telephone: 61 2 9281 5515 Fax 61 2 9281 1060 E-mail sorchard@bigpond.com



FLANNERY ON KEEPING WILDLIFE

Photo from Ken Griffiths' book "Frogs and Reptiles of the Sydney Region"

Dr Tim Flannery in his book "The Future Eaters" has a few lines on the way the authorities have treated young Australians and their relationship to our wildlife. It is worth a read because it is on the mark.

" A few generations ago a large proportion of young Australians kept indigenous species for pets and lived in semi-rural or rural areas. From my own 1950's childhood, I vividly remember a family friends pet magpie and my grandmothers cockatoo. I myself kept goannas, snakes, blue-tongue lizards and a wide variety of frogs. Great benefits in terms of familiarity and fondness for wildlife developed from such interactions. Today, many such associations are illegal, unless specifically licensed by the relevant government authority.

Even where they remain legal, there is a general community perception that it is somehow wrong to have native animals as pets.

This great legal fence that divides ordinary Australians from their fauna is, I believe, highly destructive. Today, many young Australians may like their fauna, but few understand it as their grandparents did. Unfortunately, continued urbanisation and urban consolidation is forcing further alienation of people from their environment. Urban consolidation is removing bushland and even gardens from much of our immediate habitat. These areas give most young Australians their first chance to learn about their environment. As the larger trees, lizards, frogs and birds gradually vanish from the urban areas, the alienation of the great majority of Australians from their land will become complete.

A further aspect of protected species legislation is the impact that it has had on organised crime and wildlife smuggling. Prohibition of trade in many common species, some of which are destroyed as pests under licence, has inflated the value of such species to specialist collectors overseas. To cater for this trade a black market has grown up, which has tainted many areas of society, including some charged with wildlife protection. With the connections and power that easily won cash from sale of common species has brought, illegal wildlife traders have been able to risk the capture and sale of even highly endangered species. Clearly, this legislation has been far more destructive than well-regulated legal trade would ever have been.

Side by side with growing legislative protection of native fauna has come an increase in animal liberation. Biologists frequently observe in nature that what is good for the individual is harmful to the species. Because of this, animal liberationists are often pitted head-on with those interested in ecosystem conservation. With animal rights increasingly being incorporated into the law, it becomes ever more difficult to manage ecosystems as a whole. Today, the Royal Society for the Prevention of Cruelty to Animals feels quite justified in telling National Parks authorities how to run their management programs. This is a truly appalling state of affairs which cannot last if Australian ecosystems are to survive intact."
Forwarded on to us by Martyn Robinson
martynr@austmus.gov.au SMH Extract

RECENT EXHIBITIONS

On Sunday, 10th March FATS partook in an environmental fair at Lake Parramatta, run by the Upper Parramatta Catchment Management Trust and the surrounding Councils. Punia, keen as ever, helped me set our tanks and panels and other displays up. Then Lance Brooker and Liz Kelso came to give us a spell and talk to the frog-adoring crowd.

South Sydney Council had a pets day at St Peters on Sunday, 24th March. Everything with fur, fangs or feathers was brought in, so our frogs had no competition at all. Arthur, Punia and I had set up a portable pond – mostly for us to stand in and talk loudly about frogs. Others thought it was a dog pond, and big panting furry fangy things jumped in and rollicked around with us. Liz came to help again, a professional dog wrangler as it happened, but the turmoil was beyond us all.

On Sunday, 10th February we did an exhibition from a distance. There I was, in ABC 2BL's Simon Marnie's studio, holding bags of frogs up while he gave his commentary. The switchboard, as it always does, lit up all over and I could only get through a handful of questions (let alone any answers) **L.V.**

Leap into ASX Frog Focus!

ASX Frog Focus is a program to educate people about frogs and frog conservation. It is sponsored by the Australian Stock Exchange and is a partnership between Taronga Zoo, Perth Zoo, Alice Springs Desert Park, Melbourne Zoo, Adelaide Zoo, Sea World and the Tasmanian Department of Education.

This is the first time that Zoo, Park and Aquaria educators from across Australia have united as one team to develop a national conservation education program!

The Australian Stock Exchange have given the program a five year commitment and it's been underway for just over two years. During that time we have two significant achievements - the ASX Frog Focus website and the ASX Frog Focus CD-ROM.

The ASX Frog Focus website - www.asxfrogfocus.com - was launched November 2000 and has won three major awards with the latest being 'The 2001 Australian Awards for Excellence in Educational Publishing', where we received first place in the primary website category.

The national launch of the ASX Frog Focus CD-ROM happened at Taronga Zoo September, 2001. Mini-launches continued the celebration in every institution in the froggy partnership. Since the launch, over 12000 copies of the ASX Frog Focus CD-ROM have been delivered free to every school in Australia giving teachers, students and their communities a resource that will motivate and engage them in the study of Australian frogs.

Our vision for the next three years is to extensively support teachers and inform them of the best way to incorporate the ASX Frog Focus program in their classroom. This will happen across Australia through professional development days. We will maintain the ASX Frog Focus website and encourage teachers and students to use it as a tool for up-to-date frog focused information.

We will initiate state and national awards to recognise excellent frog conservation work being completed by schools and in the final year, take the program overseas and work with international educators through the International Zoo Educators network. **For more information on ASX Frog Focus contact Melissa de Britt at Taronga Zoo Education Centre on ph: 02 9978 4553 or fax: 02 9978 4508 e-mail:** mdebritt@zoo.nsw.gov.au

COFFEE IS BAD FOR YOU, IF YOU ARE A FROG

EPA Approves Use of Caffeine to Combat Coqui Frog Problem The U.S. Environmental Protection Agency (EPA) has approved a specific exemption from the Federal Insecticide, Fungicide and Rodenticide Act, which will allow the use of caffeine to control coqui frogs in Hawaii. The Hawaii Department of Agriculture (HDOA) requested the exemption after tests by the U.S. Department of Agriculture personnel indicated that caffeine was an effective agent in killing coqui frogs, an invasive species known for its piercing mating calls.

Individual homeowners are not allowed to use caffeine to control frog populations due to certain risks associated with its use. Those particularly susceptible to caffeine hazards include: Toddlers and infants under the age of two, Pregnant women, Children taking medications for asthma or attention-deficit disorder, and Individuals with a history of heart disease, high blood pressure, or circulatory problems.

The coqui frog is small light-brown to dark-colored frog measuring up to two inches. Native to Puerto Rico, the coqui remain hidden during the day and emerge into the trees at night. The mating call of the male coqui is similar to a two-note bird-like chirp or whistle that sounds like, "ko-kee." Mating calls start at dusk and may continue throughout the night. There are no natural enemies to control the coqui in Hawaii. Populations may exceed 10,000 frogs per acre, which consumes more than 50,000 insects each night. As such, the coqui may likely compete with Hawaii's native birds that eat insects and also endanger native insect populations.

The shrieking courtship noise has been a major nuisance to many Hawaii residents and visitors, who are not able to sleep due to the noise level. As a distance of one foot, the loud, piercing calls (90 - 100 decibels) are comparable to the noise produced by a lawn mower, table saw, or helicopter.
Since the coqui remains hidden during the day, the movement of household potted plants has been associated with its spread. Those who purchase potted plants, especially bromeliads, should examine the plant and the medium carefully to make sure that it is free of the coqui frog.
Matthew Stanton
http://hawaiiag.org/hdoa/newsrelease/01-20.htm
http://hawaiiag.org/hdoa/newsrelease/01-20.htm
Forwarded on to FATS by Francis Lemckert Research and Development Division State Forests of NSW Ph 02 9872-0159

DO TASTY TADPOLES RECOGNISE DEATH WHEN THEY LOOK IT IN THE FACE

As some of you already know, I spent the last 9 months (July 99 to April 00) completing an honours degree at Melbourne Uni. For my thesis I primarily examined behavioural responses of two victorian riverine frog species (*Litoria lesueuri* and *Litoria phyllochroa*) to the presence of native and introduced predatory fish. Here is a relatively brief summary of the most interesting experiment I carried out, and what I found.

In south-eastern Australia, Brown Trout *Salmo trutta* and Rainbow Trout *Oncorhynchus mykiss* were widely introduced in upland streams between 60 and 100 years ago. Several frog species occur in this region that breed exclusively in streams: the Spotted Tree Frog *Litoria spenceri*; Leaf-green Tree Frog *Litoria phyllochroa*; and Lesueur's Frog *Litoria lesueuri*. An experimental study by Graeme Gillespie (1997) showed the tadpoles of *L. spenceri* and *L. lesueuri* to be avoided by native predatory fish (Two-spined Blackfish *Gadopsis bispinosus* and Mountain Galaxias *Galaxias olidus*), while *L. phyllochroa* tadpoles are preyed upon by these fish species to a limited extent. In contrast, Brown trout preyed upon all species to varying degrees. Tadpoles of *L. spenceri* and *L. phyllochroa* were preyed upon heavily, while predation of *L. lesueuri* was much lower, suggesting differential palatability of these species to introduced trout. *Litoria lesueuri* is the only riverine species that remains common in upland streams inhabited by trout suggesting the introduction of trout had very little impact on the population. While Gillespie and Hollis (1996) have identified trout as the most probable cause of decline of the endangered Spotted Tree Frog, with populations persisting in only 13 streams, at low numbers. *Litoria phyllochroa*, although appearing to be similarly palatable, has remained relatively more abundant than *L. spenceri*, suggesting that *L. phyllochroa* may have alternative survival strategies to minimize predation from trout. These strategies may have already existed, or may have evolved in response to increased predation pressure since the introduction of trout. Both *L. phyllochroa* and *L. lesueuri* also occur in trout-free streams, providing the perfect opportunity to test whether *L. phyllochroa* tadpoles have in fact evolved trout avoidance strategies in the past 60-100 years, or whether these strategies were already possessed.

Experimental Design

The experiment was designed to test how the behavioural response of tadpoles, in terms of distance from a refuge, varied with tadpole species (*L. lesueuri* and *L. phyllochroa*), region of tadpole origin (East Gippsland [non-trout streams] and north-eastern Victoria [trout streams]), and predatory fish species (Two-spined Blackfish and Brown Trout). The assumption of this design was that, being unpalatable, *L. lesueuri* would show little or no tendency to remain closer to the refuge when either fish species was present as compared to the control (no fish). While *L. phyllochroa*, being preyed upon to a greater extent by trout, would decrease the overall distance to the refuge when a trout was present, and to a lesser degree when a blackfish was present.

The design of the experimental apparatus is shown in Diagram 1, with the exception of a 2 cm grid which was fixed to both long sides of the tadpole tank.

As can be seen in Diagram 1, the design of the experimental set up allowed tadpoles to both visually and chemically detect the presence or absence of the fish species, without the possibility of being eaten, and experimental power reduced. For each experimental replicate (every combination of factors were replicated ten times), ten tadpoles were placed into the tadpole tank and allowed one hour settle. A fish, if required, was then placed in the treatment tank. The treatment tank was either empty (control) or contained a single blackfish or Brown Trout.

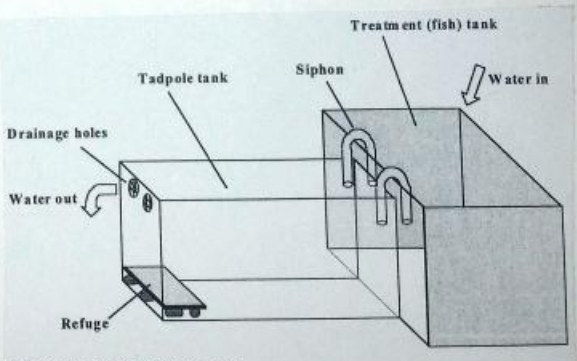


Diagram 1. Experimental set-up.

Observations for each trial commenced 12 minutes after the fish was added, or 72 minutes after tadpoles were added for the control treatment. Observations were then taken every ten minutes for another 50 minutes, totaling six observations per trial. Tadpole distance to the refuge was scored by recording the grid cell in which the body of the tadpole was positioned. Tadpoles that were not visible were assumed to be under the refuge, and recorded as 0 cm from the refuge. Tadpole distances to refuge were averaged for each experimental replicate.

Results and Discussion

Well, with all that out of the way, I can now talk about the more interesting aspect of the experiment, what I actually found! As expected, *L. lesueuri* tadpoles from both trout-present and trout-absent streams showed no variation of response to the presence of either trout or blackfish as compared to the control (no fish). *Litoria phyllochroa* on the other hand, showed a strong behavioural response to blackfish by seeking refuge. This observation being consistent with the findings by Gillespie (1997) that this tadpole species is preyed upon, to some degree, by blackfish. Previous studies have also shown this, with palatable tadpole species responding behaviourally to predators by increasing refuge use.

Though preyed upon by blackfish *L. phyllochroa* is known to be much more susceptible to predation by trout. The present study, however, found *L. phyllochroa* from trout-present streams to respond equally to both trout and blackfish (Fig. 1).

According to a theory called the threat-sensitive predator avoidance hypothesis, prey that are differentially susceptible to different predators, should employ an avoidance response which is proportional to the threat imposed (Puttlitz *et al.*, 1999). This has been demonstrated in a number of studies that have shown tadpoles and newts to exhibit different degrees of response proportional to the threat imposed by the predator. The results from this study, however, suggest that perhaps *L. phyllochroa* tadpoles are unable to differentiate between these predatory species. Further supporting this conclusion, is the observation that *L. phyllochroa* tadpoles from trout-free streams responded to trout, as for blackfish (Fig. 1), even though these populations had never historically encountered trout. It may be that both fish may emit similar chemical signatures, in effect, smelling the same to *L. phyllochroa* tadpoles. Alternatively, tadpoles may be responding visually to the presence of fish, only responding to those of a certain size, which are large enough to eat tadpoles.

Tadpoles of *L. phyllochroa* maybe unable to differentiate between fish in general, or even predatory fish in general. It may be that selective pressures imposed by these fish are so strong, as to have produced a generalised response to all fish. The ability to differentiate between these species may have a relatively small benefit, and therefore take longer to evolve or be incorporated into any response. Further research is required, to investigate whether tadpoles of *L. phyllochroa* can in fact differentiate between other native fish species, and by what means (visual or chemical) they detect their presence.

Regional Variation

Tadpoles of *L. lesueuri* from trout-inhabited streams showed no tendency to remain closer to the refuge than those from trout-free streams. This suggests that trout do not impose a significant increase in predation pressure on *L. lesueuri* in north-eastern Victoria. This is consistent with the low vulnerability of *L. lesueuri* to trout predation, found by Gillespie (1997).

Litoria phyllochroa tadpoles from trout-inhabited streams were found to remain significantly closer to the refuge than individuals from trout-free streams, irrespective of which fish species was present (Fig. 1). This suggests that tadpoles from north-eastern Victoria (trout-inhabited) may be subject to greater levels of predation pressure. As trout are more effective predators of *L. phyllochroa* than blackfish, predation pressure on *L. phyllochroa* is likely to be higher in streams containing trout. Consequently, the presence of trout would be expected to impose strong selective pressure on the predator avoidance response of *L. phyllochroa*. However, if *L. phyllochroa* tadpoles are unable to distinguish between the fish species, such selection would result in a stronger threat response to both species. The regional differences in proximity to refuge of *L. phyllochroa*, suggest an adaptive response in north-eastern populations to increased predation pressure imposed by fish, most likely as a consequence of the introduction of trout.

The observed differences in behaviour of *L. phyllochroa* between streams with and without trout may also be influenced by other factors not investigated in this study. These may be regional differences in habitat among the streams, innate genetic differences between frog populations, or different predator regimes operating across the region that were not detected here.

The similarity of behavioural response shown by *L. phyllochroa* to the two fish species, suggests an innate ability to recognise and respond to predatory fish, though not to differentiate among species.

The observed variation in behavioural responses displayed by *L. lesueuri* and *L. phyllochroa* tadpoles in the presence of these two fish species reflects the relative vulnerability to predation of each species. *Litoria lesueuri*, being least vulnerable, shows no response to the presence of the fish species, while *L. phyllochroa*, being most vulnerable, responds very markedly. Numerous other studies have observed similar behaviour, with palatable species behaviourally avoiding a predator, while unpalatable species show no behavioural response to the predator's presence (Kats *et al.*, 1988; Lawler, 1989; Peterson and Blaustein, 1991).

Variation in magnitude of response between populations of *L. phyllochroa* tadpoles from streams with and without trout, provides evidence for adaptive behavioural responses to altered predator regimes, since the introduction of trout. This difference provides further evidence that adaptive responses by anuran larvae can occur over relatively short periods of time in response to introduced predators. This adaptive response by *L. phyllochroa* indirectly suggests that trout have imposed considerable predatory pressure on this species. Maloney and McLean (1995), suggest that development of predator defenses becomes faster as the pressure exerted by novel predators increases. In an extreme case Reznick *et al.* (1997) documented altered physical characters and life history strategies in the Trinidadian guppy, *Poecilia reticulata*, in as little as four years.

The differential responses of *L. lesueuri*, and *L. phyllochroa* tadpoles in this study, in conjunction with the findings of Gillespie (1997), suggest that introduced trout have, and will most probably continue having, a major impact on riverine amphibian communities of South-eastern Australia.

Gillespie (1997), has also implicated introduced trout as the primary cause of decline in the Spotted Tree Frog. The impact of trout varies among species, with some species possessing characters that reduce trout predation, while others are vulnerable to trout predation. The findings of this study suggest that some species, such as *L. phyllochroa*, have the capacity to rapidly adapt behaviourally to changes in predation regime. Whether such adaptive responses are fast enough or effective in the long term, remains to be seen however. Other species, such as the Spotted Tree Frog, which may be relatively unpalatable to native fish but are preyed upon by introduced trout, may not possess basic behavioural avoidance mechanisms for introduced fish predators, and may therefore take longer to respond to trout. Such species are less likely to survive in the long term. Without the basic building blocks of an avoidance mechanism, the impacts of a novel predator on such species will be more extreme.

Future Directions

More detailed examination of the predator - prey relationships, and mechanisms employed by *L. phyllochroa* tadpoles to detect a range of predatory fish species, may reveal the underlying reason for this species to respond similarly to predators who impose differential predation threat.

Examination of behavioural responses of other species, such as *L. spenceri*, may assist in assessing their long term viability in the presence of introduced trout, and could also contribute to future management of other riverine frogs subject to predation by introduced fish. **By Phil Marantelli**

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FROGBITS & TADPIECES

BE A PLATYPUS WATCHER

The Campbelltown chapter of the National Parks Association is conducting platypus surveys on the headwaters of the Georges River. FATS members are invited to attend. A Training Day will be held on Sunday the 7th of April at 4.30 pm at Berrima so that helpers can learn the ropes and watch how platypus are caught in the wild. The following two weekends (Friday the 12th to Sunday the 14th inclusive; and Friday the 19th to Sunday the 21st inclusive) will be when the real platypus surveys will be held. The surveys will take place at dawn and at dusk.

If you are at all interested, call Barry or Pat Durman on 0246-341-359. This project needs keen helpers. It will be one of the few opportunities for you to see (and perhaps touch) wild platypus. **A.W.**

TADPOLE EATING SPIDER

My tadpole container included what I thought was a nice spider which was able to walk on the surface and which I thought was useful in keeping away insect pests. It had a moult last week, after which it was about 2.5 cm in diameter (including legs) and a silvery grey colour.

On Saturday, it was clinging to the side of the container, about 2 cm above the water surface and it was holding a medium sized tadpole and was happily sucking the juices from the hapless creature. Has anyone heard of spiders that catch and eat tadpoles? The spider has been captured and removed. I've kept it in a jar for identification.
Cheers, Kevin CookDarwin k.cook@bom.gov.au
Yes almost all of the water spiders (Genera *Dolomedes* and *Megadolomedes* most common in Australia) are well able to catch tadpoles. Some of the larger species are even able to catch fish and can attract them by dabbling their palps in the water until the fish rise up to investigate. I'd suggest you keep the spider away from your tadpoles and fish - I'd also be wary of most water insects and invertebrates that you find as there's a high rate of predators in pond communities. Good luck.
Martyn Robinson Australian Museum

FLY PUPAE

Not all the fly pupae I took to the last meeting worked too well. To make up for any disappointments, there will be free flies for everyone who has frogs at the meeting. L.V.

♡ Thank ♡ you to all who ♡♡
Contributed to our newsletter ♡♡ 8

A VISIT TO ALF'S FROG HOUSE

Alf Tabone is one of our corresponding members, one of many who are too busy or too far away to come to meetings. He now moves even further away into the country.

Alf has donated home breed Peron's Tree Frogs to FATS before. You can see them at the Bicentennial Park, when you drop into their Field Studies Centre. Now Alf is disposing of the rest of his menagerie and he asked me over to his place in Merrylands.

Behind his own house comes his fish house and then his frog house, just like a village in a huge terraced garden, with paths stretching into the distance flanked by marble statues.

In the frog house, most of Alf's cages are matching 2 foot ones, extra high, on stands with small submersible pumps. The stands are on casters and can be rolled out of tight corners for easy maintenance.

Now Alf is selling all his cages for what I thought are incredibly low prices. Since I have too many myself, I'd better let you other members know. His phone number is 9635 8658. **L.V.**

FROG HABITAT CREATION, DUCK RIVER

Just wondering if you have any members who might be interested in getting involved in a project on the Duck River at Granville. Our Landcare group has received some funding to fix some erosion runnels caused by stormwater coming in from local streets. We have done a bit of this type of work before and have been lucky enough (more luck that design) to have the water stilling areas (the pondy bits) colonised by Striped Marsh frogs and Eastern froglets (?? I'm a botanist.... not sure).

Anyway, I was thinking that with better design that we might be able to ensure better habitat for a range of amphibians. The Duck River itself is not ideal habitat for frogs, as its full of gamboosia and carp, highly turbid and little fringing veg, so it would be good to get some off line frog habitat going.

If anyone is interested, I can be contacted at work on 9895 7536 or at home on 9897 1755. Thanks
Peter Dixon: pdixon@dlwc.nsw.gov.au

Photo from Ken Griffiths' book "Frogs and Reptiles of the Sydney Region"

I CAN'T TAKE IT ANYMORE

FATS forward this Email on in the hope that some of you may be able to help. Suggestions would be gratefully received. Despite her predicament Jenny has remained good humored and committed to the rights of native species on her farm.

"Dear frog group. What can I do with all the green frogs that come into my bathroom every night? They jump under the shower with me, they hide in the towels, they sit on the loo when I am most desperate and will not move, they get caught in the door and lose their legs, they sit on top of the wall clock, they hide amongst the light bulbs, they get in the kitchen sink straight from the loo no doubt.

In fact I never know where they will turn up next. My policy has been to have my husband round them up each night and put them in the well beside the house but they are all back the next night so I am losing the plot. I think they come up the loo but one was sitting on the step last night waiting to be let back in so I think they can get in anywhere.

Now I do not want to upset the little creatures but they are upsetting me. I have four in the frog bucket at the moment and I thought I would get hubby to take them down to one of the poly tanks on the farm that runs off our bore and put them in there to join those that live there already in considerable numbers. While they keep overflowing the tank by sitting on the ball cock we have overcome that by putting a frog raft to float in the tank. We have some cattle troughs but if you put four in there will they live? We have some dams, would it be better to put them in there and make a bit of a raft for them to shelter under.

Help me please before I go mad.

I want them to survive the bird and other prey on the farm but I simply cannot live with them any longer in the house.

Last week one lost its back foot by hiding in a crevice of the door. I freaked out. I had it put back in the well but it was back in the bathroom the next night so it apparently can get around. Do they have the capacity to grow new feet? That would make me feel better. It has come back two nights but it was not there last night so I am afraid the goanna or snakes that live near the house might have taken it. There is also an echidna living there but I suppose they do not really like frogs. He seems too busy anyway evicting the bull ants that live beside the garage instead. With the thousand or more roos I am home too as I am the only farmer that does not shoot them, and the emus that are keeping the cattle nervous wrecks, I feel life is getting out of control.

But I will be happy if I can just have my bathroom to myself for a change and can open a cupboard door without seeing two cheeky eyes peering out at me from behind the panadol. Help me please by telling how to move the little blighters without upsetting them too much. Otherwise My husband and I will be pushed to a divorce as I cannot bear to touch them and he is getting sick of my screams and being called from his favourite show to catch them in order that I can get on with my life. The country is in drought up here but we have plenty of dams and bore tanks. We are between Gilgandra and Coonamble. I think they are the common green frog."

Post Script "Since we came back up here the population seems to have decreased a little but peg leg who lost his foot in the door, and whom we decided could stay, is still around, getting along quite nicely in the bathroom. A couple of others are sitting on top of the loo so all is normal here but at least there are a few less in the house. I am hoping the ones we put in the cattle troughs survived as they could get under them for shelter. Also I see them here and there in milk cartons around trees so they have plenty of spots to hide. We have had about an inch of rain at last so that may have encouraged them to stay outside where there are millions of insects. I hear them croaking in the tanks so all is well. Must away as have some cattle to attend to."

Regards and thanks, Jenny (Macdougall) Hume Email ianmacdougall1@bigpond.com or iahume@tpg.com.au

GUESS THE BABY'S BIRTH WEIGHT

FATS is expanding. We are getting new members by all possible means. Martin and Melissa from Wisemans Ferry have decided to help by spawning their first child (currently only 3 months into its gestation). To celebrate the impending event Martin is offering some Red Eyed Tree Frogs to whoever can guess the correct birth weight of the baby. Over the next few months we will give you clues (such as the changes in Melissa's weight -if she will tell us) or the vibes that our baby experts have picked up radiating from the would-be mum. Entries can be lodged at the FATS meeting. Stay tuned for further developments. **A.W.**

Great Leap for Frog Creek

You won't find Frog Creek on any directory of Brisbane but the humble little waterway has nonetheless put Bardon on the map.

Brisbane's first "man made" creek didn't exist two years ago, except in one person's imagination. Back in 1996, Queensland Frog Society co-ordinator Phil Bird saw a chance to recreate a wildlife habitat out of an old concrete drain in Bowman Park.

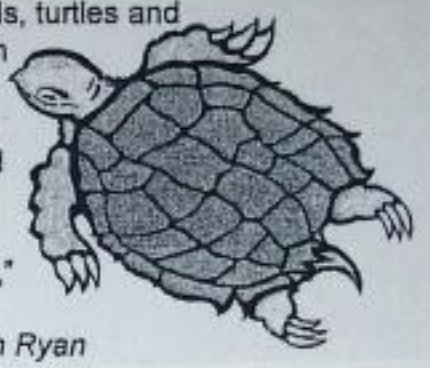
It took funding and support from the Brisbane City Council to design the pilot project, rip up the concrete and restore the area. "The fish life has returned and that is what the little turtle was eating. If you go on the dragonflies, what we've got is a five-fold increase in biodiversity of one order. If you said that to a scientist, they'd say that is remarkable".

Phil Bird said that the community, which helped plant the new creek bed, had responded just as positively and had unofficially named the waterway 'Frog Creek'.

"Kids actually play in there now," he said. Phil hoped that the project would mark the start of a new approach to waterway management in parklands and new developments.

But the city's newest creek is now attracting people as well as wildlife back to the park. Ric Nattrass, manager of the Queensland Parks and Wildlife Service NatureSearch program, said he'd never seen such a dramatic turn-around in wildlife numbers in such a short time.

" Ducks, frogs, lizards, turtles and dragonflies had all been lured to the creek's banks. This is stunning stuff. A freshly hatched saw-shelled turtle was actually in the creek, making a living in there," he said.



by Siobhain Ryan

Official Newsletter of the Queensland Frog Society Inc. Winter 2001

Careful maintenance of your enclosures will ensure a safe and hygienic environment for captive frogs and tadpoles.

Marion Anstis

At the book launch

Adescription of *L aurea* from notes & sketches of NSW
A book by Mrs Charles Meredith published 1844
Many Thanks to Barbara Harvey for the regular articles sent to FrogCall.

CHAP. XI.] GRASS BASKETS—GREEN FROGS.

In the Macquarie, near Bathurst, I first saw the superb green frogs of Australia. The river, at the period of our visit, was for the most part a dry bed, with small pools in the deeper holes, and in these, among the few slimy water-plants and Confervæ, dwelt these gorgeous reptiles. In form and size they resemble a very large common English frog; but their colour is more beautiful than words can describe. I never saw plant or gem of so bright tints. A vivid yellow-green seems the groundwork of the creature's array, and this is daintily pencilled over with other shades, emerald, olive, and blue greens, with a few delicate markings of bright yellow, like an embroidery in threads of gold on shaded velvet. And the creatures sit looking at you from their moist, floating bowers, with their large eyes expressing the most perfect enjoyment, which, if you doubt whilst they sit still, you cannot refuse to believe in when you see them flop into the delicious cool water, and go slowly stretching their long green legs, as they pass along the waving grove of sedgy, feathery plants in the river's bed, and you lose them under a dense mass of gently waving leaves; and to see this, whilst a burning, broiling sun is scorching up your very life, and the glare of the herbless earth dazzles your agonized eyes into blindness, is almost enough to make one willing to forego all the glories of humanity, and be changed into a frog!

David Nelson's Green Tree Frog

SOCIETAS EUROPAEA HERPETOLOGICA

The 12th Ordinary General Meeting of Societas Europaea Herpetologica (SEH) will be held in mid-August 2003 in St. Petersburg, Russia. 2003 is the year of 300-year celebration of St. Petersburg.

Call for papers refer to Dr Natalia Ananjeva Department of Herpetology Zoological Institute, Universitetskaja nab., 1 St. Petersburg 199034 Russia FAX: (812) 1140444 E-mail: 12SEH@zin.ru The meeting will be held at the Zoological Institute, Russian Academy of Sciences St. Petersburg, Russia.

Send us your Preliminary Registration form by e-mail before 30 May 2002. **Edoardo Razzetti edoardo.shockwav@iol.it to** herp-l@ucdavis.edu

Frogs

The sad stories of the disappearing frogs have seemingly one thing in common: A herpetologist discovers and studies a population only to return to find the population gone or dying. Like other fungi, chytrids and their spores are likely very hardy. A herpetologist who is unknowingly carrying the chytrid fungus and handling frogs may be infecting disease-free populations. Is anyone looking into the possibility of unintended chytrid fungus contamination by humans?

MONIR TAHA
Toronto, Ontario

No link has been established between herpetologists and the spread of the chytrid fungus. However, it is possible for researchers to unknowingly carry chytrid spores on their clothing and equipment, so experts have recommended sterilization protocols such as dipping boots and traps in a weak bleach solution.

You are usually very careful to identify and label all interesting creatures, but you failed to do so with a very important organism —the chytrid killing everybody's beloved frogs. The fungus is *Batrachochytrium dendrobatidis*, a chytrid that was named as a new genus and species in 1999. The discovery of the disease chytridiomycosis, apparently caused by *B. dendrobatidis*, is so important that there was a special international symposium organized to discuss it.

SCOTT A. REDHEAD
Curator
National Mycological Herbarium
Ottawa, Ontario

National Geographic Sept 01

Love your work, Dirk

By James Woodford, Environment Writer
March 23 2002

The Sydney Morning Herald.

His name is Dirk. Dirk Diggler, as in the porn star from *Boogie Nights*. And he is the last full-blooded NSW spotted tree frog.

Dirk and his harem ... the last of the NSW spotted tree frogs, centre, joins forces with two Victorian females. Photo: Paul Harris *Photo: Paul Harris*

Once, before the introduction of trout, loss of habitat, exotic fungal diseases and possibly global warming, spotted tree frogs were common in alpine streams.

Native fish spit out spotted tree frog tadpoles as unpalatable, but trout devour them.

The species is also found in Victoria, although populations there appear to be falling.

In the mid-1990s, the NSW species began to disappear at an alarming rate and, in 1996, the population collapsed.

It was decided that surviving spotted tree frogs would be brought in from Kosciuszko National Park for breeding, but initial searches in their former strongholds failed to uncover any specimens.

At the end of 1999, a 10-day search for the frogs in the park found Dirk happily croaking away under a bridge near Bogong Creek.

Scientists sent him to the Amphibian Research Centre in Melbourne to breed with a Victorian specimen. He was christened after one of his discoverers said: "He'd better be Dirk Diggler, or we have got no hope."

It is thought that Dirk survived because modifications to Bogong Creek by the Snowy Mountains Hydro-electric Scheme created a waterway that trout could not get to. The rest of his small, isolated colony is thought to have succumbed to a long, cold winter in 1996, and the chytrid fungus.

The Victorian spotted frogs closest in appearance to Dirk came from Wheeler Creek, about 40 kilometres from Bogong Creek, and two females were chosen to breed with him.

SnowyHydro has given $40,000 to the captive breeding program in Melbourne and there are now about 600 tadpoles and young frogs in specially built tanks that simulate freezing mountain streams. The question of when to start releasing the amphibians back into Bogong Creek is being considered.

The manager of the Amphibian Research Centre, Gerry Marantelli, said that until the middle of last century, the Bogong Creek and the Wheeler Creek populations of spotted tree frogs would probably have exchanged genes.

Andrew Claridge, said there was no other choice for the species. It was mix the genes or face extinction.

Work is under way at Bogong Creek to ensure it is safe for a re-introduction.

Mr Marantelli said: "Dirk has done his job for this season. If he can keep up his end, then we will be able to keep producing young frogs and getting them back into the Bogong Creek system and that is all we can do."

Ecology: 13% of replacement wetlands fully succeed

Send comments to newmedia@seattlepi.com

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THE ASSOCIATED PRESS

EVERETT -- For nearly 10 years, developers who destroyed wetlands have been required by federal law to replace them -- 1.78 acre of replacement wetlands for every acre destroyed.

But a state Department of Ecology study -- reported Saturday by The Herald of Everett -- has determined only about 13 percent of the man-made wetlands in Washington are fully successful.

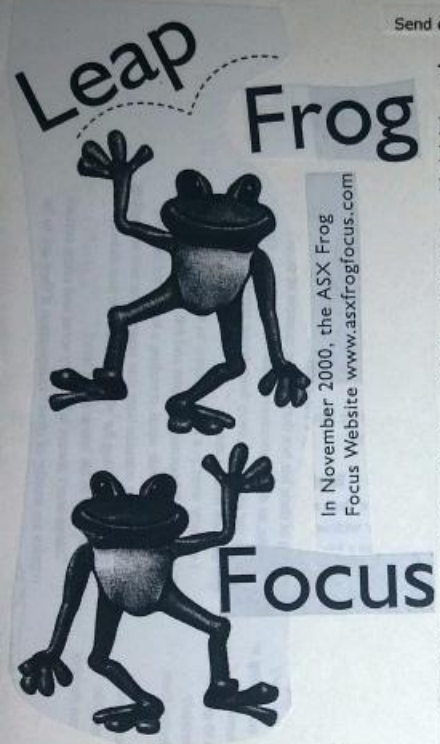
Millions of dollars have been spent with questionable results, the study found. Mitigation projects typically cost $10,000 to $100,000 an acre.

Wetland projects by private developers were about twice as likely to succeed as public projects funded by taxpayer dollars, the study found.

Of 24 wetlands creation or restoration projects, the study found only three were fully successful. Eight were moderately successful, eight were minimally successful and five were not successful.

Last year, the National Academy of Sciences determined that the government is not enforcing the mitigation requirement. The rule was established because wetlands, dismissed for many years as just useless swamps, are now understood to be critical to watershed health.

Besides providing food for fish, birds, frogs and other animals, wetlands can reduce damage from flooding and help purify water.



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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.