

FROG CALL



NEWSLETTER No. 62
November 2002

THE FROG AND TADPOLE STUDY GROUP OF NSW INC
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Next meeting 6.30 PM for a 7.30 PM start

FRIDAY 6th DECEMBER

AUSTRALIAN MUSEUM,
WILLIAM ST ENTRANCE



The FATS committee hope you liked our colour newsletter No. 61, celebrating Marion Anstis' ground breaking publication "Tadpoles of South-eastern Australia", and coinciding with our 11th year as an independent frog group. Merry Christmas



MEETING FORMAT for 6th December 2002

- 6.30 pm A small number of frogs are ready to collect from the Frog Rescue Service. Please bring your FATS membership card and Amphibian Licence.
- 7.30 Welcome and announcements
- 8.00 pm Dion Hobcroft is a well known naturalist, wildlife photographer and works in Serpenteria at Taronga Zoo in Sydney. He is involved in the various captive breeding programs undertaken by the Zoo. These programs include native as well as exotic frog species. Dion will talk about some of these programs as well as show some photographs of the frogs and their natural habitats.
- 9.00. 5 Favourite Slides (Please bring along any froggy slides that you would like to show)
- 9.30 Auction and drawing of door prize
- 9.45 Tea and Coffee

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John Cann spoke of his experience with herps of Australia. Guests in the packed Halstrom Theatre enjoyed anecdotes and turtle, goanna, snake, monitor, dragon, and frog slides, including *Cyclorana*, *Litoria electrica* and *dentata*. So who was the mysterious and beautiful young snake lady (from the past), on the first slide? Rumor has it that she is related to John. Visitors watched the video tape of the Cairns Frog Hospital broadcast by Totally Wild, Channel 10. (Visit the Frog Decline Reversal Project at <http://www.fdrproject.org/>) Lothar described the "FROGMOBILE" as it nears completion. Congratulations to Lauren Fowler, winner of Marion Anstis book "Tadpoles of South-eastern Australia". **MW**

THIS MEETING 6TH DECEMBER

The main speaker at the next meeting is Mr Dion Hobcroft. Dion is a well known naturalist and wildlife photographer and works in Serpentina at Taronga Zoo in Sydney. He is involved in the various captive breeding programs undertaken by the Zoo. These programs include native as well as exotic frog species. Dion will talk about some of these programs as well as show some photographs of the frogs and their natural habitats.

The meeting starts at 7.30 pm. If you want a good seat, get there earlier. Entry is through the William Street entrance. Tell the guard that you are going to the Frog Meeting and he will show you through to the Halstrom Theatre.

If you are picking up frogs from the Frog rescue service, these are available from 6.30 pm. onwards. Frogs are only available to FATS members and remember to bring your frog keepers licence with you. No frogs without showing the licence. **AW Ed:** Coin donations for coffee and tea would be appreciated.

DO FROGS MAKE GOOD BIOINDICATORS

The Frog Ecology group at the Australian Museum (headed by Dr Graham Pyke) is currently undertaking experiments to determine if frogs make good bioindicators. We are raising tadpoles (from spawn to metamorph stage) in water from various sources (polluted->non-polluted), measuring hatching success, survival, growth and development. Metamorphs are euthanased and photographed to check for any skeletal abnormalities.

We've only been able to access Striped Marsh Frog spawn. We're keen to use other species, and would absolutely love any spawn (captive bred or otherwise) to use in these experiments. All the necessary ethics and NPWS have been obtained. If anyone has access to spawn of any species other than Striped Marsh Frogs, in the Sydney area, it would be wonderful if we were able to use it- we'd need it the day after it had been deposited. Someone from the museum can collect it, or come up to the museum and check out the experiments being conducted. **Jodi Rowley jodi@pacific.net.au**

The September FATS meeting was used as a venue to raise funds for the Cairns-based Frog Hospital. A brief video clip showing some of the activities of the hospital was screened at the start of the meeting. The video clip was taken by Channel Ten for "Totally Wild" and was kindly provided to FATS to assist with the fund raising. Thank you Channel Ten and Totally Wild.

Also a thanks to all the people who brought along auction items for the meetings (and also to the people who bid for the items – whether they wanted them or not). Through the efforts and contributions of all involved we were able to raise \$1,000 during the meeting. This money has already been sent to Cairns where it is desperately needed. Cairns appears to be first impact area for many new and exotic diseases that are hitting Australian frogs and so it important that the Hospital is able to continue to screen and test new treatments for these diseases. We all benefit from their work.

We intend to have another fund-raised for the hospital in mid-2003. So keep this in mind. If you have any novel ideas about ways to raise money for the hospital, please let us know. **AW**



Smiths Lake Field Trip

FATS will be conducting an overnight field trip at Smiths Lake in the Myall Lake National Park, about 100 km north of Newcastle. Accommodation will be in the dormitories of the University of New South Wales' field station at Smiths Lake. The field trip will run from Friday to Sunday 21st to 23rd of February 2002.

Accommodation costs are \$12 per adult per night, kids (under 12) half price. You will need to bring own food, sheets and blankets. A list of items to bring and a map will be sent to you when you contact the Trip leaders (Arthur and Karen). Frogging at night and lazing about, swimming, bird watching, bushwalking, snoozing or playing cricket during the days. If you are interested or want to know more contact Arthur or Karen White on 02-9599-1161 for details.

New rainwater tanks have been installed at the field station. The absence of rain at present means that there is little drinking water (water from the showers and toilets comes from ground water). If there is no rain between now and February you may also need to bring some drinking water with you. However, when FATS goes to Smiths Lake we usually get at least one night of rain- check with Karen or Arthur when we get closer to the date. **AW** For information about future field trips, see page 11 and please remember to tell your coordinator if you are attending the field trip.



TADPOLING



We walk through the eucalypts to the dam behind the water tank.

We can't identify the flowers we stop to photograph. They are small, orchid-like, intense lobelia blue.

The dam, almost surrounded by tall rushes, shines and ripples. We soon find tadpoles, *Litoria verreauxi* and *Crinia signifera*.

"*Verreauxii* is a typical hylid with wiggly tail."

Superb blue wrens flit and scold around us, above, yellow-tailed black cockatoos, New Holland honeyeaters. A large heron, dark wings, probably in breeding plumage, flies off. We watch numerous hovering jewels --- turquoise and scarlet damselflies.

Marion does not have a swimming costume.

Louise: "I've got a swimming costume."

"Too cold Louise, I really need a wet suit."

We look more closely at the catches

"People would think we were daft if they saw us looking at a tadpole through binoculars." says Louise. [We don't have a hand lens, but one eye piece of binoculars, reversed, is quite good.] The little *verreauxii* body shines coppery-pink.

We discuss the terms 'metamorph' and 'adult'. Marion says there seems to be some confusion. The differences are seen if tadpoles are kept until they change into frogs. Metamorphs are small and grow to adult size. Perhaps tadpole raising is not as common as it used to be.

At the pond opposite a honey orchard we find *Paracrinia haswelli* looking like a little bubble. It is known, says Marion, as the bubble taddie. A monotypic genus, the tadpole at stage 26, shows unusual very deep dorsal and ventral tail fins. [There is a beautiful double-page enlargement in "Tadpoles of South-eastern Australia."]

Now, black eye stripe down its middle, tail lost to a dragonfly larva, *Litoria jervisiensis*. Now two with full tail - now three! They have a deep transparent tail fin. Our specimens have a ventral fin with an unusual dark base. In a different locality with a different substrate they could be a different colour, sometimes milky to golden.

Plop, hydrogen sulfide, plop, air bubbles from the dark shallows. In the background a fantailed cuckoo trills. And then Louise and I are distracted again --- by a bearded orchid. I do a few rough sketches in my notebook. [Check later. Yes, it's *Calochilus robertsonii*.]



We lunch at Maddens Creek, draped over wide low sandstone shelves in the warm sun, peaceful, dreamy. I muse, tapoling is easy --- without the dark, spot-lit, focused intensity of frogging. I can look up an unfamiliar species in the field guide and come back, informed, to frog another night.

There are many *Crinia signifera* and *Litoria citropa* tadpoles in the creek. We can compare them side by side. *Crinia* tadpoles are plump, light or dark, mottled, spotted --- variable! --- as are the frogs. *Citropa* have wider, more flattened bodies, a stream adaptation, with abdomen and belly pale sandy gold --- every one the same. It's easy to identify them from above; side colours, lighter, instantly distinguish *citropa*. *Litoria dentata* calls from further upstream, but we don't see any tadpoles.

Tadpole photography is painstaking. Equipment: A mini tank with cleanest possible water; sand on bottom, stray grains brushed down with a paint brush; green paper behind as background.

Marion photographs the *L. jervisiensis* of beautiful tail. The little tank is balanced precariously on partly burnt branches placed over a semi, very semi-rectangular sandstone rock. The camera not at the best angle, better now, elbow on Louise's cardigan --- rock pile and sticks looking as solid as a card house.

Later, we wade around. It's lovely to see more *citropa* tadpoles. I imagine the beautiful adult, milk coffee back, melon green sides, strawberry pink flash colours. Marion tells how the female lays approximately 100 eggs at a time until a total of over 1900. She kicks them into the water where they fall to lie on the bottom.

We walk to the ponds above the waterfall.

"These are not *citropa* Marion."

"No, that's right Louise, they look like *Crinia*. Louise you were very good knowing they weren't *citropa*. Wait a minute, I think they are small *Limnodynastes dumerilii dumerilii*. See the dark grey with dark body sheen."

It's late afternoon and we don't have time to be certain, to catch and identify them. As we leave, a water skink is basking on the warm rust coloured sandstone, its lines of scales, coppery in the slanting sun.

Returning to the car we laugh and joke, stop to look briefly at wildflowers and a small flock of yellow-tailed blacks which have landed in the trees ahead.

The drive home is full of 'joy to be alive' feeling.

Punia Jeffery



Litoria Verreauxii
Whistling Tree Frog
<http://australianfrogs.7p.com/factsheets>

FROG KEEPER LICENCES

From 1 November 2002 the fees for reptile and frog keeper licences will rise. The current fees have not changed since the systems were introduced in 1997. Also, Class 2 and Class 3 licences in both systems will be combined. Class 1 species composition will not change, but the fees will rise from \$40 for a 2-year licence to \$60 for 2 years or \$120 for a 5-year licence. Classes 2 and 3 will be combined at a considerable cost saving to Class 3 licensees. The fee for the new Class 2 licences will be \$60 for a 1-year licence; \$120 for a 2-year licence or \$240 for a 5-year licence. The only other change is that the old licence condition for Class 3 that required notification of all transactions to the NPWS within 14 days, will now apply to all transactions involving all class 2 species.

Individual licensees will be notified in licence renewal reminder notices that will be posted in the next few weeks. **Jeff Hardy** Coordinator Wildlife Licensing NSW NPW

SAVE OUR FROGS!



What YOU Can Do to Help

<http://allaboutfrogs.org/info/save/whattodo.html>

Here are some simple ideas to help you get involved at home and in your community.

Create some space for wildlife

- Plant a tree in your backyard.
- Build a pond for the neighborhood frogs.
- Start composting in your backyard garden or on your balcony. It eliminates the need for chemical fertilizers which are harmful to animals and humans, and it benefits your plants!
- Don't use harmful chemicals in your garden or home.

Reduce, recycle and reuse

- Find alternatives to pesticides and ozone-depleting chemicals in your home and workplace.
- Recycle your toys, books and games by donating them to a hospital, daycare, nursery school or children's charity. This way the same toys can make more than one person happy!
- Save energy by turning off lights, radios and the TV when you are not using them.
- Turn off the tap while you brush your teeth and use water-saving devices on your toilet, taps and showerhead.
- Encourage your family to take public transportation. Walk or ride bicycles rather than using the car. When you can, try to organize carpools. This will help cut down on harmful fumes and unnecessary use of our earth's resources.
- Buy products and food without packaging whenever possible. Take your own bag to the store. It will reduce the amount of garbage and waste your family produces.
- Encourage your family to shop for organic fruits and vegetables.



Start garbage free lunches

- Bring a lunchbox or a cloth lunch bag.
- Use a thermos and reusable containers.
- Start a recycling program at school.
- Encourage your cafeteria to use re-useable containers and recycled paper napkins.
- Sell coffee mugs to replace wasteful paper and styrofoam cups. Then donate the money to help protect the environment.

Share your concerns

- Start an environment club. You can hold special environment weeks and events.
- Write to your local, state and federal government representatives to encourage them to help conserve wetlands and other amphibian habitats.
- Write and perform a play or make a video to tell others about our endangered species.
- Arrange for a local naturalist or birdwatcher to speak to your class or to take your group on a nature walk.
- Have your school adopt a part of the Earth. Plant native trees and shrubs on your school grounds or clean up a nearby stream or park with the help of local naturalist clubs.

Protect an Acre of the World's Vanishing Wilderness

Between 50 and 80% of all the plants and animals in the world live in the tropics. New species of frogs are discovered in the tropics all the time. Yet, every second more than an acre of tropical forest disappears. The trees are chopped down for re-sale, and what's left gets burned. Sometimes even this remaining land gets flooded by dams built for electricity or waterways. Our planet is losing huge amounts of rich habitat, home to millions of unique species and local peoples. With their homes being cut down, many species are become endangered. It's been estimated that every hour, one species has completely disappeared from the Earth! Scientists and environmental action groups are trying to work with local rainforest peoples to develop alternatives to "slash and burn" agriculture, so that they can grow food and support themselves without having to destroy more forest. Our own lifestyle choices have an impact on tropical habitats. We can also reduce demand for unsustainable rainforest products by being careful about what we buy. You can also make donations to one of the various Wildlife Conservation groups to adopt an acre of endangered forest and help conserve amphibian populations.

Other Cool Frog Projects:

- [Frog Force Campaign](#)
- [Frog Spotting](#) Visit a local pond
- [A Thousand Friends of Frogs](#) - connects K-12 students, educators, families, and scientists from Minnesota and beyond
- [Frogwatch USA](#) USGS has launched Frogwatch USA fo conduct long-term frog and toad monitoring.
- [Rainforest Alliance Frog Pond](#)
<http://www.rainforestalliance.org/kids&teachers/kids/frog-pond/index.html> Great teaching tool website with fun stuff for learning.

With compliments **Giselle Howard**



HALF OF THE WORLD'S PLANTS THREATENED

The results of a new study suggest that as many as half of the world's plant species may qualify as threatened with extinction under the World Conservation Union (IUCN) classification scheme. Published in the today's issue of the journal "Science," the article by Nigel Pitman of the Center for Tropical Conservation at Duke University and Peter Jorgensen of the Missouri Botanical Garden says that comprehensive IUCN Red Lists for plants are available for few tropical countries, making it "difficult to assess the true scale of the global conservation crisis for plants."
naturepotpourri-owner@yahoo.com

TAMING THE TOAD

CSIRO researchers are developing a new strategy for cane toad control - using gene technology.

The first phase of the research has demonstrated it is possible to influence toad metamorphosis, a technique that could be used to curb toad numbers. CSIRO Livestock Industries' Australian Animal Health Laboratory (AAHL) and CSIRO Sustainable Ecosystems collaborated on the project.

Dr Nicole Siddon, project scientist at CSIRO Sustainable Ecosystems, explains that the project, aimed to identify genes critical to toad development and use the toad's immune system to inactivate them. The gene product for adult haemoglobin was distributed to cane toad tadpoles. Tests showed that when these tadpoles changed into adults, only larval haemoglobin could be detected, suggesting the toad immune system had inactivated the adult form.

Researchers aim to distribute the gene product to cane toad tadpoles using a virus 'taxi' or vector. Dr Alex Hyatt and his team at AAHL successfully included a marker in a ranavirus - a naturally-occurring virus that can infect amphibians, reptiles and fish.

AAHL senior research scientist, Dr Jackie Pallister, explains that ranaviruses are large double-stranded DNA viruses. "We hoped we could delete a viral gene or region and insert cane toad specific genes in its place. We showed this could be done by successfully inserting the marker," she says.

Given the success with cane toads, Dr Hyatt suggests that ranaviruses may be suitable virus taxis to deliver a range of vaccines for fish and amphibians.

Despite the positive results, the researchers stress this is no 'magic bullet', but a long-term project. Dr Siddon says, "We still need to identify which genes are most effective in stopping the development of tadpole into adult."

Dr Hyatt adds that extensive testing within the microbiologically secure laboratories at AAHL will be needed to show the technology is cane toad specific, and does not cause any ill-effects in other amphibians and fish. For information contact **Dr Hyatt 61 3 5227 5419** alex.hyatt@csiro.au, or **Dr Siddon 61 2 6242 1738** nicole.siddon@csiro.au

STUDIES CONFLICT ON COMMON HERBICIDE'S EFFECTS ON FROGS

Despite the release of a flurry of new results in what is becoming an increasingly intense debate, scientists still have not reached a consensus as to whether the nation's most commonly used herbicide is harming amphibians in the wild.

The new studies raise questions about whether atrazine, used primarily for killing weeds in cornfields, is acting as an endocrine disrupter in amphibians, interfering with normal hormonal functions, and causing males to become hermaphrodites, producing eggs in their testes. Some 60 million to 70 million pounds of atrazine are applied each year in the United States, and it has been found in rivers, ponds, snowmelt and rainwater.

Dr. Hayes said his original research showing that atrazine could create hermaphroditic frogs was sponsored by Syngenta, which never published the work. The April publication in which he replicated that research was sponsored by the National Science Foundation; the Nature study was paid for by the W. Alton Jones Foundation, which finances environmental work, and the conservation group WWF.
<http://www.nytimes.com/2002/11/19/science/life/19FROG.html> By CAROL KAESUK YOON November 19, 2002. NY Times on the Web WWF-FrogNet@lists.ironclad.net.au Stan A. Orchard National Co-ordinator - WWF/Rio Tinto Frogs! Program WWF Australia www.frogs.wwf.org.au

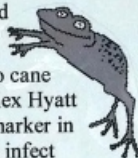
ROUNDUP IN AUSTRALIA

My understanding is that it is still available, at least in NSW. I do know that Roundup biactive has been released as an alternative to Roundup original with the view that its surfactant is less toxic to frogs. Unfortunately my understanding is that end users merely add extra or different surfactants to improve its performance therefore undoing the apparent benefit.

It is also unclear what surfactant is used by other producers of glyphosate herbicides ie non Monsanto manufacturers. I have concerns over wide spread aerial application of roundup products to control Bitou in coastal NSW. Invasion by Bitou Bush (Boneseed) is a Key Threatening Process in NSW under our threatened species legislation. Major areas of infestation just also happens to correspond with habitat of many of the remnant *Litoria aurea* populations. I'd be keen to hear some feedback on this. (EXTRACT In response to other emails.) Ross Wellington Senior Threatened Species Officer, Threatened Species Unit, Central Directorate NPWS PO Box 1976 HURSTVILLE, NSW 2220 : 95856449 Fax: 95856442 ross.wellington@npws.nsw.gov.au

GENETICALLY ENGINEERED BENTGRASS

Biotechnology giant Monsanto has withdrawn a proposal to commercialize genetically engineered (GE) creeping bentgrass. Several concerned experts had warned the proposed engineered grass could become a go called superweed. <http://www.icta.org>.



FROGBITS AND TADPIECES

CITES COMES OF AGE

The Convention on International Trade in Endangered Species (CITES) is now a rather different beast compared with two weeks ago. During the meeting of governments and conservationists that just ended in Santiago, Chile, the convention changed its emphasis and broadened its reach. CITES is now set to tackle big wildlife businesses such as fishing and forestry. Until this year the convention was concerned mainly with the export and exploitation of rare plants and animals, such as orchids and tigers. Such trade threatens the species' survival, but is not significant in economic terms. The 160 signatory nations are showing a new willingness



To apply it to "truly commercial" species, he says - "it's quite a watershed. Timber and fisheries have traditionally been regulated by national governments and bodies such as the United Nations' Food and Agriculture Organization. As fish populations around the world shrink and illegal logging continues apace, CITES may be moving to fill the gap. **Nature News Service / Macmillan Magazines Bob Parcelles, Jr. Pinellas Park, Florida** <http://EcologyToday.eboard.com> naturepotpourri@yahoo.com

THE GODS OF SMALL THINGS

The current LA Weekly's cover story, "The Gods of Small Things," chronicles the national and regional accomplishments of the Center for Biological Diversity. Author Susan Zakin writes, "The Center for Biological Diversity cares as much about the unarmored three-spined stickleback as it does a cathedral forest of trees, which is why it is reinventing the environmental movement and could be saving Southern California in the process...In a dozen years the Center...won 80% of its cases, roughly twice the rate of most environmental lawfirms, gaining protection for 288 species in 44 states. It has changed the way 38 million acres are managed in the American West, ended cattle grazing along hundreds of miles fragile desert rivers, slowed sprawl of subdivisions, and reduced logging from Alaska to Arizona....The Center has become a one-stop shopping outlet, suing on everything from big dams to the expansion of military bases."

To read the full story with pictures of the stickleback and other cool species: www.biologicaldiversity.org <http://www.laweekly.com/ink/03/01/features-zakin.php> naturepotpourri@yahoo.com



explain why few knew about them: the unarmored threespine stickleback, the willow flycatcher and the slender-horned spurfalcon.

ARP CHRISTMAS PARTY

The combined Australian Herpetological Society & Others Christmas Party has been organised for Sunday 8 December. As always, it is on at the Australian Reptile Park, Somesby. Everyone is welcome to attend. Bring your FATS membership card for free entry.

Bring your own food (there are BBQ facilities there, which is the popular way to go) and drink (read 'beer'), or buy something there at the canteen. People usually drift in through the morning, and congregate on the main lawn just within the entrance around lunch time.

Carol from AHS & MW



FROGWEEK AT BOBBIN HEAD, KNP

Despite the total fire ban on Sunday, 10th November, a sturdy band of Chase Alive volunteers joined with FATS to organize an activity celebrating Frogweek. The sandstone kiosk at Bobbin Head in Ku-Ring-Gai National Park provided a display area for various posters on the life cycle of frogs, tadpoles and frogs of the Sydney region and Margarita brought some tadpoles for the little ones to see. After lunch the Chase Alive volunteers walked around the picnic area and advertised the activity. About 20 children and 30 adults gathered on the lawn in the shade to listen to the talk about frogs and how we can help them in their environment. Keen interest was shown by the 8-10 year-olds. During the afternoon family groups visited the FATS display. **WG**

AUSTRALIA OPENS ENVIRONMENTAL FARM MANAGEMENT PLAN

CAMDEN, New South Wales, Australia, November 28, 2002 (ENS) - The governments of Australia and New South Wales joined forces today to establish a voluntary national Environmental Management Systems framework for agricultural producers. This business management tool is intended to help producers provide evidence of their commitment to the environment.

<http://ens-news.com/ens/nov2002/2002-11-28-01.asp>
<http://groups.yahoo.com/group/naturepotpourri>

The Western Section of The Wildlife Society 2003 Annual Conference February 27-March 1, 2003 Irvine, California Featuring Jack Ward Thomas and John Wiens In the plenary session, preeminent wildlife professionals from several different settings will describe their own career opportunities and successes, as well as their challenges; limitations; and, possibly, failures. In so doing, they will also provide guidance on the proper boundaries of professional conduct in their particular field. The goal of the plenary session is to bring together biologists working within the full spectrum of wildlife biology to identify critical recurring issues of professional conduct and ethics and foster among them greater understanding and respect.

SPECIAL WORKSHOPS Reviewing the Boundaries of Professional Conduct Scott Osborn, California Department of Fish and Game, Eureka, CA scotto@northcoast.com and Lowell Diller, Simpson

The Wildlife Society Certification Workshop Cynthia S. Graves, California Department of Fish and Game, Sacramento, CA CGraves@dfg.ca.gov Ecology and Management of Invasive Species Jim Woollett, US Department of Energy, Livermore, CA woollett1@llnl.gov <http://www.tws-west.org> owner-herp-1@ucdavis.edu

KYOTO RATIFICATION REPLACED BY OCEAN ROBOTS

CANBERRA, November, 2002 (ENS) New climate data gathering projects aimed at helping the United States and Australia reduce their contribution to the atmospheric greenhouse gas burden were on the table today in Canberra for the visit of the top U.S. administrator of atmospheric policy. The two countries are collaborating on the deployment of a new fleet of ocean robots that will record climate information and transmit it to researchers by satellite. For full text and graphics visit: rjparcelles@yahoo.com

RESTORING URBAN ECOSYSTEMS

A Seminar for Restoring Urban Ecosystems originally planned for Friday 22 November has been postponed until February next year. **Karen Wright PA to Dr Adrian Williams** (Chief of Division) CSIRO Energy Technology PO Box 3000 Glen Waverley Vic. 3150 Australia Ph: +61 3 9259 6883 Fx: +61 3 9259 6995 Mob: 0422 000 743 Karen.Wright@csiro.au I think it's very relevant to frogs, and it appears as if they intend to use the GGBF's at OP as an example with compliments **Stephen.Weir@csiro.au**



Red eyed tree frog

Quote of the Day... "Anti-conservation has become a gangland vendetta by George W. Bush and those he entrusts to govern. I cannot see another way to explain the endless string of one-sided decisions and the dripping condescension with which they are delivered." John Balzar, columnist, Los Angeles Times <http://sierraactivist.org/article.php>

Across Pacific Northwest, Downward Trend For Dams - With many of the nation's dams no longer making economic or environmental sense, old dams are being dismantled, in a slow-moving but remarkable reversal of fortune for rivers and fish. :: Washington Post -

No Question, The Climate Is Heating Up - "They hate us." A friend called to rant about the Bush administration. "I mean it," he said, sounding a tone of someone who means it. "They hate us. Not just our ideas. But us." His subject: environmentalists. And I'm afraid he's right. :: Los Angeles Times - <http://sierraactivist.org/article.php?sid=19861> naturepotpourri@yahoo.com

JUVENILE REED FROGS

Fire has an important role in the sensory ecology of many animals. Using acoustic cues to detect approaching fires may give slow-moving animals a head start when fleeing from fires. We report that aestivating juvenile reed frogs *Hyperolius nitidulus* respond to playbacks of the sound of fire by fleeing in the direction of protective cover, where they are safe. This is a novel response to fire not known to occur in other animals. Moreover, we identify the rapid rise-time of the crackling sound of fire as the probable cue used. These results suggest that amphibian hearing not only has evolved through sexual selection, but also must be viewed in a broader context. Author(s): T. Ulmar Graf; Stefanie Döbler; K. Eduard Linsenmair Source: Proceedings: Biological Sciences Volume: 269 Number: 1495 Page: 999 - 1003 DOI: 10.1098/rspb.2002.1974 Publisher: The Royal Society Walter Boles walterb@austmus.gov.au Australian Museum

HELP HERPS AND HERPDIGEST AT CHRISTMAS

Yes, it's our annual holiday appeal. HerpDigest needs support from you, its readers and contributors. Please do what you can to help. Make a donation or spread the news of HD's existence, so that HD can become even more influential in helping herps around the world. Please tell your fellow teachers, students, vets and friends about HerpDigest! It's filled with up-to the minute information about herps, it's free, and it's quick and easy to subscribe to: just click here www.herpdigest.org and fill out the subscription form. Although many people get HerpDigest through friends, when more people directly subscribe to HerpDigest, our subscription base increases. This will help HD to convince donors, foundations and advertisers of the importance of the role we play in the herpetological community. Make a straightforward donation: whatever you can afford. asalzberg@herpdigest.org



Recently there have been some fruitful fishy discussions on the Frognet email platform regarding frog ponds and fish used to control mosquitoes. Lothar Voigt takes the prize for stimulating the most discussion these lists have seen for some time! Here is an overview of the key points made on this issue, with each author acknowledged. We begin with the prize-winning question from Lothar:

Hi frogfolks, Has anybody got field data on this introduced fish? *Phalloceros caudimaculatus*, the One-spot Livebearer (bad name) or Spotted Livebearer or Speckled Mosquitofish (the strain in Australia - at least at Long Reef golf course - is heavily speckled all over). It's also around Perth. A relative of *Gambusia* but peaceful in the ridiculous extreme. (extract)

Response from Marion Anstis....

I would still be concerned about recommending any non-native and local watershed fish to farmers. I really don't think they would be anywhere near as concerned about mosquitos as city people anyway. They are far too used to insects to worry and the dams are usually further away from the house so as not to be a problem.

And Jodi Rowley.....

I would absolutely not recommend *Phalloceros caudimaculatus* for any type of introduction, even in to frog ponds. Prior to eradication attempts at Long Reef Golf Course, *Phalloceros* was present at extremely high densities throughout extensive waterbodies on the course (I say "eradication attempts", because, as it seems that although we managed to eradicate all the native species (even very large eels), there are still *Phalloceros* at Long Reef). There was also large numbers of long-finned eels, short-finned eels and common jollytails in the ponds at Long Reef at the time.

Although it appears to be a peaceful species, particularly in comparison to *Gambusia*, it shares many of the characteristics of this pest species and appears to have a very high invasive potential (for example, it produces extremely high numbers of live offspring and has very broad tolerances to physicochemical conditions). In Malawi, it has established populations that are, apparently, causing (unspecified) environmental damage. At present, I'm in the process of finishing up a manuscript on this species, it's invasive potential, it's distribution at Long Reef Golf Course and apparent displacement of *Gambusia* at the site (with T. Rayner from NSW Fisheries & Dr Pyke from Aust. Mus). From our review of the literature and field work at Long Reef, I'd say that it's definitely not a good idea to get them off the banned list, or to recommend them to frog-pond owners (even if they are supposed to stay in suburban ponds, it would increase the trade of the species, and therefore it's potential for release into other waterbodies. I'd certainly say that losing a few *Lim. peronii* to native fish is a small price to pay. What do others think?

Martyn Robinson adds his experience....

... I doubt very much that *Phalloceros* has displaced *Gambusia* at Long Reef - I suspect it was always there in small numbers. It has been around in Australia since the earliest goldfish immortations and was certainly only

available from old fashioned goldfish breeding establishments, even 30 years ago, as it was superseded everywhere else by more colourful fish. This would actually have increased its 'dump rate', as anyone with large numbers wouldn't have been able to sell them. I think something else happened to the *Gambusia* at Long Reef and the *Phalloceros* suddenly were able to fill a void. That is what should be thoroughly investigated, as if the *Gambusia*'s demise was of a biological nature, yet the native species were left, then it may be very useful (if the cause was *Phalloceros*, then it is obviously NOT a useful biological control).

I agree with Jodie that *Phalloceros* is certainly the kind of fish we DON'T want in our waterways but to give a fair picture it seems that attempts to eradicate any noxious fish using rotenone has generally proved unsuccessful. On the plus side, considering its long history in the aquarium world and in Australia, *Phalloceros* has likely been liberated many times yet has established in very few places (therefore it's better than Goldfish).

NOT THAT I'M RECOMMENDING THIS FISH TO BE LIBERATED OR USED...it's just that the previous press releases on this species were talking about it being worse than *Gambusia* and that it had killed them off which clearly hasn't been proved. In either case, if FATS or Fisheries stand by these statements which are then proved exaggerated or wrong (either by time or by those who know or test out the fish) it damages their credibility.

As for which fish to use in ponds I still recommend mountain minnows as they've stood the test of time but if a good native fish is required and the pond doesn't get too warm then I'd make a strong push for the Dwarf Galaxias (*Galaxiella pusilla*) which is adult at 25mm has a small mouth, is unaggressive and is dying out over much of its range due to habitat destruction and feral fish (mainly *Gambusia*). Of course in most areas it would be a fish out of its natural distribution (which is restricted) but that can occur with any fish you recommend. You will also have to obtain it and it is (or was) listed as a threatened species in Victoria. Dragonfly Aquatics had a population going descended from a population which were virtually extinct in the wild due to the above threats and I'm not sure if they are allowed to sell them due to their status (they were obtained long before the fish were threatened) but you can ask. Otherwise SA also has them in better safer population numbers.

Clearly the issue of fish in ponds will have to be resolved at some stage otherwise we will continually run the risk of unwanted exotics establishing feral populations (or even displaced natives) so guidelines should be along the lines of:-

- * low fecundity
- * small mouth size (even if they can only eat hatchling larvae they will be an effective control)
- * limited habitat parameters (ie a poor competitor with other species, only lives in still waters etc)
- * not known to be a threat (this should be based on fact rather than rumour)

Galaxiella pusilla fulfils all of the above criteria.

Jodi Rowley replies....

We're certainly talking about possible replacement of *Gambusia* by *Phalloceros*. What we know is that *Gambusia holbrooki* was present at Long Reef in 1998/1999. In March 2002, *Phalloceros caudimaculatus* was identified from the course (and was extremely abundant), and despite extensive surveys no *Gambusia* were present. It's definitely possible that *Gambusia* disappeared for some other reason (I wish it'd do that elsewhere!). One possible explanation remains that *Gambusia* was competitively displaced by *Phalloceros*. But that's only one possibility, and we're pretty unsure of how this could happen (especially taking into account it's non-aggressive nature and it's largely vegetarian habits).

As for being not as bad as goldfish, I'd say that that's the case at the moment, but *Phalloceros* is a pretty unpopular species as far as the aquarium trade goes, and therefore hasn't had the same opportunities for human-aided dispersal. Most popular members of the family Poeciliidae in Australia (guppy, platy, swordtail, sailfin molly) have established populations in the wild - and *Phalloceros* is certainly capable of doing just that (Long Reef, near Perth, Central Australia). So I'd class that whole family as really dangerous fish to encourage. Why are we so strict about not keeping exotic reptiles/amphibians etc in captivity, yet we have so little problems pouring exotic fish into the hands of the public and into suburban outdoor ponds and beyond?

Obviously, indigenous native species that are relatively frog-friendly are the ideal, and I guess we have to work on availability increasing the availability of such fish.

Ross Wellington (Threatened Species, NPWS) writes....

Hi folks,

I would suggest that you contact NSW fisheries re what the legal situation re release of exotic fish and include a mention of this in any frog call article you're considering writing up for the masses. I suggest you contact John Pursey or Bill Talbot at Port Stephens Office of NSW Fisheries.

and Dr Jean-Marc Hero (Griffith University)....

Dear all, I agree with Frank, Marion & Jodi

Under no circumstances should introduced fish species be de-listed nor should they be distributed throughout Australia. Introductions should be restricted to: native fish species from local streams / ponds (within 1-3 km), and within the same catchment/watershed.

Movement of all native amphibians and fish should be minimised to reduce the likelihood of spreading disease, genetic information etc..

In summation, I would like to say that the FATS group are grateful for the thoughtful contributions from all writers above. We have been looking at this issue carefully and will be making better-informed decisions concerning fish and frog ponds in the future. **Marion Anstis (committee member, FATS group)**



S. Richards

The NSW Fisheries Management Act prohibits releasing of any live fish into any sea, river, creek, other flowing or not flowing stream or lake, or permitting them to escape into the wild. The exceptions are where the fish has just been caught there, or where a Fisheries permit to release has been granted.

It is not illegal to place any fish into garden ponds without a permit (unless that species is listed as "noxious" in that circumstance), but you need to keep in mind the "permitted to escape into the wild" proviso.

"Permitted to escape" would need to be interpreted on a case by case basis. Whilst Fisheries recognise the issue of using fish for mosquito control, there are no ready answers. Fisheries is currently working on the whole "noxious fish" issue, but this process will obviously need consultation with a number of interest/stakeholder groups so it will take some time. The issues re mosquito control will be considered in this process. Problem species such as *Gambusia* have not yet been listed as "noxious" because the law prevents their release into the wild anyway.

Fisheries have great concern over any exotic releases in outdoor situations, and generally take the view that anything from outside the catchment is "exotic". ("Releases" are also not easily defined - patio tanks, garden ponds and farm dams all have different risks in different areas.) Overall, the important thing is to understand the problem and think about the possible consequences - how likely is it for the fish in my pond/tank/dam to "escape"? Keeping in mind overflow, fish egg escape, bird transport etc, and make a common sense decision.

Advice to the public should include a reference to check the legal requirements, and that in NSW a permit is needed wherever there is any possibility of fish being permitted to escape into the wild.

To collect suitable fish from the local catchment for mosquito control, a permit may also be required in NSW, depending on what 'gear' is used. E.g. certain bait traps and nets can be legally used, but it may also depend on the species being caught and the location within the state. Check with local Fisheries office for detailed advice. **John Pursey** Senior Conservation Manager, Threatened Species, NSW Fisheries)



THE FROG GROUPS' CONFERENCE

This year it was Adelaide. For three days at the end of October we discussed frog conservation. Members from nearly 20 frog groups across Australia, plus a good handful of advising scientists, had come together for the second time under Stan Orchard's WWF banner.

The flavour of the conference is aptly captured in Robert Browne's article hereunder. Wendy Grimm's summary of Mike Tyler's and Graeme Gillespie's talks follows next. And one day (maybe) I'll edit the video footage I took of some of the other highlights and show it to you.



A few things need special mention:

- The Cairns Frog Hospital gave an overwhelming thanks to the FATS Group for the \$1000 we raised so they can continue their work on having frog diseases identified.
- The conference voted to form a steering committee for the formation of a national umbrella group on frog conservation, for ratification next year. Our rep on the working committee is Marion Anstis.
- We still don't really know what to do about the decline of frogs, when it comes down to it. Chytrid fungus still can't be detected at low levels, much about its spread and its effect is unclear. Other issues are no clearer: Frozen tissue banks? Captive breeding? If you can't save the whole ecosystem, is it counterproductive to try to save the frogs? Let school kids get their mitts on tadpoles? And then release them in the right place assuming they all comply with the rules? Keep exhorting the public to do a frog census although the data may be of little use? What to tell those who really want to help? Where's the greatest leverage? Good questions, all of them.
- One thing is clear, though: Stan has run another great conference! L.V.

Warning: These frogs may croak

Southern Corroboree frogs: Only 150 left in the wild

The Sunday Age 3 Nov 2002 By Bridie Smith



Congratulations from the 'Friends' to Stan Orchard from the World Wildlife Fund and all the community participants on a great frog conference in Adelaide sponsored by Rio Tinto. It was very inspiring to see the commitment to frogs and their conservation from communities throughout the country. The issue of habitat preservation was rightly raised as a major concern.

'Nobody's home if there isn't a home'. The Wagga Wagga frog group told an inspiring story of an area of forest now protected from wood collection and road vehicles. This single achievement will result in improved habitat for many thousands of frogs, reptiles and other creatures.

One of the most interesting ecological aspects raised was the diversity and uniqueness of dryland frogs from the interior of SA. Increased land clearance, salinisation, and deterioration of our rivers and floodplains threatens these species and their associated ecosystems. Unfortunately, the ecology, distribution, and conservation status of these species seems difficult to investigate due to their habit of only appearing during rare flooding when access to their habitats is difficult. In SA the loss of the Southern Bell Frog (*Litoria raniformis*) from many areas in SA is to be regretted as this species appears threatened throughout its range. Bibron's Broodfrog (*Pseudophryne bibroni*) is also suffering in the Adelaide Hills through the degradation of streams. Hopefully, the new frog society proposed for SA will have a powerful influence in the conservation of SA frogs.

Coastal wetlands are under increasing threat by development, particularly those in the eastern states. Our experience at Kooragang Island, Hunter Valley, where community action has (hopefully) saved the Green and Golden Bell Frog (*Litoria aurea*) against seemingly impossible odds, proves that emphatic targeted conservation actions can yield results. A report by an independent expert panel, as demanded by the community, justified community concern about habitat destruction, and recommended urgent rehabilitation of recently salinised areas, creation of new habitat, establishment of corridors for frogs throughout the area, and the rehabilitation of a site where a population was destroyed. New management strategies to prevent further destruction of endangered species habitat in the future were also recommended. If the panels recommendations are implemented, over the next few years we should see a thriving frog population on the island. Also the Kooragang crisis has provided an example for a more sympathetic and coordinated approach toward wetland conservation in NSW.

In the Hunter area conservationists from the community have achieved many victories over the last four years. A very large area of sand dunes and important wetlands have been preserved at Lake Macquarie to the south, and at Stockton to the north. The only remaining large area of lowland forest in the Hunter Valley has been partially preserved. In all these cases powerful forces have opposed conservation measures. As suggested by Stan Orchard a powerful national frog group could offer invaluable support to local groups in their conservation efforts and make all the difference in many cases. With the bell frogs on Kooragang Island the support of the large and influential Frog and Tadpoles Society (FATS) from Sydney made a profound difference both in providing moral support and by encouraging correspondence on the issue to the authorities. The Green and Golden Bell Frogs of Kooragang Island thank you. Thank you all once again. **Robert Browne**
Facilitator Friends of the Hunter Bell Frogs
fhb@hotmai.com.



The Conference brought together members of Frog Groups from around Australia as well as members of the WWF/Rio Tinto Frogs! Program Scientific Advisory Panel and Education Working Group. Each Frog Group gave a brief description of their membership and programs.

The Keynote address by Mike Tyler was on Frogwatch and Pragmatic Conservation. He said the sudden disappearance of the Gastric Brooding Frog and *Taudactylus* in Queensland induced him to set up a scheme for the public to monitor the distribution and numbers of frogs in South Australia through "Frogwatch".

The secretions of frogs have been found to contain a wide range of agents against microbes including herpes simplex and golden staph. A mosquito-repelling characteristic is passed from plants via grasshoppers to frogs. Of special interest is a glue which was first isolated from the Crucifix Toad and can now be produced synthetically. It makes a very strong bond under extreme conditions and has possible uses in surgery.

We should discouraged local councils from the indiscriminate use of herbicides around footpaths, drains and creeks as the wetting agent (surfactant) in the herbicide causes problems for tadpoles and frogs.

Conservation and Recovery of Threatened Frog Species in Victoria, by Graeme Gillespie: Graeme described

FIELD TRIPS

Please book your place on field-trips; due to strong demand, numbers are limited (phone 9681-5308). Be sure to leave a contact number. Despite the current drought-crisis, we will continue to schedule all monthly field-trips as planned. It is YOUR responsibility to confirm, in the final days, whether the field-trip is proceeding or has been cancelled (9681-5308).

December 14 8-30 p.m. Darkes Forest. Take Princess Hwy south, then take Darkes Forest Rd turn-off. Meet 200m from corner. **Leader: Ken Griffiths.** The author of numerous books, including "Frogs & Reptiles Of The Sydney Region", Ken is our guide for tonight's walk. Darkes Forest is an outstanding location for frogging, and it is Ken's favourite site in Sydney. He knows where to find not only those more difficult frogs but also many of those nocturnal reptiles that may be lurking about - So come prepared for absolutely anything! (Bring gumboots or shoes that can get wet.)

January 11 8-30 p.m. Long Reef. Meet at Long Reef Golf Club carpark, off Anzac Ave. Collaroy. **Leader: Jodi Rowley.** At meetings, we have heard Jodi speak of the on-going work to conserve the Green and Golden Bell Frog - flagship species of the Sydney Olympics. Tonight, Jodi will take us for a private, first-hand look at the Long Reef conservation project. As project officer, Jodi is ideally placed to explain the procedures, difficulties and successes of such a program. We will see several species tonight, and with a little luck we may see the elusive Green & Golden Bell Frog !

February 21-23 Smiths Lake Camp-Out. University of N.S.W. Field Studies Centre, Smiths Lake. **Leaders: Arthur & Karen White.** Set on the beautiful shores of Smiths Lake, this venue has become synonymous with frogging excellence. By night, explore the mysterious world of frogs, wallabies & bandicoots. During the day, swim, bushwalk or simply relax in the north coast sunshine. Cabin/dormitory accommodation & camping sites available. All kitchen facilities / utensils / crockery supplied. Bookings essential. Nightly fee of \$12 applies. Phone Arthur & Karen White directly on ph. 9599-1161 for further details and bookings. Note : Limit of thirty people.

In the event of uncertain frogging conditions (e.g. prolonged / severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 9681-5308. Remember! - Rain is generally ideal for frogging! Children must be accompanied by an adult. Bring enclosed shoes that can get wet (gumboots where specified), torch, warm clothing and raincoat. Please be judicious with the use of insect repellent. - Frogs are very sensitive to chemicals! Your leader is there to help you achieve maximum enjoyment from your frogging experience. - Please observe all directions that he/she may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience. Please help ensure that the leader is able to conduct the trip to everyone's satisfaction. Unfortunately, due to current insurance requirements, all field trips are strictly for members only. Newcomers are however, welcome to take out membership before the commencement of the field-trip. This situation has been imposed upon us and we regret any inconvenience.

implementation of an adaptive management plan for two threatened species in Victoria.

Litoria spenceri (Spotted Tree Frog) is found in eastern Victoria and bordering NSW. There is now a good understanding of the biology, ecology and population dynamics of this species. The key threatening processes have been defined and aggressive conservation management of forests, catchment, recreation, mining and predators has been put in place. Successful captive breeding has allowed reintroduction of *L. spenceri* into the managed areas.

Philoria frosti (Baw Baw Frog) has a very restricted distribution at Mt Baw Baw and much time has been spent surveying the gullies by listening for the frog's call during the breeding season. Its distribution and pattern of decline have been recorded and it is no longer found in the Alpine zone. Key threats are still being evaluated and the most vulnerable stage of its life cycle being determined. The frog is a long-lived ground dweller, which lays its eggs in moist tunnels, and metamorphosis occurs within the egg capsule through to the frog stage. Logging is seen as a current threat. Barriers are being constructed to exclude trout from the habitat and timber harvesting is being managed.

These frogs are seen as flagship species. Their study leads to advances in understanding of ecology and can be used to help other frogs. **Wendy Grimm**





Australian Frog Groups - National Conference hosted by WWF & Rio Tinto Adelaide October 2002

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Litoria aurea Green and Golden Bell Frog
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Many thanks to all the generous contributors Monica

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 each 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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