

FROG CALL



THE FROG AND TADPOLE
STUDY GROUP OF NSW INC.

NUMBER 36 - July 1998
PO Box A2405
Sydney South NSW 1235

THE NEXT MEETING

7 00 PM, FRIDAY 7th August 1998 for a 7.30 pm start
AT THE AUSTRALIAN MUSEUM (WILLIAM ST ENTRANCE)

How can you tell if a frog doesn't have ears?
You yell "Free Flies" and he doesn't come.

What's green green green green green?
a frog rolling down a hill



Sun-Herald

Green and golden bell frog
(*Litoria aurea*) with compliments
Australian Geographics
illustration: - Kevin Stead

ENDANGERED



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MEETING FORMAT for 7th August 1998

7:30pm

Part 2 "The other leg"
Andrew Hamer discussing
Bell Frogs of Kooragang Island



5 favourite frog slides or 5 minutes

8:40pm

Raffle and Auction

9:00pm

Finish for tea, coffee & biscuits

GREEN AND GOLDEN BELL FROGS

Michelle Christie treated us to unique slides and a detailed talk on her experiences studying the Green and Golden Bell Frog at the brick pit of Homebush Bay.

Her froggy interests started as a child looking for taddies in the rain. After being a little girl in trouble for getting all muddy, it's now her mother's turn. She comes all the way from Western Australia and ends up splashing in swamps with her daughter.

Michelle has been analysing the Green and Golden Bell Frog's patterns of movement at Homebush. The terrain reminds her of a moonscape, but to Michelle and the frogs basking by the reed ponds, it's home. The temperatures in the 15.4 hectare pit range from 6^o to 8^o hotter than outside the pit. These frogs really like to bake. This is an excellent observation area as it is an isolated spot with site fidelity. It has three creeks. Powells and Haswell's are tidal and Bounty is freshwater.

Her studies include examining the stomach contents of the frogs, their dispersal, their droppings, water quality, pH and salinity levels, water temperature, and frog habits such as amplexing. One pair she recalls being at their task for 77 hours and ending up with "asynchronous gamete release - he did but she didn't!". Michelle finds that they mostly travel after lam and that the females move further. They can jump a 7 foot fence, even when carrying a 1.2 gram tracking device.

Thank you Michelle for a very entertaining talk. Your in depth insight into the Green and Golden Bell Frogs of Homebush Bay was fascinating. MW

FATS ANNUAL GENERAL MEETING

Thank you to all those members who remain for another year on the committee, some in a new role. The 1998/99 committee members are:-

Frank Lemckert	President
Giselle Howard	Chairperson
Arthur White	Secretary
Anthony Nicholson	Membership Officer
Lothar Voigt	Publicity / Exhibition Officer
Ken Griffiths	Field trip Co-Ordinator
Monica Wangmann	Editorial Panel

and welcome to three new committee members :-

Carl Spears	Editorial Panel
Karen White	Treasurer
Julia Shoulder	Field Trip Assistant

It was good to hear that the Frog and Tadpole Study Group is in an excellent financial position. Thanks Arthur for your presentation of the accounts. We also thank all past committee members for their hard work behind the scenes. MW

Why are frogs so happy?
They eat whatever bugs them!

Arthur White spoke about the survey of frog common names. FATS has been identified as a neutral group who could co-ordinate the communication within Australia to arrive at one common name for each frog species. At present the one frog can go by several different common names and there are other examples where one common name for a frog can refer to more than one species. The survey will seek to:-

find simple descriptive common names that may assist with identification eg Striped Marsh Frog,

remove useless names eg Hill Frog,

resolve common names of frogs that cross geographical boundaries such eg Eastern Owl Frog and Giant Burrowing Frog are actually the same animal,

share names within frog clans, and

correct inappropriate names such as, Heath Frogs which are not found in heaths.

The survey began in April 98 and will identifying common names currently in use. Participants will then form part of the group who will seek universal names. The project is expected to be completed by 2000 with over 1000 people involved in its success. MW

COME AND MEET OTHER FROGGY PEOPLE

Lothar Voigt identified some future events which require FATS volunteers. No previous experience or special knowledge required. Even 1 hour of your time gives Lothar and others there all day, a break! These include:-

Ku-ring-gai Wildflower Festival 29th & 30th August

Kellyville Pets Carnival 12th & 13th September

Water Week end of October

Frog Week first week of November 1/11 to 7/11

Streamwatch schools groups open day in November

Ocean care day at Manly 5th December

Remember that workshops continue to be run on the Study and Care of Reptiles and Frogs for \$85 over two Saturdays. Thanks to all those who presented frog slides and information. Again we had a lively auction run by Arthur White, which would not be possible without the frog memorabilia and clothing donations by our thoughtful members. We hope you all had fun. MW

LETTERS TO THE EDITOR

Please write to us. A small froggy treat will be mailed out to any child who sends us a Letter to the Editor. Articles could be about frog spotting, buying, swapping or selling captive bred frogs, tips on the care and feeding of frogs and frog friendly gardens and equipment. Have you read a good frog book or come across some good frog information? Please pass it on to The Editor, Frogcall, PO Box A2405 Sydney South NSW 1235 or email wangmann@tig.com.au MW

GREEN TREE FROG SKIN SECRETION

Abstract:-Toxicity of Green Tree Frog (*Litoria caerulea*) skin secretion to the blowflies *Calliphora stygia* (*Fabricius*) and *Lucilia cuprina* (Wiedemann) (Diptera: *Calliphoridae*). CR Williams, JF Wallman and MJ Taylor, Aust. Journ. of Entomology (1998) 37, 85-89

Many instances of attack by flies (Diptera) upon adult amphibians have been reported. The Green Tree Frog (*Litoria caerulea*) produces a skin secretion that protects the frog from infection and predation. In this laboratory study, we tested the secretion for its effect on two calliphorids, the Australian sheep blowfly, *Lucilia cuprina*, and the eastern goldenhaired blowfly, *Calliphora stygia* to investigate the role of frog skin secretion in defence against dipteran attack. Topical application to *L. cuprina* larvae caused mortality, resulting in the eclosion of fewer flies. Direct application upon *C. stygia* adults caused mortality, whereas introducing the secretion into food caused mortality as well as reduced feeding rates. Results suggest that both physical and chemical properties of the secretion play a role in its toxicity. The skin secretion of *L. caerulea* may be effective in the defence of this frog against Diptera in general; however, it may have evolved initially in response to attack by particular flies of parasitic genera.



Litoria littlejohni

with compliments Ken Griffiths

NEED TO CONTROL ANTS?

Try cinnamon, ants hate it. Sprinkle it across their path. MW



Carp at trout

It's a bit rich for the president of the Australian Trout Foundation to be complaining about the threat of one exotic organism, the micro-organism that causes whirling disease in fish, to his favourite exotic organism, trout (AFR Letters, May 12).

The two species of trout in Australia are not native to the country, but they are now self-sustaining in some areas and continually replenished through stocking in others.

Both species are detrimental to native fish and frogs. The truth is that both the micro-organism and the trout are a "health hazard" to native fauna. A pox on the lot.

Allen E Greer,
zoologist,
Sydney, NSW.

Fin Review
18-3-98



One jump ahead: Green tree frogs are finding their way to Sydney from north Queensland aboard banana trucks

Taronga transit lounge for tree frogs

GRAEME LEECH

Science correspondent

SYDNEY'S Taronga Zoo has become a halfway house for runaway frogs hitching rides aboard trucks from Queensland's banana country.

They don't always arrive by refrigeration truck, however.

A green tree frog, recently admitted for rehabilitation at the zoo's wildlife clinic, travelled by air from Cairns in a backpacker's sand shoe.

It arrived in surprisingly good shape, unlike many dehydrated frogs often found hiding among banana

leaves at the Flemington fruit and vegetable market in Sydney's west.

Libby Hall, wildlife rehabilitation officer at Taronga, said that after a gentle spray of water, some moist peat moss and a few leaves to hide in — and a couple of crickets to eat — the frogs usually recovered quickly, ready for the return trip cosseted in a six-pack esky.

Two palm-sized green tree frogs, one white-lipped, one dainty and one eastern dwarf tree frog — the size of an adult's thumb nail — were being prepared yesterday for their journey home.

Just west of the Blue Mountains

AUSTRALIAN
20-6-98

Ms Hall said their origins could usually be pinpointed by labels on the banana boxes where they were found, either at Flemington or in suburban supermarkets.

"It is important with amphibians that they go back exactly to the place they came from, so that the genetic pool can be kept stable," Ms Hall said.

Truck drivers were only too happy to play their part in reuniting the frogs with their natural habitat, she said.

"It's great that members of the community care enough to bring these animals in," Ms Hall said.

IF A FROG CALLS, TAKE A MEMO

An army has ears to the ground, keeping tab on population shifts. By Madeline Bodin Out in the country, people put their feet up on porch railings on warm spring nights and listen to the frogs calling. On Long Island, listening to frogs is hard work. "Even at midnight I have to hope for a break in the traffic to hear the peepers," says Russell Burke, the co-ordinator of Long Island's calling-frog survey. "It's not that they are not calling. It's just that I can't hear them." noise is even more of a problem for Hofstra University geology professor and survey volunteer Bret Bennington. "It's easy to think you hear a frog," he says. "You almost start hallucinating very faint frogs in the distance, but then you have to remind yourself that if they were there, you would hear them clearly."

The environmental threats facing Australian frogs are often faced by other nations' frogs.

THE CHIRICAHUA LEOPARD FROG.

Summary of proposal by centre for bio-diversity for listing of the chiricahua Leopard Frog.

The Chiricahua Leopard Frog, one of several southwestern ranid species, declined rapidly this past quarter century due to loss of habitat and introduction of exotic species. It historically occurred on the Mogollon Plateau in Arizona and New Mexico and the Sky Islands of southeastern Arizona, southwestern New Mexico and northern Mexico. Today, the Chiricahua Leopard Frog occupies less than 87 sites rangewide. Extant populations are severely isolated, placing the species in danger of extinction from demographics and from genetic inbreeding. Livestock grazing, groundwater pumping, agricultural diversion, and dams are the major causes of habitat loss for the Chiricahua Leopard Frog, which is dependent on perennial water in stream backwaters, slow flowing stretches of rivers, plunge pools, marshes, lakes, ponds, and springs. Presence of exotic species, particularly Bull Frog, is correlated with absence of the Chiricahua Leopard Frog. Exotic fish and crayfish are also problems for the same reasons. Other causes of decline include acid rain and possibly global climate changes, such as increased UV radiation caused by depletion of the ozone layer, which is hypothesized to be causing frog declines worldwide. The Chiricahua Leopard Frog is listed as a candidate endangered species by the U.S. Fish and Wildlife Service, who has promised to list the species for several years, but has failed to do so. There currently are no conservation plans in place.

There are more government regulations being put into legislation all over the world. NSW just had a licencing system introduced. Colorado in the US has done similar.

NATIVE HERPTILES TO BE DECLARED.

People who possess native reptiles or amphibians that are NOT on the Colorado Division of Wildlife list are required to declare those species. The Colorado Wildlife Commission passed new regulations regarding the possession of amphibians and reptiles. Because of those changes, new possession limits were established for those herptiles that can be held in captivity. The Commission also removed some species from the list. "Before the regulation change, there were a number of herptile species we had little information about, or were declining that could legally be taken from the wild and possessed," said Chuck Loeffler, herpetologist for the Division. "We didn't feel it was responsible to continue to allow people to take those species from the wild when we didn't feel confident about their status." Up to four individuals of each of the following frogs and toads may be taken annually, if no more than twelve in total are possessed at any time: Plains Spadefoot Toad, Woodhouse's Toad, Western Chorus Frog. Any other species of native reptiles or amphibians not listed above that were taken from the wild and lawfully possessed before July 1, 1998, may continue to be held in captivity provided that written notification of the numbers and species being held is submitted.

HERPDIGEST is a free, electronic weekly collection of herpetological scientific and conservation news and articles from newspapers, the Internet, government & non-profit press releases.

Herpdigest Editor: Allen Salzberg

Whelan hops in to help

Lewisham Public School principal Robyn Hutchinson was a little worried recently when she heard the State Member for Ashfield, Paul Whelan, had 300 frogs for her students.

However, no flies or fresh water were needed when Mr Whelan arrived with amphibians of the lolly variety and a \$1000 cheque for the school's frog habitat project. Speaking at the meeting between Mr Whelan and the student representative council, Mrs Hutchinson said: "We have a barrage of pollution in the Inner West, so I think this proposal of building a frog habitat, for the want of a better word, is a great reminder of how important the environment is."

Marrickville Community Nursery coordinator Gary Dillon said: "Frogs can be like a thermometer for us because if the



Lewisham Public School Year 4 student Tammy Cargill and the State Member for Ashfield, Mr Paul Whelan.

frogs are healthy, the environment is healthy."

The \$1000 frog pond is a small part of the school's major redevelopment called "The Lewisham Meeting Place on Cadigal Land", aimed at creating a community village atmosphere and a sense of ownership of the school grounds outside class hours, Mrs Hutchinson said.

The visionary proposal, still in the embryonic stages, is a major rework of the school's open space.

Marrickville Council recently pledged \$25,000 for the project provided that the NSW Education Department matched the offer.

Never! Never! Toads just a hop from Kakadu

By JOHN STAPLETON

CANE toads, already in the Gulf of Carpentaria, could devastate Kakadu National Park while the Federal Government did nothing, a leading frog and toad expert claimed yesterday.

Mike Tyler, of the Zoology Department of Adelaide University and author of Australian Frogs, said the Government's abandonment last year of the Cane Toad Control Program, and its failure to declare the species a pest or replace the program, was "outrageous".

Professor Tyler said the toad was expanding its range at 8 per cent a year and it was essential the Government take action before the country faced an environmental calamity that would destroy world heritage wetlands.

The toad, native to South America, was introduced as a biological control into Queensland cane fields in the mid-1930s and now ranges across more than half a million square kilometres in Queensland, the Northern Territory and NSW.

Professor Tyler, a member of the now lapsed Cane Toad Advisory Committee, organised by the CSIRO, said the committee had not been consulted about the end of the program after years of work.

"The information I have is that State and Territory environment ministers have abandoned all efforts to control the cane toad and agreed that it is not a pest," he said.

"This is a very stupid decision.

"There is now no action whatsoever being taken against the cane toad anywhere in Australia. Wait until it gets to Kakadu National Park, a part of Australia we think as one of the world's treasures.

"The impact of the cane toad will be far greater than that of mining."

Rick Shine, from the Department of Zoology at the University of Sydney, said there had been broad agreement among scientists that it would make good economic sense to continue the program.

"Professional scientists are not outraged or astonished because so much funding for environmental and ecological programs has been reduced," Professor Shine said.

"But it would have been very cost-effective to keep going with the cane toad program.

"We had reached the point where we had a good understanding of the ways cane toads interact with the environment. We were poised to move into the next step of what to do about these animals. The sad fact of life was the money disappeared when we reached that stage."

Steve Wilson, of the Queensland Museum Reference Centre, said the toad was "one of the most terrible pests we've got".

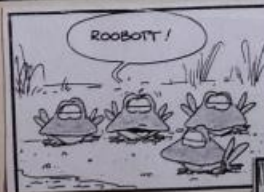
A spokesman for Environment Minister Robert Hill said there had been no axing of the \$2 million three-year cane toad eradication program, but that funding had simply run out.

"It was always intended to be a set amount for a set period," he said.



MATT TURNER *The Australian* 20.4.98

Professor Tyler with the offending creature ... 'stupid decision'



GLEBE POINT Youth Hostel is setting standards in customer service - for frogs. A backpacker arrived from Cairns this week with a stowaway in her wet sandals - a green tree frog. The hostel sent Freddy to Taronga Zoo, which has now accumulated five hitch-hikers - three green tree frogs, an eastern dwarf frog and a dainty tree frog. Most are found in banana leaves at the City Markets. Today, the errant amphibians, in foam six-pack containers lined with moss and leaves, will leave for Tully, courtesy of Malleys Transport.

SMH 19.6.98

Means to Prevent Diseased and Parasite-infected Amphibians from spreading through human investigation. Suggested by the Declining Amphibian Populations Task Force.

Suggested guidelines for use by anyone conducting fieldwork at amphibian breeding sites or in other aquatic habitats.

Observations of diseased and parasite-infected amphibians are now being frequently reported from sites all over the world. This has given rise to concerns that releasing amphibians following a period of captivity, during which time they can pick up inapparent infections of novel disease agents, may cause an increased risk of mortality in wild populations.

Amphibian pathogens and parasites can also be carried in a variety of ways between habitats on the hands, footwear or equipment of fieldworkers, which can spread them to novel localities containing species which have had little or no prior contact with such pathogens or parasites. Such occurrences may be implicated in some instances where amphibian populations have declined.

Therefore, it is vitally important for those involved in amphibian research (and other types of wetland/pond studies including those on fish, invertebrates and plants) to take steps to minimise the spread of disease agents and parasites between study sites.

(PS Interesting and important to consider - but how does one control the movements of things like waterbirds as vectors? The most recent copy of New Scientist on page 4 has an article on much the same topic and the potential threats of herpetologists. It also outlines some recommendations so WE don't (or at least minimise the ..) spread of any pathogens. Martyn Robinson)

SWAMP
by Gary Clark



1. Remove mud, snails, algae and other debris from nets, traps, boots, vehicle tyres and all other surfaces. Rinse cleaned items with sterilized (eg. Boiled or treated) water before leaving each study site.

2. Boots, nets, traps etc. should then be scrubbed with 70% ethanol solution and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland.

3. In remote locations, clean all equipment as described above (or with a bleach solution) upon return to the lab or "base camp". Elsewhere, when washing-machine facilities are available, remove nets from poles and wash with bleach on a "delicates" cycle, contained in a protective mesh laundry bag.

4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable gloves and change them between handling each animal. Dedicate sets of nets, boots, traps and other equipment to each site being visited. Clean and store them separately at the end of each field day.

5. When amphibians are collected, ensure the separation of animals from different sites and take great care to avoid indirect contact between them (e.g. via handling, reuse of containers) or with other captive animals. Isolation from unsterilized plants or soils which have been taken from other sites is also essential. Always use disinfected/disposable husbandry equipment.

6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.

7. Used cleaning materials (liquids etc.) should be disposed of safely and if necessary taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

Fieldwork Code of Practice produced by the DAPTF and B Arano, A Cunningham, T Langton, J Reaser and S Sessions. For further information, contact John Wilkinson, Biology Department, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK. E-mail: DAPTF@open.ac.uk Fax: +44 (0) 1908-654167 Produced with financial assistance from Froglife, Triton House, Bramfield, Halesworth, Suffolk IP19 9AE, UK. Fax: +44 (0) 1986-784579 E-mail: enquiries@tritonhouse.demon.co.uk. Allen Salzberg.



BICENTENNIAL PARK
HOMEBUSH BAY

TADPOLE PAGE

FIND / GUESS A WORD

ANTHONY STIMSON'S RASCALLY REPTILES

We met Anthony Stimson's Rascally Reptiles at Homebush Bicentennial Park.

In the theatre Erica and I watched Anthony pull out a white box. What was in the box? He unravelled a brown cloth bag and there was Thomas the Long Necked Turtle!! Anthony showed us Thomas's webbed feet, for fast swimming. Thomas was cute. My friend Erica always wanted a pet turtle. Then something really funny happened. Thomas did a piddle!!!! Anthony Stimson laughed "Well when you gotta go, you gotta go." He told us about the yellow stinky stuff that oozes out from under the shell, when turtles are scared.

Another turtle called Speedy was in the second box. Do you notice something he asked? I shot my hand up. Anthony picked me. I said "It's a different species. It has a different shell." "Yes", Anthony said "It's a Short Necked Turtle". Everyone touched the turtles.

Anthony took out a long red bellied black snake. He said "If you're lucky, you will see a beautiful snake like this slithering through the reeds. You can't touch him because he's venomous, but remember if you leave these snakes alone they will leave you alone."

Next he took out a little Green Tree Frog. He said "This frog is called Freddie. Even though Freddie is not a reptile I wanted to show him to you". Anthony passed Freddie around for us to look at.

We saw a fresh water crocodile which I liked and a salt water crocodile called Snap. I helped show how long Snap's grandfather would be. 7 metres!! Whoa!!

Lucky last was one of my favourite animals. The Rainbow Serpent, as the Aboriginies call it. Her name was Princess because she was so beautiful and gentle. Hannah cuddled him.

I thought Anthony Stimson was an extraordinary man. I asked him a couple of questions afterwards. Then we sat down and made a picture of a wetland habitat. We had a great day. Katherine Wangmann

We look forward to other articles from our junior readers. Please mail them to:-
FROGCALL

C/- FATS PO Box 2405 Sydney South 1235
or email wangmann@tig.com.au

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

by Katherine Wangmann

- Wide - _____ cd Frog
- What frogs eat _____
- Young frog _____
- Name of our Group _____
- Enemy of frogs _____
- Our Secretary _____
- Two frog diseases starting with V _____ and F _____
- Event at FATS meetings _____
- Place where frogs are on public display _____
- Our Publicity Officer _____
- Frogmania _____
- Opposite of ground frog _____ Frog
- Cane _____
- Name of our newsletter _____
- Frog spawn hatch into _____
- Our President _____
- Frogs spend much of their time H _____
- Last meeting we had an annual event the _____
- Green and Golden _____ Frog
- _____ Tree Frogs
- Initials for our Membership Officer _____
- Activity by a Water Holding Frog _____

How do you apologize to a witch?
Rabbit!

What is a frog's favorite game?
Croaker

The remaining 9 letters form a secret word

_____ answers in the September newsletter



NATIONAL FROG PROJECT

As many of you will know, WWF has been working to define a project of national significance for frog conservation. The project would be carried out over 3 years and involve frog conservationists, biologists, government agencies and the community. Ideally, the project would provide a national framework for co-operation between frog groups, researchers and agencies. The project would seek to carry out one or more of the major recommendations of the Action Plan. I am keen to seek any suggestions for a nationally significant frog project that meets these basic criteria.

I would greatly appreciate any comments.

Ray Nias RNias@wwf.org.au WWF Australia.
(compliments of Frank Lemckert)

CRINIA TINNULA AT NOOSA

Just an update for anyone interested in the post-prescribed burn fate of the *crinia tinnula* population in a section of Noosa National Park.

We are now coming up to six weeks after the fires and the frogs are still calling in large numbers from the burnt area! Our sampling methods are pretty gross, however there appears to be a slight reduction in the numbers calling compared to pre-fire. Mortality from the fire itself or from increased predation from habitat changes may be the cause.

Another interesting observation is that the frogs often call during the day if there has been rain or if it overcast, however we have noticed that the frogs are often calling from inside the burnt area when other populations in nearby, unburnt sections of suitable habitat where we have heard them in large numbers before, are silent??? Michael.Cubis article forwarded on by F. Lemckert

LITORIA LESUEURII

I've got a record in the NPWS Atlas for a *L. lesueurii* for out west in Baradine. A form was sent out to the observer to get more details about the sighting. They held it in the hand by torchlight to ID it and subsequently released it. The group were from DLWC. Other species seen there were: *Crinia sloanei*, *Limnodynastes ornatus* and *tasmaniensis*. m Angelli Meza angelli.meza@npws.nsw.gov.au Comments anyone? Passed on by Martyn Robinson (PS Suggest could have been *Litoria latopalmata* as it would not be too hard to confuse with *L. lesueurii*. Frank Lemckert & Martyn Robinson)

NATIVE WILDLIFE AND CATS

For those of you interested about the effects of cats on native wildlife, you might check out CatAlert at <http://www.willana-lifesciences.co.uk/index.htm> This web site discusses the development of a sonic collar to alert wildlife to the presence of marauding pussycats. From Ken Dodd with compliments Herpdigest

Indiana Department of Natural Resources, Law Enforcement Division raided the Midwest Reptile Show on Sunday, June 28, as well as many other places. The Midwest Reptile Show itself was not a target nor was its promoter. The show just happened to be the gathering place for several of the defendants.

There were cases for the illegal sale of native reptiles, Federal and State endangered species, etc. The raid stemmed from an investigation I conducted in 1994 and 1995. States eventually evolved include: California, Florida, Missouri, Illinois, Michigan, Maryland, Texas, North Carolina, Arkansas, Oklahoma, Arizona, Iowa and Indiana.

The investigation was continued by three Indiana Conservation Officers. The investigation grew rapidly and eventually involved the U.S. Fish and Wildlife Service and the natural resource agencies of thirteen states "Operation Herpscarn" focused on dealers who police say have been illegally buying and selling endangered and dangerous species of reptiles and amphibians. The animals range in price from \$10 to nearly \$1,000.

The natural resources of this Commonwealth are the property of all the people of Pennsylvania. When individuals commercialize those resources, they not only damage wildlife populations, they steal from all citizens.

Undercover officers had set up a phoney reptile retail outlet called Serpents and Such in Muncie, where they videotaped and later arrested illegal buyers and sellers of snakes, frogs, crocodiles, turtles and other reptiles and amphibians. EMAIL Allen.Salzberg.x5245@erols.com Extracts of Internet info. compliments of A.Salzberg

FROG'S FINANCIAL FATE

A frog was really down on his luck. All he had left in the world was a little ceramic figurine his mother had willed him when she croaked. He decided he'd go to the bank and get a loan so he could improve his lot in life. He wrapped up the figurine and hopped on down to the local bank.

When he got to the bank, the bank receptionist directed him to a loan officer by the name of Mr. Paddywack. Mr. Paddywack took one look at the frog and knew his day was ruined. "Ok, he said, what can I do for you?"

"Well, I'd like a small loan," the frog said, "so I can get back on my feet."

"We don't usually lend money to frogs," Paddywack said. "Do you have anything in the way of collateral?"

The frog held up the figurine and said, "Well, I have this. "Paddywack rolled his eyes and said, "I'm going to have to ask my manager."

He went to find the manager, and told him, "You're not going to believe this. There's a frog out here, who wants money. He has this figurine for collateral. Have you ever heard of something so dumb?" The manager scowled at him and said, "For God's sake, it's a nicknack. Paddywack, give the frog a loan." Anne Peaston

Several of you may have seen the green tree frog (*Litoria caerulea*) brought into the last meeting suffering from a cloacal prolapse (that's where the last bit of the cloaca squeezes out through the anus and does not want to return to its proper place). If a prolapse is not reduced (ie, put back in the proper place) it is possible that more and more of the lower intestine may be extruded, eventually leading to the death of the frog.

Why does a prolapse happen? Usually it's because the animal is overstraining to evacuate its bowel. Disorders such as severe diarrhea, or parasitic infestations might occasionally be the cause. As may a blockage of the intestines, maybe due to eating something large and indigestible like a stone or a stick, or a seriously big insect, or possibly due to twisted or telescoping bits of bowel, or due to tumours obstructing the bowel. No doubt all sorts of other reasons too.

For our frog friend in question the cause was not obvious. We don't know the full history of his complaint, other than his previous minders had replaced the prolapse, but it kept on reoccurring. He was not a fat frog, but was not emaciated. There were no unusual lumps or bumps to feel in his tummy. After a night in makeshift accommodation we had no evidence that he had diarrhea, but his prolapse was worse, and he was an unhappy brownish dull colour.

We decided that the best thing was probably to replace his insides inside, stitch his bottom closed for a week or so and then see what happened.

Needless to say, we could not feed him as he couldn't pass solids.

However, within a few days he started to look MUCH greener, a good sign.

Two weeks after stitching, we removed the suture. At this point he looked verry happy. He immediately ate a cricket, then another one. And the next day his prolapse was back, about 4 or 5 mm of pink cloaca protruding from his anus. But he was still green. So we left him for a few days and one afternoon, surprise! he was back to normal. To celebrate, we gave him another cricket. And another. And the next day the prolapse was back.

Oh dear, we thought. Still, he was keeping nice and green. So we waited a day or two more, during which time he produced a frog dropping - a bit of slimy green stuff with cricket parts and some plant material. We scraped it up and took it to our favourite parasitologist. She was disappointed to report finding not one parasite. This was important for us as we had been worried that the frog could be afflicted with *Cryptosporidium*, a nasty creature which can give people diarrhoea and vomiting, and which the vets at Taronga Zoo mentioned they have found in "banana" frogs.

Altogether in the last 3 weeks froggy's cloaca has popped out and in about 5 times. We still do not know why this frog prolapsed its cloaca in the first place, nor why it continues to do it. A mystery from beginning to end! Anne Peaston Email A.Peaston@unsw.edu.au

They put their arms and legs around anything beneath them. They will mate with anything that doesn't give the release call says Joseph Kiesecker, Yale University United Press International

Male western toads will mate with anything that moves, but there's a method to this seeming madness, new research suggests in the rare case of an animal that can't recognize the opposite sex. The male toads aren't mad, they're just so desperate to procreate during a very short mating season they'll hop aboard a big male, a human hand, or, if offered, a beer can or rock, says Andrew R. Blaustein of Oregon State University, one of the authors of a study published Saturday in the journal *Animal Behavior*. Mating season lasts only four to six nights each spring, so the toads can't afford to take chances. When another frog, male or female, lurks within reach, a mate-hunting male will pounce, and not let go unless it hears a short series of peeps, indicating its intended is another male. The frogs return by the hundreds to the same spot each year and frantically pursue other frogs with which to mate. The team studied toads that crowd into a small section of Lost Lake in Oregon. Males arrive first, then wait anxiously for females.

"They're constantly jumping on one another," co-author Joseph Kiesecker of Yale University told *Science News*. "As one of the (males) moves, they think it's a female coming in and tackle it. The suitor, when it learns of its mistake, immediately lets go. But if it grabs any other animal or object, watch out. If it's a male, the male will peep. Females don't. Males have to act fast because competition for females is fierce." He added: "If you put your hand under them, they will grab it. We've done it with beer cans and rocks. They put their arms and legs around anything beneath them. They will mate with anything that doesn't give the release call. You have to pry them off. The orgy of mating lasts about two days. Blaustein said scientists are interested because mating is stressful, so the toads are a beautiful model to study all kinds of stress in animals, including stress in humans. The little toads go away and we don't see them for five years, when they are adults. And they can live for a very long time, 15 years or so. They may be hibernating, we don't know. With compliments Allen Salzberg

FEARFULLY, we report this may be the last time this golden burrowing frog is photographed alive. The rare creature - only the second found in Sydney in the past five years - is suffering a broken pelvis after falling onto the windscreens of a car passing under the sandstone overhang near Maroocha, north-west

Sydney, where she was sitting last weekend. Since then, she has been bobbing in a bucket awaiting surgery by retired Taronga Zoo vet Dr Howard Ralph, who is said to be the one to save her if anybody can. We await news of her recovery and her release into the Murrumbidgee National Park from whence she came.



MYSTERIES
Will she croak it?

SMH
22-5-98

FROG-KILLING FUNGUS

A newly discovered fungus is killing frogs and toads around the world, according to *New Scientist Magazine*. The fungus, which coats their undersides and legs, is thought to be suffocating the animals, which breathe through their skins. Scientists say it could be a major factor underlying the decline in amphibian populations reported worldwide.

Scientists do not know where the fungus came from or how it spread but it has struck 10 species of frogs and toads in 10 areas of Australia, seven species in Panama and six species in American zoos and aquariums. It was first noticed in arroyo toads at a zoo in Washington, D.C.

The fungus, which was discovered independently by researchers in the United States and Australia, belongs to a new genus of chytrid, a group thought to be related to the earliest fungi.

"The scientists don't yet know if the fungus is the primary cause of death, or is killing the animals weakened by other factors, such as ultraviolet radiation penetrating the atmosphere due to the thinned ozone layer or agricultural chemicals," the magazine said.

The same fungus was first found in 1988 and has since been found in other captive amphibians in the U.S. It was found in Australia at the Melbourne Zoo in 1993. Researchers from the Australian Animal Health Laboratory near Melbourne made a similar discovery.

The frogs and toads may be suffocating because of the fungal growth and because, in reaction to the fungus, they are laying down extra layers of keratin in their skin.

The researchers say that an antifungal treatment might be possible in zoos, but this is not a viable option for frogs in the wild. They are calling for further research on the subject. **Barbara Thurlow**, New Scientist, (with compliments from Paul Kravchenko President, Upper Parramatta River Catchment Management 9631 4978 UPR-CMC <http://homepage.idx.com>. and Giselle Howard)



Courtesy: Booby's Animal Pictures

The fungus was first found in the U.S. in 1988 in two specimens of White's tree frog, an Australian species.



earliest fungi. The researchers think the fungus suffocates the amphibians by coating their undersides and legs.

The magazine said it was not yet known whether the fungus was the primary cause of death, or whether it was killing the animals weakened by other factors, such as ultra-violet radiation penetrating the atmosphere owing to the thinned ozone layer, or agricultural chemicals. The fungus has been in US zoos since 1988 and was found in Australia in 1993.

Mr Pessier and his colleague, Mr Don Nichols, teamed up with Research Assistant Professor Joyce Longcore, of the University of Maine, to identify the fungus.

A similar discovery by researchers from the Australian Animal Health Laboratory, in Geelong, Victoria, will be reported next month in the *Proceedings of the National Academy of Sciences*, published in the U.S.

In calling for further work on the subject, the researchers said they were not sure whether the frogs, which breathe through their skins, are suffocating because of the fungus or whether it is releasing a toxin.

Reuters

SMH 26.6.98

Fungus linked to frog mystery

London: Zoologists believe they have tracked down a fungus that may be the cause of a mysterious major decline in the number of frogs around the world.

Scientists do not know where the fungus came from, nor how it spread, but it has struck 10 species of frogs and toads in 10 areas of Australia, seven species in Panama and six species in United States zoos and aquariums.

"There is little doubt that this is a worldwide phenomenon," Mr Allan Pessier, a veterinary pathologist, of the National Zoological Park in Washington, told *New Scientist* magazine.

The fungus, which was discovered independently by researchers in the United States and Australia, belongs to a new genus of chytrid, a group thought to be related to the

26 THREATENED FROG SPECIES IN EASTERN NSW

Of over 80 species in NSW, these are the species that are endangered or believed to be at risk.

Assa darlingtoni
Crimia tinnula
Heleioporus australiacus
Mixophyes balbus
Mixophyes fletyi
Mixophyes iteratus
Philoria kundagungan
Philoria loveridgei
Philoria sphagnolicolus
Philoria sp. nov. 1
Philoria sp. nov. 2
Philoria sp. nov. 3
Pseudophryne australis
Pseudophryne hibronii
Pseudophryne corroboree

GROUND FROGS

Marsupial Frog NR
Wallum Froglet NS
Eastern Owl Frog CP
Stuttering Barred Frog CP
Silverblue-eyed Barred Frog NR
Gold-eyed Barred Frog CP
Red and Yellow Mountain Frog NR
Masked Mountain Frog NR
Sphagnum Mountain Frog NR
not yet named, a mountain frog NR
not yet named, a mountain frog NR
not yet named, a mountain frog NR
Red-crowned Toadlet CP
Brown Toadlet CP
Corroboree Frog ST

TREE FROGS

Green and Golden Bell Frog CP
Booroolong Frog CP
Green-thighed Tree Frog CP
New England Bell Frog NT
Southern Tablelands Bell Frog ST
Heath Frog CP
Wallum Sedgefrog NS
Peppered Tree Frog NT
Southern Bell Frog SP
Spotted Tree Frog ST
Glandular Tree Frog NT

Litoria aurea
Litoria booroolongensis
Litoria brevipalmata
Litoria castanea flavipunctata
Litoria sp. nov.
Litoria littlejohni
Litoria olongburensis
Litoria piperata
Litoria raniformis
Litoria spenceri
Litoria subglandulosa

NS = Northern Coastal acid-heath swamps
CP = Coastal plains and ranges
NT = Northern Tablelands
NR = Northern wet ranges
ST = Southern tablelands
SP = Southern plains and ranges

FATS Group
P.O. Box A2405
Sydney South NSW 1235

We don't have enough data or study sites on most of these species (apart from near metropolitan areas). If you live in or go to any of these country areas, please send (or play by phone) a tape recording of frog calls to the FATS Group, for identification.

Frogwatch Helpline (02) 9476 2853
(02) 9482 1017
(02) 9599 1161
(02) 9371 9129



Pseudophryne australis



Off the planet: *Litoria Rheocola*.



and *Litoria Nannotis* are believed to be extinct

Fungus figures in frog-leap to extinction
The *Australian*, 8/7/98
Researchers have focused on the worldwide demise of frog populations, Katherine Glascoff reports

A NEW fungal disease could be killing off frog species around the world, including in Australia. Researchers said yesterday they did not know where the fungus came from or how it spread, but it might be responsible for the disappearance of three frog species in northern Queensland. A further seven species across the country are infected.

Researcher Lee Berger, from the CSIRO Animal Health Laboratory in Victoria, said the chytridiomycete fungus, which was normally found in soil, has also infected frog species in South America and the US.

Australian researchers have joined British and US scientists to study the frog decline and fungus disease, which was discovered in American zoos in 1988 and Australia in 1993.

Ms Berger said many frog populations have declined or disappeared in tropical and subtropical Australia during the past 20 years.

She believed the fungus suffocated the amphibians by coating their undersides and legs. "We found that this fungus invades the superficial layers of the skin, causing damage to the keratin layer on the skin surface," Ms Berger said. "As frogs drink and breathe through their skin, the fungus may kill the frogs by disrupting these mechanisms."

James Cook University rainforest researcher Ross Alford said the decline was probably due to pollution and other environmental changes. He said it was not yet known whether the fungus was the primary cause of death, or whether it was killing animals weakened by other factors.

Those factors included ultra-violet radiation penetrating the atmosphere and agricultural chemicals.

"One possible cause is very high concentration of pesticides or pollutants in mists or low clouds and these can be absorbed by the permeable skins of frogs," Associate Professor Alford said. Frogs are considered a "sentinel" species which reacts swiftly to environmental changes because they live both on land and in the water and have a thin, permeable skin.

The three frog species believed to be extinct are the *Taudactylus Acutirostris*, the sharp snouted torrent frog, *Litoria Rheocola* (common mist frog), and the *Litoria Nannotis* (torrent tree frog).



Taudactylus Acutirostris

The Frog Files

www.upnaway.com/~rdavis/index.htm

SEEKING a more peaceful tone? Be quick — our native frogs and their songs are disappearing. At the Frog Files you'll find loads of these cute green little guys, combined with plenty of information about the disappearance of some species.

Many species of Australian frogs have not been seen for decades, while 27 species are currently listed as endangered or vulnerable, and several are presumed extinct.

Queensland and NSW have fared particularly badly but you can still catch a number of Western Australian frogs here at the site — from the cave dwelling to tree varieties. The F files has bright and detailed photos, and information that's handy for school assignments. Croak!

A
Big
Thank
You
to all those
kind people who
contributed
to this
newsletter

phone

fax

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Vacant	Publicity / Exhib Officer		
Ken Griffiths	Field Trip Co-ordinator	(02) 9520 9961 (h)	between 7pm and 8pm
Julia Shoulder	Field trip Co-Ordinator		
Monica Wangmann	Editorial Panel	(02) 9797 6543 (h)	
Carl Spears	Editorial Panel		
Vacant	Editorial Panel		

OTHER HERPETOLOGICAL AND REPTILE ORGANISATIONS

- Hawkesbury Herpetological Society P.O. Box 2 Whalan 2770
- Australian Herpetological Society P.O. Box R79 Royal Exchange Sydney 2000
- Reptile Keepers Association of NSW P.O. Box 227 Gosford 2250
- Central Coast Reptile and Frog Group P.O. Box 828 Gosford 2250
- Cape York Herpetological Society P.O. Box 848 M Manunda 4870
- Victorian Frog Group P.O. BOX 424 Brunswick 3056
- Adelaide Snake Catchers Inc. P.O. Box 12 Kent Town 5071
- Orana Herpetological Society P.O. Box 809 Mudgee 2850
- Reptile and Amphibian Interest Group P.O. Box 5013 East Lismore 2480

What did the frog order at McDonald's?
French fries and a diet Croak

We hold six informative, informal, topical and practical meetings each year at the Australian Museum (William Street entrance) in Sydney. Meetings are held on the first Friday of every even month (February, April, June, August, Oct. and Dec.) at 7 pm for a 7:30 pm start. 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.



"Happy Froggers"
Smiths Lake
Uni of NSW
Field Station

CONTACTS