

# FROG CALL



NEWSLETTER No. 65  
May 2003

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*Litoria aurea*  
Green and Golden Bell Frog  
Photograph by Arthur White

Next meeting 6.30 PM for a 7.30 PM start

FRIDAY 6<sup>th</sup> June 2003

AUSTRALIAN MUSEUM,  
WILLIAM ST ENTRANCE



## MEETING FORMAT for 6<sup>th</sup> June 2003

- |         |  |
|---------|--|
| 6.30 pm | A small number of frogs, mostly juvenile <i>Litoria Caerulea</i> are ready to collect from the Frog Rescue Service. Please bring your FATS membership card, Amphibian Licence. |
| 7.30 pm | Welcome and announcements  |
| 8.00 pm | Stan Orchard : Outcomes of the National Frog Program.  |
| 9.30 pm | 5 Favourite Slides (Please bring along any froggy slides that you would like to show)  |
| 9.45 pm | Auction and drawing of door prize  |
| 10 pm   | Tea and Coffee   |

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## LAST MEETING 4TH APRIL 2003

**B**arbara Bohdanowicz, our chairperson, welcomed members and guests to the frog meeting at the Hallstrom Theatre.

**Lothar Voigt, our first speaker, described the history of the Frogwatch program and the Department of Land and Water Conservation DLWC.** The program emphasises water quality, and measurement of water turbidity. No frogs at a stream does not necessarily mean an unhealthy environment whilst the existence of frogs at a site does not necessarily mean it is healthy – just that the frogs are managing somehow. The meeting was treated to a training video produced by Lothar on tadpole and frog husbandry techniques.

Jodi Rowley and Anne Miehs spoke about their trip to Parkes, Condobolin and the Weelah State Forest. A complete version is in the last Frogcall No 64. Their wonderful adventures were retold with such excitement I felt as though I was there with them. And yes I can see why the Holy Cross Toad really is the cutest frog in the world.

David and Mary Foster from Ryde spoke passionately about their garden pond and described the colony of wildlife there. The detailed descriptions and perceptive accounts of frog “love life” reminded me of stories by Gerald Durrell, recanting adventures with animals.

We were most fortunate to here the detailed account and powerpoint presentation of the rescuing of the highly contaminated Chullora wetlands – the upper reaches of the Cooks River. The use of reeds as part of the process to convert degraded stream water into drinkable quality was very inspirational. The \$5 million project to remediate the site has created a habitat for about 10 species of frogs. *Litoria Dentata*, *Fallax*, *Caerulea*, Spotted and Striped Marsh, and *Perons* happily feed on mayfly, cadice and other tasty creatures. At least three species of native fish, wood geckos and 70 species of birds. The group hopes to establish an environmental centre at the site. We thank the speakers and hope that the Bankstown Bushwalkers and associated bush regeneration members continue with their successes. FATS look forward to an invitation at the site, in the future. Thank you Terry Nordstrom and Daryll Mckay.

David Nelson, described the field trip to Smith's Lake where an astonishing 24 species of frog were identified. David is not only a good photographer and actively involved in our web page design and upkeep but has taken an interest in many smaller native animals and their habitat needs. Wonderful slides! (Although some weren't frogs, I'm sure they were enjoyed, very much) In addition, on that issue... Native Bees Need Your Help Would you like to strike another blow for native bees and the environment? As you may know growers of greenhouse tomatoes are currently campaigning to have European bumblebees introduced to the Australian mainland for pollination of their tomato crops. A group at the Tasmanian Museum and Art Gallery did a three-year study (funded by Horticulture Australia!) on the potential impact of the bumblebee in

Australia. Their final report published in 2002 presented a fairly neutral view of the potential impact of introducing bumble bees, so tomato growers are now even more keen to obtain permission to import these exotic bees to the mainland. Sadly the tomato growers have considerable funding behind them to help with their campaign and it is becoming increasingly likely that they will get their way and our Australian bushland will have yet another feral bee to cope with.

Meanwhile at the University of Western Sydney, Melissa Bell is making great progress with her trials of using native blue banded bees as an alternative to the bumblebee for pollination of greenhouse tomatoes. Previous studies by other scientists of pollination with carpenter bees and stingless bees have also produced encouraging results. Whilst the pro-bumblebee cause has been getting a lot of media attention, nothing is being reported in the media about these potential native bee alternatives to the bumblebee. (see **Aussie Bee Issue 17 and Article 2 in Aussie Bee Online:** <http://www.zeta.org.au/~anbrc/abol.html>)

**Further information can be obtained from Dr Anne Dollin Australian Native Bee Research Centre Publisher of Aussie Bee Promoting the Preservation and Enjoyment of Australian Native Bees PO Box 74, North Richmond NSW 2754, Ph:02 4576 1495 Website! <http://www.aussiebee.com/>**

Our final presenter was filmmaker, Dan Edwards who has been working on a documentary “the wonderful world of frog keepers”. We were lucky enough to see some footage that may be used in the doco. The Smiths Lake field trip group also became instant stars as the convoy of cars followed the chorusing frogs. An amazing night of talent and passion for our totem animal. So much talent! What an excellent night.

Congratulations to Matthew Kemplay-Hill for winning our door prize, Marion Anstis' book Tadpoles of South-eastern Australia.



Dan Edwards won second prize – a cassette tape of frog calls. Arthur White conducted the auction of many and varied donated froggy items... fancy frog buttons for the knitters amongst us and native water poppies were very popular. Many thanks to the donators and bidders. MW

## CENTENARY MEDALS

**C**ongratulations to past committee member Karen Thumm for being awarded a centenary medal. Please let us know who else from the frog fraternity was acknowledged for services to the environment. Monica Wangmann 0418 992 766 wangmann@tig.com.au

## A BREEDING GROUND?

**M**arkets In China That Sell Live Animals Could Be Link To SARS Guangzhou, China - Here, at the epicenter of the disease known as SARS, dinner can be bought live at a "wet market." Nestled amid the enterprises is Chau Tau market. Here, restaurant chefs and home gourmets, even traditional medicine makers, shop for exotic live animals, the much-desired delicacies of Cantonese cuisine. Guangdong is known for its consumption of snakes, turtles, a range of birds, assorted rodents and wild mammals, even cats and dogs.

The emphasis is on delicacies and variety. But freshness is utmost. So animals are purchased live and either butchered on the spot or in the buyer's kitchen.

World Health Organization officials are trying to determine whether there have been unusual die-offs of the sorts of wild animals consumed at dinner tables here - whether it's possible that a species was harboring the virus now known to be potentially fatal to humans. Science has long recognized zoonosis - animal-to-human disease spread - and that possibility is under study in the SARS outbreak. But the range of animal possibilities is vast - beyond even those arrayed in markets such as Chau Tau.

There is, of course, no way to know if this market, or others like it elsewhere in the province, could have been the source of the severe acute respiratory syndrome virus. The virus that causes SARS is novel. And that very novelty argues that the microbe is not normally found in animals that come in close contact with humans, such as pets and livestock.

The merchandise is arranged in sections: Rows of freshwater and sea turtles in the reptile section, from palm-sized creatures to 40-pound terrapins. The largest section of the market, spanning four rows about 100 yards long, features mammals caught in the wild, those captured by trappers from the mountains, swamps, forests and plains of China and southeast Asia.

**EXTRACT** www.herpdigest.org. By Laurie Garrett, Newsday, 4/23/02

## NATURE CONSERVATION COUNCIL OF NSW INC

**"Urban and Remnant Bushland : Toolkit for sustainable Future"**  
Conference 19-20 June 2003 St Leonards, Royal North Shore Hospital, Venue: Centenary Lecture Theatre fax 9279 2499 or post L5 362 Kent St Sydney 2000

## NEAR-EXTINCT FROG STAYS JUMP AHEAD

**A**ges back I posted about the lack of calling from frogs along the Dandenong Creek. There is a network of bike paths I ride every day that follow the creek and the series of ponds and swamps along it. I used to hear frogs calling on a regular basis but then I realised I had not heard them for about a year.

We have had good rains in the last week, which filled many areas that were starting to dry out.

Yesterday I am pleased to be able to report that I heard the frogs calling again. Near Ferntreegully Road the call was a high frequency clicking sound. Closer to Boronia road there was a sort of "Bonk Bonk" sound.

So at least two species have survived the dry in this area.

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<http://www.herpshop.com.au>

## NORTH COAST GREEN & GOLDEN BELL FROG

**D**espite having been pushed to near extinction by man, the green and golden bell frog has proven its resilience by surviving the worst drought in 100 years.

The endangered frog - made famous after a colony halted construction at the Olympic Site in Sydney - has escaped extinction on the North Coast although all of its natural waterholes have disappeared. Recent surveys of the northern most colony, where as few as 40 may live in the Yuraygir National Park, near Yamba, are encouraging with rangers finding tadpoles. The frog was once widespread across NSW, now as few as 6 colonies with populations larger than 300 now exist. But National Parks and Wildlife Service ranger Matt Clarke fear the Yuraygir frogs may have bred too late and that their tadpoles may not mature in time to reach adulthood. Normally the frogs breed in January However because their waterholes had dried out, rangers said the frogs did not get a chance for a "breeding event" until a third of the area's rainfall arrived in one night. **Daily Telegraph April 15 (from Daniel dan\_lizard@yahoo.com.au To: australianherps@yahoogroups.com**

## CONGRATULATIONS STEVE LISA AND NATASHA

Harrison Jack Weir

Born 10:26pm 18/04/03

Weight 4.135 kg (9lb 2oz)  
Length 52.5 cm (20 3/4 inches)



## AUSTRALIA DOCUMENTS UNPARALLELED SPECIES LOSS

The most comprehensive assessment to date of Australia's wildlife shows that some 3,000 whole bushland ecosystems are disappearing, taking more than 1,500 species with them. The Commonwealth Government's National Land and Water Resources Audit on the state of Australia's biodiversity was issued today, providing a national picture of the status and distribution of threatened species and ecological communities.

The report says such a record of species loss is "unparalleled" elsewhere in the world. There are 2,891 individual ecosystems identified as at risk. Of the 85 identified bioregions across the nation, 94 percent include at least one threatened ecosystem, the government assessment shows.

Land clearing is the greatest threat to Australia's biodiversity, according to the assessment, titled the "Australian Terrestrial Biodiversity Assessment 2002." Other threats include salinity, overgrazing, feral pests, poor fire regimes, and firewood collection.

Minister for the Environment and Heritage, Dr. David Kemp said the report shows the need for "urgent action on vegetation clearing." Since the states are responsible for regulating land clearing, Kemp called the report a "warning to the states which have the legislative power to act." The minister said he was "pleased and optimistic" about recent discussions between the Commonwealth and the Queensland, Tasmania and New South Wales governments on vegetation management.

Australia's largest conservation organization warned that the island continent is facing an "extinction crisis." John Conner, the campaigns director for the Australian Conservation Foundation (ACF), said today, "Past generations may have sleepwalked through extinctions like that of the Tasmanian Tiger. We are about to do it with our eyes wide open. Unless we and our governments act now, future generations will rightly hold us responsible for the conscious loss of our natural heritage."

Twenty-two Australian mammals have become extinct in the last 200 years, a third of the world's recent extinctions, the audit shows, and a further eight species can now only be found on islands.

At least 1,595 native plant and animal species are threatened with extinction, including some types of gum trees and wattles. Whole bushland ecosystems are at risk, from the Coolibah woodlands of Queensland to Western Australia's heathlands.

Even Northern Australia, previously thought to be relatively untouched, is showing signs of severe degradation, the ACF points out, with native mammal species like bandicoots and wallabies crashing in the Kimberley region and the Top End of the Northern Territory.



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Sydney  
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Native Plant Specialists

The report outlines recommendations to stop the losses of native species. Halting land clearing should be a first priority, along with completing the national system of parks and protecting Northern Australia.

"Our governments need to decide right now to take this report seriously, and act on it," said Connor.

"We have been acting like gate crashers at a giant biological party," Connor said. "We've been reveling in the natural abundance of Australia and using it for our economic benefit. But now the hangover is kicking in, and it's time to clean up."

The Australian Conservation Foundation says that while the federal government has spent over one billion dollars on repairing the environment under the Natural Heritage Trust, for every tree planted with this money by community volunteers, 100 more are bulldozed. Australia needs national laws to control land clearing and protect bushlands for future generations to enjoy, urges the conservation organization.

It is possible to control the biodiversity loss, the organization says, but only if nature conservation is placed high on the agenda of federal, state and territory governments and significant funding is put towards protecting intact bush lands and whole ecosystems.

In newly threatened northern Australia, governments must avoid the mistakes made in southern Australia, the ACF cautions, by developing a new, ecologically and culturally appropriate approach to land use and regional development in partnership with local people and Traditional Owners. **Canberra, Australia, 4/23/03 (ENS) - EXTRACT [www.herpdigest.org](http://www.herpdigest.org)**

CENTENNIAL  parklands

centennial park moore park queens park

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### SPOTLIGHT PROWL ☉

A chance to see the wild nightlife of Centennial Park. Join Rangers spotlighting possums, flying foxes and lots of other night creatures. All ages. Bring torch, 5.30pm-8.30pm. \$8.50 per person. Meet Robertson Road Gates. Bookings essential (02) 9339 6699

### RECREATION AND RELAXATION

- **Horse riding** Take advantage of Centennial Park's horse track, equestrian grounds and world-class equestrian centre. *Horse hire and riding lessons (02) 9332 2809*
- **Cycling and roller blading** Explore Centennial Park's 4 kilometre cycling track, the special cycleway for kids, or the extensive cycleways in Moore Park.
- **Picnics and BBQs** As well as unlimited picnicking spots, there are five free BBQs to enjoy.

6 June  
4, 11, 15 + 18 July 1<sup>st</sup> Aug.

## SCIENTIFIC BACKGROUND TO CURRENT RESEARCH ON CONTROL OF CANE TOADS

Over the past two years CSIRO has been conducting research into the biological control of cane toads. We are pursuing a concept of interfering with metamorphosis of cane toads and thereby suppressing their opportunity to reach sexual maturity. The concept is based on research that was done some years ago in the US on bullfrogs where inoculation of tadpoles with adult haemoglobin interfered with metamorphosis. The mechanism of interference is considered to be mediated by antibody.

We have repeated this work using cane toad adult haemoglobin in cane toad tadpoles and have shown that although the toads went through metamorphosis, they did not develop adult haemoglobin. This proved that by exposing cane toad tadpoles to adult proteins one can interfere with protein expression in adult life with the potential to compromise survival. As haemoglobin is conserved across species we are now looking for cane toad-specific proteins that could potentially be used to interfere with metamorphosis. In amphibians there are many proteins that are expressed only in adults or during metamorphosis and we have identified many such proteins in cane toads.

The current proof of concept involves inoculating tadpoles with protein that clearly has no practical application. To deliver the effect across the geographical range of the cane toad or at least within selected areas where a reduction in cane toads is needed, an efficient means of delivery is required. One way of achieving this is to use a virus that could act as a vector for the gene that interferes with metamorphosis.

The virus we have chosen to prove the delivery concept is a ranavirus that has been isolated in Australia. We know that this virus will affect other species, so we recognise that it is important that if this virus were to be used, it would have to be attenuated such that it could carry the gene to toads, but not affect other species. Clearly if the virus cannot be attenuated another delivery approach will be necessary. To have its greatest effect the virus would need to disseminate but if this was not feasible or acceptable then it could be used in a bait form to be delivered in water bodies at key sites.

This concept was submitted to the Federal Government three years ago following a public tender for research interest into this area. We were successful in receiving funding for two years to test the concept.

Specifically the project was divided into the following parts:

- (1) develop methodology whereby adult and larval cane toad genes and proteins could be identified;
- (2) show that at least one of these proteins could modify metamorphosis
- (3) generate recombinant ranaviruses; and,
- (4) demonstrate that the viruses can be attenuated.

A further one year's funding has been provided to progress the work to the next stage. A description of the project is publicly available on the CSIRO website [http://www.csiro.au/index.asp?type=blank&id=WorldEnvDay\\_canetoads](http://www.csiro.au/index.asp?type=blank&id=WorldEnvDay_canetoads) The work has also been presented at conferences in Australia and overseas.

It should be noted that there are no plans for field trials at this stage. Before this is considered many processes must be undertaken including non-target species testing (applicable to all forms of control) and Government and public consultation. The question of non-target testing is a critical one and intensive consultation is required before this can be attempted. **Alex Hyatt Australian Animal Health Laboratories CSIRO Livestock Industries May 2003 To: WWF FROG GROUPS [wwf-frog-groups@lists.ironclad.net.au](mailto:wwf-frog-groups@lists.ironclad.net.au)**

People can subscribe to the FrogGroups and/or FrogPeople discussion lists and receive unextracted (uncensored I hope) versions of these debates as they happen. **Stan Orchard WWF-FrogNet (scientific community) and [wwf-frog-groups@lists.ironclad.net.au](mailto:wwf-frog-groups@lists.ironclad.net.au) (frog enthusiasts, educators and environmentalists)**

**What has preceded Alex's posting has in fact been more of a discussion and an airing of concerns rather than an actual "debate". So your posting, Alex, is a welcome first step towards clarification. I have at least three major concerns:**

- 1) Is this a cost-effective line of research?

The Australian search for a 'bio-control' agent for cane toads has a fairly long history - in excess of 10 years I'm told - with relatively little to show for it in practical terms. e.g. fixing the problem. I honestly do not know how much money has been put into this search, but I have heard figures into the many millions. Funding for Alex Hyatt's research is a fraction of this overall amount, but his work is in support of the basic premise that an exotic pathogen, parasite, natural toxin, or genetically engineered batrachocide (or in this case a 'bufomarinusicide') will be discovered that can kill cane toads, kill many millions of cane toads, and kill only cane toads. Cost-effectiveness questions go beyond the research and development phase since, once developed, the technology then needs to be mass produced and extensively and continuously applied. So even if an attenuated, gene-splicing virus that attacks and kills only cane toad tadpoles is achievable, what would it cost to apply it on a very broad scale and for many, many years? And if this technique will not lead to complete cane toad eradication, then is the time and money that has thus far been invested in it really warranted?

2) Is this high-tech line of research of the highest priority in relation to all possible alternatives?

If you can afford it - assuming that all possible safety considerations have been factored in - go for it. But if a single line of research is monopolising all of the available funding and is expending precious time in anticipation of a 'silver bullet' solution then you had better be absolutely convinced that you are backing the highest priority approach. If you look at the life cycle of cane toads and think in terms of population dynamics and growth, the egg or tadpole stages would seem to be the lowest priority for a strategic attack on population density and sustainability, and targeting reproductive females would have to receive the highest priority - bearing in mind that reproductive females are long-lived, mobile and produce tens of thousands of eggs every year. Attacking cane toad populations solely at the tadpole stage is not time-efficient, and therefore not cost-effective.

3) Is this technology eco-friendly and truly species specific?

I have already registered my concerns about releasing exotic bio-agents in to environment. I think that there is a real possibility of unexpected and potentially disastrous results. The Iridoviruses, of which the ranaviruses are a subset, are known to jump between species groups - amphibians, reptiles, fishes - so forgetting for the moment about the obvious dangers to native frogs, what about native fish and reptiles?

Our fundamental conservation concern and number one research problem is how to successfully control and eradicate cane toads in Australia, and I applaud anyone who is applying themselves to trying to find a solution. However, I also think that in order to succeed in this effort we must be prepared to get our hands dirty and exert ourselves a bit - physically, intellectually, financially, politically - and not be deluded into thinking that there is one simple remedy for our troubles with cane toads that is worth sitting back and waiting for. We need to act now and be thinking in terms of a 50 year, or more, commitment. We need to devise a variety of techniques applied simultaneously - particularly low-tech inexpensive ones. They must be adapted to and optimised for local conditions and seasonality, and strategically designed to suppress population growth and range expansion. The many and various approaches must be eco-friendly but otherwise military, motivated, versatile and mobile - and the killing of cane toads must be relentless and their eradication ultimately complete. I happen to believe that, with the proper tools - particularly low-tech tools - people can drive almost any species to extinction and cane toads are no exception. **Stan A. Orchard National Co-ordinator - WWF/Rio Tinto Frogs! Program WWF Australia GPO Box 528 Sydney, New South Wales AUSTRALIA, 2001 Telephone: 61 2 9281 5515 Fax 61 2 9281 1060 E-mailorchard@bigpond.com www.frogs.wwf.org.au**

Dear Stan and Co

I read with unease, the debate of the Cane toad. It was a man-made mistake, as was the introduction of the fox and the rabbit, (and should be rammed down the throats of GM crops supporters. The old adage : a little knowledge is a dangerous thing still applies - and that's what we had and still have) However, the mistake having been made. Have we the right, considering that we ourselves are the biggest weed on the Australian landscape, to go around declaring that Toads, Foxes and Rabbits are the spawn of the devil, and so are fair game for all the mistreatment we can think up for them? Just a thought! **Jack**

Dear Alex and People of FrogNet,

For the record - just over a year ago I helped to prepare a plan for cane toad control and eradication in the Top End. This proposal was submitted to a private agency that approved the plan but has not yet come through with the required funds - which I must add are quite substantial. A couple of weeks ago I was able to meet with a parliamentary committee in Darwin, where I submitted a pilot project version of the original plan. As far as I know it is still under consideration.

Alex - I am still not convinced that "approaching zero" probability is close enough to 'zero probability'. **Stan**

Dear Stan and People of FrogNet

I am delighted to hear that at least another proposal is in the pipeline.

Although I have not seen your proposal I would like to say, that as an Australian who greatly appreciates our biodiversity, I congratulate you for your enterprise and I wish your project well. With more contributions hopefully one day we, as a nation, will be in a position whereby we can evaluate a range of possible control strategies for a range of 'situations'. **Alex**

Dear Jack,

At the heart of the 'conservation' concept is a recognition that people sometimes make 'mistakes' and even do willful damage to nature, therefore corrective measures are required. Conservationists argue that societies should become less inclined to make mistakes, they should respect nature and be kinder to it, and they should be more inclined to clean-up after themselves. However, various rationales are employed to justify conservation actions or to defeat conservation attempts. For



example, everything from personal inconvenience to human health issues to economic considerations to aesthetics are employed as the basis for conservation plans or the basis of objections to conservation plans. In the case of the cane toad, some people would approve an eradication plan simply because they don't like the look of cane toads. From the point of view of conservation biology, the cane toad is probably reducing species diversity in Australia, and so to argue that cane toads should be left alone is also tacit approval of the seemingly inevitable extinctions of populations and species of native Australian fauna. Many people think that species loss is a very bad thing, but many other people just don't care. Conservation can therefore be a murky realm that is linked to moral positions that are not universally accepted, and so the battle to protect nature from an overabundance of people is also a struggle against resistance factors that are deeply embedded in human psychology. In a democracy, conservation actions can become paralysed by a din of differing opinions, which generally leads to a rising tide of troubles.

Australians are facing more than just expanding populations of cane toads. In the Top End, toad toxin is taking out the top predators (quolls, crocodilians, goannas, pythons, etc) which are a primary protein source for Aboriginal communities in Arnhem Land. The toads will swallow mammalian faeces and then become a chronic primary host and vector for a variety of internal parasites including tapeworms and human hook worms. They will have a negative economic impact upon the honey industry by attacking bee hives. In some places in Queensland they are said to be a road hazard where road killed toads accumulate to the point of creating a dangerous slick on the road surface. It is reasonable to suspect that dense populations of mobile cane toads will be a reservoir for the culture of frog diseases. And finally, they will be voraciously competing with and preying upon the smaller ground-dwelling native fauna.

What eradication aims to do is to fix a problem that has been ignored for too long. It is to acknowledge that people do silly things, but that people have also have the ingenuity to redeem themselves. In the struggle for existence cane toads are winning, and a wide variety of native species are probably losing. It could be argued that to ignore this problem is to mistreat the Australian fauna by subjecting it to death by toad toxin on a massive scale, and to mistreat Aboriginal communities by

not coming to their assistance. No matter how you slice it, the cane toad problem is a life and death struggle and the balance is currently very much in the cane toad's favour. You don't have to hate cane toads to endorse an eradication policy - you simply have to love the biological distinctiveness, diversity and ecological integrity of Australia more.

Just a counter-thought! Stan

## FROG SOAKING IN BETADINE BATHS

**A** Frogcall article mentions betadine and chytrid treatment and leaving a large frog soaking in betadine baths for up to an hour. This may be too much for small frogs. NO FROG of any size should be left in a betadine bath for more than 10 minutes and smaller frogs should be only a couple minutes.

Thanks, Deborah Pergaloti  
Cairns Frog Hospital  
Frog Decline Reversal Project, Inc.  
[www.fdrproject.org.au](http://www.fdrproject.org.au)

## VALE ROBERT MONTGOMERY

**R**obert Montgomery lost his battle with cancer on Sunday night. He was 33 years old. Robert was a reptile keeper at the Australian Reptile Park during the mid 80's to early 90's. His passion for reptiles began at a much early age - his father John Montgomery himself having a lifetime involvement in reptile keeping.

I met Robert in 1981 when I began work at the Reptile Park as a junior mammal keeper. Robert was an eleven year old volunteer who assisted me in cleaning enclosures in the Park's noctarium. Robert had already made quite a name for himself as a larikin lad, and I remember the many practical jokes he dreamed up - often at my expense.

Robert was one of those few people that I have worked with who possess a real 'feel' for the animals that they work with, and a special affinity for them. Others in that category include Grant Husband and Kevin Smith, Robert's peers at the time - and of course, Robert's father. He was the opposite of the sort of guy who uses the animals to self-promote. He never liked doing public demonstrations, though he did shows daily, and fed Eric the Crocodile to big crowds every Sunday. He never complained.

He is survived by his wife and three children, the oldest - Tyler, being a very keen, and very natural reptile keeper already. It appears to be a family trait.

John Weigel [johnweigel@msn.com.au](mailto:johnweigel@msn.com.au) Australian Reptile Park Pacific Hwy, Somersby, EXTRACT

Macmillan Education Australia is currently preparing for publication a primary school title 'Australian Animals' and I am writing to ask if you can assist with a selection of photos we need for this project. The author has included a section about frogs and we would like to include several photos of types of frogs to illustrate the section. Would you have any of the images in the short list attached?

Australian Animals is an educational book which will be sold to primary schools and libraries within Australia and New Zealand. We will also be including an electronic version of this book, with all the illustrations, on the primary school website MacquarieNet [view at [www.macnet.mq.edu.au](http://www.macnet.mq.edu.au)] in three years time. (please note - this would be only for low resolution jpegs which can be further protected by watermark and/or non-detachable copyright line. These electronic rights would be solely for use at [www.macnet.mq.edu.au](http://www.macnet.mq.edu.au)).

If you think you could assist, I would be grateful to hear from you. Please do not hesitate to contact me if you require any further information. **Jes Jesmondene Senbergs** [jsenbergs@bigpond.com](mailto:jsenbergs@bigpond.com)  
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Before you give anybody your images to use, remember they are your property, cannot be used without your permission, and if someone intends to use them as part of a profit making enterprise, you should expect some payment. The degree of payment is up to you, and I suggest you talk to other photographers to establish a fair and reasonable amount. **Steve Weir**

A Baw Baw Frog (*Philoria frosti*)

A frog eating a snake

An Australian frog (all the breeds used in this book are Australian) with an insect that it has caught stuck to its tongue, OR an Australian frog near an insect

A frog with the tongue visible

A male Striped Marsh Frog (*Limnodynastes peronii*), calling

A female Striped Marsh Frog (*Limnodynastes peronii*) laying eggs

A tadpole or tadpoles. Please try to get tadpoles of the Striped Marsh Frog (*Limnodynastes peronii*)

A tadpole or tadpoles with legs or legs and arms (but no tail). Please try to get tadpoles of the Striped Marsh Frog (*Limnodynastes peronii*). Please ensure pic is different to

An adult Striped Marsh Frog (*Limnodynastes peronii*)

Desert Tree Frogs (*Litoria rubella*) huddling together, if possible. Pic must show at least two Desert Tree Frogs together

The brickpit at Homebush Bay, where the Green and Golden Bell Frog settled

A frog pond. Must show healthy plants, and perhaps some rocks emerging from the water. Would be good to have frogs visible if poss, but not imperative.

Here is a simple quiz to test your knowledge (and library) of frogs. If you think that you know the answer to the identity of the mystery frog, you can have a chance to win a prize at the next FATS meeting. There will be a box where you can place your suggested answer. During the night, a winner will be chosen at random from all of the correct entries. A fabulous prize awaits the winner. So test your frog knowledge and come to the FATS meeting to see if you were right.

Fact 1: I live in the mountains

Fact 2: I live to spend my nights in rocky creeks

Fact 3: I breed in spring

Fact 4: I lay my eggs on rocks on flowing water.

Fact 5: My belly skin in orange-red in colour.

Arthur



### QUICK QUIZ

( Answers on page 11)

1. Name two frogs, found in the Sydney region, which have the same species name?
2. Do female frogs call?
3. Does a frog foot have three, four or five digits?
4. Does a frog hand have three, four or five digits?
5. Name an up and coming major project of FATS?
6. What is a tympanum?



### FATS FIRST PICNIC, 12 APRIL

The previous few days had been soggy, but Saturday was mostly dry. Dry enough for a fairy ring of deckchairs, groundsheets, picnic rugs, banter, laughter and just like Smiths Lake, a good dollop of cricket. Grant would have liked to go frogging --- in the ponds catching the usual suspects. Sadly, not possible.

It was lovely to spend time with members who have very young children and those who are not able attend meetings at the Museum.

The first of many picnics we all agreed. **Punia**





Have you noticed how many frogs, toads and salamanders are found in a wetland that does not contain fish? Ephemeral wetlands, or vernal ponds, that do not contain fish provide critical habitat to wood frogs, spotted salamanders, fairy shrimp, and many other species.

It is now possible to make a vernal pond that improves habitat for amphibians and reptiles. The USDA Forest Service, Ducks Unlimited, Inc., and the Izaak Walton League of America are pleased to announce the publication of *A Guide to Creating Vernal Ponds*. This easy to understand book contains techniques that the suburban homeowner, educator, public land steward, and private landowner may use to establish ephemeral wetlands.

To view an online version of the book, or to download an order form, please visit:

<http://www.southernregion.fs.fed.us/boone/>. Stan

### FROG SEARCH TURNS UP NEW TERRITORY FOR ELUSIVE SMOOTH FROGLET

**HOBART:** WWF Australia's ten day 'round Tasmania' field trip to track the moves of two autumn breeding frogs - the smooth froglet and the southern toadlet - has already scored its first success with the discovery of new locations for the smooth froglet (*Geocrinia laevis*).

The distinctive grating call ("cre-e-e-k - creak - creak") of this plump, brown- striped frog has been recorded by WWF Australia's team of volunteer frog enthusiasts in the Coles Bay, Freycinet National Park and St Helens areas.

"This is a very exciting discovery as it extends the previously known range of the smooth froglet considerably," said Dr Karyl Michaels, WWF Australia Tasmanian Coordinator Frogs! Program.

"We hoped the trip would enable us to update and improve our knowledge of the distribution and abundance of these two species, as existing records were made over a decade ago. But we have already achieved incredible results in such a short time, thanks to the enthusiasm of our volunteers.

"The trip is shaping up to provide some real breakthroughs for frog conservation in Tasmania."

Dr Michaels said the first few days of the trip had already resulted in 40 people signing up to WWF Australia's Frogseekers network in Tasmania. They will help contribute to frog conservation by monitoring frog populations in their local area.

"We have had an amazing response to the four workshops we have held. People are incredibly keen to learn more about Tasmania's frog species and to be actively involved in conservation of their habitats," said Dr Michaels.



"This is vital as we have also discovered that frog populations have declined in some areas where there has been large scale clearance of vegetation."

If you are interested in frog conservation in Tasmania and would like to become involved in frog monitoring work, contact Dr Michaels for more information about WWF Australia's Frogseekers Program in Tasmania at [Karyl.Michaels@bigpond.com](mailto:Karyl.Michaels@bigpond.com)

The statewide field trip is part of the WWF Australia Frogs! conservation partnership with Rio Tinto and Comalco Aluminium (Bell Bay) Limited, a member of the Rio Tinto Group and an active participant in the WWF Australia Frogs! conservation program in Tasmania. **Media inquiries: Rosslyn Beeby WWF Australia Media 02 8202 1218 Mobile 0419 520 960 Stan A. Orchard**

### SOFAR REPTILE EXPO

**W**e went to last years SOFAR reptile expo and found it to be fantastic, very informative and a lot of fun for all the family (sounds like I'm on their PR team .... If Brad and the guys do half as good a job this year then I recommend the expo to anyone who's interested in reptiles or even just curious...perhaps if everyone just bought along one extra person (to spark their interest) our addiction to all things scaly will spread and we will end up with bigger and better expos...I'm going for world domination!!!

**Cheers Lynette [lynettelankford@yahoo.com.au](mailto:lynettelankford@yahoo.com.au)**

We have already had the first annual Reptile Expo in Newcastle we had around 2500 people through the gates last November on the day and planning is well under way for the 2003 Expo November 23

**Brad [bradmc@hunterlink.net.au](mailto:bradmc@hunterlink.net.au)**

### WILDLIFE OFFICIALS FRET AT CALAVERAS FROG FAIR

**W**ildlife officials are visiting the Calaveras County Fair and Frog Jumping Jubilee this weekend to make sure that the celebrated leapers do not spread disease and are not released into ponds where they can push out native frogs.

"I bet you Mark Twain is laughing his tail off," said Warren King, manager of the fair, which ends on Sunday. "He created all this just from a little short story, his first published work. It harkens to the tall tale that Twain heard in the Angels Hotel and published in 1865 as "The Celebrated Jumping Frog of Calaveras County." Now look at all this controversy and environmental concerns. I hope he's proud of the way we're handling this."

The inspections at the contest are meant to protect amphibians in the Sierra Nevada, which have lost habitat and been harmed by pesticides. "Bringing a whole group of diverse populations together and then spreading them out again is a perfect model for spreading disease, as it is in humans," said Ed Pert, chief of the fisheries programs of the California Department of Fish and Game

**AP, May 18, 2003 ANGELS CAMP, Calif., May 17**

— [www.herpdigest.org](http://www.herpdigest.org)

**R**esearchers have shown that sunlight can convert a common disinfectant into a form of dioxin. The study, conducted by scientists at the University of Minnesota, indicates that this process may produce some of the dioxin found in the environment. It was already known that triclosan, a common disinfectant used in antibacterial soaps, could be converted to dioxin in a laboratory and that sunlight causes the disinfectant to degrade in the environment.

A 2002 U.S. Geological Survey found triclosan in 58 percent of natural waters tested.

But scientists did not know that the natural degradation resulted in dioxin, explained researchers Kristopher McNeill, an assistant professor of chemistry, and William Arnold, an assistant professor of civil engineering.



In their study, McNeill and Arnold added triclosan to river water, shined ultraviolet light on the water, and found that between one percent and 12 percent of the triclosan was converted to dioxin.

Although the dioxin was a relatively benign form, the scientists said that treating wastewater with chlorine could possibly lead to the production of a much more toxic species of dioxin.

"This form of dioxin is at least 150,000 times less toxic than the most dangerous form," said McNeill. "But repeated exposure to chlorine, perhaps in water treatment facilities, could chlorinate triclosan."

"After chlorinated triclosan is discharged from the facility, sunlight could convert it into more toxic dioxins," he explained. "Such a process could be a source of highly toxic dioxin in the environment."

Reported in the "Journal of Photochemistry and Photobiology A: Chemistry," the study was started after the researchers read numerous environmental studies that reported the presence of pharmaceutical compounds in surface waters around the nation. It seemed appropriate to McNeill and Arnold to examine the natural processes that led to the loss of such materials in the environment.

"This study also shows that the disappearance of a pollutant such as triclosan does not necessarily mean an environmental threat has been removed," said Arnold. "It may just have been converted into another threat."

The researchers said that even low levels of toxic dioxin are worrisome because dioxin readily accumulates in organisms and becomes more concentrated in tissues as it moves up the food chain.

**Bob Parcelles** [rjparcelles@yahoo.com](mailto:rjparcelles@yahoo.com)  
[naturepotpourri@yahoo.com](mailto:naturepotpourri@yahoo.com)  
**MINNEAPOLIS, Minnesota, April 15, 2003 (ENS)**  
 Our Proactive Ecology Solutions Goup (PESG) has 3 Dioxin Projects in the works. Dioxin may be more deadly than DDT! **Bob P.**



**E**conomic progress is making Australians wealthier. But it isn't doing much for the environment. Not that we seem to care as much these days. A new Australian Bureau of Statistics report has detailed the enormous strain being imposed on the continent by our exploding use of its scarce resources.

And it notes Australian's declining level of concern as our incomes rise. According to the bureau's *Environment by Numbers* Australia has struggled to cope with environmental pressures since European settlement began. Population growth along the coast, with more than 80 per cent of Australians living within 50kilometres of the sea, is putting estuaries under strain.

Excess nutrient concentrations and sediment, loss of habitat, weed and pest infestation, and accumulating pollutants are cited as byproducts of urban and industrial development in coastal areas.

Elsewhere, the news is no better. Energy consumption is rising and Australia is among the top 10 solid waste generators within the developed world.

Expanding agricultural production is contributing to the extinction of native wildlife and is a factor in soil and water quality deterioration. The environment report card notes that Australian wealth - real net disposable income per head - has been rising strongly and continuously since 1992. Net income was about \$21,000 per person in 1991. By the turn of the century, it had soared to more than \$27,000.

This extra wealth appears to be blinding our concern for the downsides of economic growth. Bureau surveys suggest fewer people these days are prepared to show concern over the state of the environment. In 1992, 75 per cent of Australians stated a concern over the environment. This had fallen to 62 per cent in 2001. The decline is most pronounced among young Australians aged 18 to 24. In 1992, 79per cent of this age group professed a concern. Almost a decade later, the proportion had slumped to 57 per cent.



The report's findings include:

Between 1990 and 2000 the area of irrigated land increased by more than 500,000 hectares or 30 per cent.

Between 1990-91 and 1998-99, Australia's energy consumption increased by 23 per cent as population increased by less than 10 per cent.

Agriculture is the largest consumer of water in Australia. In 1996-97 it accounted for 15,500 gigalitres, or 70 per cent of total water use.

Eleven per cent of Australia's 325 surface water basins are overused.

100 million hectares of forest and woodland have been cleared since European settlement.

**By Michael Millett February 22 2003 SMH**

## HOW TO BECOME EXTINCT

Dragged out of existence ... land clearing is one of the main causes of species extinction in Australia. Photo: Angela Wylie



**With nearly 1600 species under threat Australia's biological diversity is shrinking James Woodford writes that at least \$4.5 billion is needed just to restore vegetation. ....**

The passing of the Davenport rock wallaby is just one small act in the catastrophic collapse of Australia's biodiversity - possibly the single greatest environmental disaster that the continent faces. A new report on biodiversity, by the Federal Government's National Land and Water Resources Department, warns that no other place on the planet has lost so many mammal species.

The simple answer to what is causing the crisis is homelessness. The habitat that our extraordinarily evolved species depend upon is being destroyed for agriculture and development, degraded by new management regimes or invaded by feral residents.

"The most widespread processes threatening ecosystems are vegetation clearing, fragmentation of remnant vegetation, grazing pressure, exotic weeds, feral animals, firewood collection, salinity and other changed hydrology, and altered fire regimes," says the *Australian Terrestrial Biodiversity Assessment 2002* report.

In its assessment, the Federal Government directly fingers the land clearing practices of NSW and Queensland as being the single biggest destroyer of biodiversity: "Urgent action is required to halt the clearing of all threatened ecosystems as well as broad-scale clearing within the Murray-Darling Basin."

It is only in recent years that the threat posed by firewood collection in southern and eastern Australia has been realised. For the insects and animals at the bottom of the food chain both home and the next meal is often a rotting log.

Unfortunately, conservation has focused almost totally on national parks, but they comprise less than 10 per cent of Australia - about 71.5 million hectares on both public and private lands - which means that 90 per cent has been neglected. Also, only about 12 per cent of the national parks were found by the audit to have a "very good standard of management".

"The standard of management of most of Australia's protected areas indicates that more can be done," the assessment says. "In most bioregions [53 per cent], the standard of management is only fair, though any resource degradation is retrievable, and in 14 per cent it is poor, where permanent resource degradation is occurring."

Outside national parks, wetlands are being destroyed, ancient forests cleared, rivers drained for irrigation and native animal populations crushed by the presence, in their millions, of creatures such as sheep and foxes.

The line of plants and animals in the queue for extinction is now 1595 species long. Nearly 3000 types of ecosystems are considered threatened. More than one-third of our nationally significant wetlands are in decline.

"The most commonly listed threats associated with this decline are: increased fragmentation, overgrazing, feral animals and weeds, changed fire regimes and changed hydrology with many of these threats having a combined impact on riparian zones." Although the situation with birds generally does not seem to be as grim as mammals - 29 species are dramatically declining - the assessment warns of what it calls an "extinction debt". In other words we have done the damage to the environment and it is now only a matter of time before a suite of species will perish. These birds are the "flying dead" - no longer reproducing, which means that once the adults succumb the species will disappear. The job of repaying the debt is an enormous one that will consume vast amounts of cash and resources. ... The report also highlights that, considering Australia is the driest inhabited continent on earth, Australians have given scant regard to sustainably using rivers. It assessed 209,118 kilometres of Australian rivers. "Over 85 per cent of river length was classified as having undergone some environmental modification, including catchment disturbance, reduced riparian vegetation, hydrological disturbance and increases in the load of suspended sediments and nutrients," the report says.

NSW has a staggering 97 per cent of its rivers modified. The Northern Territory by comparison has the smallest - 34 per cent.

More than anything, however, it is the simple pleasure of protecting something that is beautiful and wild that makes the job of preserving our flora and fauna so important. The assessment report describes this as the "aesthetic" value of biodiversity. **EXTRACT James Woodford April 23 2003 SMH**

**Answers:** 1. *Lymnodynastes peronii*, *Litoria peronii*. 2. No. 3. Five. 4. Four. 5 The Frogmobile. 6. The frog eardrum which lies flush with the skin

Thank you to all those who assisted with the Frogcall newsletter, especially Steve Weir for preparing the envelopes.

## FIELD TRIPS

No Field Trips Scheduled. - Autumn / Winter Recess.  
The Spring/Summer Programme recommences in September.

### FROG DIP DETECTS KILLER FUNGUS

Infection-detecting bath could aid conservation.



**M**ore than 30 species of Australian frogs have been infected with the fungus. Australian researchers are giving frogs baths. They have developed a dip that detects the killer fungus largely responsible for the worldwide slump in amphibian numbers.

"It is important to identify where the fungus is and to be able to sample frogs from any location," says Alex Hyatt. His team developed the dip at the Commonwealth

Scientific and Industrial Research Organisation (CSIRO) in Geelong, Australia. "It sounds very simple, but it took a lot of biology to come up with," says Hyatt. It is not harmful to the animals' skin.

By attaching to the animals' skin, *B. dendrobatidis* can kill amphibians by disrupting their breathing and water absorption, or may even secrete a toxin. Some animals become infected but do not die, and so act as carriers.

"If you want to return endangered animals to the wild, you need to be able to check water from your site to determine if you have an infection there," says Joyce Longcore of the University of Maine in Orono, who works on the fungus. The bath could also screen shipments of frogs due for the pet or lab trade and agricultural consignments between countries that sometimes contain amphibian stowaways.

The current method for sampling frogs, clipping the end of one of their toes may not detect the fungus on other body parts and can leave endangered animals susceptible to infection. © Nature News Service / Macmillan Magazines Ltd 2003  
<http://www.nature.com/nsu/030203/030203-11.html>  
7 February 2003 KENDALL POWELL

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Native bee Photographed by David Nelson



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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