

FR G CALL

THE FROG AND TADPOLE
STUDY GROUP OF NSW INC.

NUMBER 26 - NOVEMBER 1996
PO Box A2405
Sydney South NSW 2000

THE NEXT MEETING

Friday 7th December at 7:00 pm (for a 7:30 start)
at the Australian Museum (William St. entrance)

SPEAKERS:

7-30pm **Extraordinary Meeting** **Re-election of Committee.**
7.45pm **Jenny Taylor & Peter Harlow** **A Frog survey of the O'Hares Creek area.**
8.30 pm **Martyn Robynson** **Frogs of the Sydney Region Bleating Tree Frogs**

Everybody **My 5 favourite frog slides or 5 Minutes.**
(please bring something)

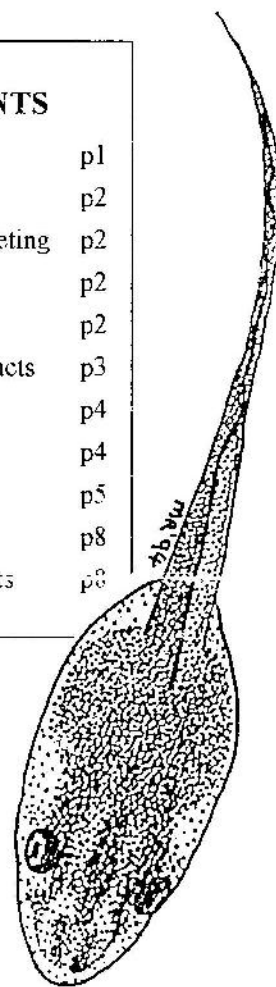
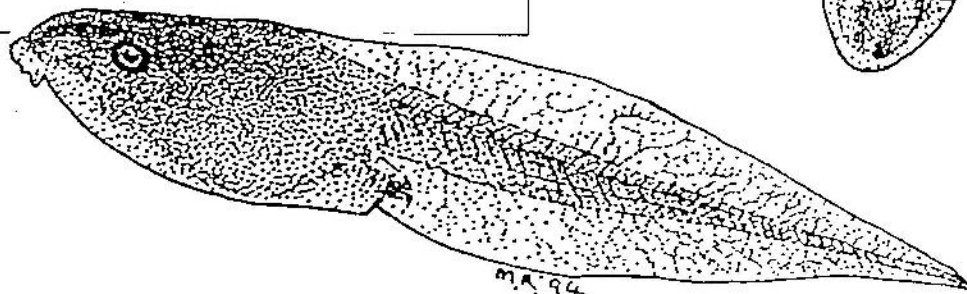
Finish by 9.30pm and followed by tea coffee & biscuits

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REGULAR FEATURES

News and announcements, field trips, projects, refreshments!
Auction, discussions, welcome table, things you can buy!
Bring a visitor!



THE LAST MEETING (4. 10. 96)

Hal Cogger, as every seasoned and every budding field herpetologist knows, can give you a bad back.

Generations of them have shouted "It's too big!", as they tried to cram his Book into their rucksacks. I have known people rather leaving their tents behind.

The frog slides Hal showed us at the meeting were not from the Book, simply because they were not from Australia. His talk "Frog Diversity of the Indo-Papuan Region" gave us a rare insight into weird and wonderful frogs of New Guinea, Sumatra and other wonderful places. We were told about the barking earthworm nobody believed was a frog (they still don't!), about the Wallace Line and about the unexplored enormous diversity of frogs amongst our northern neighbours.

What a shame that we don't have our field trips going out there! How light our rucksacks would be! But we thanked Hal roundly and presented him with a boxed set of *Frogcall* numbers 1 - 25.

David Tyrrell illustrated how the tyranny of distance can be overcome with the aid of a railway ticket, a bicycle and a lot of determination. His talk was about his personal detailed observations of tadpoles along Ourimbah Creek Road and about the many frog species he found there.

The auction of frogwear and pondware, delightful items all lovingly donated, soon degenerated into a bout of reckless bidding. It raked in a cool \$110. Many thanks to all.

The election of a new committee, in mid-term but with positions of members as defined in our rules of association, couldn't take place this time. With a delay in the mailout of the last *Frogcall*, we had run out of time to allow for three weeks clear notice.

L.V.

NOTICE OF EXTRAORDINARY MEETING

As noted in the last newsletter, the newly "elected" committee decided that another election is needed to be held to re- re-elect the committee for this year. Due to the unforeseen delays in posting the last newsletter, the election could not be held before the last Australian Museum Meeting as insufficient time was given for people to nominate for positions. Hence, the Extraordinary Meeting will be held immediately before our December meeting and the committee will be re-elected then. We are urging anyone who would like to nominate for a committee position, to please use the form included in the last newsletter (or any other means for that matter) and nominate themselves or someone else. Note that by our constitution that all nominations received one week or more prior to the meeting receive preferential status so that if a position has been nominated for by this time, no new nominations can be accepted after this. Therefore, get your nominations in early and specify the position you are nominating for. We are certainly looking for people to join and

provide fresh insights and ideas and so do not be afraid to nominate if you are interested.

"The Interim Committee"

FIELD TRIPS

My apologies for the problems with the field trips. Obviously the newsletter failed to arrive before the September field trip dates had passed and so nobody got to go on them. These field trips have been rescheduled and we hope that this will not happen again. Forthcoming field trips:-

November

Dorrigo (west of Coffs Harbour) - 22nd-24th. Lead by Frank Lemckert. Bookings required.

December

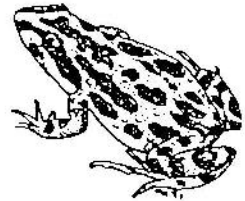
Smith's Lake (Myall Lakes area) - 30/11 to the 2/12th. Lead by Arthur White. Bookings required.

Royal National Park - Saturday the 15th of December. Lead by Ken Griffiths.

January

2nd Saturday - Manly Dam.

F.L.



FROGBITS & TADPIECES

A letter from Willoughby Council: "Enclosed please find \$175 being proceeds from the "Frog Night" held at Willoughby Park Centre on 30th September 1996.

The presentation by Arthur White certainly provided a very enjoyable evening as well as being informative to an audience of seventy people mainly consisting of families. This event has been a valuable contribution to Council's Bushland Interpretation Programme of raising awareness of our local bushland, urban wildlife and human impact. Council will look forward to future presentations by your study group."

Study and Care of Reptiles and Amphibians: A two-day workshop by Blacktown District Community College, Saturday 23. 11. and 30. 11., 9am - 5pm, \$85. Phone BDCC on (02) 9622 1011 for booking or Lothar on (02) 9371 9129 for info.

Conferences

I spent two weeks recently at two conferences and will share with you some of the summaries of talks given at firstly the 4th ASH conference in W.A. (Australian Society of Herpetologists) and then from the 6th International Behavioural Ecology Conference. These abstracts will be primarily from our FATSG members or on topics which have been discussed previously in this newsletter.

K.T.

EXTRACTS OF ASH ABSTRACTS

Jean-Marc Hero & Stephen E. Williams

James Cook University

Ecological Characteristics of Declining Amphibians: Are These Frogs More Susceptible to Extinction?

Frogs have gone missing from relatively pristine rainforest at high altitudes throughout the world and rigorous attempts to find them have been unsuccessful. Several hypotheses have been proposed to explain the disappearances, but they are either impossible to test or have not been investigated thoroughly. The causes of the declines have not yet been identified, but a major concern is that they are linked globally. To date, applied ecological theory has not been forthcoming. Herein, we demonstrate for the first time, that the declining species from relatively undisturbed sites in Australia, Central America and South America have a number of ecological characteristics in common that are not related to phylogeny. The declining frogs share a combination of low fecundity, habitat specialisation (usually associated with flowing water) and are found at high altitudes. These characteristics suggest that the declining species may be more susceptible to extinction, supporting the contention that the cause of the amphibian declines is a global phenomenon.

Natasha LeBas

University of Western Australia

Kin Recognition and Growth Advantages in the Frog *Crinia georgiana* (Myobatrachidae)

Numerous studies have tested for kin recognition in anurans, but few have investigated the functional significance of this ability. This study investigated kin recognition and its role in larval *Crinia georgiana*. *Crinia georgiana* discriminated spatially between kin and non-kin groups. This discrimination was most likely due to familiarity with kin, as test tadpoles that had been reared with non-kin or in social isolation associated randomly. A familiarity based kin recognition system is compatible with the egg deposition and larval behaviour of this species. Growth experiments showed *C. georgiana* tadpoles reared in kin groups at high densities had higher average weights and a significantly bigger, largest tadpole than those reared in mixed kin/non-kin groups. I propose the size distribution of tadpoles in kin groups provides the best response to the ephemeral and high risk environment *C. georgiana* inhabits. Growth regulation in kin groups may be a functional advantage of kin recognition in *C. georgiana*.

Frank Lemckert

Slate Forests of NSW

Influence of Habitat Variables on a Forest Frog Community in Northern NSW

Habitat variables from the surrounding forests were recorded for forty six permanent water breeding sites in the Dorrigo area of northern NSW. These were compared to the frog communities recorded using those sites to assess which factors played significant roles in determining the structure of frog communities in the area. Initial results from a Canonical Correspondence Analysis found several factors to have a significant influence and indicated that moisture and the availability of still or slow-moving water were among the most important in determining the complexity of species breeding at a site. Individual species behaved relatively predictably in relation to recorded factors (e.g., permanent stream dependant frogs were found to be associated with moister forests). Logging appeared to have no significant influence, whereas the presence of fire appeared to increase diversity. Further analyses will be presented, but the initial results suggest that the frogs of the area generally have few specific habitat requirements, a not surprising possibility given the variable nature of the Australian environment.

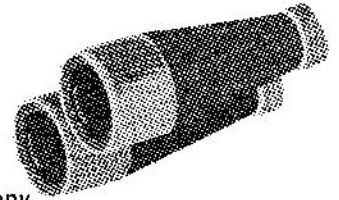
Emily Bolitho & Jean-Marc Hero

James Cook University

Skeletochronology in the Tropics

The technique of skeletochronology is now widely used by herpetologists to determine population age structure. Most studies using this technique have centred on species in seasonal temperate environments, and those studies of species in the less seasonal tropics have concentrated on reptiles rather than amphibians. Our work investigates the potential of skeletochronology in determining the age of frog species from the Eungella and Tully regions of tropical North Queensland.

Histological preparations of frog toes taken during mark-recapture studies, showed the presence of lines of arrested growth (LAGs). These LAGs are not as clear as those displayed in species from temperate environments, but are nonetheless apparent. We ascertained the consistency in LAG counts between all toes of the same individual to confirm that different toes provided similar counts. It is beneficial in mark-recapture studies to know that any toe of an individual will give an accurate LAG count. We have also determined the value of each LAG by sectioning a second toe from marked frogs 12 months later. We have obtained such validations for 3 of the 6 species of frogs studied. Preliminary data from these six species suggest that these frogs are short-lived, with no LAG count greater than 3 occurring for males or females.



Karen Thumm & Michael Mahony

University of Newcastle

Clutch Size, Embryonic and Larval Mortality And Plasticity of Development in an Endangered Sydney Sandstone Frog

Red-Crowned Toadlets (*Pseudophryne australis*) display a high level of opportunism in their breeding behaviour when compared with other frogs of the Sydney region. They have a long breeding season (10 months/year) and they are iteroparous, with one captive female having produced eggs ten times over a period of one year and nine months.

Clutch size ranged between 10 and 66 with an average egg mass number of 23.0 for frogs in captivity ($n = 11$) and 24.3 for egg masses in natural populations ($n = 55$). Embryonic and larval mortality recorded over a period of 4 years at one site (consisting of two ephemeral and one semi-permanent pool) is high. Of 56 clutches observed 52 failed to hatch and of the four which hatched, all tadpoles died. Only 6 offspring (< 0.45%) have survived to metamorphosis at this site during this time period. This is due to the ephemeral nature of the breeding sites of this species and the erratic rainfall patterns in Sydney.

Larval development is very plastic with the stage of development at which hatching occurs and the timing of the hatching from the egg capsule being variable within a single clutch and between clutches. Staggering of development and hatching point occurs when clutches are held in the same environmental conditions implying a genetic basis to this trait.

Michael Mahony & Ross Knowles

University of Newcastle

Distribution, Abundance and Population Demography of Three Species of Great Barred River Frog (*Mixophyes*) in NSW

Four species of great barred river frog occur along the eastern seaboard and adjacent ranges in NSW. Three of these species have experienced declines in distribution and population abundance in the last decade. To determine the extent of these declines and to better understand the population ecology of these species we have surveyed across their former ranges and establish paired monitoring sites for each species. One species, *Mixophyes fasciolatus* is widespread and relatively common. There is no means by which we can determine whether this species has experienced or is experiencing a decline. The three other species, *M. balbus*, *M. fleayi* and *M. iteratus* have experienced marked declines in distribution and abundance. These species breed exclusively in streams whereas *M. fasciolatus* utilises these habitats as well as ponds and dams. Mark-recapture studies indicate a high turn-over rate for certain age classes and a very low recruitment in two of the species. Recruitment from the tadpole stage was very low in two populations of *M. iteratus*. The level of recruitment for *M. fleayi* is difficult to determine because this species has been observed on so few occasions, and oviposition has not been observed. The identity of the threatening process responsible for the decline of these species remains unknown. A positive note is that the reproductive potential is high and captive breeding and eventually re-introductions should be possible as conservation strategies.

Simon Holloway

University of Canberra

Can Surveys For Rare Frogs Be Validated By Probability of Detection Models?

Most fauna survey work in the past has been performed to determine the "presence" of species in an area, such as to develop species lists. In recent years, however, changes in environmental legislation have resulted in greater emphasis being placed on Faunal Impact Studies, where the requirement is to prove that a particular rare species does not occur at the site of concern. Threatened frogs are frequently the subject of such surveys, however some species can be difficult to detect making it almost impossible to prove their "absence" from a site. A simple three stage process of survey validation is proposed:

1. An assessment of whether the area has a suitable climate for the species in question, using a bioclimatic model such as BIOCLIM based on historical site records;
2. An assessment of the suitability of the site based on habitat requirements of the species; and
3. An assessment of the probability of detecting the frog species if it did occur at the site, based on modelling of activity patterns relating to weather conditions.

Information for this study is being collected for stream-breeding frogs in East Gippsland, while surveying for two threatened species; the southern barred frog *Mixophyes balbus* and giant burrowing frog *Haleiopus australiacus*.

FIELD TRIP TO DARKES FOREST

On Saturday, the 19th of October FATS again invaded Darkes Forest in search of frogs. Sam Avery made a triumphant return to the land of lost torches, accompanied by Dad. Adele, you are letting the side down. Ken Griffiths dragged Lou along for another dose of frogs. Paul Wickham and Greg Wassel added to the keen throng. We were met at Darkes Forest by Mr. Noel Carr, a resident of the area, who kindly allowed us to swarm all over his property in search of whatever we could find. His property backs on to Madden's Creek. It wasn't long before the first Blue Mountains Tree Frog *Litoria citropa* was found. Calling along the creek were Leaf Green Tree Frogs *Litoria phyllochroa*, Peron's Tree Frogs *Litoria peroni* and a solitary Lesueur's Frog *Litoria lesueurii*. The creek was also full of big vabbies and small shrimp. A ring-tail possum was spot-lighted in the trees nearby.

We next visited a farm dam off Darkes Forest Road. Again Peron's Tree Frogs were calling, but the dam also had calling Common Eastern Froglets *Crinia signifera* and Striped Marsh Frogs *Limnodynastes peronii*. The weather was changing quickly and the wind began to pick up.

We decided to visit the sullage ponds at Darkes Forest mine next. These were ringing to a different cacophony of frog sounds. Surprisingly, Jervis Bay Tree Frogs *Litoria jervisiensis* were still calling (this is late in the year for a winter breeding species). The ubiquitous Peron's Tree Frogs were calling accompanied by Tyler's Tree Frogs *Litoria tyleri*. In the leaf litter behind the ponds, the Red-groined Toadlets *Uperoleia laevisgata* croaked away. To amuse the uninitiated we tried to catch these frog ventriloquists. Greg and Paul won the race to find the first *Uperoleia*. During this contest a Freycinet's Frog *Litoria freycineti* was flushed out the grass.

We also had a chance to examine Haswell's Froglet *Paracrinia haswelli*, before it was released. These frogs are also winter-breeders at Darkes Forest. Only a few weeks earlier they had been calling in strong choruses at the site.

The weather turned cold and blowy. The frogs decided to give up for the night and so did we. But rest assured that we will return to sample the delights of Darkes Forest again.

AW



4

FROZEN AND ALIVE

by Ken Storey

(Dept. Of Biology, Carleton Uni, Ottawa, Canada)

This story was promised to you by Jacquie Recsei in the last newsletter. I've cut out snippets from the 10 page article in the *Australian Society for Biochemistry and Molecular Biology Inc. Newsletter* Vol 27 March 1996, No. 1.

"There are 5 or 6 different species of frog now known that freeze all winter; they freeze solid underneath the ground and then they thaw out in the spring..." They dig down only a few centimetres although "the dirt freezes to about 5 feet... The earth is a very large heat sink and it takes a long time to freeze... In the spring time...there's freeze-thaw cycle... The blood collects in a huge pool above the heart" during the freezing process. The animals can undergo 20, 30, 40 freeze-thaw cycles in the lab and survive it.

To escape the damage "from the sharp ice crystals puncturing every single cell" they have a "nucleating protein". "Ice won't form in the cells". The cells also do not dehydrate, because the frogs make cryoprotectants, which "[hold] that last little bit of water inside the cell and [don't] let it out into the growing ice crystal. They make "huge amounts of sugars in order to keep the water inside the cells". "When I take isolated frog cells and put them in 600 or 800 millimolar glucose they will come to equilibrium in 15 minutes on ice. If I took one of your liver cells and put it on ice and gave it 600 or 800 millimolar glucose it would equilibrate in geological time..."Frogs (the author means the freezable ones in Canada, not our Australian ones) "have glucose transporters... and "...an abundance of water transport activities." "If we were freezing all of you for the rest of eternity, we would have to have different freezing protocols for all your different organs and all your different cells. Frogs don't "freeze from the outside in" and "it thaws uniformly from the inside out." "It is the shrinking of the cell that is crucial in order to have these animals survive.

The author concludes with descriptions of how human bodies look after being frozen and that "they have lost all the little bits". I hope that this summary of the article has remained understandable, in spite of suffering a similar editing fate.

K.T.

SMH 18.9.96
Olympic frog

Green groups have called for the green and gold bell frog, pictured left, to be named the Sydney 2000 Games mascot. A spokesman said the frog would be a perfect mascot because "it's one of the State's most endangered species, it's beautiful, charismatic, wears the green and gold, and will live and be available for interviews on site at Homebush Bay".

THE FROG WEEK WE JUST HAD TO HAVE

Frog Week 96, at the time of writing, is still raging. This time of the year the Giant Borrowing Frog comes out and borrows display panels from Water Resources (thanks, Giselle) and painted casts of frogs from the Australian Museum (thanks to Liz C. and Jim), the photocopier from Barnardos night after night (thank you, Judy) and much time and hard labour from everybody else:

Thank you to the lovely FATS members who made use of our Frog Week kit and contacted the press and the electronic media. And to our Taronga Zoo volunteers Charlotte, Emma, Monica, Dianne, Rainer, Peter and Deborah on the busiest zoo weekend I have ever seen; not to mention Polly, Terry and Paul from the zoo itself (no, not residents) who made that happening possible. And then there was Demi, a Friend of the Zoo who materialised out of nowhere to carry water for the frog swamp we were setting up. She felt sorry for me after I nearly fell into the bucket and wouldn't let me near it again.

Fiona and Judy from the Bicentennial Authority had our Frog Week displays at their Visitors Centre for two weeks in October. They couldn't wait, because the school kids were coming for Frog Fun activity sessions.

Dianne, Willoughby Council's librarian, set up Frog Week display at her library again, just as she did last year.

Danny of Rose Lindsey Cottage fame at Faulconbridge (as seen on *Getaway*) runs one or more special Frog Weekends this month. Complete with two evening frogging tours, site tour to "Red Crowned Court" development and lavish dinners, for \$195 twin share. Phone (047) 51 4273. But why this unsubtle plug? FATS gets 10%, for research into endangered frogs of the Blue Mountains.

The Australian Museum, instead of being fed up with my frog and tadpole display cages, helped me drag them into the Discovery Space, where they are now surrounded by our posters and handouts. Tadpoles, in their tanks at least, are unbelievably heavy. Todd, Kathy, Tony and I felt like just lying there on the carpet afterwards. (I actually did, and Todd went straight on holidays afterwards.) Martyn keeps feeding them, no doubt so they're even heavier by the time I take them back next month.

As always, we used Frog Week to let people and the media know that frogs are nice, even useful to us, and in need of help. How to help? Well, we're a study group, and we are working on it, but during Frog Week we make an effort to publicly share what we know already.

This year the completion of our Endangered Frog Survey coincided with Frog Week. The report to the Heritage people is just about finalised and will then also be publicly available, but here is a Frog Week poster with a sneak preview:

Our threatened frog species

- 25 out of 78 frog species in NSW are now rare or endangered.
- Three of them are possibly extinct:
 - the Spotted Tree Frog (*Rhombophryne*)
 - the New England Bell Frog (*Myobatrachus*)
 - the Southern Tablelands Bell Frog (*Myobatrachus*)
- Three years ago we began a survey and thought there were 19 rare or threatened frogs in NSW, out of 73.
- The results of the FATS Group's Endangered Frogs Survey are now out and will be published soon.
- The survey was done with the help of many field work volunteers. If you can help and want a free holiday, talk to us.



Another preview poster on what's planned for the new Frogwatch for schools:

**Frogwatch
in Streamwatch!**

Coming soon!
For Years 5-8 and for senior students

These activities are planned:

1. Frogging in the field
 - Daytime frogging
 - Evening frogging
 - Identify the species!
2. Tadpole raising
 - Hatching a spawn sample and raising young tad.
 - Raising tadpoles into young frogs
 - Raising tadpoles for identification
 - Growing tadpoles faster in better water than their home water
3. Building a school frog pond
 - A quick and easy portable pond
 - How to dig a hole in the ground and make it look good
 - A great demo pond

The following two pages show some more of the small text posters we've been showing for Frog Week. The others and the big photo posters and the other Frog Week displays; well, we can't stick them in here. But you can see them in the Museum's Discovery Space.

L.V.

FROG WEEK

1996



Sunday, 3 November - Saturday, 9 November

TEN FROGGY QUESTIONS IN TEN SECONDS :



Question # 1:

What do frogs eat?

Can they help keep insect numbers down?

Even if we spray insecticides?



Hint: Insecticides kill frogs and tadpoles too. When insects later reappear, and no or not enough insect eaters such as frogs are left, insect numbers can get out of control.

Question # 2:

Did you know that many frog species are disappearing?

And that you can help frogs survive?

How?



Ask the FATS Group.

Question # 3:

Why are frogs such good environmental indicators?

And why are many species becoming rare or extinct?



Courtesy of the Australian Frog Society

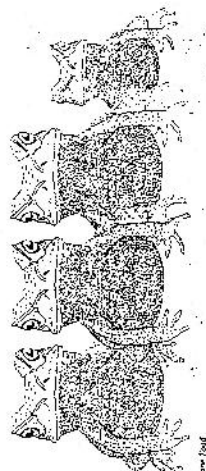
Lift this flap to find out!

Question # 4:

Where does the Cane Toad plague come from?

Will Cane Toads come to Sydney?

Is anything being done about them?



Cane Toad

Lift this flap to find out!

Frogs and tadpoles are sensitive to pollutants. They have thin, permeable skins through which poisons can pass. They also have complicated life cycles where things can go wrong because of pollution.

Some of their habitats have been drained or cleared or built on or polluted or changed in other ways.

Many tadpoles get killed by the introduced "Mosquito Fish" which is a pest.

An introduced virus is the suspected cause of many frog extinctions in coastal Queensland.

Traces of pesticides are believed to be estrogen mimics and to hinder the development and reproduction of frogs.

Increased UV radiation caused by the ozone hole may also play a part.



From Queensland. But: They are native to South and Central America and were brought to Queensland via Hawaii in 1935.

We believe there is little to stop them from coming to Sydney in large numbers.

The American ones have a tick on them that carries a virus, but not the ones that were brought to Australia. Whether it would help contain Cane Toads to import this tick and virus, and whether it would be safe for our native species, is being investigated by CSIRO.

Question # 5:

What happens if a native tadpole eats even a single Cane Toad egg?

And is releasing animals in the wrong area generally a good idea?



What do you think?

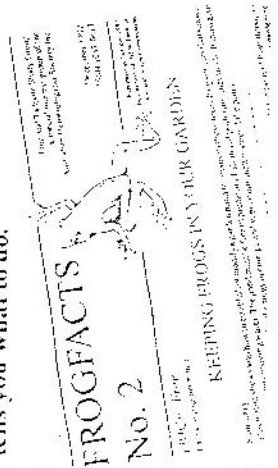
Question # 8:

Does your frog pond go green with algae?

Does your pump filter clog?

Do your fish eat your tadpoles?

The leaflet **FROGFACTS No. 2** ("Keeping Frogs in Your Garden") tells you what to do.



Question # 6:

How bad are Cane Toads in Australia?

Hints:

- Do they endanger any native animals by eating them?
- Or by eating most of their food supply?
- Or by poisoning them?
- Do they have natural enemies in Australia?
- Are they "ugly"?

Lift this flap to find out!

Question # 7:

Why is a garden pond with steep sides a death trap for many frogs?

And why is a pond with overhanging stone edges a death trap for any frog?

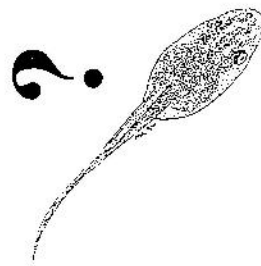


Hint:

Can all frogs climb?

Question # 9:

Are water snails good for tadpoles? (The questions are getting a bit harder now!)



Lift this flap to find out!

Question # 10:

If you were a teacher and needed information on integrating frogs into the Science and Technology Syllabus, or a farmer who wanted to establish frog habitats on your property or a bushwalker who'd like to observe and record frogs along the way or anyone at all with an interest in frogs and tadpoles -

whom would you drop a line?



- Possibly, but there is no evidence yet.
- 90% of their food is termites and ants. It is possible that other animals that need the same food will be disadvantaged by Cane Toads.

• Many frog-eating native animals are found dead with Cane Toads still in their throats. Even Freshwater Crocodiles have been killed by them. Often their numbers recover again after some years, as the survivors come to terms with them.

• The Keelback Snake and some other native animals can eat Cane Toads, but their habitats are too restricted to make much impact on them.

• No



Depends.

Fish eat tadpoles.

Water snails eat the eggs of fish.

With fewer fish, more tadpoles will survive.

But: Gambusia (the destructive feral "mosquito fish") don't lay eggs. They are live bearers.

Water snails reduce the number of other fish, and so possibly make space for more Gambusia.

Which means even fewer tadpoles may survive if water snails and Gambusia are present than with Gambusia alone.



Endfrogs

COLUMN 8

... explaining the two tickets for Beauty and the Beast at Her Majesty's.

THREE FROG species have gone missing in NSW. Have they croaked? (Obvious Joke, No 223). The Frog And Tadpole Study Group's annual Frog Week is this week, to mark its Endangered Frogs Survey. President Lothar Voigt says that, besides the three missing species, 22 are endangered. How can you help? Go to a swamp or creek and tape-record what you hear. Lothar says that if you hear "a very deep guttural CROCK CROCK CRAWWWK CRAWWWK", you have probably found the endangered southern bell frog. Send the tape to FATS at PO Box A2405, Sydney South, 2000. Perfectionists can ring Lothar (9371 9129) for an instruction sheet. *Do not send dead frogs.* SMH 6.11.96



Frogs' eggs may spawn cancer treatment

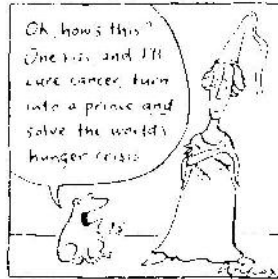
By MELISSA SWEET
Medical Writer

A protein found in frogs' eggs is being tested as a potential cancer treatment that may prove the first in a new class of drugs, a major conference in Sydney will hear today.

The 11th International Biotechnology Symposium will also be told that an effective vaccine against HIV is unlikely to be widely available for "decades", although at least 15 vaccines are being trialled.

In the United States, the frog protein has been shown in test tube and animal experiments to attack cancer cells, even those which have become resistant to other drugs.

Early work suggests the substance is safe for use in humans, and clinical trials are now testing its potency, when combined with the breast cancer drug tamoxifen, against pancreatic cancer.



A scientist from the National Cancer Institute in the US, Dr Susanna Rybak, said yesterday that the protein, onconase, was also being tested as part of a "magic bullet" approach linking it to an antibody which selectively targets the cells of some lymphomas and leukemias.

The efficacy of this approach was not yet known, but early work suggested it may cause fewer side effects

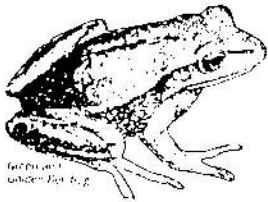
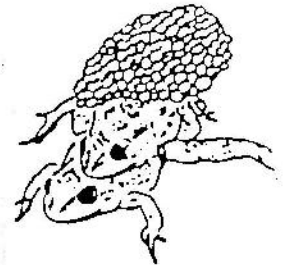
than other such antibody-based treatments, she said.

Dr Rybak said the protein was part of research efforts aimed at developing a new class of drugs which attacked the RNA, or ribonucleic acid, of cancer cells and viruses.

The protein comes from *Rana pipiens*, a small frog found in the northern Hemisphere.

The principal research scientist in the Australian Museum's herpetology section, Dr Allen Green, said frogs were attracting significant medical research interest because they had evolved with many tricks for fighting off predators and microbes.

Meanwhile, Dr Patricia East, the head of a major AIDS vaccine development program at the National Institute of Allergy and Infectious Diseases in the US, said variation between the nine sub-types of HIV meant a single vaccine was unlikely to provide world-wide protection.



The Interim Committee

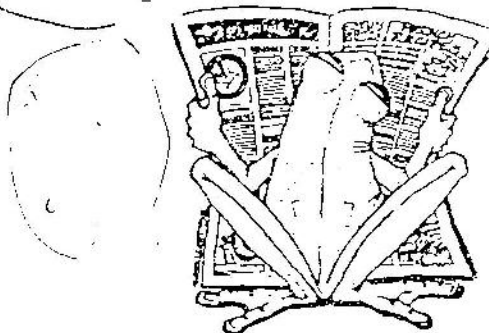
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We hold six informative, informal, topical and practical meetings each year at the Australian Museum (William Street entrance) in Sydney. Meetings are held on the first Friday of every even month (February, April, June, August, Oct. and Dec.) at 7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