

# FROG CALL



THE FROG AND TADPOLE  
STUDY GROUP OF NSW INC.

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6.30 PM for a 7.30 PM start, FRIDAY

**2<sup>nd</sup> February 2001** AUSTRALIAN MUSEUM, WILLIAM ST ENTRANCE

FATS is helping National Parks and the World Wide Fund for Nature in a *survey of Green Tree Frogs in New South Wales*. If you fail to observe Green Tree Frogs in areas where you frequently see them, please fill in the *survey form* because negative results are just as important as positive sightings. A copy of the survey form is included in this issue of FrogCall. Fill it in at the end of February 2001 and send it back..

Green Tree-frog  
Photo: Darran Leal



Small Pond Sticker Activity book  
Steve Parish



## MEETING FORMAT for 2<sup>nd</sup> February 2001

- |           |   |
|-----------|---|
| 6.30pm: - | Some of the Rescued Frogs dispersed to FATS members |
| 7.30 pm   | Frank Lemckert Radio Tracking Large Burrowing Frogs |
| 8.45pm    | Panel Question Time                                 |
| 9.00pm    | 5 favourite frog slides <u>or</u> 5 minutes         |
| 9.30 pm   | Guessing competition and Auction                    |
| 9:45pm    | Remaining rescued frogs placed with FATS members    |
| 10.00 pm  | Finish for tea, coffee & biscuits                   |

## CONTENTS

- |   |   |
|---|---|
| The Last meeting, Guest speaker:          |   |
| Glenn Shea                                | The history of the discovery of Australian Frogs p2 |
| Insert 1                                  |   |
| Have you seen this frog?                  | P5  |
| Insert 2                                  |   |
| The Frog Rescue Service                   | p7  |
| Green Tree Frog Survey                    | p8  |
| Smiths Lake Field Trip                    | p8  |
| Frog hygiene and chytrid control workshop | p8  |
| International Amph. Day                   | p9  |
| Frog Plant Service                        | p10   |
| Darling Riverine Project                  | p11   |
| Osram                                     | p11   |
| Committee contacts                        | p12   |



## THE LAST MEETING 1<sup>st</sup> DECEMBER 2000

**G**lenn Shea spoke about the early history of frog biology in Australia. Written history of the biology of Australian frogs began in England, with a collection of reptiles and amphibians sent by the Surgeon with the First Fleet, John White. These were studied by George Shaw of the British Museum, who named *Litoria caerulea* (as *Rana caerulea*) in the appendix to White's "Journal of a Voyage to New South Wales" in 1790. Shaw named a second species, *Rana australiaca* (now *Heleioporus australiacus*) in 1795, from a drawing sent to him from Sydney.

Between 1801 and 1803, the Baudin Expedition from France visited Australian waters. This expedition collected a number of frogs while visiting Sydney in the second half of 1802. Unfortunately, many of the crew, including the expedition leader, Nicolas Baudin, died of tuberculosis and other diseases during the voyage, and the task of writing up the expedition's discoveries fell to the young zoologist, Francois Péron, who was only 25 when he left France. Péron also died of tuberculosis just six years after returning to Paris, with only the first volume of the Narrative of the Expedition's report published. In this, he provided a number of new frog names for those collected around Sydney, although he left the formal descriptions of these for the zoological report, which was never finished. Hence, the names in the Narrative were not accompanied by sufficient information to validate them, and Péron's names were never used. However, it is possible to identify in most cases the species involved, because many of the frogs were illustrated by Charles Alexandre Lesueur, who began the expedition as a Petty Officer in Gunnery, but became one of the major artists of the expedition due to loss of most of the other artists. Lesueur's beautiful artwork is still in existence in the Museum in Le Havre in France.

If Péron had lived to complete the Zoology of the Baudin Expedition, we would today have names like *Litoria cyanea* for the Green and Golden Bell Frog, *Litoria nebulosa* for Peron's Tree Frog and *Crinia leucogaster* for the Common Froglet.

Over the next 30 years, Péron and Lesueur's collections in the Paris Museum were joined by a few other frogs collected by subsequent French expeditions to Australian waters, although only the Green and Golden Bell Frog was named, as *Rana aurea*, (by René Primivère Lesson) in any of the expedition reports.

In the 1830s, the Paris Museum collections became the basis for a multi-volume herpetological encyclopedia, the *Erpétologie Générale*, compiled by André-Marie-Constant Duméril, the professor in charge of the Museum's herpetological collections, and his assistant, Gabriel Bibron (later joined by Duméril's son, August-Henri-André Duméril). The frog volume of this encyclopedia was published in 1841, and finally Péron and Lesueur's frogs received scientific names. Several of the frogs were named after members of the expedition. Hence, we have *Litoria lesueurii* and *Limnodynastes peronii*. While Bibron was working on the frog volume, the Paris Museum was visited by a young Swiss naturalist, Johann Jacob von Tschudi, who (at the age of 20) was working on his doctoral thesis on the classification of frogs. Tschudi's classification was published in 1838, prior to

Duméril and Bibron's volume, and hence he pre-empted several of the new names that Bibron was planning to use. Hence, Tschudi first used the generic names *Crinia* and *Litoria*, and the species *Litoria freycineti* and *Litoria peronii*.

Soon after the frog volume of the *Erpétologie Générale* was published, the Paris Museum received additional collections of Australian frogs from Jules Verreaux, a natural history collector who worked for his brother Edouard, a natural history dealer in Paris. Verreaux's collections came mostly from Tasmania and the then-new Moreton Bay settlement. The species *Litoria verreauxii* was named in his honour by Auguste Duméril in 1853.

In the 1830s, the British Museum began to receive collections of Australian frogs again. These were studied by John Edward Gray, the Keeper of Zoology at the Museum. The first Australian frog he named was the Red-Crowned Toadlet, which he named *Bombinator australis* (now *Pseudophryne australis*) in 1835. The specimen had been sent by a Mr Wright, about whom nothing more is known.

In 1837, the naturalist John Gould left his job as Keeper of the Museum of the Zoological Society of London to travel to Australia, accompanied by his collector John Gilbert. While Gould visited New South Wales and Tasmania, he left Gilbert in the new Swan River Colony to collect for him. Gilbert stayed there for most of 1839, before visiting Sydney in April 1840. In Sydney, Gilbert received instructions from Gould (who had already left for home again) to collect at the Port Essington settlement (now abandoned, but on Cobourg Peninsula in the Northern Territory). After spending 9 months at Port Essington, Gilbert sailed for England, arriving home late in 1841, only to be sent back to Australia early the following year to make further collections around Perth. Finally, in 1844, Gilbert was sent to Sydney to join up with Ludwig Leichhardt's expedition across Queensland. He died in June 1845, speared during an aboriginal attack near the Gulf of Carpentaria.

Gilbert's collections from his first period in Western Australia, and his collections from Port Essington, were sent home to Gould in England, who in turn passed the frogs on to Gray for study. The Western Australian collection was described in a natural history appendix to the account of George Grey's expeditions in Western Australia, published in 1841. The new frogs described in this were *Limnodynastes dorsalis*, *Heleioporus albopunctatus*, *Litoria adelaidensis*, *Uperoleia marmorata* and *Myobatrachus gouldii* (mostly under different generic names). Gilbert's Port Essington collections were described in 1842, and included the new species *Limnodynastes ornatus*, *Cyclorana australis*, *Litoria nasuta*, *Litoria rubella* and *Litoria bicolor*. John Gray's final Australian frog description was *Peralia eyrei* (now *Heleioporus eyrei*), named after the explorer Edward John Eyre, and published in an appendix to Eyre's Journal. While Gilbert was collecting in western and northern Australia, the United States Exploring Expedition, under the command of Charles Wilkes, visited Sydney and Wollongong. Among the few frogs collected was *Crinia signifera*, named by 2 American herpetologist Charles Girard.



In the 1850s, there was a complete change in Australian herpetology, both locally and in Europe. In Europe, the new players on the frog scene were Albert Günther at the British Museum, Wilhelm Peters in Berlin, and to a lesser extent (in terms of number of publications), Franz Steindachner in Vienna and Wilhelm Keferstein in Göttingen.

Steindachner obtained most of his material from a collection made by an Austrian expedition, in the ship *Novara*, in the 1860s. This expedition briefly stopped in Sydney and Wollongong. In the *Novara* Expedition report, Steindachner named *Heliorana grayi* (now *Limnodynastes dumerilii grayi* and named after John Gray), *Cyclorana novaehollandiae*, *Litoria castanea* and *Limnodynastes salmini*. The latter species wasn't named after the salmon-coloured stripes that characterise the species, but after a Hamburg natural history dealer, Mr Salmin.

The other three significant European herpetologists of the period obtained their material, at least at first, from Australian-based collectors. The most important of these was Gerard Krefft. Krefft was born in Germany, and first came to Australia in 1852 to join the Victorian gold rush. In 1857, he was employed by the Museum of Victoria as a collector, and participated in an expedition to the junction of the Murray and Darling Rivers. In 1858, he returned to Germany on the death of his father, but soon arranged a deal with the German Museums Commission to pay for his return to Australia in exchange for a collection of Australian animals that he promised to make for them. Soon after Krefft's return, he was employed by the Australian Museum, first as Assistant Curator, then as Curator. In order to build up the Australian Museum's collections, Krefft began offering to exchange local material with the big European collections, and soon became the largest single provider of Australian animals to Europe. During the 1860s, most European collections received large shipments of Australian animals from Krefft. Some of these were obtained from paid collectors, from localities as far apart as Port Denison in Queensland, and King George Sound in Western Australia, but others were apparently collected by Krefft himself around Sydney. Although he was mostly interested in reptiles and mammals, Krefft wrote several papers on frogs. The most significant of these, "On the Batrachians occurring in the neighbourhood of Sydney", includes Krefft's field observations on the local frog fauna, the first significant observations on the habitat preferences of Australian frogs.

Among the numerous shipments to Europe, some of Krefft's frogs went to Göttingen in Germany, where they were studied by Wilhelm Keferstein, who also obtained some Sydney frogs from his cousin Richard Schütte (from the similar localities, there was probably a link between Schütte and Krefft). Keferstein, who was only 22 at the time he began working on these collections, published three papers in 1867 and 1868., in which he named a number of new species. However, only three of these are still regarded as distinct: *Litoria dentata*, *Litoria raniformis* and *Pseudophryne coriacea*.

Others of Krefft's shipments went to the British Museum, where they were studied by Albert Günther, who Gray had appointed as his assistant in the 1850s. Günther had already worked on the Museum's frog collections by the time when Krefft's first shipment arrived, and had already described

*Limnodynastes tasmaniensis* and *Pseudophryne bibroni* from these pre-existing collections. Between 1863 and 1864, Günther published three papers, mostly based on Krefft's collections, in which he described *Adelotus brevis*, *Crinia tasmaniensis*, *Mixophyes fasciolatus* and *Litoria phyllochroa*, as well as two species he named after Krefft. Unfortunately, neither of the latter was distinct from species previously named, and so Krefft's name has disappeared from Australian frog nomenclature.

By the end of the 1860s, a new source of Australian specimens had developed. In Hamburg, the firm of J.C. Godeffroy and Son had developed a private museum as a sideline to its shipping lines, and had begun to send collectors around the world rather than just relying on the ships' captains to bring back oddities. Two collectors were based in Australia: Edward Dämel and Amalie Dietrich. Dämel collected around Sydney, in southern Western Australia, and at Port Curtis in Queensland in the 1850s and early 1860s. Between 1865 and 1874, he was mostly based in Queensland, collecting at Cape York, Port Denison, Rockhampton, Gayndah and Peak Downs. Amalie Dietrich was sent to Australia in 1863, and made collections around Brisbane, Rockhampton, Mackay, Lake Elphinstone and Bowen in Queensland, finally returning to Germany in 1873. Some of the Godeffroy Museum collections were purchased by the British Museum, where Günther described *Litoria infrafronata*, *Litoria nigrofrenata*, *Litoria alboguttata* and *Litoria latopalmata* from among them. Others went to Berlin, where they were studied by Wilhelm Peters.

Peters' first exposure to the Australian herpetofauna had come with some specimens sent by Krefft, and a small collection from the Adelaide area sent to Berlin by Richard Schomburgk in 1863. Schomburgk had previously been involved in exploration of the Amazon, and later founded the Adelaide Botanic Gardens, but at the time of sending his collection to Berlin was operating a vineyard near Gawler. From Schomburgk's frog collection, Peters described *Neobatrachus pictus* and *Limnodynastes dumerilii* in 1864. Soon afterwards, the Godeffroy collections made by Dämel and Dietrich appeared for sale. Between 1867 and 1880, Peters named 8 Australian frogs from these collections, of which 4 names are still used: *Cyclorana brevipes*, *Litoria fallax*, *Litoria gracilentia* and *Litoria inermis*. Steindachner also obtained some Godeffroy Museum specimens, naming *Rana daemeli* in 1868.

Günther described Australian frogs from two other sources in his later years. In 1874, he described *Cyclorana platycephala* and *Notaden bennettii* from two specimens sent to him for identification by George Bennett, one of the Australian Museum's Trustees, and in 1897, following his retirement, he described *Hyla dayi* (now *Nyctimystes dayi*) from a small herpetological collection from Mt Bartle Frere made by William S. Day, who a few years later disappeared on an expedition to New Guinea.

The Godeffroy collections from Queensland had drawn attention to the rich herpetofauna of that state. In Australia, William Macleay financed his own expedition to Cape York and New Guinea, the Chevert Expedition in 1875, while at the Queensland Museum, Charles Walter de Vis began describing specimens sent to the Queensland Museum.



Although both named frogs from Queensland, only one species is still recognised: *Litoria rothii*, described by de Vis from specimens collected by the anthropologist Henry Ling Roth at Mackay.

By the end of the 1880s, another major change in Australian herpetology occurred. On the international stage, George Albert Boulenger began to work at the British Museum. While Boulenger was a major figure in world herpetology, describing hundreds of new reptiles and amphibians, his contributions to Australian frog biology would have been almost negligible if it wasn't for Joseph James Fletcher. Apart from material sent to him by Fletcher, Boulenger described only three other Australian frogs: *Litoria dahlii*, described from two specimens obtained by the Norwegian explorer Knut Dahl from the Daly River, and *Litoria cyclorhynchus* and *Pseudophryne guentheri*, from older material in the British Museum collection.

Boulenger's main supplier of Australian frogs, J.J. Fletcher, was another story altogether. Fletcher was born in Auckland, the son of a Methodist minister, and arrived in Australia in 1860. He obtained a B.A. from the University of Sydney in 1870, and began a teaching career in Melbourne while studying for an M.A. In 1876, he moved to London, obtaining a B.Sc., and then doing research at Cambridge University on marsupials. On his return to Australia, Fletcher taught for a few years at Newington College, where he had previously been a student, and continued his research on kangaroos. In 1885, William Macleay offered him the position of Director and Librarian of the Linnean Society of New South Wales, a scientific society which Macleay had founded, and Fletcher remained with the Society for the rest of his life. This change in employment coincided with a complete change in research direction. Fletcher began working on terrestrial worms (of a variety of types) and frogs. His first frog paper, in 1889, dealt with reproduction and habitat preferences of the local Sydney frogs. He soon developed an interest in the distribution of Australian frogs, frustrated by the poor distribution data in previous papers. Fletcher approached this work by writing to a number of contacts in country areas, begging them to mail him frogs. At first these came mostly from New South Wales, but later extended as far as afield as Victoria, Tasmania and Western Australia. Fletcher published a series of five papers on the distribution of Australian frogs between 1890 and 1898. Not surprisingly, many of the frogs he was sent weren't identifiable with named species. At first, he sent samples of these to the British Museum. There, George Boulenger named *Litoria chloris*, *Geocrinia victoriana*, *Lechriodus fletcheri* and *Limnodynastes fletcheri* from frogs sent by Fletcher.

By 1891, however, Fletcher had developed sufficient confidence in his own knowledge to begin naming new frogs himself. Among these were *Geocrinia leai*, named after the entomologist Arthur Lea, who sent frogs from Perth and Tamworth (????), and *Paracrinia haswelli*, named after the Professor of Zoology at the University of Sydney, William Haswell, who sent frogs from Jervis Bay.

Fletcher's work on frogs also influenced a small group of herpetologists in Melbourne, including Arthur Henry Shakespeare Lucas and Charles Frost, who teamed up to write several papers on Australian reptiles, and Walter Baldwin Spencer, later to become famous as an anthropologist. All four were close colleagues within the small biological circle of the

time in Australia. Lucas wrote one paper on the distribution of Victorian frogs, and including two new species descriptions, prompted by his discovery of one of the new species on a field trip he made to Lake Wellington in Victoria. He named this *Pseudophryne dendyi*, after another biologist colleague, Arthur Dendy, who accompanied Lucas on the trip.

Spencer, meanwhile, had only arrived in Australia in 1887, at the age of 26, to take up the newly-created Chair of Biological Science at the University of Melbourne, a position which became open to him due to his previous background in herpetological embryology and anatomy, during his time at Oxford University. Within seven years, he had been nominated by the Victorian Government to participate in the Horn Expedition to Central Australia, as biologist. This expedition was the first to visit Central Australia with the primary aim of biological exploration. While the reptile collections of the expedition, made by Spencer, with additions by Paddy Byrne at Charlotte Waters and Frank Gillen at Alice Springs, were studied by Lucas and Frost, Spencer himself studied the frogs. One new species, *Litoria gilleni*, was described. However, the lasting influence of the expedition was not just in the collection of specimens from a new region, but the attention to areas previously neglected in frog studies, including details of habitat preferences, seasonal and ontogenetic changes in colouration, calls, burrowing behaviour, diet, and tadpole morphology.

Spencer later published one more paper on frogs, the description of two new species, *Litoria maculata* (later renamed *Litoria spenceri* in his honour, after the name *maculata* was discovered to have been used already for another species) and *Philoria frosti*. The latter was named after Charles Frost, who had collected the first specimens, regurgitated by a tiger snake collected while Frost camped at Mt Baw Baw, the only known locality for the species, in 1898.

The turn of the century saw the end of herpetological activity by all four. Fletcher's work on frogs ceased abruptly in 1898, when he began to work in botany, becoming an authority on eucalypts and grevilleas. Lucas similarly became interested in botany, specialising in seaweeds, while Spencer's interests in anthropology replaced biological research. Frost, having lost the link with Lucas, ceased research altogether. However, their legacy of field-based research by local researchers was carried on into the next century by the next generation of herpetologists, which was to include Dene Fry, Launcelet Harrison and Stephen Copland.

**Glenn Shea,  
Faculty of Veterinary Science, University of Sydney.**

Thank you Glenn for a great talk and providing Frogcall with such a superb account of the written history of the biology of Australian frogs. Detailed presentations were given by Arthur White, David Nelson including slides and frog calls, Robert Townsend, on frogs of Madagascar and Lothar Voigt on the future frogmobile. MW





## FROG RESCUE SERVICE FROG AND TADPOLE STUDY GROUP OF NSW

### Lost Frogs

Every year a large numbers of frogs are accidentally transported to Sydney. They arrive hidden in fruit trucks, building supplies, landscape supplies or in cut flowers. Many of these frogs are hundreds of kilometres from their original home. Once in Sydney they are exposed to many dangers, from traffic, from domestic pets, from polluted water and exotic diseases. Many of these frogs die.

### Rescued Frogs

The Frog and Tadpole Study group has a Frog Rescue service. Lost frogs are collected and given a check over for obvious signs of injury or disease. They then go into quarantine for a period of 2 months during which they are cared for and brought back to a fit state of health. At the end of the quarantine period they are given a final health check and, if cleared, homes are found for them with a suitable frog carer.

**Lost frogs** cannot be sent back to the bush. Once these frogs have entered Sydney (or other alien places) they are likely to pick up bacteria and fungi that are not native to their original area. In Australia, there is an exotic micro-fungus sweeping through parts of the country because frogs have been moved back and forth into new areas. In an effort to control the spread of diseases, lost frogs are not returned to the wild. The Frog Rescue Service ensures that lost frogs do not die unnecessarily and that they eventually are cared for.

**If you find a lost frog call  
the FROG HELPLINE on 0419-249-728.**



Northern Dwarf Tree-frog  
Photo: Steve Parish

## BEING PART OF THE FROG RESCUE SERVICE

There are several ways that you can help with the frog rescue service.

### 1. Frog Collector:

You can be a frog collector. To do this you must have a car. Register your name as a collector and when a call concerning a lost frog in your area comes in, you may be asked to go and collect the frog (usually from a supermarket or shop). You may need to retain the frog for a few days until it can be passed on for quarantine. Some collectors visit frog hot spots on a regular basis (e.g. Sydney Markets, Flemington). If you live close to a major produce depot you may wish to adopt this place as your collection site. FATS will show you how to do this.

### 2. Frog Carer:

Frogs that go into quarantine need to be looked after while in quarantine. They are not pet frogs and cannot be kept with other frogs or played with. Frog carers need to be able to set aside an area of the house or garage where frog cages can be placed and checked on a regular basis. Frog checks occur daily. Water changes and feeding is strict to prevent possible cross-infection between cages. All frog carers are shown the hygiene procedures that must be followed. Frog carers cannot keep frogs that are in their care. Frogs that are disease free remain in quarantine for 2 months. Sick frogs are quarantined for longer and often require special treatment. Again, carers are shown how to deal with sick, injured or dying frogs.

### 3. Frog Foster Parent:

Frogs that are cleared from quarantine are made available as pets to FATS members. These frogs can never be released. Even though they have been through quarantine, some diseases are not readily diagnosable. It is advised that they be kept in separate cages from other pet frogs in the house for a while in case they are carrying some undetected disease.

FATS asks for a donation from its members to cover the costs of quarantine and handling of the frogs. This is not a commercial operation. We leave that to interstate dealers.

You cannot receive a frog if you are not a FATS member, or if you do not have an Amphibian Keepers Licence from the National Parks and Wildlife Service. When you receive your frog, you will have to provide your licence number so that the frogs can be legally transferred to your care.

If you take a frog and later find that you cannot keep it, the frog will have to be returned to quarantine. No money will be refunded as the re-quarantining of the frog is an additional expense for us.

To get a frog, you will have to put your name on the waiting list (contact Lothar or Arthur to do this). When the frog species that you want becomes available, you can collect your frog at the FATS meeting. Some frogs are very popular and the list may be very long, some frogs do not come through the rescue service very often. Always ask how long you may have to wait for your particular type of frog to be available. Also, always ask if there are special husbandry requirements with your frog. Someone in FATS will know.

If you have problems with your frog, call the Frog Helpline. **AW**





Pearson's Frog  
Photo: Hans & Judy Beste

## EARLY FROG COLLECTION AT NEXT MEETING

**P**eople who are adopting frogs from the Frog Rescue Service take note. In the past, these frogs could be collected at the end of each meeting. This year, frogs will be collected before the meeting. Your will be able to get your from 6.30 to 7.30 at the museum theatre. If there are unclaimed frogs left over, these may be made available after the meeting.

At present, most of the frogs coming out of quarantine are Dwarf Tree Frogs *Litoria fallax* and Dainty Green Tree Frogs *Litoria gracilentia*. We do not have any Green Tree Frogs in quarantine and usually these turn up in Sydney in fruit and produce until the winter months. So if you are waiting for a Green Tree Frog, you may have a long wait.  
AW

## GREEN TREE FROG SURVEY

**F**ATS is helping National Parks and the World Wide Fund for Nature in a survey of Green Tree Frogs in New South Wales. These frogs are not endangered but their distribution appears to be changing. The aim of the survey is to record the present distribution of Green Tree Frogs this summer. In several years time the survey will be repeated to see how the frogs' distribution has altered. The survey is not retrospective and only covers this summer (i.e. December 2000 to the end of February 2001). If you fail to observe Green Tree Frogs in areas where you frequently see them, please fill in the survey forms because negative results are just as important as positive sightings.

A copy of the survey form is included with your copy of FrogCall. Please fill it in at the end of February and send it back. If you know of other people who often visit Green Tree Frog areas, get them to contact the Frog HelpLine on 0419-249-728 and get a survey form. The more people who respond the more meaningful are the results. AW

## SMITHS LAKE FIELD TRIP

**F**ATS will be conducting an overnight field trip at Smiths Lake in the Myall Lake National Park, about 100 km north of Newcastle. Accommodation will be in the dormitories of the University of New South Wales' field station at Smiths Lake. The field trip will run from Friday to Sunday 16th to 18th of March 2001. Accommodation costs are \$12 per adult per night, children half price. You will need to bring own food, sheets and blankets. A list of items to bring will be supplied. Frogging at night and lazing about, swimming, birdwatching, bushwalking, snoozing or playing cricket during the days. If you are interested or want to know more contact Arthur White on 02-9599-1161 for details. AW

## FROG HYGIENE AND CHYTRID CONTROL WORKSHOP

**F**ATS is hosting a half-day workshop on frog hygiene and control of infectious diseases, especially chytridiomycosis. The date and venue is yet to be finalised, but is likely to be in April or May 2001 (on a Saturday). The likely venue is the Trust Centre in Centennial Park in Sydney.

The workshop will deal with issues such as :  
How to look after your frogs  
The special needs of captive frogs  
General methods of hygiene  
Infectious diseases amongst frogs  
Recognising and treating sick frogs  
The spread of chytrid disease in Australia  
Hygiene protocols for froggers, school groups, field workers, frog rescuers, frog carers and frog enthusiasts

A booklet outlining the major points of the workshop will be provided. Several invited speakers will be in attendance. There will be a charge for the workshop to cover venue hire, tea/coffee, cost of booklets and other expenses.

If you are interested, you can contact Lothar or Arthur and put your name on the list. As more details are finalised you will be notified of events. AW

## HYGIENE WARNING DISPOSAL OF WASTE FROG WATER

**A**s a matter of hygiene all water that comes out of your frog tanks should be disposed of down the toilet or sterilised with bleach or disinfectant before being tipped down the drain. Do not tip this water onto your garden plants or lawn. Several pathogens that infect frogs survive in soil and will wipe out backyard frogs as well as frogs in the local creek. Make it a habit to dispose of all waste water from your tanks thoughtfully. AW



**W**e had a great time at IAD. It was more relaxed than last year. We didn't have to run back and forth between locations. We had more time to shoot the breeze with other froggers. .... The amphibian and plant vendors were great. I got some rare plants I need to plant up today. I got 3 types of tropical moss, miniature orchids, 5 kinds of epiphytic cactus, 2 types of rare jewel orchids, *microgramma lycopiedidos* (?) (funny little fern), an epiphytic fern that likes it real wet and some odds and ends. I was excited about the frog part of the show but thrilled with all of the plant vendors with real special plants at reasonable prices..... There were at least 4 or 5 vendors with plants you would be hard pressed to find anywhere else. They offered a lot of stuff that like wet feet, miniature warm growing orchids, rare ferns and mosses, lots of bromeliads, epiphytic cactus, plants from southeast asia, real plants from dart frog habitats, pitcher plants, and on and on. Most of the plants were geared for terrariums but there were other neat things. I saw miniature bananas and some weird thing that looked like a lumpy piece of wood that will grow a long vine from it.

The lecture series was great but a little hard to follow what was going on. I don't think the chytrid lecture was on the original fliers I had but it was fascinating. Schulte spoke Saturday night and Sunday morning. Saturday night he spoke about disappearance of mysteriosis habitat and what he is doing to protect what little is left. Because there has been only one big rainy season for the last three years in parts of Peru and not alternating rainy and dry seasons they are loosing habitat. The habitat is sliding away and natives are cutting the few trees that remain for fire wood. Rainier and his associates rescue bromeliads and put out artificial sites for frogs to breed in. He has plans to fence off some habitat and place a guard to keep smugglers and cattle away. His total work in habitat protection and artificial breeding containers has been hurt several times by smugglers removing adult frogs from the areas he is working in. Habitat protection and frog farming are subjects Rainier is very passionate about. He choose to speak on mysteriosis Saturday when there were lots of people there for the lecture and speak on the other frogs he is working with on Sunday. There were fewer people at Sundays lecture but it was the more appealing of the two great lectures. There were lots of pictures of rare frogs and pictures of how they are raised both in special coke bottles in the field and in the lab in front opening tanks. Schulte needs some start up money for his frog breeding work and eventually hopes his conservation work and research will be self supporting buy sales to hobbyist, zoos, and scientific institutions. As of now he is producing sales but does not have export permits. I talked to one home town boy that hopes to work for Schulte a little of part of his college studies. That would be way cool.

The high points of the conference and the confusing points were the talks and the auction. People were a little confused about what was going on and when. In fact some decisions were made on the fly by the committee. There was a lot of interests in Ian Hilliers' talk on tadpole rearing and frog breeding.....  
(Extract) **Michael Shrom**

**F**rogs are amphibians, which means they belong to a class of animals known as *Amphibia* that includes toads, newts, salamanders and caecilians. These animals can live on land and in water and must find ways to communicate in each media. Very little is known about the pheromones produced by these amphibians, since some only return to the water to breed.

Recently, the first frog sex pheromone was discovered in the magnificent tree frog, *Litoria splendida*. When small amounts of the pheromone, named *splendipherin*, were placed in the water near a female tree frog, she would quickly notice and move toward where the chemical was initially placed. There she would await the arrival of her date. The males produce this water-soluble pheromone in greater amounts during the breeding season (January to March) and it only attracts females of the same species. This subtle form of communication brings the two frogs together without attracting a lot of attention from potential predators, thus ensuring future generations. For the magnificent tree frog, there is no need to shop for fancy colognes or flowers before a date. Just being a fragrant frog is all that's necessary.

**Forwarded by Martin Reuter**



### FROGS THROW UP THEIR STOMACHS!!!

**W**hen you eat something that upsets your stomach, you can take medicine. Frogs, however, fix an upset stomach in a very different way. A frog that's sick can throw up its stomach! "It's very dramatic". The frog's stomach hangs out of the side of its mouth as it wipes it with its right hand." Frogs eat mainly insects. Occasionally, they swallow poisonous insects. When a frog eats a poisonous insect, it has to get rid of it quickly. The frog throws up it's stomach and uses its right hand to scrape off the insect stuck to the stomach tissue.

Why does a frog use its right hand? A frog's stomach is located off-centre, so when a frog throws up its stomach, it sticks out of the mouth in an angle. Scientists who study frogs have found that a frog cannot reach its entire stomach with its left hand. **from the internet MR**



## FROG PLANT SERVICE

Unfortunately, Danie Ondinea will have to suspend the Frog Plant Service for an indefinite period. Remember that all the wetland plant species that she has bought in over the past year came from the Randwick Council Community Nursey. They are open Mon - Fri, 9.00 am - 3.00 pm. They are a wholesale nursery situated in Kingsford and can be contacted on (02) 9399 0933. Dave Bateman is the Nursery contact person for wetland plants.

### Freeing Frogs from a Fatal fungus "Natural Heritage" No 8 Summer 2001

Over \$1.4 million has been allocated from the Natural Heritage Trust for frog recovery projects between 1996 and 2000 - this includes work on wet tropics' frogs, great barred frogs, corroboree, sunset, spotted tree and baw baw frogs. A significant proportion of this has been on investigations into frog disease.

Australian frog experts were first brought together to consider the serious threat to Australian frogs when the Federal Government convened a National Threatened Frogs Workshop in 1997. Workshop proceedings, published as *Declines and Disappearances of Australian Frogs*, provide the most comprehensive summary of the threats to frog species ever published.

National and international experts involved in frog research, management and policy development again gathered earlier this year for the Getting the Jump! On Frog Diseases conference, which made a series of recommendations for actions to address the threats, including the nomination of the Chytrid disease as a Key Threatening Process under Federal legislation.

A team of Australian scientists is currently working to understand the emergence of the Chytrid disease - a new fungal disease that is killing frogs in Australia and overseas, and find a treatment, thanks to funds provided through the Natural Heritage Trust's Endangered Species Program.

Scientists believe the Chytrid fungus (*Batrachochytrium dendrobatidis*) was a factor in the extinction of six Australian frog species, and has reduced populations of many others. The Chytrid fungus has also been identified as a cause of mass frog mortalities in Panama, the United States, New Zealand and Spain.

*Frogs have an integral role in the healthy functioning of inland waterways throughout Australia, however many species are declining in numbers at a rapid rate.*

The fungus, first identified in Australia in 1993, invades the superficial layers of the frog's skin, causing damage to the keratin layer on the skin surface. The fungus may kill frogs by releasing toxins that are absorbed. Alternatively, as frogs drink and breathe through their skins, the fungus may be disrupting these mechanisms.

Forty-three amphibian species in Australia have now been shown to be infected with the Chytrid fungus, including seven endangered frog species.

Dr Rick Speare at James Cook University is undertaking a survey with museums and zoologists to establish where the Chytrid fungus is found and how long it has been present in Australia.

Researchers from CSIRO's Australian Animal Health Laboratory (AAHL), and the Amphibian Research Centre are trialing anti-fungal drugs and developing new diagnostic tests in a bid to protect Australia's frogs.

Dr Lee Berger and Dr Alex Hyatt, of CSIRO AAHL, are researching the fungus. Lee says it is hoped a suitable drug could be found within the next year. The treatment would be used on collected tadpoles, ensuring larger numbers survive to be released into the wild.

Lee is now trialing anti-fungal drugs on cultured fungi at CSIRO's AAHL. Mr Gerry Marantelli is testing the promising treatments on fungus-infected tadpoles and frogs at the Amphibian Research Centre.

Tadpoles only have keratin in their mouths, so while they may carry the fungus, they do not succumb to it. After they metamorphose into a frog, the fungus spreads and kills the frog.

The treatment would mean more frogs survive to bolster the wild population, giving the frog species a greater chance of developing immunity, and surviving the fungus.

This project is one example of how the Natural Heritage Trust is working to help the scientific community conduct the research necessary to save our endangered and threatened wildlife.

For more information, contact the AAHL Commercial and, Communication Group on 03 5227 5123 or email [aahl@li.csiro.au](mailto:aahl@li.csiro.au)

*Declines and Disappearances of Australian Frogs* is available on the internet at: <http://www.biodiversity.environment.gov.au/threaten/information/frogs/frogs.pdf>



from  
Giselle Howard



## OBITUARY

**G**eorge Cann, the famous snake man from La Perouse, passed away on 15<sup>th</sup> January. He will be missed by generations of Sydneysiders who grew up going to his daring shows. Our condolences go to his family. LV

## FROG FIND IN DARLING RIVERINE PROJECT

**T**he significance of the Darling Riverine Plains in providing habitat for frogs has been revealed following the latest stage of the Darling Riverine Biodiversity project.

Recent frog surveys in the Nyngan, Trangie-Dandaloo and Moree regions had shown how even low rainfall areas are very important for native frogs. More than 200 frogs and 15 different species were recorded during the survey. This is a positive sign because frogs are very sensitive to changes in the environment and the find indicates the area is environmentally healthy.

Another interesting find was the wide habitat range of the frogs. Areas where frogs were found included; in soil cracks, under bark, on roads, on the edge of water and in water, on and under logs and in trees and tree hollows.

The next stage of the surveys for the Darling Riverine Plains project is about to begin which aims to bring together a record of the fauna and flora of the 94000 square kilometre Darling Riverine Plains.

**For further information, contact Michele Cooper, Darling Riverine Plains Project, NPWS (02) 6883 5351 [michele.cooper@npws.nsw.gov.au](mailto:michele.cooper@npws.nsw.gov.au) WetlandLink Bulletin Issue 4, November 2000 with compliments Adam Crawford**

## SCIENTIFIC NAMES and their MEANINGS

Limnodynastes = lord of the marshes

Litoria = beach frog

Bufo = toad

rana = frog

Cyclorana = round frog

anura = no tail

caudata = tailed

terra-reginae = land of the queen (ie Queensland)

peroni = after the french naturalist/Zoologist F.Peron

caerulea = blue

castanea = chestnut

punctata = spotted

piperata = peppered

booroolongensis = from Booroolong

NB -ensis as a suffix means 'from' eg tasmaniensis = from Tasmania

Uperoleia = smooth back

Crinia = perhaps this means lilypond?

Assa = dry nurse

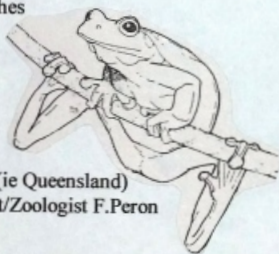
Adelotus = unseen

Pseudophryne = false toad

NB pseudo- means 'false' as in pseudonym = false name

**with compliments Martyn Robinson**

**Editor: further meanings are available in "A field guide to Frogs of Australia (from Port Augusta to Fraser Island)" by Martyn**



## WORLD CONGRESS OF HERPETOLOGY

Some of you may already be aware of this but the final brochure and registration forms for the up-coming Fourth World Congress of Herpetology have been posted at [www.4wch.com](http://www.4wch.com). **Stan Orchard.**

## FROGS AND FACTORIES

**L**andcare Australia and Osram have initiated a joint project to help set up frog protection projects across Australia. Because frogs are so sensitive, they are an important indicator species for pollutants and other environmental damage. A percentage of the proceeds from every Osram Eco Lamp will go towards research, restoration and establishment of frog habitat. See Landcare Australia's website (a great website design tool!) <http://www.landcareaustralia.com.au/> **WetlandLink Bulletin Issue 4, November 2000 with compliments Adam Crawford**

## SPOTLIGHTING

**T**his week have been spotlighting with Lorne Johnson in 2 different locations close to Sydney with some interesting finds as follows:

**Bobbin Head** (Sphinx track) (Thursday - 11th Jan) (about 20km north-west of Sydney CBD) - pair of Powerful Owls heard calling quite early and just before dusk. Soon after heard a White-throated Nightjar or two and some Owlet Nightjars. We also found an Eastern Blind Snake (*Ramphotyphlops nigriscens*) feeding on ants, a Wood Gecko (*Diplodactylus vittatus*), disturbed some wallabies/pademelons and heard a number of bats.

**Katandra Reserve** at Erina (Saturday - 13th Jan) (about 70 km north of Sydney CBD) - whilst looking primarily for marsupials and frogs we were delighted to see a Sooty Owl hunting for rats near the Seymour Pond. One took off from the ground as we approached and landed in a horizontal branch providing us with excellent views with a nice sized rat in its talons. We also saw another Sooty Owl fly from tree to tree, presumably trying to get one of the Sugar Gliders which were calling in the area. The Sooty's were calling during the 3 hours we were there mainly giving their screaming calls but also the odd falling bomb and trilling calls. We also saw a Tawny Frogmouth and heard a Boobook Owl.

Around the pond we also bumped into a Southern Leaf-tailed Gecko (*Phyllurus platurus*), Brown Antechinus, some unidentified rat (similar to what the Sooty Owl caught), at least 4 species of Frog - Dwarf Green Tree Frog (*Litoria fallax*), Leaf Green Tree Frog (*Litoria phyllochroa*) and Peron's Tree Frog (*Litoria peronii*) as well as Striped Marsh Frog (*Limnodynastes peronii*), Grey-headed Flying Fox, microbats, wallabies, spiders, crickets, slugs, beetles etc.

For those interested at Ourimbah (nearby), we also heard what was most certain to be Green-thighed Frogs (*Litoria brevipalmata*) after taping them calling and identified by an identification tape. **Edwin, with compliments Giselle Howard**





SUMMER 2000

## CONTACTS

**FROGWATCH HELPLINE 0419 249 728**

**EMAIL [fatsgroupnsw@hotmail.com](mailto:fatsgroupnsw@hotmail.com)**

**Thank You  
to all those**

**who contributed  
to this newsletter.**

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Martin Reuter	Editorial Panel	0245 668 376 (h)	0429 131 111 (w)

We hold six informative, informal, topical and practical meetings each year at the Australian Museum, Sydney (William Street entrance). Meetings are held on the first Friday of every **even month** (February, April, June, August, October and December) at 6.30 pm for a 7.30pm start. **NO MEETINGS ARE HELD ON GOOD FRIDAY so check newsletter for alternate dates.** Visitors are welcome. We are actively involved in monitoring frog populations and in other frog studies, and we produce the newsletter *FROGCALL* and *FROGFACTS* information sheets.

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**Photos of Green Tree Frogs and their habitats would be very useful additional documentation of your record**

Would you like to participate in any future frog surveys?

☐ Yes ☐ No

For your participation, would you like to receive a free educational frog poster?

☐ Yes ☐ No

**Contact details (Optional):**

Your contact details are strictly confidential and will only be used by WWF and NPWS to contact you for this and future frog surveys.

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Please complete both sides of this form and return to:**

**NSW Green Tree Frog Survey  
National Parks and Wildlife Service  
Biodiversity Management Unit  
Reply Paid 1967  
Hurstville NSW 2220**

**(NO POSTAGE STAMP IS REQUIRED)**

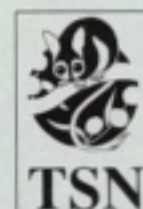
**Fax: (02) 9585 6544**

**FATS Frogwatch Helpline: 0419 249 728**

**CLEVER CAERULEA**

"For a long time, we had a Green Tree Frog, (*Litoria caerulea*) that lived in the spare overflow hole of the laundry tub. When it took up residence, we tried to discourage it by placing a plug over the hole. I suppose we could have tried harder and got a plug that fitted the hole tightly, but that frog was a great source of entertainment so we continued with the loose plug. In the morning we would check to see if it had returned from its nightly travels. At night it would emerge, take a leap, land with a plop and head for the garden. We would place the plug over the hole but this never deterred the frog. We would find the plug either fully or half over the hole or in the bowl and the frog back in residence. One morning I was lucky enough to see it returning from the garden. It leapt up the side of the washing machine and then over to the hole which was covered by the plug. To my amazement, it lifted the plug with the limbs of its left side, and worked its way in backwards. Leaving the plug to fall perfectly in position over the hole. We realised that this had happened before, each of us thinking the other had put the plug back in place!"

*Margaret Howlett, from the North Queensland Naturalist Club Newsletter 200(1995):7*



**THE FROG AND  
TADPOLE STUDY  
GROUP OF NSW  
INC.**

**Acknowledgements:**

This project is a NPWS Declining Frog Working Group initiative in association with, and jointly funded by, World Wide Fund for Nature Australia and Threatened Species Network. Funding also gratefully received from the National Parks Foundation. Thanks to Ron Haering (Declining Frog Working Group), Stan A. Orchard (WWF Frogs Program), Arthur White (Frog and Tadpole Study Group), Francesca Andreoni (Threatened Species Network), Michael Mahony (Newcastle University), Ross Wellington (NPWS, DFWG), and Dan Lunney (NPWS). This brochure was modelled after one for dragonflies by Rod Pietsch.



Have You Seen  
this Frog?



Photo by Deborah Pergolotti

**THE GREEN TREE FROG  
(*Litoria caerulea*)**



**Is it still common today?**



# Finding and identifying the Green Tree Frog

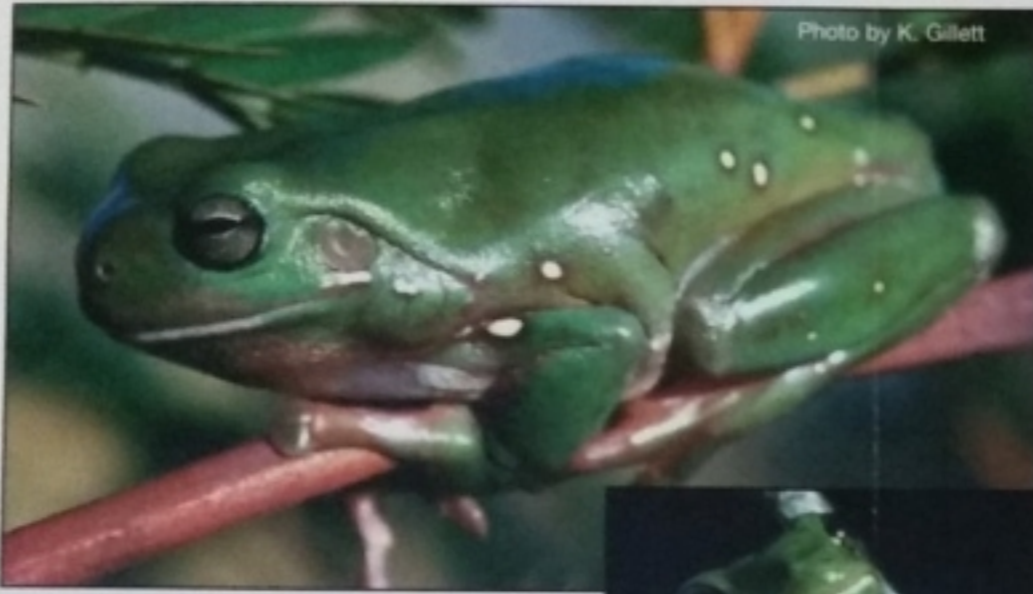


Photo by K. Gillett



Photo by L. Howes

Different frog species can be similar in appearance but this one is fairly distinctive, though its size and colour may vary. The following information will assist you in positively identifying Green Tree Frogs.

## Physical Characteristics

- Smooth, bright green upper body
- Scattered small white spots on side (usually) and occasionally on its back
- Large fleshy fold of skin overhangs the ear cover (tympanum)
- White grainy skin on the underside
- Grows up to 100mm in length

## Sound

- Deep repeated 'crawk' call
- The calls can be heard from a kilometre away
- Audio file on websites:  
[http://www.npws.nsw.gov.au/wildlife/gtfrog\\_survey.htm](http://www.npws.nsw.gov.au/wildlife/gtfrog_survey.htm)  
<http://www.frogs.wwf.org.au>

## Known Distribution of the Green Tree Frog in NSW



NPWS Atlas of NSW Wildlife



Please tell us if you see  
a Green Tree Frog



We want to find out if this frog is still common in NSW, so your help is greatly appreciated. If you see a Green Tree Frog please complete the sighting form below or e-mail the sighting details to [greentreefrog@npws.nsw.gov.au](mailto:greentreefrog@npws.nsw.gov.au). Please send as many details as you can and tick (✓) each relevant box.

Are you reporting a:

☐ Sight Record? ☐ Call Record? ☐ Both?

Have you seen/heard this frog in your local area?

☐ Yes ☐ No

Date: \_\_\_\_\_

Locality: \_\_\_\_\_

Property or Place Name: \_\_\_\_\_

Distance and direction to nearest town/feature: \_\_\_\_\_

Map name/number: \_\_\_\_\_

Grid ref: Easting \_\_\_\_\_ Northing \_\_\_\_\_

No. of Green Tree Frogs last seen:

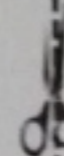
1-10 ☐ > 10 ☐ > 50 ☐

Brief description of habitat: \_\_\_\_\_

In your local area do you think Green Tree Frogs are:

☐ Increasing? ☐ Stable? ☐ Decreasing?

Why do you think that this is the case?: \_\_\_\_\_



**\*\*PLEASE NOTE:** Frogs should not be handled unless it is absolutely necessary