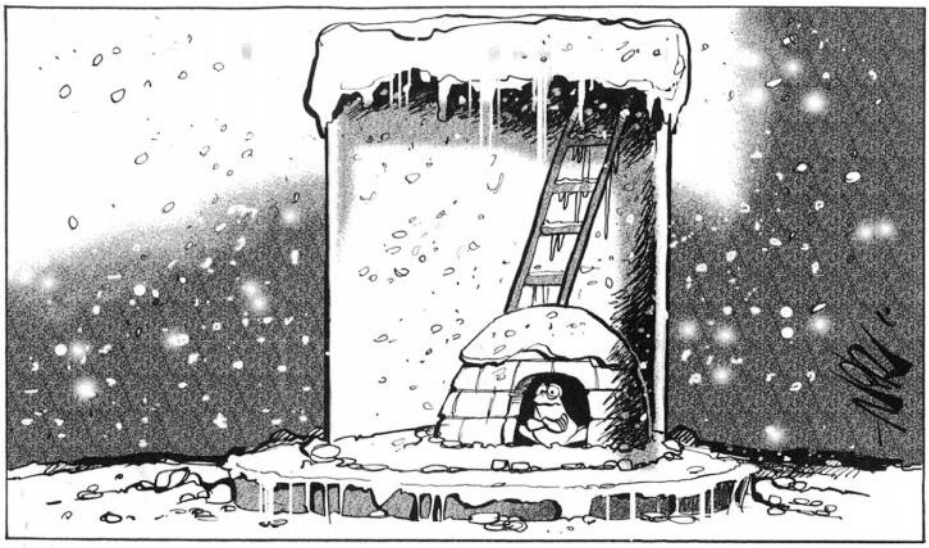
FROG CALL

THE FROG AND TADPOLE STUDY GROUP NSW Inc.
Email: fatsgroupnsw@hotmail.com
PO Box 296 Rockdale NSW 2216
Website: www.fats.org.au
ABN: 34 282 154 794

NEWSLETTER No. 108 August 2010

NSW Frog licences must be sighted if you wish to adopt a frog.



Arrive 6.30 pm for a 7 Pm start.

Friday 6th August

AGM & meeting to be held at the Field Studies Centre (Education Centre) Bicentennial Park

Easy walk from Concord West railway station and straight down Victoria Ave. Take a torch. By car: Enter from Australia Ave at the Bicentennial Park entrance and drive through the park (one way road). Turn off to the right if entering from the main entrance. Or enter from Bennelong Rd / Parkway. It's a short stretch of 2 way road and park in p10f car park (the last car park before the exit gate). See map p12

Cartoon above sent by Andre and Renata Rank

MEETING FORMAT Friday 6th August 2010

6.30 pm Lots of lost frogs needing homes. Please bring your FATS membership card, $$ donation and **NSW NPWS licence.**

7.00 pm Welcome, AGM and announcements.

7.45 pm The speakers: David Hunter will give an overview of the rediscovery and conservation of the recently found *Litoria castanea* Tablelands Bell Frog as well as Corroboree, Booroolong and Spotted Tree Frog projects.

8.30 pm Jason Luke: Borneo frogs and reptiles, Marion Anstis: Tadpoles of Australian Microhylids Arthur White: The Taren Point Cane Toad muster and field trip reports.

9.30 pm Show us your frog images, tell us about your frogging trips or experiences, guessing competition, light refreshments and a chance to chat with frog experts.

CONTENTS **PAGE**

FROGS IN SCIENCE THE 17TH AND 18TH CENTURIES

Talk given by Andrew Nelson at the last FATS meeting 4th June 2010.

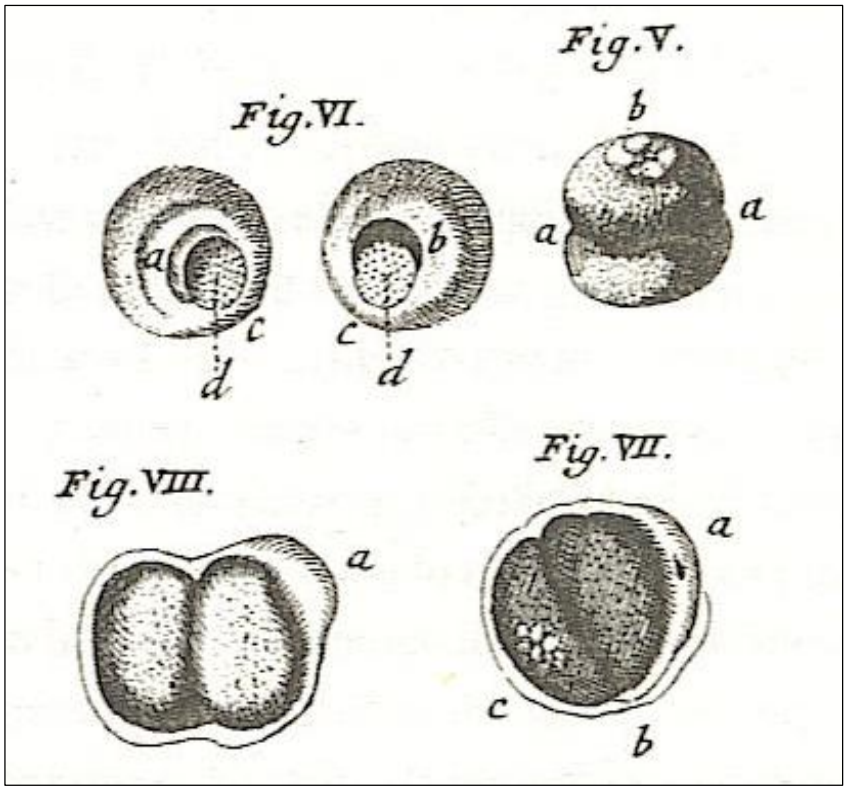


Figure 1. Swammerdam's drawings of frog eggs undergoing their first cell division. The egg in "Fig VI" has been cut in half along the line of the furrow – "The broken substance of the young frog's body, composed of grains dd, shewed itself in the place where the furrows terminated within," reads the original caption. (Cobb, 2006).

Frogs have punched above their weight when it comes to scientific breakthroughs. They have a variety of characteristics that have (sometimes unfortunately for them) made them appropriate subjects for research and experimentation. The following examples are summarised from the two excellent books listed in the references.

In the late 17th century, science was still in a very elementary state by today's standards. The Royal Society, an early player in the formalisation of science, was not formed until 1660. The term "scientist" was not coined until 1833.

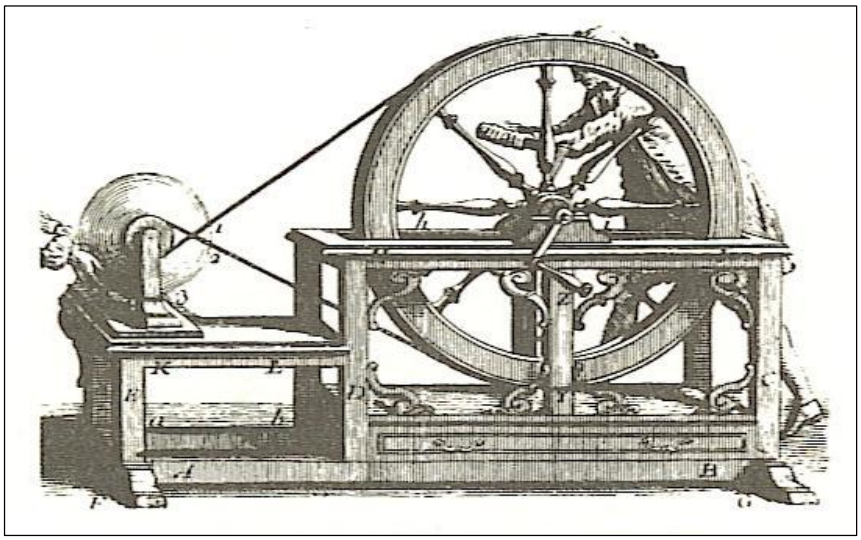


Figure 2. Static electricity machines were used to generate electricity in early experiments (Johnson, 2008)

Many of the basics of sexual reproduction were a mystery. The process of fertilisation of an egg was not understood at all . The concept of spontaneous life, whereby life could appear out of dead or unrelated material, was very much accepted. Examples would be maggots appearing on meat or wasps appearing out of parasitised caterpillars.

It was something of a breakthrough then when in 1666, after much careful observation, Dutchman Jan Swammerdam announced that "***all insects proceed from an egg, that is laid by an insect of the same species***". At the same time another Dutchman, Antonie van Leeuwenhoek, was making great strides in the use of the recently invented microscope. He astounded everyone with his description of teeming microscopic life in pond water.

He also examined and described some of his own sperm. At the time some believed that sperm were the means whereby already perfectly formed tiny little beings were transferred from the male body to the female for incubation.

Around the same time Swammerdam examined fertilised frogs' eggs at various stages of development. He clearly saw and described cell division, the first time this had been done. He saw the development from a single cell to multiple cells (Figure 1 above left), and that there was no way there was a "ready formed" creature. Still people weren't at all sure of the features of reproduction that we know today are common to all life forms.

Lazzaro Spallanzani, in Italy, was another leader in dispelling some of the myths of reproduction. He showed, for example that if meat was protected from contact by flies, maggots did not develop, thus acknowledging the link between flies and their larvae. He also experimented with frogs, fitting male frogs with little trousers during amplexus. The eggs which the female produced in this situation were thus not fertilised, and did not develop.

In a parallel experiment he used a brush to paint the fluid collected in the male frogs' trousers on the otherwise unfertilised eggs, in the first ever example of in vitro fertilisation. These eggs did develop. Shortly thereafter the first artificial insemination was performed (using dogs) and not long after on a human being. It was quite some time however before the first female mammalian egg was identified.

Clearly frogs were a very suitable, perhaps unique, subject for this type of investigation, being plentiful and easily observed, fertilising externally, and having eggs that could be examined with modest magnification.

During the 18th century the properties and uses of electricity were being investigated. The means of generating electricity in those days was pretty much limited to static electricity machines (Figure 2 on page 2, below / left), and its use to an entertainment, e.g. making someone's hair stand on end. One day Luigi Galvani, an Italian physician and physicist, was dissecting a frog at the same time as an assistant produced a spark from a static electricity machine. Galvani noticed that the frog's leg, whose nerve he was touching with his scalpel, twitched, and made the connection between the spark (electricity) and the movement of the frog's leg. Galvani did many careful experiments with frogs' legs, including demonstrating that distant lightning could also provide the stimulus, before publishing his observations in 1791 – the first description of what is today known as bioelectromagnetism.

Alessandro Volta, another Italian, read Galvani's work, and performed his own experiments with frogs. One of these involved using connecting wires of different materials e.g. tin and silver. He found he could produce the leg twitch without the external spark, and concluded that two different metals, joined by a conductor (the frog's leg) produced electricity. He went on to produce the first ever battery comprising a pile of alternating metal discs, separated by cardboard discs soaked in brine (Figure 3 below).

Figure 3. A battery (or voltaic pile) first built by Alessandro Volta. He used discs of zinc and silver, separated by cardboard soaked in brine. (http://en.Wikipedia.org/wiki/Alessandro_Volta)

Volta's work prompted Galvani to re-examine his experiments, and he found he could produce a leg twitch simply by touching the frog's leg with its own nerve (Figure 4 below). The parts of the frog's body were apparently acting as a source of electricity. Neither Galvani nor Volta could explain exactly what was happening, but we now know that each cell within an organism can act as a tiny battery.

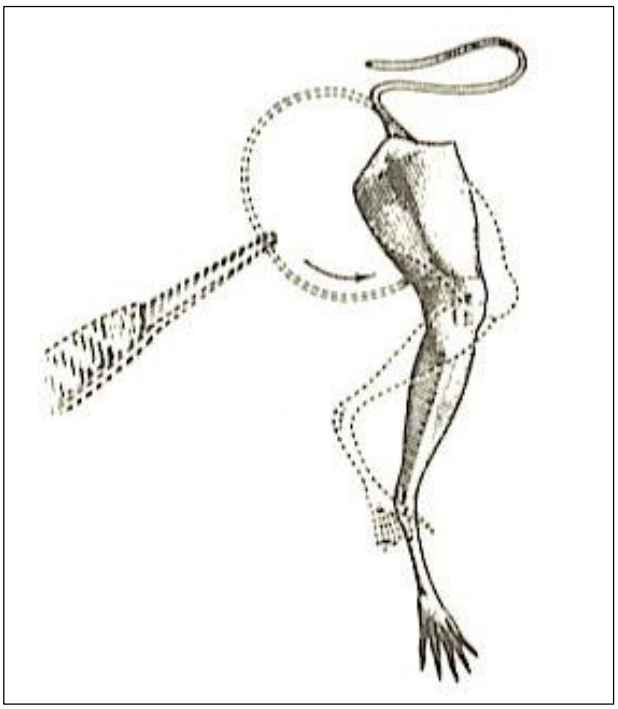


Figure 4. In later experiments Galvani showed that he could induce a leg jerk by simply touching the leg with its own nerve (Johnson, 2008)

In the case of the work of Galvani and Volta, the frog's leg acted as a sensitive indicator of electricity, when there was no similar scientific instrument. The electrical measuring instrument the *galvanometer* is named to honour Galvani, and of course the electrical unit the *volt* is named after Volta.

While it is no doubt painful for frog lovers to contemplate the loss of frog life involved in these experiments, we can take some consolation from remembering that they have made substantial contributions to our understanding of critical aspects of electricity, bioelectromagnetism, and reproduction.

References:

Johnson, G., 2008. The ten most beautiful experiments. The Bodley Head, London.

Cobb, M., 2006. The egg and sperm race. The Free Press, London.

Submitted to FrogCall by Andrew Nelson

LAST FATS MEETING 4th JUNE 2010

Punia Jeffery opened our meeting, welcomed visitors and members and made several announcements. The FATS Annual General Meeting will be held on 6th August 2010. Our next Frog-o-graphic competition is open for all members and will close on 1 October 2010. See announcements in this newsletter. FATS T-shirts $25 all sizes and other frog related items are available for sale. Members are encouraged to join us on one of our many field trips advertised on page 12 of this newsletter.

The FATS committee have sent a donation on members behalf to contribute to the fighting fund to save the habitat of New Zealand's native frog *Leiopema archeyi* from mining proposals. See following article below and http://www. edgeofexistenceorg/amphibians/species _info.php?id=546#distribution

Our first speaker was Andrew Nelson, talking about Frogs in History. He assured Punia that he was not going to talk about Napoleon Bonaparte or Charles De Gaulle. See previous pages 1 and 2. Thank you Andrew for your fascinating talk.

Sheila Briffa talked about our last FATS field trip at Smiths Lake – her first trip, where they saw 10 frogs species, 24 birds, 5 mammals 7 reptiles and 2 molluscs species. She showed us some great slides and talked about the animals they saw and heard including at Seal Rocks where turtles and a stingray were sighted. The slides and talk covered hearing about a powerful owl, a recently rescued Crucifix Toad *Notaden bennetti* "Felix" needing extra care, a recently described Northern Leaf-Tailed Gecko *Saltuarius moritzi* (possibly) in a quarry, ground and tree frogs from Sugarloaf Creek and Wallingat National Park, the hard to find Red-backed Toadlets, Striped March Frogs, *Litoria fallax*, *Lt. revelata* who were everywhere, *Lt. jervisiensis* Jervis Bay Tree Frogs that smell like curry powder, Whistling Tree Frogs and a 40cm long Eastern Small-eyed snake. Thanks Sheila - lovely slides and excellent presentation.

Grant Webster spoke about frogging a few months after the snow had melted in Canada, Lake Superior the biggest fresh water lake in the world, Mink Mountain and Mission Marsh Thunder Bay, Ontario, Duluth, Minnesota and Minneapolis. It doesn't get dark until 10pm. The presence of bears, deers and wolves kept Grant watchful. Frogs slides and talk included Gray Tree Frog *Hyla versicolor, Rana clamitans* The Green Frog, *Bufo americanus* the American Toad, *Rana pipiens* Northern Leopard Frogs, a trapped Common Garter Snake *Thamnophis sirtalis* that Grant was able to free, tiny loud Spring Peepers *Pseudacris crucifer,* Wood Frogs *Rana sylvatica* and the Mink Frog *Rana septentrionalis.* Great slides, presentation and call imitations Grant, thank you.

Arthur White spoke about the four remaining unique native frog species of New Zealand and the threats such as mining facing them - *Leiopelma*: Hochstetter's Frog *hochstetteri,* Archey's Frog *archeyi,* Hamilton's Frog *hamiltoni* and Maud Island Frog *pakeka* .

Extinct are Aurora Frog *auroraensis,* Markham's Frog *markhami* and Waitomo Frog *waitomoensis*. One species in trouble is Archey's frog from the *Leiopelmatidae* family. Most New Zealanders have never seen their native frogs, whereas they have seen introduced species such as the Green and Golden Bell Frog. The Acclimatisation Society tragically introduced exotic animals and plants from around the world into NZ. They thought that the local fauna and flora was deficient. In some instances the effects of introducing non native species, were disastrous, such as the events leading to the dispersal of chytrid within the native frog habitats of NZ.

Mining threat to 'living fossil' frog By Eloise Gibson nzherald.co.nz 25/5/2010

London Zoo is urging people to help Archey's frogs by opposing NZ mining plans. Mining in the Coromandel could push the world's most endangered species of frog to extinction, experts at Auckland Zoo have warned. Zookeepers say they tried without success for six years to breed Archey's frog in captivity, so there is no back-up population if the amphibians die out.

At 37mm long, Archey's frogs are the smallest of New Zealand's four remaining native frogs and are said to be almost identical to frogs that lived with the dinosaurs 150 million years ago. Their one remaining stronghold is the moist, misty areas of the Coromandel Peninsula. They also live in a smaller site west of Te Kuiti.

SNIP The Zoological Society of London website described Archey's frogs as a "living fossil" and the "most evolutionarily distinct and globally endangered amphibian on the planet. http://www.allvoices .com/news/5905231 - zoo- mining-threat-to-living-fossil-frog **FATS encouraged members and all frog friends to protest. On 20/7/2010 the NZ Govt. stated that No land will be removed from Schedule 4. Thanks to all those who forwarded their concern.**

George Madani displayed some fabulous slides and spoke to us about the various terrains and habits of local frogs, turtles, snakes and other animals from the Kimberleys. Loads of questions from the floor kept us entertained. Thanks George. The meeting ended with a guessing competition, supper and conversation. **MW**

CARTOON ON FRONT PAGE

If the frog is on top of the ladder the weather will be fine (nice Summer). If it is at the bottom of the ladder then 3 months of rain during Summer. What Aussies call the weatherman, Germans call Wetterfösche - weather frogs. The cartoon is from the German Newspaper Rheinische Post from Wednesday 03 Feb. 2010 and the cartoonist is Nik Ebert. It was sent by Andre Rank's brother, after all of Europe froze over this year. Australia had a heatwave here during that time. **MW**

FIELD OF MARS

Graham Weule works with Judy Harrington in Birds Australia on EagleCAM. He walks in Field of Mars and Sugarloaf Point, Lane Cove National Park. On Sugarloaf Point track there is a little rockpool which he enjoys - a watering hole for the birds, when it has water in it. There have been many Striped Marsh tadpoles *Limnodynastes peronii* in it of late with the rain - and he has heard frogs around there after dark.

FATS AGM NEXT MEETING 6 / 8 / 2010

It is time to consider joining our FATS committee. Don't be shy. No experience required! FATS Annual General Meeting will be held at 7pm Friday 6th August 2010 at the Field Studies Centre, Bicentennial Park. Feel free to contact any of the current committee members (see page 11) to discuss being nominated and what would be required of you. We have vacant positions. What about an assistant role or general committee member? We look forward to your fresh ideas and strategies. **MW**

GEORGE MADANI CAMEL TREKKING

George Madani was interviewed by ABC about his recent camel trek. http://www.abc.net.au/rural/qld/content/2010/07/s2955873.htm

FATS THIRD FROG - O – GRAPHIC COMPETITION

The FATS committee are now accepting entries for our Frog – O - Graphic competition. Entries must be your original work, not photo enhanced and unpublished (except for FrogCall). Limited to 6 entries per person. Please indentify your age if under 18, title (Mrs/ Ms / Miss / Mr etc), name, address, phone and mobile contact details.

Entries should be emailed to **Arthur White 1arthur@tpg.com.au** no later than 1st October 2010. Winning entries may be featured in FrogCall, our web site or other FATS publications. Winners of the froggie images, do-dahs, artwork or drawings will be announced at the December FATS meeting. No correspondence will be entered into, following the judges' decision.

Categories:-

1 a Best frog image (all ages)
b Best frog image (under 16 yrs old)

2 a Best frog artwork ie drawing, sculpture, cartoon or painting (all ages)
b Best frog artwork (under 16)

3 a Most interesting image (all ages)
b Most interesting image (under 16)

4 A "people's choice" award will be judged at the December meeting of FATS. (open to all ages)

Are there prizes? Yes fabulous ones.

The FATS Committee

THE AUSTRALIAN REPTILE PARK, SOMERSBY

Will hold its Interclub Christmas Party on 5th December 2010 from about 10am to 3pm.

This once a year get-together of the herpetological societies is an event not to be missed. John Weigel is likely to be Santa again and a big croc gets a Christmas treat. Us mere mortals may get a behind the scenes tour. Free entry to FATS members. Please take your current FATS membership card as proof of membership. **MW**

some Frog-friendly native plants for ponds and bog gardens

Sydney region

From creeping floaters to tall swayers

Swamp Lily - *Ottelia ovalifolia*

- Submerged plant with floating leaves found in slow moving streams and dams.
- Broad leaved plant with beautiful white flowers held just above water surface, grows in full sun or partial shade, in shallow to moderately deep water.
- Suitable for pond.
- May provide good cover for tadpoles.

Water Snowflake - *Nymphoides indica*

- Submerged plant with large floating leaves, found in stationary and slow moving water.
- Round-leaved plant with white fringed star flowers, suitable for full sun in shallow to moderately deep water.
- Suitable for pond.
- Attracts small insects.

Water Primrose - *Ludwigia peploides subspecies montevidensis*

- Yellow flowering herb with creeping or floating stems in ponds and slow flowing streams.
- Flowers best in full sun and shallow water, grows as a low, bushy shrub to 50cm in moist soils.
- Suitable for pond and bog.
- Attracts seed-eating birds.
- Very similar to declared Noxious Weed, *Ludwigia peruviana*, a serious problem around Sydney.

Water Ribbons - *Triglochin microtuberosum*

- Clumping aquatic herb, with fleshy, strap-like leaves along creeks and in permanently wet areas.
- Attractive, glossy water plant for full or partial shade in permanent water; leaves floating or erect, 50cm or more.
- Suitable for ponds.
- Leaves, seeds and tubers are eaten by waterbirds, attracts butterflies and other insects and provides fish habitat. Tubers are edible by humans.

Native Violet - *Viola hederacea*

- Creeping, round-leaved herb forming carpets in moist shady places.
- Hardy groundcover with attractive purple and white flowers, useful for underplanting in moist shady areas.
- Suitable for bog areas.
- Provides shelter for small skinks and possibly small frogs.
- Butterfly food plant.

Native Pennywort - *Hydrocotyle peduncularis*

- Creeping herb with lobed leaves common in sheltered marshy areas.
- Hardy, vigorous groundcover suitable for shady areas. Won't tolerate pedestrian traffic.
- Suitable for bog.
- Not easily confused with the exotic weed Kurnell Curse, *Hydrocotyle bonariensis*.

Native Arthritis Plant - *Centella asiatica*

- Creeping herb with rounded leaves common in marshy sheltered places.
- Hardy groundcover useful for underplanting amongst taller plants in damp areas. May withstand some drying out as well as inundation for short periods.
- Suitable for bog

Swamp Goodenia - *Goodenia paniculata*

- Spreading tufted groundcover to 30cm with yellow flowers, common in marshy meadows and wet heaths.
- Prefers moist sunny areas, but will tolerate some shade and is drought tolerant. Good in pots.
- Suitable for bog.
- Attracts butterflies, native bees and small insects which provide food for frogs.

Knobby Club-Rush - *Isolepis nodosa*

- Erect grass-like sedge to 70cm, with distinctive spherical flower heads, common in moist soil near the sea.
- Prefers full sun and moist soils yet tolerates drought and shade. Grows well in pots. Very hardy.
- Suitable for bog.
- Good for small ground frogs when planted in clumps.
- Attracts native bees.
- Spreads easily by seed in moist places.

Mat Rush - *Lomandra longifolia*

- Clumping, grass-like herb to 70cm, with sharpened leaf tips. Common in many habitats, in sun or shade.
- Hardy sedge for exposed and coastal gardens on any soil.
- Suitable for bog.
- Excellent habitat for small frogs
- Attracts seed and insect-eating birds and butterflies, provides shelter and nesting sites for birds and is a wombat food plant.

Tall Sedge - *Carex appressa*

- Grass-like sedge to 1m with spiralling flower-heads, common along creeks and in wet areas.
- Hardy attractive sedge in full sun to full shade, prefers moist soil but is fairly drought tolerant.
- Suitable for pond and bog.
- Provides good shelter for small frogs.
- Attracts butterflies and is a wombat food plant.

Tassel Sedge - *Carex fascicularis*

- Strap-leaved clumping plant with pendant clusters of bright green tassels, found in wetland margins and swampy areas
- Hardy, attactive sedge 1m x 1m, for sunny position or shade, may be drought tolerant but prefers regular water.
- Suitable for pond and bog
- Butterfly food plant

Knotweed - *Persicaria decipiens*

- Very common, dense groundcover herb to 1m, with striking pink, pendulous flowerheads. Found in marshes and beside creeks.
- Suits moist position in sun or semi-shade. May be drought tolerant.
- Suitable for bog.
- Provides good cover for ground frogs.
- Attracts seed-eating birds such as finches.

Knotweed - *Persicaria strigosa*

- Common dense groundcover herb to 1m, with striking white flowerheads. Found in marshes and beside creeks.
- Suits moist or submerged position, in sun or semi-shade.
- Suitable for bog and pond.
- Provides good cover for frogs such as Striped Marsh Frog and Peron's Tree Frog.
- Likely to attract seed-eating birds.

Common Rush - *Juncus usitatus*

- Clumping rush with cylindrical leaves, found in moist to wet soils.
- A graceful arching plant to 1m tall, grows in full sun to partial shade.
- Suitable for bog.
- Provides shelter for small frogs when planted closely in groups.
- Provides seed and shelter for small birds and is a butterfly food plant.

Yellow Marsh Flower - *Villarsia exaltata*

- Broad, fleshy leaved herb found in fresh water marshes in coastal districts.
- Clumping perennial plant with prominent yellow flowers, held on stems up to 1m tall, for full sun or partial shade in wet or waterlogged areas.
- Suitable for bog and pond.
- Leaves eaten by herbivores such as Swamp Wallabies.

Water Plantain - *Alisma plantago-aquatica*

- Broad-leaved herb, with tall flower stems to 1m during summer, found in creeks and ponds.
- Full sun or partial shade, may become dormant in very hot weather and die back in winter.
- Suitable for pond or bog.
- Fruits and leaves eaten by wildlife.
- Spreads very easily from seed.
- Resembles some weedy species such as Arum Lily, *Zantedeschia aethiopica*.

Tassel Rush - *Baloskion tetraphyllum subspecies meiostachyum*

- Distinctive, bright green, feathery-looking rush found along creeks and peaty wetlands.
- Hardy, tall, decorative plant to1.2m, for full sun to shade in moist soils or shallow water.
- Suitable for bog and shallow pond.
- Used by Jervis Bay Tree Frog.
- Provides seed for birds and attracts butterflies.
- Formerly *Restio tetraphyllus ssp. meiostachyus*

Swamp Hibiscus - *Hibiscus diversifolius*

- Shrub 1.5m x 1m with large yellow flowers and prickly stems growing in low swampy coastal areas.
- Keeps well in a pot in full sun or semi-shade, prefers wet to waterlogged position, but may be drought tolerant
- Suitable for bog and pond.
- Provides perches for medium-sized tree frogs.

Woolly Frogmouth - *Philydrum lanuginosum*

- Tufted succulent herb to 1.5m, with showy yellow flowers, fairly common in swamps and pond edges.
- Full sun or shade in moist or wet soil in a warm position, may be drought tender, flowers opening over a period of several weeks.
- Suitable for bog and pond.
- Provides food and cover for birds and other animals.

Jointed Twig Rush - *Baumea articulata*

- Clumping sedge with dark green, cylindrical leaves found in fresh water swamps and waterways.
- Attractive water plant with graceful, weeping flower heads growing to 2m in full sun in deeper water.
- Suitable for pond.
- Provides shelter for frogs when planted closely in groups.
- Provides seed and shelter for waterbirds and may attract butterflies.

Common Reed - *Phragmites australis*

- Tall, erect grass to 2m, with handsome, feathery flowerheads forming dense stands in marshy ground in fresh or brackish water. Common throughout Australia.
- Suits sunny or semi-shaded position. Fast spreading so may require containment in pots.
- Suitable for bog and pond.
- Provides habitat for birds and insects such as butterflies. New shoots are edible.
- May be confused with the exotic weed Giant Reed, *Arundo donax*.

Red-Fruited Saw Sedge - *Gahnia sieberiana*

- Tall, arching, sharp-leaved sedge to 2m, with dark brown, feathery flowerheads, found in dense thickets on marshy, sandy soils.
- Grows well in moist soils and tolerates waterlogging, full sun or shade, grows well in pots.
- Suitable for bog.
- Provides excellent shelter sites for small tree frogs.
- Attracts seed-eating birds and butterflies.

Tall Spike-Rush - *Elaeocharis sphacelata*

- Large rush to 2m with round, hollow leaves, found in standing water.
- Spreading, tall perennial with pale green stems and attractive flower spikes for full sun and partial shade, preferably in deeper water.
- Suitable for bog and pond.
- A good basking plant for all green tree frogs.
- A major habitat plant, providing shelter, nest sites and food for waterfowl and other wildlife.

These native plants can be used to create attractive frog habitat in ponds and bog gardens. Contact your local indigenous and specialist native plant nurseries to find out about their availability.

For information about froggy matters contact:

The Frog and Tadpole Study (FATS) Group of NSW Inc.

Post: PO Box 296 Rockdale NSW, 2216
Email: fatsgroupnsw@hotmail.com
Website: www.fats.org.au

Compiled by Danie Ondinea 2000, updated 2007 using information provided by Dr Arthur White, and the following 2 books:

Robinson, L. (2003) Field Guide to the Native Plants of Sydney (Revised 3rd edition) Kangaroo Press Pty Ltd. NSW.

Sainty, G.R. and Jacobs, S.W.L. (2003) Waterplants in Australia - A Field Guide (expanded 4th edition) Sainty & Associates, NSW.

NEW BOOKS ON AMPHIBIANS FROM HERPDIGEST

ECOLOGICAL AND ENVIRONMENTAL PHYSIOLOGY OF AMPHIBIANS Stan Hillman, Philip Withers, Robert Drewes and Stan Hillyard 464 pages; 105 line, 55 halftone illustrations; 6-1/2 x 9-1/4; softcover. Price: $65.00 USA Plus $7.50 for S&H Reviews "This book is full with detailed information that should make it a key reference for amphibian biologists."--The Quarterly Review of Biology

EXTINCTION IN OUR TIMES-GLOBAL AMPHIBIAN DECLINE James P. Collins and Martha L. Crump Foreword by Thomas E. Lovejoy III 304 pages; 25 halftone and 3 line illus.; 6-1/8 x 9-1/4 Hardback, 304 pages, 25 halftone and 3 line illus.; 6-1/8 x 9-1/4 Jun 2009, In Stock Price: $29.95 USA , Plus $7.50 for S&H. Review "Extinction in Our Times sets out the key events that led to a realisation that amphibian declines were not only real, but were also occurring globally. It is a valuable and well-considered addition to the arsenal of evidence that we need to execute a rapid response to this accelerating catastrophe."-- PLoS Biology

AMPHIBIAN ECOLOGY AND CONSERVATION: A HANDBOOK OF TECHNIQUES (Paperback) by C. Kenneth Dodd Jr. (Editor) 556 pages, USA, Oxford Univ. Press. Available. $59.95 USA plus $7.50 S&H, By editor Kenneth Dodd Table of Contents Available, Chapter one available, free at http://fds.oup.com/www.oup.com/pdf/13/9780199541188_chapter1.pdf

THE FROGS AND TOADS OF NORTH AMERICA is an amazing book. It contains: A CD of all 101 species found in US & Canada./Almost 400 great color photos 101 color location maps /In just 344 pages. Books this comprehensive usually go for at least $50.00.to &75.00. Or just $19.95 for the CD. But the publisher is offering it JUST FOR $19.95 USA Plus 7.50 S&H

MALFORMED FROGS: THE COLLAPSE OF AQUATIC ECOSYSTEMS By Michael Lannoo Released September 2008. Hardcover- Original Price $65.00, Now $30.00 plus $7.50 S&H. (One Left) 288 pages, 6 x 9 inches, 6 color illustrations, 76 b/w photographs, 14 line illustrations, 9 tables, University of California Press. How we got here and its immediate repercussions.

Australians: EMAIL HerpDigest FIRST FOR SHIPPING COSTS. asalzberg@herpdigest.org.

GREEN AND GOLDEN BELL FROGS STOPPING AUSTRALIA MOWING ITS LAWN

Numbers of green and golden bell frogs have exploded in the Brundee Swamp, near Nowra. Picture: Craig Greenhill / *The Daily Telegraph* *Source:* The Daily Telegraph FIRST they stopped the Olympics, then they stalled the V8s - now green and golden bell frogs are stopping an Australian institution: Mowing the lawn.

A population explosion of the endangered frog in Worrigee, near Nowra, in NSW, has forced local council workers to stop digging, cleaning drains or slashing grass. "Much of our routine maintenance will be put on hold until the frogs go to hibernation in the winter months," Shoalhaven City Mayor Paul Green said. "The frogs, although endangered, do have explosive growth events when the conditions are just right. We have not witnessed one of these events for more than 20 years."

The little hoppers' nursery is Brundee Swamp, and for the first time thousands of froglets have been forced out in search of food, hopping across to the Worrigee Equestrian Common where horses train, and even across roads to nearby housing estates.

Horses and trailers were cordoned off with "danger" tape at the weekend, with signs forbidding people to tread in the frog nursery where they sun themselves. Worrigee Equestrian Common secretary John Saville, who mows the commons, said he had never seen the population so big. "I'm taking the lawn mower in for a service because I can't do anything else with it," Mr Saville said yesterday.

The entire floodplain east of Nowra was hopping, Shoalhaven City Council environmental planner Elizabeth Dixon said, a welcome boost to a frog species thought to number only between 10,000 to 50,000. Ms Dixon called in an emergency ecologist to design a plan to protect the rare species, who recommended council workers be taught to identify the frogs and to stop work if it would harm their breeding habitat. "They have taken it seriously. Instead of complaints of frogs being squashed, people are impressed," Ms Dixon said. "We would hope that it would be enough for this species to carry on here for the next five years. If people do mow their lawns, they should do it in the afternoon when it is no longer damp, and check there are no frogs in the area - but mowing the lawn can wait."

Ms Dixon is now drawing up a long-term management plan to cater for the frogs in the future because climate change promises more rain events and hotter months.

Environment Department threatened species officer and frog expert Dr David Hunter said Shoalhaven had reported the biggest population boom in NSW after perfect breeding weather, with rain over Christmas and a warm February.

Brought to FATS attention by Lothar Voigt http://www.heraldsun.com.au/news/national/green-and-golden-bell-frogs-stopping-australia-mowing-its-lawn/story-e6frf7l6-1225861778864 Vicki Campion The Daily Telegraph 3 May 2010

UNUSUAL MEAT EATING BEHAVIOUR RECORDED IN WATER VOLES

Ratty gets a taste for fine French food. Waterways' ecologists have discovered some unusual feeding habits of the normally herbivorous water vole after finding evidence of them eating a well known French delicacy - frogs' legs.

The water vole is the UK's fastest declining mammal and is known to have a largely vegetarian diet consisting of grass and plants. But a recent survey along the Kennet & Avon Canal in Berkshire has revealed that these shy creatures have been snacking on frogs' legs, as well as the odd snail.

UNLIKELY MEAT-EATER: The water vole

Unexpectedly gruesome scene. British Waterways' ecologists Robert Randall and Oda Dijksterhuis carried out the surveys. Robert explains: 'We found a number of typical water-vole feeding areas that were littered with dead frogs, minus their legs. As a water vole's diet is normally vegetarian, this rather gruesome scene isn't what we'd expect to find at all.'

Although there was no firm explanation for the change in diet, the ecologists do have a theory. Robert added: 'We're not really sure why it's happening, but as the evidence coincides with the water voles' breeding season we think it may be that pregnant mothers are snacking on frogs' legs because they lack protein in their diet.

Incredibly unusual behaviour 'This is incredibly unusual behaviour and as far as we know this is the first recorded evidence we have of them eating frogs' legs, so it's a really exciting discovery. We'll be keeping an eye on what happens next over the coming months.'

Meanwhile, British Waterways are continuing to see monitor wildlife. If you see a water vole, frog or any other wildlife on your local canal or river, British Waterways wants to hear about it. Just make a note of what you see and where, and log your sighting at **www.waterscape.com/wildlifesurvey. Wildlife Extra News May 2010.**

Photo by George Madani

FLOOD OF FROGS SHUTS DOWN MAJOR GREEK HIGHWAY

Greek officials say a horde of frogs has forced the closure of a key northern highway for two hours. Thessaloniki traffic police chief Giorgos Thanoglou said "millions" of the amphibians covered the tarmac today near the town of Langadas, some 19km east of Thessaloniki. "There was a carpet of frogs," he said. Authorities closed the highway after three car drivers skidded off the road trying to dodge the frogs. No human injuries were reported. Chief Thanoglou said the amphibians probably left a nearby lake to look for food.

http://www.theaustralian.com.au/news/breaking-news/flood-of-frogs-shuts-down-major-greek-highway/story-fn3dxity-1225871879457 Thessaloniki 27/5/2010 sent to FrogCall by Andrew Nelson

NEW FROG SPECIES IDENTIFIED

New frog species found in the Flinders Ranges (Kaya Klop-Toker) Here it is - the new frog species discovered in the Flinders Ranges of outback South Australia this month. The new Litoria species is tiny and can easily blend with its dusty, rocky surroundings. Frog expert Mike Tyler says as soon as he was shown four specimens, he knew they were special. Professor Tyler says the frog's markings distinguish it from other species living in waterholes of SA's north-east. "Perhaps an inch on the old scale. It is pale brown in colour, it has little discs on its fingers so that it can climb," he said. "Its back is freckled, it has these little little markings on it which is a feature which is unique to it and something that tells me that this is quite distinct from anything else." It is the first frog species found in SA in almost half a century. **17/6/2010 Sent to FrogCall by Andrew Nelson http://www.abc.net.au/news/stories/2010/06/17/2929109.htm?section=justin**

HOW TO WHIP UP THE PERFECT FROTHY FROG 'MERINGUE' NEST

Frothy frog 'meringue' nest feat caught on camera Scientists have revealed how frogs perform the architectural feat of building floating foam nests. These meringue-like structures, which help the amphibians protect their young, are renowned for their stability under the harshest of conditions.

Now, by filming Tungara frogs, researchers have found that they are built using a meticulously timed, three-stage construction process. The research is published in the Royal Society's journal Biology Letters.

The team says that knowing more about how the foam is created could help scientists create "bio-foams" for use in medical applications, such as treating injuries at the scenes of accidents.

Floating fortresses

Tungara frogs, like many frogs species, create foam nests to protect their young as they mature from eggs to tadpoles. But while these floating refuges look delicate, as if they could collapse into the pond they sit upon at any moment, they are in fact remarkably sturdy.

The nests are surprisingly tough despite their delicate appearance

Malcolm Kennedy, an author of the paper, from the University of Glasgow, said: "These are exposed to full sunlight, high temperatures, all kinds of infections, including parasitic ones, and yet they survive for four days without any damage, until the tadpoles leave - or if there aren't any eggs, they'll last for two weeks. "And unlike other foams, they do not damage the membranes of eggs and sperm. They are a remarkable biological material. "But until now, we did not now quite how the frogs used these material and made the foams."

To find out more, the research team went to Trinidad in the West Indies to train their cameras on amorous pairs of Tungara frogs (*Engystomops pustulous*).

The Tungara frogs were caught on camera in Trinidad

By studying the footage, frame by frame, the researchers found that the small brown amphibians whipped up their nests in several phases.

Professor Kennedy explained: "In order to begin, the male sits on the back of the female, and puts his legs underneath her legs, to collect a foam-precursor fluid." The male frog then begins to whip this up, mixing in air bubbles by vigorously kicking his legs. He does this in short bursts, gradually increasing this "mixing" duration each time. "This overcomes some of the biophysical problems; if he mixes for too long in the beginning, then this would disperse the fluid and it wouldn't make a foam at all," said Professor Kennedy.

Like clockwork

In this first phase, this frothy bubble raft contains no eggs. But as the male moves on to stage two of construction, he gradually begins to blend in eggs, provided by the female, who is all the while sitting beneath him. He carefully manoeuvres the eggs into the centre of the foam.

> **“This material is resistant to bacterial and microbial damage”**
>
> **Professor Kennedy**

As the male does this, the length of time that he spends mixing and resting remains exactly the same. Professor Kennedy says: "They do this about 200 times - they are a bit like clockwork at this stage. "Eventually they build this 'meringue'." Finally, in the "termination stage", the frog starts to slow down; the period between each mixing session gradually increases until finally the nest is complete. The team believes that understanding this nest building process could help us to create a similar foam in the laboratory. Professor Kennedy said: "This material is resistant to bacterial and microbial damage - and if you could make a spray can that could produce this, it could potentially be used on burn victims, for example, because it would prevent them from infection, but it doesn't damage cells."

http://news.bbc.co.uk:80/2/hi/science/nature/8481102.stm Sent to FrogCall by Andrew Nelson story by Rebecca Morelle Science reporter, BBC News

Thank you to the many FrogCall contributors. Your articles, photos, media clippings, webpage uploads, membership administration, mail-out inserts and envelope preparation, is greatly appreciated. Special thanks to regular newsletter supporters, including Lothar Voigt, Steve Weir, Robert Wall, George Madani Karen and Arthur White, Wendy and Phillip Grimm, Brad and Matt McCaffery, Grant Webster, Marion Anstis, Punia Jeffery, Fiorella, Andrew & David Nelson and Al MacDougall.

Magnificent Tree Frogs – Photo Jake Janos

NATIONAL THREATENED SPECIES DAY 7th SEPT

For the past two years, Save The Bilby Fund has arranged a wonderful city street display to commemorate National Threatened Species Day - the day that the last Tasmanian Tiger perished - making the species extinct. Sadly, on a national level, NTSD has lost prominence and lacks government support. In support of his mission, environmental and conservation groups plus major Queensland Zoos and wildlife parks have joined forces. Live animal and informative exhibits are to be displayed by groups including Save The Koala, Currumbin Bird Sanctuary, Dreamworld, Australia Zoo, and many more. Date: **National Threatened Species Day - Tuesday - 7 September 2010** Sydney Location: **First Fleet Park, The Rocks. Next to the Museum of Contemporary Art and Across from Circular Quay.** Time: Exhibiting from 9am - 2pm
Regards, **Joanne Johnstone**
savethebilby@enviro-print.com.au

INSURANCE DISCLAIMER FATS has public liability insurance for its various public functions. Members should be aware that this insurance does not cover FATS members, it covers the public and indemnifies FATS. We are currently checking with insurance firms to see whether a realistic group policy can be organised to cover FATS volunteers and people who attend field trips. **FATS MEETINGS** commence at about 6.30 pm, end about 10pm and are usually held on the **first Friday of every EVEN month February, April, June, August, October and December (but never Good Friday) at the Education Center / Field Studies Centre, Bicentennial Park, Sydney Olympic Park, Homebush Bay.** Call or email us for further directions. Easy walk from Concord West railway station and straight down Victoria Ave. Take a strong torch in Winter. By car: Enter from Australia Ave at the Bicentennial Park entrance and drive through the park (one way road) or enter from Bennelong Rd/Parkway. It's a short stretch of 2 way road and park in p10f car park (the last car park before the exit gate). Turn off to the right if entering from the main entrance. We hold 6 informative, informal, topical and practical meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, other field studies, 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. Material from FROGCALL MAY NOT BE REPRODUCED without the prior consent of the Editor or President of FATS. Permission from FATS and/or author/s must be obtained prior to any commercial use of material. The author/s and sources must be fully acknowledged.

FROGWATCH HELPLINE 0419 249 728

FATS CONTACTS		phone	email
Arthur White	President	ph/fax (02) 9599 1161 h	1arthur@tpg.com.au
Marion Anstis	Vice President	(02) 9456 1698 h	frogpole@tpg.com.au
Wendy Grimm	Secretary	(02) 9144 5600 h	wagrimm@tpg.com.au
vacant	Assistant secretary		
Punia Jeffery	Chairperson	(02) 9969 1932 h	puniajeffery@yahoo.com.au
Karen White	Treasurer	ph/fax (02) 9599 1161 h	1arthur@tpg.com.au
Andrew Nelson	Membership Officer	(02) 9411 6068 h	awnelson@optushome.com.au
Robert Wall	Field Trips Coordinator	(02) 9681 5308 h	rjw2008@live.com.au
Brad McCaffery	Field trip assistant	(02) 9876-1976 h	froggydarb@exemail.com.au
Matthew McCaffery	Field trip assistant	(02) 9876-1976 h	
Grant Webster	Field trip assistant	(02) 9876 5807 h mob. 0411 741 869	tnarg_w@hotmail.com
vacant	Publicity / Exhibition Officer and assistant		
Alistair MacDougall	Web Master	0411 277 070 mob.	al@alphoto.com.au
David Nelson	Assistant Web Master	(02) 9411 6068 h	davidavid@optushome.com.au
Phillip Grimm	Committee Member	(02) 9144 5600 h	phigrimm@tpg.com.au
Lothar Voigt	Committee Member	(02) 9371 9129 h	lothar@virginbroadband.com.au
Andre Rank	Committee Member		wylee_ec@hotmail.com
Vacant	2 Editorial Assistants		
Monica Wangmann	Editor	(02) 9797 6543 h 0418 992 766	wangmann@tig.com.au

Please send articles for the FrogCall newsletter to 38 Albert Pde Ashfield NSW 2131

FIELD TRIPS

***Please book your place on field-trips*; due to strong demand, numbers are limited (ph. 9681-5308).**
Be sure to leave a contact number. Regardless of prevailing weather conditions, we will continue to schedule and advertise all monthly field-trips as planned. It is <u>YOUR</u> responsibility to re-confirm, in the final days, whether the field-trip is proceeding or has been cancelled. Phone Robert on ph. 9681-5308.

4th September. 9 a.m. Featherdale Wildlife Park. Leader : Peter Spradbrow.
Meet near the ticket office entrance at Featherdale, 217 Kildare Rd, Doonside.
In any discussion on Australian wildlife, it is often said that Australia has a high level of *endemism.* An *endemic* species is one that occurs naturally in a region while not occurring anywhere else. This is somewhat different to a species that is said to be indigenous or native to an area. An indigenous species may occur naturally to the area but may also occur elsewhere. Today we will look at some of Australia's *endemic* species. Featherdale has a stunning selection of endemic Australian wildlife, many of which can be viewed at much closer quarters than at the larger zoos. We will consider some distribution and biogeographical aspects of our wildlife and discuss the reasons why many of our frogs are *endemic* to Australia. Peter is the Educational Program Co-ordinator at this facility and will be on hand to answer any questions and to show us around the displays. He may even bring out some of Featherdale's more interesting residents! Bookings are not required for this field trip. Discounted admission prices are: Adults $15-60; Children $10-60.

15th -17th October. Smiths Lake Camp-Out. Leaders: Arthur & Karen White.
Scientific names are generally said to be in Latin. Latin was used because early taxonomists were classical scholars and Latin was the preferred language for academia. It possessed a clarity and elegance few other languages could equal. Gradually, names included a mix of Latin and classical Greek. More recently, authorities have included 'latinised' names of people and places (*fletcheri, barringtonensis*) as well as including even obscure languages such as swahili, inuit and local aboriginal phrases. Many feel that 'Latin' names are difficult, however we sometimes forget that famous scientific names like *Tyrannosaurus rex, Boa constrictor, Eucalyptus* and *Rhododendron* have easily slipped into popular culture. This weekend, examining some local frogs, we will look at the many and varied sources of scientific names. Arthur and Karen share a familiarity with both Latin names and Smiths Lake. Their many years of study around this area and their intimate knowledge of the species here are a guarantee for a fun-filled and interesting weekend. A **non-refundable** fee of $14-00 p.p per night applies. Dormitory-style cabins or campsites available. There is a commercial kitchen and all crockery and cutlery supplied. Hot showers. Phone Arthur and Karen directly on 9599-1161 for bookings and further details.

In the event of uncertain frogging conditions (e.g. prolonged / severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 9681-5308. Remember ! - rain is generally ideal for frogging ! Children must be accompanied by an adult. Bring enclosed shoes that can get wet (gumboots are preferable), torch, warm clothing and raincoat. Please be judicious with the use of insect repellent - frogs are very sensitive to chemicals ! Please observe all directions that the leader may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience – parents are asked to help ensure that the leader is able to conduct the trip to everyone's satisfaction. All field trips are strictly for members only - newcomers are however, welcome to take out membership before the commencement of the field-trip. All participants accept that there is some inherent risk associated with outdoor fieldtrips and by attending agree to; a release of all claims, a waiver of liability and an assumption of risk.

FATS meet at the Field Studies Centre Bicentennial Park