

Frogs and toads (including tadpoles)



Varietal range difference

There are five quite different families of frogs:

- Tree frogs (family *Hylidae*)
- Southern frogs: ground dwelling (family *Myobatrachidae*)
- Narrow mouthed frogs (family *Microhylidae*)
- True frogs (family *Ranidae*)
- True toads (family *Bufo*)

Approval has been given from Department of Environment and Climate Change for schools to collect up to 20 tadpoles from the same source. When two tadpoles have metamorphosed into frogs, they should be returned, with the remaining tadpoles, to the place from where they were initially collected. If the environment conditions are not suitable for the species being kept, the tadpoles may never metamorphose into frogs.

When school holidays are due, schools holding tadpoles must make suitable provisions for daily monitoring during these periods. If daily monitoring is not available, then all the tadpoles should be returned to the place from where they were originally collected.

If, after six months, the tadpoles have still not metamorphosed into frogs, the tadpoles should be returned to the place from where they were initially collected.

Equipment

The following is required:

- plastic tub or aquarium. A plastic tub is safer for cleaning.
- smooth piece of wood angled into tub for tadpoles to emerge onto as they grow legs
- dip net or aquarium net
- jug for water changes
- garbage bin to keep aged water in
- household bleach
- pump and air stone.

Setting up the environment

Fill a garbage bin with tap water. The water needs to be *aged* for 24 hours to allow the chlorine to evaporate before adding it to the aquarium.

Prepare the tub or aquarium by washing it out with a solution of one part bleach to five parts water. Rinse it thoroughly as tadpoles are very susceptible to chemicals.

Place the tub on a flat solid surface, out of direct sunlight. If an air stone is used, a power point, near and above the tank's position, is required.



Fill the tank with the previously aged water.

Tadpoles are *poikilothermic*, that is, the temperature of the environment determines their body temperature. Ensure the tub maintains a temperature range of 18–22°C.

Collecting tadpoles

Ensure that the housing is ready before collecting tadpoles.

A maximum of 20 tadpoles only can be taken from one body of water. Do not collect tadpoles from different sites as this could cause disease contamination. Tadpoles must not be collected from a National Park.

It is important that all equipment used to catch and carry tadpoles is either new or disinfected prior to use.

How to care for tadpoles

Maintaining the environment

Change 30–50% of the water daily. The easiest way to do this is to mark, on the side of the tub, a line showing 50–70 % of the water remaining in the tub. To ensure that tadpoles are not inadvertently caught in the jug, place the dip net across the mouth of the jug.

Add a bleach solution of one part bleach to five parts water to the removed water, prior to disposal. Pour the water down a toilet bowl and not on to the ground or down a sink. Refill the tank with aged water from the garbage bin then top up the garbage bin to age more water for the next day.

Feeding

Feed the tadpoles once daily. Feed only enough to be eaten within one hour. If there is food left at the end of this time, remove it and feed less the next day. Suitable food includes algae disks, fish flakes or lettuce, which has been boiled or frozen to break down the cells.

Health

Learn about what is normal behaviour for tadpoles and check them daily. Incorrect

environmental conditions and inadequate nutrition can make tadpoles sick. To keep the tadpoles healthy, maintain good water quality and feed them appropriate foods. Bacteria and fungus can also affect tadpoles. The volume of water that tadpoles have access to can affect their growth rate. Do not overcrowd the tadpoles.

Keep a daily monitoring chart. Check off daily water changes, feeding and any comments about the behaviour of the animals.

As the tadpoles develop legs, their gills recede and they are then unable to breathe under water. At this stage, the tadpoles need areas where they can sit above the water line.

Release of tadpoles and frogs

When two tadpoles have metamorphosed into frogs, they should be returned, with the remaining tadpoles, to the exact place from where they were initially collected. Transport the animals in new or disinfected containers.

Suggested resources

Web sites

Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART)

www.adelaide.edu.au/ANZCCART

Environment Australia

www.ea.gov.au/biodiversity/threatened/

Frog Census in South Australia

www.epa.sa.gov.au/frogcensus

Frog and Tadpole Study Group of NSW Inc.

www.FATS.org.au

NSW Department of Environment, Climate Change and Water

www.environment.nsw.gov.au/wildlifelicences/FrogKeepersLicence.htm

Frogs Australia

<http://frogsaustralia.net.au/>

Amphibian Research Centre

<http://frogs.org.au/>



Printed texts

Casey, K. (1995) *Attracting Frogs to your Garden*, Environbook Publishing.

Cogger, H.G. (1996) *Reptiles and Amphibians of Australia*, Reed, Australia.

NSW National Parks and Wildlife Service (2001) *Hygiene Protocol for the Control of Disease in Frogs*, NPWS, Sydney.

NSW National Parks and Wildlife Service (2001) *Helping frogs survive: a guide for frog enthusiasts*, NPWS, Sydney.

Robinson, M. (1994) *A field guide to frogs of Australia*, Reed, Australia.

CDs and tapes

David Stewart Nature Sound *Frog Calls of the Greater Sydney Basin*, (narrated by Richard Morecroft) (Australian Museum Bookshop)

David Stewart Nature Sound *Frog Calls of North Eastern NSW*, (also Bird & Mammal Calls), PO Box 1261 Atherton Qld 4883.
Email: nemarotu@om.com.au

Grigg and Barker *Frog Calls of South-Eastern Australia*, G. Grigg, Department of Zoology University of Queensland, Queensland 4072 or Australian Museum Bookshop.

Littlejohn, M. *Calls of Victorian Frogs*, Victorian Frog Group, PO Box 424, Brunswick Victoria 3056.

Contact groups

Frog and Tadpole Study Group of NSW Inc. (FATS) PO Box 296, Rockdale NSW 2216.

Email: fatsgroupnsw@hotmail.com

NSW North Coast Frog Study Group.

Email: frogcrusader@north.net.au