

ACT and Region

Frogwatch



TADPOLE KIT



Linking learning with our local environment



A project initiated by the ACT and Region Frogwatch Program as part of the Ginninderra Catchment Group, with the generous funding and support of the ACT Herpetological Association. The printing of this booklet was kindly funded by ACT Waterwatch. The ACT and Region Frogwatch Program is currently kindly assisted by the the ACT Government.

Frogwatch Tadpole Kit - Care Instructions

Published by the Ginninderra Catchment Group 2011

For further information: **ACT Frogwatch Coordinator**
Ginninderra Catchment Group
(02) 6278 3309
frogwatch@ginninderralandcare.org.au
PO Box 446, Holt, ACT, 2615
www.ginninderralandcare.org.au

Cover photographs with kind permission from L. Fucsko (www.frogs.org.au).

The Frogwatch Schools Education Kit

The Frogwatch Schools Education Kit complements this Tadpole Kit. The Education Kit provides resources and information to support frog-related activities and learning experiences in schools.

You can download a copy of the Kit from: www.ginninderralandcare.org.au or contact the Frogwatch Coordinator for more information.

A Note about License Requirements

Every state in Australia has different laws governing the keeping of tadpoles and frogs in captivity. These laws are important to ensure that our local frog populations are protected from 'over-harvesting' and to prevent the introduction of diseases into wild populations.

In the ACT it is illegal to collect frogs, tadpoles or frog spawn from the wild without a permit. The tadpoles in your kit are covered by an Education License for the Frogwatch Schools Education Program. The tadpoles are Spotted Grass Frogs (*Limnodynastes tasmaniensis*).

Schools may obtain a permit to collect frogs or tadpoles from the wild for study purposes. A condition is that the frogs must be returned to the site from where they were collected, once metamorphosis has occurred. To find out more about obtaining a license, contact: ACT Government, Territory and Municipal Services, License Enquiries: 13 22 11, or www.tams.act.gov.au/live/environment/

Congratulations!

You are now the proud carer for these fascinating tadpoles!

This care booklet is provided to ensure that your new amphibian friends are safe and happy in your care.

Please read all the instructions carefully before setting up your tadpoles' new home.

GENERAL GUIDELINES FOR TADPOLE KITS

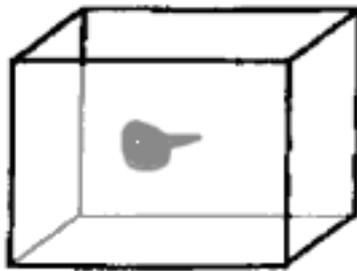
- Your school can borrow the Tadpole Kit until the end of term 4.
- Your school is responsible for adhering to the instructions for 'Caring for Tadpoles' as detailed in this booklet.
- Once metamorphosis has occurred, the school must return the Tadpole Kit (including this booklet) and the young frogs to the Ginninderra Catchment Group.
- All equipment must be returned in good condition, ready to be used by other school groups. The Frogwatch Coordinator will release the young frogs at the site from which the tadpoles were collected.

Under no circumstances should the tadpoles or young frogs be released by the school into the wild (or into the sewage system!). This is to ensure that our wild frog populations are protected from potential disease introduction and are not disrupted by artificial introductions.

Caring for Tadpoles

Information for this booklet has been based on the “Tadpole Kit step-by-step Set-up Guide!” published by the Amphibian Research Centre (www.frogs.org.au) and on information from “Raising Tadpoles” (exoticpets.about.com/od/frogsandtoads/a/tadpoles.htm)

BEFORE YOU START read these instructions carefully to ensure the safe housing and growing of our local amphibian friends.



Your Tadpole Kit contains

- Plastic tank with ventilated lid and washed gravel
- Tadpole food - spirulina flakes or disks
- 5 - 10 tadpoles (Spotted Grass - Frog *Limnodynastes tasmaniensis*)
- 1L of Starter Water containing nutrients and food culture that will start a food colony in your tank
- Native aquatic plants
- Water bucket for refilling tank
- Water conditioner
- Instruction booklet

Transporting your tadpoles

Keep tadpoles out of direct sunlight as they can easily overheat and die. If you are unable to set up the tank within a few hours of collection you need to open the bucket and zip lock bag to allow oxygen flow.

Setting Up Your Tadpole Home

Day One

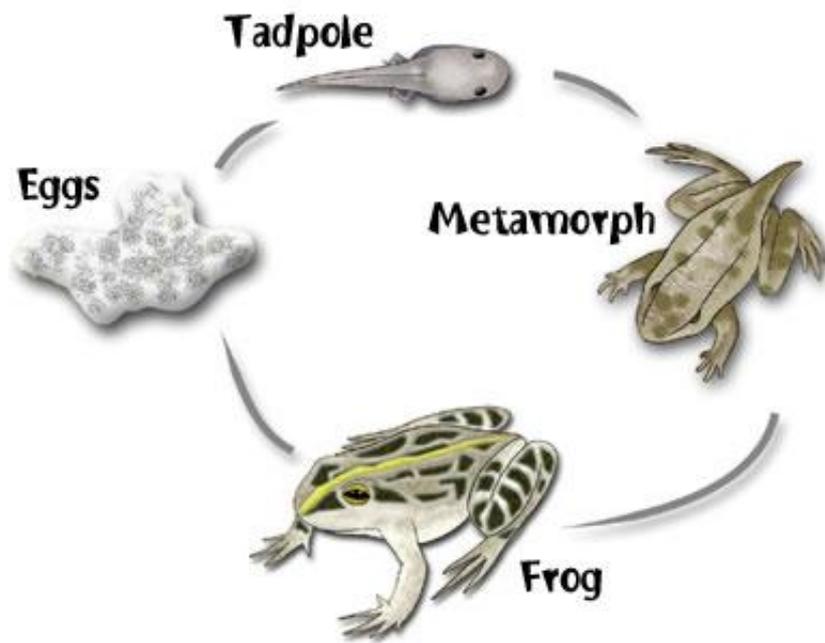
Place tank in spot where it will receive sunlight for part of the day.

SLOWLY release the 'Starter Water' and the tadpoles into the tank. Sprinkle a small amount of the food provided on top of the water. Your tank should be approximately 1/3 filled with water. Add the aquatic plants provided, as they will help with oxygenating the water and providing a place to hide (and some snacks if algae grows on the plants). As the plants slowly die, they will also provide extra food for your tadpoles.

At the same time, fill the bucket provided with 2L of tap water, add one drop of water conditioner, leave the lid off and let it stand for at least 24 hours, preferably in direct sunlight. Tap water is harmful to frogs and tadpoles. Using the water conditioner and letting the water stand uncovered overnight will allow the chlorine to evaporate, excessive amounts of oxygen to dissipate and the temperature to adjust to room temperature.

Day Two

SLOWLY add the water from the bucket to the tank, 250ml at the time. This will help the tadpoles to adjust to a change in temperature without getting a cold shock and will minimize disturbance to the set up. Feed the Tadpoles.



The lifecycle of the *Limnodynastes tasmaniensis* - Spotted Grass Frog

Image sourced from The Australia Museum Online - <http://amonline.net.au>

Keeping Your Tadpoles Happy

Changing the water - Why

A warmer environment will result in tadpoles developing into frogs quicker - room temperature is quite sufficient. However, warmer water becomes dirty more quickly, and will need to be changed more frequently. Also, tadpoles release a chemical into the water to restrict the growth of other tadpoles. This is probably done when resources are scarce so that the first frogs to exit the water will have fewer competitors and a greater chance of survival.

Changing the water - When

Give the food culture in your starter water 10 days to settle and get going. After this build-up period one third of the tank water needs to be changed weekly.

If at any time the water becomes cloudy or milky (this indicates that you are probably adding too much food), change at least half of it immediately. However, it is best to change the water before it reaches this point.

Changing the water - How

You can do this by simply removing 1/3 of the tank water using a smallish clean container (cup, ladle etc.). This way you won't lose any tadpoles down the drain!

Tadpoles eat their own faeces so it is important that their tanks are not kept too clean. The water should be changed but the faeces on the bottom of the tank should remain as a food source.

Tadpoles need water that is free from chlorine. To refill your tank, only use water that has been left to stand uncovered for at least 24 hours, ideally in direct sunlight. During this time the chlorine will evaporate, the excess air will exit the water and the temperature will adjust to room temperature. Alternatively, you can use water that has had the appropriate amount of water conditioner added and has approximately the same temperature as the tank water.

It is important to add the fresh water slowly, 250ml at the time.

Feeding - When

As a general rule, feed your tadpoles a pinch of the spirulina flakes every day. The frequency depends on how well your tadpoles are feeding. If the food doesn't disappear quickly, then it's likely that the tadpoles are not hungry. A good indicator is the colour of the water. If it becomes milky and cloudy, then there is excess food in the tank. If all food is eaten quickly, the water will be quite clear - in this case, stick to the "a pinch a day" rule.

Feeding - What

We provided you with spirulina flakes to feed the tadpoles. You can also use frozen endive or other green leafy vegetables such as lettuce. After it has been frozen break it up in your hand to make more surface area for the tadpole to graze upon. Freezing is better than boiling, as boiling causes cells to rupture and all the goodness to seep out. Freezing also breaks up the cells but keeps the nutrients in.

Tadpole development

Full development from tadpole to frog usually takes between 3 to 5 months, but can vary, depending on the water temperature and other factors such as food availability or how many tadpoles are sharing the tank. The tadpoles firstly grow their back legs and then their front legs pop out. The frog's body shape changes as well. Many other changes, such as the development of lungs and the loss of gills, changes to the digestive tract (to accommodate the change from a herbivorous to carnivorous diet), and changes to the skin occur as well. Toward the end of metamorphosis, the tail is re-absorbed. Tadpoles may eat less during the last stages of metamorphosis, particularly during the phase where the tail is re-absorbed!

What to do when our Tadpoles grows legs?

This is a great indicator that your tadpoles are extremely healthy and that they are now ready to become frogs! Tadpoles tend to prefer shallow water with rocks or smooth gravel at the bottom. As your tadpoles develop, they will need some kind of perch so they can get out of the water -- young frogs are not able to swim for long periods of time and often die of exhaustion when left in the water. To accommodate this you need to modify the tank setup as soon as your tadpoles have developed their back legs.

To modify the tank, drain about half to two-thirds of the water out of the tank, and build up a 'land' area at one side with the gravel. A partially submerged rock, a small log/branch, a gravel slope or plants can serve as a ramp. You need some rough surface that is partly submerged and partly sticking out of the water for the young froglets to climb onto. This will prevent them drowning in the water that the remaining tadpoles are using. You can also add a few leaves to the land area for the froglets to hide under.

Froglets are carnivores, meaning meat eating and you need to feed them daily. You can give them hatchling-sized crickets, which can be ordered from Reptiles Inc. (www.canberraexotics.com.au) or purchased at almost any pet shop.

Once all the froglets have absorbed most of their tails, please return them to the Ginninderra Catchment Group. The Frogwatch Coordinator will then return the froglets to the spot from which they were collected. All equipment must be returned in good condition, ready to be used by other school groups.



Chemical-free Environment

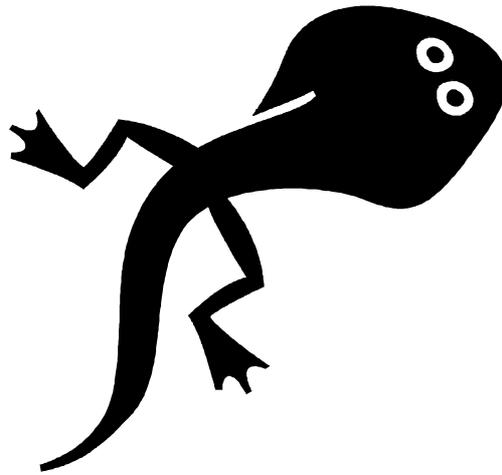
It is very important that nobody sprays or uses any chemical near the tadpole tank! Teachers, cleaning staff, students and parents need to be informed of this. Any spraying of chemicals such as aerosol deodorants, fly sprays, and cleaning products will most certainly kill all of your tadpoles.

Note: the tadpoles should not be handled, as their skin is very sensitive to the natural oils and traces of soap or chemicals on our hands. Always rinse your hands very well before doing any tank maintenance, feeding, etc.

Please copy the following signs and place near the tank.

CAUTION!

Tadpoles Growing



Please keep cleaning products, aerosols and other chemicals away from this tank.

Spraying or using chemicals near our tadpoles may make them sick!

Chemical free environment

Please no cleaning agents, aerosols, sprays
as they will harm the frogs