

# AUSTRALIAN FROGS



## notes

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Frogs have existed on Earth for nearly 200 million years and there are about 5000 known species occurring worldwide. Australia has almost 210 known frog species that are unique to this country.

Millions of years of isolation from other continents has made Australia the home of some of the most fascinating and spectacular frogs in the world. Whether it's the striking black and gold Corroboree frog from the snow-covered mountains of Mt Kosciuszko or the water holding frogs from the central Australian clay-pans, Australian frogs show amazing adaptations to almost any environment.

Frogs are amphibians. The word 'amphibian' comes from Greek words meaning double life. It describes creatures, which inhabit first water and then land, that is, having 'two lives' in their life cycle. Interestingly, this description is often inaccurate, especially for some Australian frogs, which rarely see water.

Frogs lay eggs, usually in water against reeds or

rocks where they will be hidden and protected. These eggs hatch into legless tadpoles that breathe through gills. As the tadpoles mature, they begin to grow legs as well as lungs and soon they must rise to the surface to take breaths of air. Once the front and back legs have developed and the tail shrinks, the frog can hop from the water onto dry land.

Most Australian frogs show very specialised and often spectacular adaptations. Approximately 35% of Australian frogs burrow to avoid drying out and over 25% lay their eggs on dry land. Due to the challenges of living in such a harsh environment, some Australian frogs do not spend time as a free-living tadpole but rather emerge from the egg with legs and walk to the water. Parental care is also exhibited by some Australian frogs, including the transport of tadpoles in hip pockets by the Marsupial frog and the brooding of eggs in the stomach by the two species of Gastric Brooding frogs, both now believed to be extinct.

There are some Australian frogs such as the Splendid Tree Frog, which inhabit less harsh habitats, and undergo the usual metamorphic life cycle. Splendid Tree Frogs inhabit north west, tropical regions of Australia. They are found in rock crevices, caves and also often in human buildings such as shower blocks, water tanks and even toilets! They are dark olive to bright green in colour with white or yellow blotches over their backs. The large toe pads help them to grip onto the sides of rocks and slightly webbed feet assist in swimming. Breeding of these large frogs probably occurs during the wet season with each mature female laying up to 1000 eggs.

All Australian frogs are carnivorous. They will eat generally anything live they can fit onto their mouths like insects, worms, spiders, centipedes, mice, small snakes and other frogs. Frogs seize their prey with a sticky tongue and strong bite and swallow their food whole. Most frogs have the ability to use the underside of their eyeball to aid in moving food into the throat. When frogs eat something that is poisonous they can throw up their entire stomach, turn it inside out and wipe it with their front leg to empty the contents. Frogs will also eat their skin when they shed it. If you notice a frog that looks like it's got the hiccups, it's probably eating it's skin!

Australian frogs exhibit patterns and colouring as diverse as their variety of habitats. As well as using their bright warning colouring or camouflage, frogs can defend themselves against predators such as birds, snakes and cats, by poisonous secretions, playing dead or grunting, screaming, lunging and even biting. Although frogs can defend themselves, they are very secretive. The best time to go looking for frogs is at night, especially after rain. Most frogs are identified by their mating call, which is only exhibited by the male frog in Australia. Every species of frog has a different mating call although

some species sound similar and some don't call at all.

The clean waters and lack of predators at the Adelaide Zoo make a great habitat for Adelaide's frogs. However, around the world frog numbers are decreasing. Australia, like many other countries, has experienced dramatic declines in frog species, especially since the 1980s and more than 40 of Australian frog species are threatened with extinction. About 10 species of Australian frogs are thought to be extinct.

Possible factors include air pollution, global warming, thinning of the ozone layer and destruction of habitat. Fungal infections caused by the Chytrid fungus is now known to play a large role in the declines of many frog species. Pollution of waterways may also have contributed to the decline, since frogs absorb water through their skin, they are especially vulnerable to water pollutants like pesticides and acid rain. Humans also consume millions of frogs every year. Up to 80 million frogs may be consumed in a year in France alone.

Frogs play an important role in our ecosystem by providing food for many predators and by keeping insects from reaching plague proportions. Frogs have also featured throughout history in both Aboriginal and industrialised cultures in stories, songs and paraphernalia. Whatever the causes, disappearance of frogs is cause for concern.

We can help by keeping our environment clean and free of feral animals that may harm frogs and tadpoles. Being water wise will also contribute to providing safe environments for these important amphibians.

