

Frogs of the Macquarie Harbour region

Amphibians are composed of three diverse groups of species. Salamanders and newts comprise some 300 species which are widespread through Asia, the Americas and Europe, while the Gymnophiona are a little known group of some 150 species of legless burrowing or aquatic amphibians predominantly confined to the tropics of Africa, Asia and South America.

The Anurans, or frogs, comprising some 2500 species, are the best known group and the only Order of amphibians found in Australia. Some 94% of all Australian species — and all Tasmanian species — are believed to have evolved on the ancient southern continent of Gondwana, of which Australia and South America were a part. It is therefore not surprising to find that Australia's frogs have their closest affinities with South American species.

Strictly speaking, there are no toads in Australia, with the exception of the introduced cane toad, *Bufo marinus*, which is becoming increasingly widespread

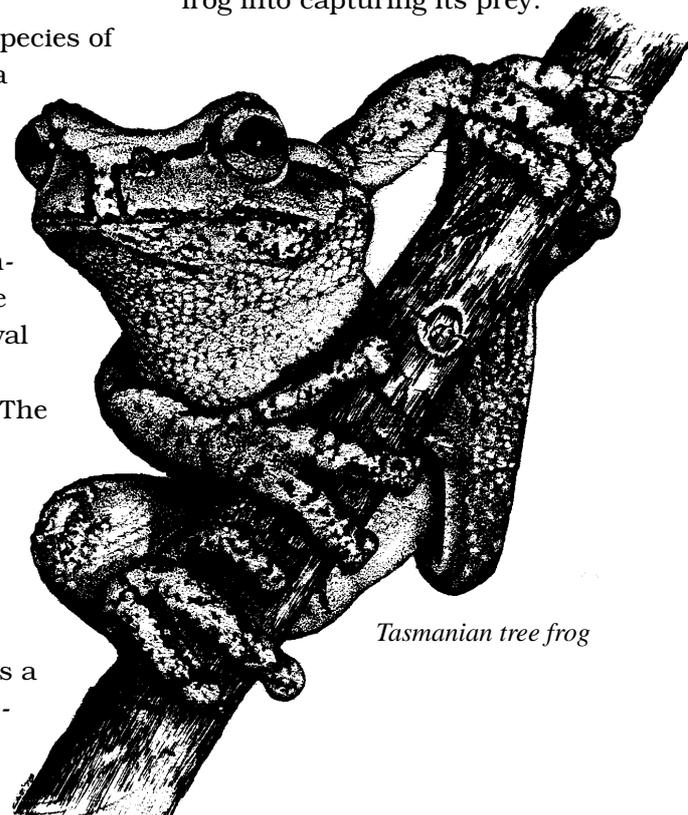
across north-eastern Australia. However, many Australian species, including Tasmania's southern toadlet, *Pseudophryne semimarmorata*, are commonly known as toads or toadlets. This has arisen due to their superficial similarity to the warty toads that were familiar to the first European settlers. The use of such inappropriate, European-based common names is widespread across many groups of the unique Australian fauna and flora.

Biology

Most — not all — species of frog pass through a larval stage (tadpoles). The word 'tadpole' is derived from a medieval English word meaning 'toad head'. The duration of the larval stage varies from species to species. The banjo frog, *Limnodynastes dumerili*, spends 12-15 months as a tadpole, while the common froglet, *Crinia signifera*, has a larval life span of 6-10 weeks. It has

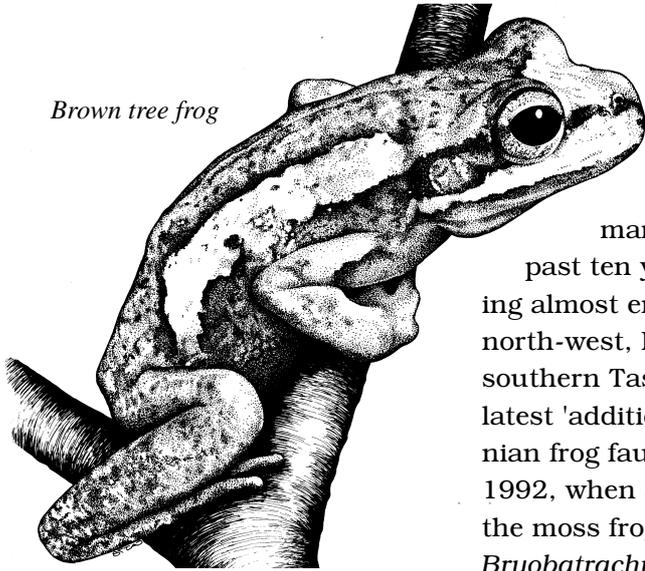
been shown that, in some species at least, the growth rate of tadpoles is related to the population density within the pond and the available food supply. All other things being equal, tadpoles in high densities grow at a slower rate than those occurring in lower numbers.

Adult frogs are carnivorous, unlike tadpoles which are herbivorous. The major part of their diet consists of a variety of insects. Food location is by sight. Prey needs to be moving to stimulate the frog into capturing its prey.



Tasmanian tree frog

Brown tree frog



The long, sticky tongue is flicked forward, ensnaring the prey. An obvious characteristic of frogs is their calls. Indeed, frogs may have been the first animals to communicate by sound. Only the males call. In many species, the ear is tuned to only a narrow range of frequencies, enabling a frog of a particular species to hear only the calls of its own species or species with a call of similar frequency. Calls are made not only to attract females, but also to advertise their presence. Many frogs also emit a 'release call', used when a male grasps another male with the misguided intention of mating.

The frogs of Tasmania

Eleven species of frog occur throughout Tasmania, three of which are restricted to the State. While many of them are inconspicuous, with a little practice all species can be identified from the distinctive calls of the males.

The beautifully patterned green and gold frog, *Litoria raniformis*, is the only Tasmanian species listed as vulner-

able. The population of this species has declined markedly over the past ten years, disappearing almost entirely from the north-west, Midlands and southern Tasmania. The latest 'addition' to the Tasmanian frog fauna came in 1992, when a new species, the moss froglet, *Bryobatrachus nimbus*, was discovered in the Hartz Mountains. To date, this species is only known from the south of south-western Tasmania.

Frogs of Macquarie Harbour

Five of Tasmania's 11 species of frog are known to occur in the Macquarie Harbour and lower Gordon River region:

Brown tree frog *Litoria ewingi*

A common and widespread species, up to 45 mm long. The species is an agile climber, aided by the well-developed climbing discs on its fingers and toes. It calls during the evening all year round, especially after rain. Its call is a long, whirring cricket-like 'ree-ree-ree-ree', heard mainly at night

Tasmanian tree frog *Litoria burrowsae*

Found only in Tasmania, this species is restricted to the west of the state. It is an attractive frog, with a green back, often patterned with brown. It can occur in rain-forest, sedge-land and buttongrass plains, where it calls with a distinctive duck-

like 'quank-quank-quank' during the spring and summer. It is up to 60 mm long.

Common froglet *Crinia signifera*

Up to 30 mm long, this widespread species is by far the most abundant in the state. Its call is a rapidly repeated 'craak, craak, craak, craak' heard throughout the year.

Tasmanian froglet *Crinia tasmaniensis*

Found only in Tasmania, this species is common around Strahan, but appears to be rare at the southern end of Macquarie Harbour, where it is replaced by the abundant common froglet. It is often found at high altitudes. The undersurface of the thighs and groin are often a brilliant red. Up to 30 mm long, the call of this species is an unusual lamb-like bleating, 'baa-aa-aaa', mainly heard in the spring and summer.

Eastern banjo frog *Limnodynastes dumerili*

Found to the north of Macquarie Harbour, this species is a large and squat frog up to 65 mm long. It is a capable burrower, digging with its hind legs and descending backwards into its burrow. Its call is a remarkable banjo-like 'bong' heard in the spring and summer.

Further reading

Martin, A. A. and Littlejohn, M. J. (1982). *Tasmanian Amphibians*. Fauna of Tasmania Handbook no. 6. Fauna of Tasmania Committee, University of Tasmania.