Identification - Adults

The Cane Toad (Rhinella marinus) is an amphibian belonging to the family Bufonidae. This family contains many species throughout the world, none of which are native to Australia.

Cane Toads are characterised by a stout, squat body, heavier than that of most frogs. Adult lengths of 10-12 cm are common, but occasionally exceptionally large Cane Toads are found. These can be up to 25 cm long. The skin of the male is very rough and warty; the female, while still warty, is relatively smoother than the male.

Adult females are generally grey or brown with patches of yellow-brown. Males, in contrast, are usually a burnt orange-brown colour. A prominent bony ridge runs between the eyes and snout. Poison glands form a swollen mass behind each ear and these secrete a viscous white liquid when the animal is handled or bitten. This liquid contains bufotoxin, which is composed of many poisonous components but is primarily cardioactive (affecting the heart).

There are several native frogs that could be mistaken for adult Cane Toads. These are all brownish, stout-bodied animals and include species such as Ornate Burrowing Frogs (Limnodynastes ornatus), Snapping Frogs (Cyclorana australis and C. novaehollandiae) and Barred Frogs (Mixophyes spp.). These frogs do not have the prominent shoulder glands or the ridge between nostril and eye, which distinguishes the Cane Toad.

The Cane Toad also has a distinctive stance and hop. It sits upright in an almost vertical position and moves in a series of fast, short hops rather than long ‘frog-like’ leaps.

Another useful feature in distinguishing Cane Toads from frogs is their distinctive call. During breeding season males call with a continuous d-d-d-d-d-d-d-d-d- ...’, much like an old diesel boat motor. No native frog has a call like this.

Identification - Tadpoles and Juveniles

Identifying frog tadpoles from Cane Toad tadpoles (toadpoles) is usually fairly simple. Cane Toad tadpoles are small, usually no longer than 3.1 cm from mouth to tail tip or 1.4 cm if just the head and body are measured. They are uniformly black or very dark grey in colour. Although a number of native frogs have dark tadpoles, these are usually much larger in size, or if they are about the same size, they are found in fast-flowing mountain rainforest streams (where Cane Toads are absent). If there is any doubt, the dark belly of the Cane Toad tadpole is diagnostic – the native species have pale or translucent bellies. In certain conditions of poor light or at night, Cane Toad tadpoles may appear relatively pale so it is best to view the animals in strong daylight. Cane Toad tadpoles further differ from most native species in that they often occur in massive numbers and frequently form dense aggregations in shallow water.

Cane Toad tadpoles metamorphose into juvenile toads that are very small, usually from 0.7 cm to 1 cm. Recent metamorphs are black or dark grey, often with numerous small orange dots. Some young toads are superficially very similar to various native froglets (Pseudophryne, Uperoleia and Crinia species). Given the variability of young toads, it is simply not possible to provide a generalised, non-technical description of them at this stage of their life cycle.

One should, however, suspect toads when very large numbers of small dark frogs are being encountered as they leave ponds, disturbed watercourses, or farm dams. Juvenile Cane Toads will also leave ponds and dams by day or night, whereas most native frogs emerge from the water and disperse only at night.

Young Cane Toads of about 2 cm in length are more readily identifiable as Cane Toads because the major diagnostic features of the adult are apparent:

(i) the large glands behind the eyes are now obvious;
(ii) the prominent bony ridges around the eyes and sides of face are well-developed and impart a very square-headed profile; and
(iii) the young toads are effectively just miniatures of the adults.

Always remember that identification of young toads is not easy and beware of simple descriptions. Given the degree of natural variation present in most animal populations, there will always be ‘exceptions-to-the-rule’. In any situation where the identity of an animal or animals is in doubt, try to obtain specimens or photographs of them for examination at the Queensland Museum. Verbal descriptions may not provide sufficient information for a determination to be made.
The proliferation of the species may have had consequences that were never foreseen at the time of its introduction. Experiments and observations indicate that a wide variety of native fauna are extremely susceptible to the many poisons in bufotoxin. These include avid frog-eaters, such as the Common Tree Snakes, Tiger Snakes and Red-bellied Black Snakes and the rare carnivorous marsupials, the quolls. In areas where toads appear, there has been a subsequent decline in populations of these types of native animals.

**Further Information**


**Authors:** Eric Vanderduys & Steve Wilson

Queensland Museum

PO Box 3300, SOUTH BRISBANE QLD 4101

Phone: (07) 3840 7555


**Distribution of Cane Toads in Australia**