

SHORT-BEAKED ECHIDNA

Tachyglossus aculeatus

by Nora Preston



The Echidna is a Monotreme, an egg laying mammal. The baby echidna is known as a puggle.

Other monotremes are the Platypus and the Long-Beaked Echidna



The short-beaked echidna is a solitary animal, that occurs in a variety of habitats, from regions experiencing winter and snow to deserts. They usually shelter under thick bushes, in hollow logs, under piles of debris, or occasionally in burrows (they will take over a deserted wombat burrow).

Size

Head and body length
300-450 (375) mm

Weight

2-7 (4.5) kg

Subspecies

Five are recognised based on their degree of hairiness and length of the claw on digit two of the hind claw:

- *T. a. acanthion* (Western Australia, Northern Territory, arid zones of all mainland sites)
- *T. a. aculaetus* (coasts and dividing range slopes of south-east Queensland, New South Wales, Victoria, South Australia)
- *T. a. lawesii* (Papua New Guinea)
- *T. a. multiaculeatus* (Kangaroo Island)
- *T. a. setosus* (Tasmania)

Description

Dorsal (back) surface of body covered with spines, with fur present between them. The belly is only covered with hair. Its spines are light yellow with black tips and may be over six cm's long. Teeth are absent with a long flicking tongue, protruding well beyond the end of it's slender snout.



The male has a spur on each ankle. Echidnas have two toes on their hindfeet with extra long claws, which can reach down between the spines for scratching when itchy.

Other common names

Short-beaked echidna, spiny anteater.

Distribution

The short-beaked echidna is distributed throughout most of Australia, but is absent from some northern islands.

Behaviour



The short-beaked echidna is a solitary animal and does not have a fixed nest site but home ranges frequently overlap. Self-constructed burrows are usually only used by females incubating and suckling young. The mother will often leave for several days in order to forage. In arid regions, the short-beaked echidna will seek shelter in caves or crevices to avoid high daytime temperatures, and its activity is restricted to the night.

In other areas activity is determined by air temperature. Short-beaked echidnas found in eastern Australia have been known to hibernate.

When disturbed or threatened, the short-beaked echidna rolls into a ball of spines (bottom, left). If it is on soil it may dig itself below the surface while remaining horizontal (bottom right). It can also hide in rock crevices or hollow logs by extending its spines and limbs and wedging itself in securely.



Rolling into a ball to protect the vulnerable belly



Digging into the dirt with only protective spines exposed

Diet

The short-beaked echidna is an insectivore. The only specific requirement of the short-beaked echidna is its diet of ants and termites. The short-beaked echidna is toothless and breaks into a termite nest with its forelegs, (and use their very strong claws to break open rotting logs to collect termites), or snout and uses its long, sticky tongue to catch the termites.

Termites are preferred in arid areas, and this preference is believed to reflect a higher water content in the termite (80 per cent) than in the ant (64 per cent). They occasionally feed on other soil invertebrates, earthworms, scarab larvae, beetle larvae and moth larvae



Breeding and Ageing

Mating occurs in July and August. A single female may mate with up to 6 males. After mating, the male and female go their separate ways. 2 to 4 weeks later the female, while sitting on her tail, extends her muscular cloaca and deposits a white, almost round, single soft and leathery shelled egg which is slightly smaller than an Australian 5 cent coin. Its texture and consistency is like a firm, small green grape and weighs 2 grams, which may vary according to the size of the echidna. The egg is laid directly into the pouch on her abdomen, sticking to the hairs of the pouch which hatches ten days later.



The egg changes colour and becomes elongated just prior to hatching. The female moves the egg from one side of the pouch to the other, which may be important to the development of the embryo. During incubation in the pouch, cells multiply in the egg and the young takes on a beanlike shape. The embryo grows a minute enamel-covered egg tooth to assist in hatching, which later drops off.

An echidna usually only lays 1 egg each year, but have been known to lay 2 eggs on very rare occasions. The hatchling weighs less than half a gram, 15 millimetres long, which is no bigger than a jellybean. The hatchling will stay in the pouch for approx. 3 months.

The hatchling is born hairless and blind, with strong front feet that it uses to hold on to its mother's fur. Strong feet are needed because its mother does not have a teat for it to attach itself to. The young sucks up milk secreted by its mother's mammary glands, an area of skin called the **milk patch**, in its mother's pouch. Milk seeps through pores in the skin of the milk patch, in a similar way to sweat seeping from skin.

The hatchling uses its sense of smell to find the milk and only drinks once every 5 to 10 days, so in 2 hours, it may drink up to one-fifth of its body weight in milk.

Echidna milk is quite watery at first, but as the hatchling grows it becomes much thicker. For the first week or so, the echidna's milk is pinkish in colour because of the large amounts of iron in its milk. The echidna gains 0.4 grams of body weight for every millilitre of milk it drinks.

In 30 days, the echidna may weigh nearly 200 grams. At 30 days, the echidna puggle still has no hair or spines. At two months the puggle weighs 250 grams or more. Pouch young are left behind in the burrow by the female when they are approximately 3 months of age, which would be in the month of January, when its spines and hairs have appeared, appearing grey in colour.



Late summer and autumn, the puggle is approx. 5 months old, growing rapidly, with its eyes now open, and its hair is thick with its spines becoming much longer.

The female leaves the young echidna in a safe place by blocking the entrance to the burrow with soil, while she hunts for food, and could be away for over a week at a time, before she returns to suckle it.

The young are weaned at approx. 7 - 8 months of age, weighing 1 to 2 kilograms, after its spines are fully grown, when it leaves the burrow for good.

After living alone for more than 2 years, at 3 years old the echidna is an adult and is ready to mate and produce young.

Threatening processes

Adults have no significant predators although they may occasionally be eaten by dingos or foxes. Young may also be eaten by goannas. Motor vehicles are also known to cause mortality.

Conservation status

All subspecies except *T. a. multiaculeatus*

2000 IUCN Red List of Threatened Species Not listed

Western Australia Wildlife Conservation Act N/A

Environment Protection and Biodiversity Conservation Act Not listed

T. a. multiaculeatus

2000 IUCN Red List of Threatened Species Lower Risk (near threatened)

Western Australia Wildlife Conservation Act N/A

Environment Protection and Biodiversity Conservation Act Not listed

Management

No management actions exist for the short-beaked echidna, although records of road killed animals along main roads are monitored.

Other interesting facts

- A short-beaked echidna's spiny coat provides an excellent defence when it is threatened.
- The name *Tachyglossus* is latin for 'quick tongue', and refers to the speed with which its tongue can catch ants and termites.
- Short-beaked echidnas are one of three species of egg-laying mammals.
- They do not have teats, but secrete milk through several pores in the belly.

- The short-beaked echidna is one of only two mammals in Australia that feeds predominantly on ants.
- The short-beaked echidna can swim.
- The short-beaked echidna has no scrotum, its testes are internal.
- Scientists believe that the short-beaked echidna may possess electroreceptors in its snout that can detect electrical signals given off by the insects it feeds on.
- Some short-beaked echidnas have lived for over 50 years in captivity.

Selected references

Griffiths, M. (1989). Tachyglossidae. In: Fauna of Australia. Vol 1B, Mammalia. pp. 407-435. Australian Biological Resources Study, Canberra.

Augee, M.L. (1995). Short-beaked Echidna. In Strahan, R. (Ed.) The Mammals of Australia. Australian Museum and Reed Books. Chatswood, NSW.

Maxwell S., Burbidge A.A, Morris K. (1996). The 1996 Action plan for Australian Marsupials and Monotremes. Wildlife Australia, Canberra.

Website links

http://www.naturebase.net/projects/west_shield.html

http://www.naturebase.net/plants_animals/odd_echidna.html

<http://www.ea.gov.au/biodiversity/threatened/action/marsupials/24.html>

<http://www.perthzoo.wa.gov.au/echidna.html>

<http://www.healthsci.utas.edu.au/physiol/mono/Monotremata.html>

<http://www.zoo.nsw.gov.au/taronga/animals.htm>

<http://www.westernwildlife.com.au/western/mammals/echidna.htm>