



Platypus

Ornithorhynchus anatinus

The platypus, with its rubbery bill and webbed feet, is a unique and iconic Australian animal. Platypuses and echidnas are the only existing monotremes, or egg-laying mammals on earth. Monotremes have lower body temperatures than other mammals and since their legs extend out from the sides of their bodies, they walk with a reptilian waddle, rather than a straight-line gait. Monotremes are the only mammals to have developed electroreception. Platypus use this highly developed “sixth sense” to detect prey and navigate underwater.

Appearance

Platypus are readily identified by their streamlined body, webbed feet, broad tail and rubbery, toothless bill. An adult platypus is typically from 45 to 60 cm long and may weigh up to 3 kg. Tasmanian platypuses are typically larger than those on the mainland, and males are generally larger than females from the same location. Their usual colouration is dark brown on the back and sides of the head, body and upper surfaces of the limbs. The underside is a golden colour or silky grey. They have two layers of fur — a dense waterproof outer coat and a grey woolly underfur to provide much needed insulation. The fur on the broad flat tail is coarse and bristly. They have a smooth swimming action together with a low body profile and no visible ears, making them easily recognisable in the water.

Swimming

Platypus use their webbed front feet for propulsion in the water. On land the webbing, which extends beyond the long front claws, is folded back to enable the animal to walk and burrow. The webbing on the hind feet does not extend beyond the bases of the claws and the hind legs are used mainly for steering and to tread water while they chew food at the surface. The tail acts as a rudder when swimming and is where platypuses store much of their body fat.

Venomous spurs

Males have a spur on the inner side of each hind leg, which is connected via a central hollow groove to a venom gland. Spurs are used to inflict puncture wounds on potential predators or other males, and may have



Photo: Nick Gust, Biodiversity Conservation Branch, DPIW

some role in the mating behaviour of the species. The injected venom is capable of inflicting extreme pain in humans, and there is currently no anti-venom or effective pain treatment for platypus spur injuries.

Distribution and habitat

The platypus is widespread in eastern Australia, ranging from tropical lowlands to sub-alpine areas at over 1000m altitude. In Tasmania the platypus is considered common and can be found in the lakes of the Central Highlands, and in rivers and streams of the south, southwest and northwest coasts. Although platypus are strong swimmers they are not fast and prefer slow flowing streams. Platypus live in burrows that they dig on the banks of fresh water rivers, lakes or streams. Burrows are usually less than 10 m long, oval shaped and are constructed near the water line.

Behaviour

Platypus are solitary animals as adults that only come together to mate, although several individuals may occupy the same sections of a stream. They are wary of movement and noise, usually venturing out at night, but often being observed in early morning and evening. They typically spend around 12 hours in the water foraging each day. During that time they make regular short dives in search of prey and can consume around 20 % of their own body weight in food a day.

Breeding

Mating occurs during spring but is generally earlier in the north of Australia than in the south. Mating takes place in the water and after about 21 days, between one and three eggs are laid in a nesting burrow constructed by the female.

The eggs are incubated between the belly and the tail of the female and hatch after about 10 days. Like the echidna, the platypus lacks nipples and milk from the mammary glands oozes through the skin along both sides of the mother's belly where it is then sucked up by the young platypuses. By six weeks, the young are furred, have their eyes open and may leave the burrow for short intervals and enter the water. When about four months old the young are weaned.

Diet

When foraging on the bottom, platypus swim with their eyes, ears and nostrils closed, using their electro-sensitive bill to search for food. Their electro-perception and sense of touch allows them to find and capture a range of prey including worms, insects, crustaceans and molluscs. Typical prey are the larvae of caddisflies, mayflies, two-winged flies and shrimps. Once caught, prey are carried to the surface in cheek-pouches where they are eaten. Platypus have no true teeth — instead small, horny pads are used to hold and crush the prey.

Conservation status

The platypus is totally protected throughout Australia. Although still common in many parts of its range, it is vulnerable to the continuing degradation of suitable water bodies caused by agriculture, damming, drainage and pollution. The illegal netting and trapping of fish also causes many platypus deaths, as do dogs and vehicles. If foxes become established in Tasmania they will increase platypus mortality rates. There is also concern about the potential impact of disease in Tasmanian platypus caused by the fungus, *Mucor amphibiorum*. Affected animals develop skin that can lead to death from secondary infection and an inability to control body temperature. If you see any diseased platypus in Tasmania please report your sightings to the Biodiversity Branch of DPIW, and provide a precise location for the observation. The cumulative impacts of these threats to platypus populations remain unknown. Research and monitoring are necessary to establish the health and persistence of populations.

Preserving platypus habitat: how you can help

Where possible leave trees or other vegetation around creeks, waterholes and dams. If clearing willows, resist the temptation to 'clean up the river', make sure blackwood, tea tree or other plants replace them. Keep farm or household chemicals such as pesticides away from areas where platypus may be found. Do not use pesticides if there is a chance of rain as they may be washed into creeks before they have soaked in. Build bridges rather than culverts on new tracks or roads. Platypus will not swim through some culverts if the water flow is too uniform or fast. They will cross the road instead where they are vulnerable to being hit by vehicles.

Further information

For an excellent account of the ecology, behaviour and conservation status of platypus see:

Grant, T and D. Fanning 2007. Platypus, CSIRO publishing: Australian Natural History Series. 157 pages.

For information on the fungal disease threat to Tasmanian platypus see: the DPIW website (www.dpiw.gov.au)

Contact

Biodiversity Conservation Branch: DPIPWE

134 Macquarie Street, Hobart. 7000

Phone: (03) 6233 6556

Email: PlatypusEnquiries@dpiw.tas.gov.au