Land for Wildlife Notes

Platypus - Helping them in the wild

Melody Serena

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Where are Platypus found?

Platypus* Ornithorhynchus anatinus *live only in Australia. They are widespread and common residents of permanent streams, rivers and lakes in Tasmania, Victoria, New South Wales and Queensland to as far north as Cooktown.

Platypus may also use temporary or man-made water bodies, particularly when these are linked directly to streams or rivers. In Victoria, platypus have been sighted in recent times in 26 of the 31 river systems in the State, occupying much the same area as before European settlement. However, their distribution has been reduced in the Melbourne metropolitan area, presumably because of disturbance and water pollution. Platypus have probably also declined in the Murray River downstream of Echuca, and may have disappeared from the Portland Coast, parts of the Wimmera River system, and Tidal River on Wilson's Promontory (Grant, 1992).

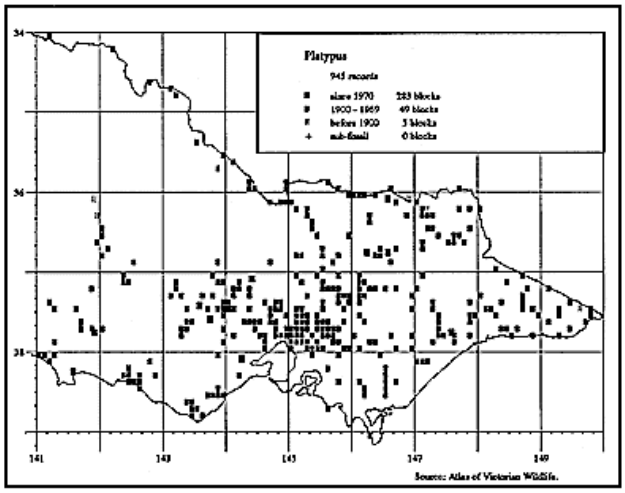

Figure 1. Distribution of the platypus in Victoria

Although reasonably abundant, platypus are not often seen because of their quiet, retiring nature and largely nocturnal habits. Platypus are most often observed near dawn or dusk in unpolluted stream pools or sections of river. When alarmed, platypus will 'splash-dive' - make a loud single or double splashing noise with their body and tail as they dive abruptly.

Other facts about Platypus

Along with two species of echidna, platypus are the only mammals to lay eggs. Platypus breed from August to October; a female lays 1-3 eggs, which are incubated between her belly and curled-up tail. The eggs are 15-18 millimetres long and have a parchment-like shell, like those of snakes and lizards (Griffiths, 1978). After hatching, the young are fed milk for about 4 months, and first enter the water in January to March. When grown, male platypus measure an average 50 centimetres in total length (bill tip to tail tip) and weigh 1200-2600 grams. Adult females are smaller, measuring an average 44 centimetres in total length and weighing 600-1600 grams.

Platypus consume 15-30% of their body weight in food each day. Their diet includes a wide variety of freshwater invertebrates: shrimps and crayfish (yabbies), water bugs and diving beetles, worms and mussels, and immature dragonflies, mayflies, true flies and caddis flies (Faragher *et al.*, 1979). They also dine on tadpoles and small frogs and fish. Platypus keep their eyes and ears tightly closed underwater. To detect prey, platypus bills are equipped with electroreceptors which apparently can sense the tiny electric currents created when many of their prey species move - for example, when a yabbie flicks its tail (Scheich *et al.*, 1986). Platypus have cheek pouches in which food items are stored as the animals forage underwater. When their cheek pouches are full or they need to breathe (platypus can remain underwater for only 5-10 minutes at a time without drowning), the animals return to the surface to 'chew' their food with the rough grinding pads they have instead of teeth.

Platypus spend up to 17 hours a day asleep in a burrow (Serena, in press). There are two types of platypus burrows: 'nursery burrows' (which provide shelter for a mother and her offspring) and 'camping burrows' (all other burrows).

Camping burrows are quite short (1-3 metres long). The entrances are usually difficult to spot, being located underwater or just at the water surface, often beneath a fallen log or undercut bank or stump. An adult will use several different camping burrows and may occasionally share a burrow with another grown platypus, though males and females both tend to be solitary in their habits (Serena, in press). Nursery burrows are 3-15 metres long, with one

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or more oval entrances located well above the waterline. It may be that nursery burrows are placed relatively high up along a bank in order to help protect young platypus from drowning in floods. Platypus have strong claws on their front feet and are well suited to digging - it has been calculated that the animals can complete one metre of tunnel in about two hours.

The home ranges of adult female platypus overlap those of other grown females as well as males, so several different individuals may occupy a given stretch of stream or river. For example, surveys conducted over a four year period indicated that 3-5 platypus typically made use of any given point along a relatively small stream in the Yarra Valley (Badger Creek). Adult males were recorded to move more than 6 kilometres along this stream in a single night, while females travelled up to nearly 2 kilometres in a night.

Information on the sex and age of platypus can be gained by examining the appearance of a spur located on the inner ankle of the hind foot. From the time they leave the nursery burrow, young male platypus are equipped with conspicuous cone-shaped spurs, about 1 cm long. Initially the spurs are covered in a white chalky layer, which chips away entirely by the age of about 9 months to reveal the curved, amber-coloured true spur. Young female platypus have tiny (1-2 millimetres long) white or brown spurs, which are shed by the age of about 8-10 months, leaving only a small pit to mark the spot (Grant, 1989). Male spurs are hollow and connected to a poison gland in the thigh. The glands start producing poison when males become mature (at the age of two years) and produce the greatest amount of poison during the breeding season. It is therefore believed that males use their spurs as weapons when competing for breeding territories or females. People who are spurred when handling an angry or frightened male platypus typically experience severe pain and swelling, although the poison is not considered to be life-threatening to humans.

Threats to platypus

Platypus have been recorded to live to the age of at least 13 years in the wild, though most individuals die at a much younger age. Some mortality may result from flooding, although floods can also benefit platypus by expanding the size of the area available to the animals for foraging. Severe drought probably kills many individuals, by eliminating their habitat and increasing their vulnerability to predators as water levels drop.

Animals that are known or believed to kill platypus include foxes, domestic dogs and cats, goannas, Murray cod, carpet pythons and wedge-tailed eagles (Grant, 1989; *Land for Wildlife News*, 1991). It has also been suggested that predation by crocodiles may contribute to the lack of platypus on Cape York Peninsula, Queensland. Platypus are very susceptible to drowning in some types of fishing nets, including weighted gill nets and completely submerged drum and fyke nets (unless the latter are fitted with mesh exclusion panels). Platypus may also suffer severe injuries or die as the result of encounters with rubbish and litter dumped by humans (*Land for Wildlife News*, 1992). For example, one unfortunate platypus found dying on the banks of Lake Learmonth (near Ballarat) had a loop of nylon fishing line caught around his body - the line had gradually sawn through the animal's muscle and ribs, opening up the lung cavity. Another platypus was recently found starving near Benalla with a section of PVC pipe caught around her neck. Besides interfering with feeding, the rough edges of the pipe had caused deep lacerations where they rubbed against the animal's body. Chemical pollutants that enter freshwater systems through runoff from storm water drains or nearby land - such as oils, paints, solvents, and pesticides - can harm platypus by fouling their fur or poisoning the small animals on which they feed.

What you can do to help platypus

1. Help to build awareness of the fact that platypus are likely to be living in local streams and stream-fed lakes. Platypus are sometimes observed even in highly disturbed water bodies, such as the metropolitan section of the Yarra River. It is important that people realise that their actions can have a real impact, for better or worse, on the long-term survival of platypus populations in their area.
2. Whenever possible, retain logs, stumps and snags that occur in and along water courses. These provide good sites for platypus burrows and important habitat for the small aquatic invertebrates eaten by platypus. Deep pools (including those that form at creek and river bends) and backwaters are also important places for platypus to find food. Man-made ponds are most likely to be used by platypus if there is a suitable channel (holding at least a few centimetres of water) linking the pond to the nearest natural water body.
3. Work to maintain and improve the quality of native vegetation growing along water courses. In Victoria, it has been estimated that streamside vegetation is in poor condition along 65% of the length of streams in cleared areas. Over 25,000 kilometres of stream courses are either actively gullying or vulnerable to erosion because of soil compaction and loss of vegetation cover (*Land for Wildlife Note* 10).
4. Although platypus are basically aquatic animals, they require stable banks for secure burrow sites. In addition, erosion and consequent siltation can reduce or eliminate the platypus food supply when populations of smaller freshwater organisms decline. Streamside vegetation is also vital to platypus in providing protective cover from predators. To improve the quality of habitat along water courses, limit stock access with fencing, encourage native plants to regenerate, control weeds, and encourage a layer of ground litter to develop (*Land for Wildlife Note* 8). Besides helping platypus and many other wildlife species, such activities will improve water quality, reduce flooding and benefit recreational fishing (*Land for Wildlife Note* 3).

5. Avoid placing walking paths or vehicle tracks along the edge of water courses - they facilitate access by predators such as foxes, and can also contribute to erosion of stream and river banks.
6. To reduce the risk of contaminating freshwater systems, avoid applying pesticides, herbicides or other chemicals near streams and other water bodies.
7. Help to build awareness of the fact that platypus can be badly injured or killed by litter and rubbish left by humans. Be particularly careful to dispose properly of sharp or jagged objects and materials in which an animal could get caught or tangled, such as fishing line.
8. Don't get rid of leftover waste chemicals by tipping them down the sink or into a storm water drain. Instead, ring your local shire office, Melbourne Water or the Environment Protection Authority for advice on the most appropriate way to dispose of waste chemicals in your area.
9. If you think you have found an illegal fishing net, please report it to your local Department of Conservation & Natural Resources' office. However, don't disturb or try to damage the net - in one recent case, a drum net that had been set by fish researchers in a manner that was harmless to platypus became a lethal trap after it was tossed into a deep pool by well-meaning but misguided bushwalkers.
10. Don't let your pets wander unsupervised at night - this will help safeguard the welfare of your pets as well as wildlife! Domestic dogs and cats are both potentially predators on platypus, particularly on farms or in suburban areas. Young, inexperienced platypus and platypus living in shallow streams are especially at risk.
11. Platypus normally spend their entire lives in or within a few metres of water. However, orphaned or naturally dispersing juveniles, or adults which have been displaced from their homes by catastrophic events, may sometimes be found in completely inappropriate places. If you find an injured or displaced platypus, contact the Veterinary Department staff at Healesville Sanctuary or Melbourne Zoo as soon as possible for advice. If a platypus needs to be held overnight before being released back into the wild or transferred to the care of an experienced wildlife veterinarian, the animal should be kept in a quiet, dark, secure location (such as a sturdy closed cardboard box placed in a quiet room) away from people and household pets. To reduce stress to the animal, handle it as little as possible. There is no need to encourage the platypus to eat, drink or swim - in fact, all these actions can be very harmful, especially if the animal is sick or weak.
12. Encourage and actively support local Landcare groups to improve the environmental quality of the landscape surrounding streams and rivers.

References and further reading

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