

Ripples

Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

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JUVENILES BOOST REINTRODUCTION

Cardinia Creek is a self-contained stream system located roughly 45 kilometres southeast of downtown Melbourne.

According to local residents, platypus were seen on occasion in Cardinia Creek until the early 1980's. In particular, the animals seem to have disappeared around the time of the disastrous 1983 "Ash Wednesday" wildfire, which devastated nearly the entire Cardinia Creek valley.

The results of live-trapping surveys carried out by Conservancy staff from 1999 to 2003 as part of the Melbourne Water urban platypus program confirmed that platypus did not occupy Cardinia Creek, despite the fact that the stream and adjoining forest habitat seemed to have recovered completely from the effects of fire. It was inferred that the presence of natural barriers—mountains to the north and ocean to the south—must be impeding recolonisation from nearby stream catchments known to support the species.

In hopes of re-establishing a viable platypus population along Cardinia Creek, one young male and two females were successfully translocated from the neighbouring Tarago River system in April 2004 (see *Ripples* No. 27). The new population was bolstered by releasing two young males and a female in April 2005 (see *Ripples* No. 30), followed by three more young females in the autumn of 2006.

Although platypus are in theory first capable of breeding at the age of two years, long-term mark-recapture studies conducted by Dr Tom Grant along the Shoalhaven River in New South Wales have shown that females may sometimes fail to reproduce successfully until at least their fourth birthday.

Accordingly, Conservancy researchers were delighted to encounter a grand total of three unmarked juveniles in the course of a live-trapping survey carried out along Cardinia Creek in late April 2006—the first year when youngsters could have appeared in this area.

All three juveniles were assessed to be above average with respect to fat reserves, indicating that Cardinia Creek provides plenty of food even for young and inexperienced foragers. Two juvenile males were taken from nets set at the same site, implying that they were likely to be brothers. The third unmarked juvenile (a female) was captured about 4 kilometres farther downstream, and was therefore presumed to probably be the offspring of a different mother.

In addition to home-grown juveniles, three previously marked platypus were captured in the April survey: adult male "Tarago" (released 24 months earlier) and subadult males "Beaconsfield" and "Berwick" (both released 12 months earlier). Hence, at the time of the survey the Cardinia Creek platypus population was deemed to comprise at least five males (one adult, two subadults and two juveniles) and six females (two adults and four juveniles, including the three young animals translocated in 2006).

Over the longer term, it is predicted that the platypus birth rate will decline along Cardinia Creek once the animals occupy all available areas of habitat.

Meanwhile, the fact that three young platypus were successfully weaned along Cardinia Creek this year both attests to its suitability as a platypus environment and provides the best evidence to date that a self-sustaining population is becoming established there.

THE QUESTIONABLE PLATYPUS (Cont.)

Several persons have contacted us since reading the last issue of *Ripples*, suggesting that it would be of interest to provide answers to some more commonly asked questions about the platypus. We're always happy to try to oblige:

How long can a platypus survive out of water?

There are really two different ways to answer this question. On the one hand, the platypus is an air-breathing mammal that routinely spends many hours each day snugly asleep in a dry burrow. For this reason, persons who unexpectedly have to care for a platypus for a short time (such as an injured animal awaiting veterinary treatment) should never keep the animal in a water-filled bathtub, forcing it to swim when it chiefly needs to conserve energy. On the other hand, the platypus is adapted to obtain its food exclusively in the water—so if a platypus's freshwater habitat dries up (for example, due to drought), the animal will starve to death unless it can somehow find a new place to live.

What is the correct term for a juvenile platypus?

In our experience, this question is mainly of concern to persons keen to complete a crossword puzzle. Strictly speaking, no such term is well established in the English language, presumably reflecting the fact that when a juvenile platypus emerges for the first time from its natal burrow (at the age of about 3-4 months) it is fully furred, well-coordinated, and essentially looks like a small adult. As juveniles are not normally seen by people at an earlier stage of development, there has never been a need to adopt a special term for an infant platypus. This situation seems to have changed a few years ago when a captive platypus succeeded in raising twin daughters at Taronga Zoo in Sydney. The zoo staff proposed that the news media refer to each young animal as a "puggle" - a word which has had quite a long history of use (first by rabbit trappers and more recently by field biologists) as the term denoting a baby echidna.

What is the collective noun describing a group of platypus?

In contrast to a pride of lions, a gaggle of geese or a herd of cattle, platypus are fundamentally solitary in their habits, although more than one individual is sometimes seen to be active at a given spot. Accordingly, there has never been a need to refer to these animals as a collective unit, though (should such a need arise in future) we personally would favour using the word "paddle".

What is the plural of "platypus"?

This is perhaps the single most frequently asked question about the species. People feel that "platypi" doesn't sound quite right, but what's the alternative? According to our copy of the *Australian Pocket Oxford Dictionary* (Fourth Edition, reprinted in 1999), the word "platypus" is derived from two Greek words meaning "flat foot". Given that the plural of the Greek "pous" is "podes", we presume that—strictly speaking— platypodes should be living in the Antipodes. However, given that "platypodes" has for some unfathomable reason never really become popular, the dictionary goes on to inform us that the accepted plural is "platypuses" or (particularly in scientific and conservation contexts) "platypus". With hindsight, it might have been best if the English word used to describe the animal now known as the platypus had been "watermole" (as suggested by the first English colonists) or one of the many aboriginal terms for the species. On the other hand, we are deeply and eternally grateful that the platypus's official scientific name, "Ornithorhynchus", has never been adopted for popular purposes!

How many platypus occur in the wild?

It's currently not possible to answer this question with any semblance of accuracy, for two reasons:

- The platypus's distribution remains unmapped in many river catchments.
- The actual number of platypus inhabiting different habitat types has never been established across most of their range.

In part, this reflects the fact that the platypus is an extremely difficult animal to census accurately. This is a species which spends the vast majority of its time either underwater or underground in a burrow. It is largely active at night and does not sing or call, leave footprints or piles of droppings, build visible nests, or visit bait stations. From a distance, one platypus looks much like the next. It is also worth noting that platypus populations are not static entities, but will shrink or expand in response to changing environmental conditions. In the case of the platypus, numbers appear to have genuinely increased in some areas in the past decade, in places where the productivity of freshwater environments has been improved significantly through better management, or where mortality due to animals drowning in illegal nets has been reduced. Unfortunately, it is also our impression that these positive trends have been outweighed by the widespread negative effects of drought across much of the platypus's range in the same period.

WATER-RAT CONSERVATION STUDY LAUNCHED

The Australian Platypus Conservancy has recently initiated *Water-rat Report*, a community-based monitoring program for the Australian water-rat (*Hydromys chrysogaster*).

This attractive native rodent (also known as rakali) is the largest mammal to share the platypus's freshwater habitat. The Australian water-rat occupies an ecological niche similar to that of otters on other continents and has many otter-like traits, including a streamlined body, partly webbed hind feet and luxuriously dense, water-repellant fur.

Water-rat Report is modeled on the APC's successful *Platypus Care* project: reports of past and present sightings of *Hydromys* are being collected to learn more about the species' current status and distribution.

Anecdotal accounts suggest that water-rat numbers have declined in recent decades in many places (see *Ripples* No. 31). Hence, another important aim of *Water-rat Report* is to identify problems affecting populations so appropriate conservation measures can be developed.

Water-rat Report sightings forms are being widely distributed to community environmental groups and government agencies. Additional copies can be obtained directly from the Conservancy.

The *Water-rat Report* program has been made possible through the generous support of the John T Reid Charitable Trusts.

HINTS ON SPOTTING WATER-RATS AND PLATYPUS

The APC's *Water-rat Report* and *Platypus Care* programs are based on recording sightings of these two aquatic mammals.

However, even an experienced observer may sometimes find it difficult to tell the two species apart, particularly at a distance of more than 20 metres or in dim light or overcast conditions.

Like that of a platypus, the fur of a water-rat's back is typically brown (though sometimes grey). The two also overlap in size, with adult male water-rats weighing about the same as a small to medium-sized platypus. However, water-rats are much more likely to be seen out of the water, sitting on a rock or log or running along the bank. In contrast, platypus are very rarely seen on land for any length of time. Water-rats also appear to be more diurnally active than platypus and so are more likely to be spotted during daylight hours.

The best way to distinguish the two species in the water is by observing the tail: the water-rat has a long, narrow tail with a conspicuous white tip, whereas the platypus has a flat, uniformly dark, paddle-like tail. Water-rats also create no distinct bow wave and leave a wide trailing wake when they swim, presumably because they mainly paddle using their hind feet, whereas the platypus uses only its front legs for propulsion.

The presence of water-rats in an area can also sometimes be deduced from the presence of food middens—heaps of inedible food scraps such as yabbie claws and mussel shells—at favourite dining spots near the water's edge.

Did You Know That....

Platypus are occasionally seen in estuaries and other areas of tidal influence. However, resident populations have never been reported to occupy salt water habitats.