



# Ripples

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Newsletter of the **AUSTRALIAN PLATYPUS CONSERVANCY**

## GOOD NEWS FOR TASMANIAN PLATYPUS

With so many truly disheartening environmental stories being reported on a daily basis, it's good to hear about some positive wildlife news for a change.

In the case of the platypus, many people have been worried for the best part of three decades about the potentially devastating impacts of a disease caused by the fungus *Mucor amphibiorum*.

The disease was first described in 1982, based on observations of platypus occupying the Elizabeth River in Tasmania's northeast. Infected animals developed distinctive patches of thickened, hairless skin, abscesses or skin ulcers, located most often on the hind legs, back and tail but also other parts of the body. The disease sometimes spread to other tissues and organs, such as the muscles and lungs, and apparently caused at least some (possibly most) infected individuals to die.

It took about 10 years for the agent responsible for causing this disease to be identified, and it's still not clear exactly how or when it came to be a problem in Tasmania. *M. amphibiorum* definitely occurs in soils on the mainland, and is known to infect native frogs as well as cane toads. It's therefore been suggested that the fungus may have originally entered Tasmania via frogs that were imported either by accident (for example, in a shipment of tropical fruit) or as pets.

Because Tasmania has been isolated from the Australian mainland for the last 12,000 years or so, it's also been hypothesised that Tasmanian platypus may be more susceptible to infection than platypus on the mainland (where no cases of this disease have ever been reported) due to the fact that mainland populations have evolved resistance after being exposed to the fungus over time.

Research carried out in 1994-1995 by the Tasmanian government authority responsible for managing the state's wildlife revealed that 13 of 36 platypus captured at Brumby's Creek near Cressy showed clinical signs of infection by *Mucor* (disease prevalence = 0.36), with the same being true of 2 of 3 animals captured in the nearby Liffey River.

By comparison, studies conducted from 1997-2000 in the Brumby's-Lake, Piper's and North Esk river catchments found that 11 of 49 captured platypus were ulcerated (disease prevalence = 0.22).

Most recently, based on extensive live-trapping work carried out in 2008-2009 in nine infected catchments, just 7 of 99 animals were found to be ulcerated (disease prevalence = 0.07).

It is tempting to conclude that the decline in the proportion of platypus infected with *Mucor* over time reflects the fact that susceptible animals have largely disappeared from populations exposed to the fungus, and been replaced by individuals that are better adapted to resist or recover from the disease.

Alternatively, it is also possible that the virulence of the fungus may have declined over time, or that environmental conditions have become progressively less favourable to disease transmission or development.

Whatever the reason(s), we are greatly relieved that – at least for now – the risk to Tasmanian platypus populations appears to have abated.

To avoid contributing to the possible spread of disease in the course of platypus fieldwork, the Conservancy has also recently reviewed its own biosecurity arrangements, resulting in a number of new protocols designed to help manage this issue.

## PLATYPUS-FRIENDLY ANGLING

Fishing is in many ways an ideal leisure activity: challenging, healthy and relaxing, it also offers the tantalising prospect of a delicious reward.

To help ensure that fishing remains an entirely sustainable activity, it's important that all anglers understand that a platypus swimming nearby can easily become snagged on a fishing hook, including artificial lures. In most cases the hook becomes lodged in the bill, though occasionally a webbed front foot is impaled.

Unlike a duck's bill, a platypus's bill is fleshy and sensitive. This reflects the fact that a platypus shuts its eyes when it dives and relies instead on special sensory systems in its bill to find prey (in the form of aquatic insects, worms and other invertebrates). In human terms, it would be like getting a hook caught in a combined thumb, lip and eyeball – more than merely annoying!

We also know of a number of cases where a hooked platypus has drowned after trailing line became tangled around submerged branches or the equivalent, so the animal couldn't reach the surface to breathe.

If a platypus appears nearby while you're out angling, the ideal response is to move a short distance upstream or downstream to avoid the animal (or stop fishing for a few minutes until the platypus itself moves away).

If you do happen to hook a platypus, by far the most humane course of action is to reel the animal in and get the hook out.

When handling a platypus, take great care to avoid the poisonous spurs of adult males. These structures are located on the inner ankle of the hind legs and resemble the canine teeth of a small to medium-sized dog in terms of their length (around 15 mm) and shape (slightly curved). Although platypus venom is not life-threatening, it can cause intense pain and severe swelling.

Accordingly, unless you know for certain that a platypus is *not* equipped with spurs, *never* place your hands under the animal or use your legs or arms to support it from below.

Instead, hold the animal firmly down against the ground while you get the hook out or (particularly if you're alone) consider confining it first by wrapping it up inside a towel or jacket.

To lift a platypus safely, grip the end half of the tail (but not the tail base, which a male can reach with his spurs) – see below.



While holding a platypus in this manner, you should be able to tell quite easily if the animal is an adult male, a non-venomous juvenile male (with stubbier and more or less cone-shaped spurs) or a female (no spurs will be apparent).

Another way in which anglers can contribute to platypus conservation is to ensure that lengths of broken or tangled fishing line are always picked up and taken home.

Although the platypus's front feet are very good at paddling, they have virtually no ability to grasp objects.

A loop of fishing line that accidentally finds its way around a platypus's head will therefore work its way back along the body until it can't go back any farther and then just stay there, gradually cutting through the skin and muscle to cause horrific injuries.

To safeguard platypus, the only really safe approach is to prevent *all* discarded line (and other manmade loops or plastic rings, including such seemingly harmless items as elastic hair-ties and the tamper-proof seals around the mouths of bottles and jars) from being left near waterways.

## PEOPLE POWER FOR PLATYPUS

As reported in recent editions of *Ripples*, the Conservancy's *Platypus Count* program provides a very useful model for how to harness volunteer energy and enthusiasm on behalf of platypus monitoring, with more than 3,000 site-visits carried out by *Platypus Count* participants over the last 12 months in the Yarra River catchment alone.

The complementary *Platypus Group Watch* project is also proving its worth as a great way for groups to generate baseline data about the status of platypus (and water-rat) populations.

*Platypus Group Watch* typically relies on groups of 8-20 volunteers, armed with binoculars and simultaneously stationed in pairs at observation points distributed along one section of a river or creek. Each monitoring session normally lasts for one hour (either in the early morning or late afternoon), with the exercise ideally being repeated through the year. The results provide an interesting snapshot of platypus and water-rat activity and, over time, can be used as a tool to help measure changes in abundance.

Over the last 12 months, more than 40 groups have generated such information for a diverse array of water bodies in Victoria, New South Wales and Queensland. Their ranks include Landcare groups, Conservation and Land Management students from TAFE colleges, a wide variety of clubs, a Green Corps Team and a scouting group. Group Watch sessions have also been carried out in the Australian Capital Territory as an outgrowth of the APC's partnership with ACT Waterwatch.

To assist interpretation of observation-based results, the Buchan River in East Gippsland is currently serving as a reference area where data obtained in group watch sessions can be directly compared and calibrated with results from APC live-trapping studies.

Any groups interested in joining *Platypus Group Watch* are encouraged to contact the Australian Platypus Conservancy to receive a full information kit containing data sheets along with advice about how to get started.

Ongoing support for *Platypus Group Watch* is generously provided by the Sara Halvedene Foundation.

## CONSERVING PLATYPUS CD-ROM

The APC has produced a new CD-Rom entitled *Conserving Platypus and Water-Rats*.

Drawing in part upon the Conservancy's research findings over the past two decades, the CD-Rom contains detailed conservation guidelines along with a wealth of information about platypus biology and ecology. A comprehensive reading list, FAQ section and quiz are also included, along with a chapter summarising the biology of the Australian water-rat (or rakali).

The CD-ROM also contains copies of recent information leaflets produced by the APC (*A Guide to Spotting Platypus and Water-rats in the Wild, Platypus Emergency Care, Platypus-friendly Angling, and Platypus Contingency Plans for Works Programs*) which other organisations are welcome to reproduce for non-profit, educational purposes.

*Conserving Platypus and Water-Rats* is designed to be a useful resource for management agencies, planning authorities, environmental groups, students and interested individuals.

To defray postage and packing costs, the new CD-ROM can be obtained at a nominal cost of \$5 for one copy (plus \$2 for each additional copy). New members of *Friends of Platypus* will automatically receive a free copy when they join.

Production of *Conserving Platypus and Water-Rats* has been made possible through the generous support of the Fouress Foundation.

### **Did You Know That...**

*Charles Darwin made a special trip to see a platypus in the wild at Wallerawang on the Cox's River during HMS Beagle's stay at Sydney in 1836. This experience played an important role in developing Darwin's thoughts on species diversity and the evolutionary importance of geographic isolation.*



