

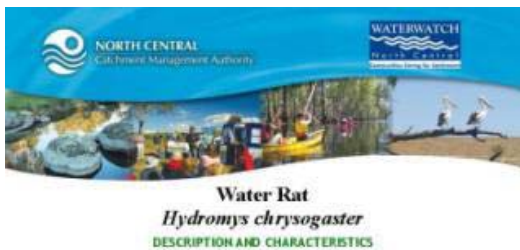


North Central Waterwatch Water Rat and Platypus education and monitoring program

Platypus and Water Rats are two of the more iconic native species that inhabit our waterways. Both species occupy important roles in a range of aquatic ecosystems and are impacted upon by many river health and water quality issues affecting our region.

It is important to keep track of the distribution of populations to ensure accurate evaluation of species status, be aware of any decline in populations, development of conservation strategies, and to ensure existing populations are not negatively impacted upon. It is believed that platypus populations are declining in certain waterways, this makes it extra important to keep an eye on this unique creature!

The Australian Platypus Conservancy runs an Australia wide community based platypus and water rat monitoring program called Platypus Care. However, the organisation has limited resources, restricting the amount of community awareness raising and training opportunities they are able to provide.



Life form / morphology

The water rat is a distinctive native rodent, specialised for an aquatic life. It is a relatively large mammal with broad, partially-webbed hind feet and water repellent fur, making it perfect for an aquatic existence. Its body is streamlined for swimming, with abundant whiskers and small eyes and ears. They can reach up to 40cm in length, excluding the tail. Colouration varies from slate grey to nearly black on the back, and white to orange on the underside. The tail is thick and usually has a white tip, an identifying feature of this interesting critter.

Feeding habits and behaviour

The water rat is mainly carnivorous; crustaceans, aquatic insects and fish form the bulk of its diet. Small birds, eggs, mammals, frogs, reptiles and plants may also be eaten. They hunt partly by sight when diving and by stalking through vegetation along the waters edge. Typically they forage close to the waters edge, catching prey in the mouth and often taking it to a favourite feeding place, where remains are often left.

The water rat is mainly nocturnal, being active mostly in the hours following sunset, but may also be found swimming

or foraging during the daylight hours of early morning or early evening.

Surprisingly, the Water Rat is not well adapted for cold or hot climates, not being able to maintain its body temperature below 15° and risking hyperthermia at temperatures above 35°. Unlike the Platypus, they do not have very insulating



fur, so they tend to remain in the burrow during the heat of the day, and an winter nights foraging is interspersed with warming in the burrow. In winter they also rely less on aquatic prey and more on terrestrial prey, minimising time spent in the water. These adaptations have allowed the water rat to become one of Australia's most successful & widespread rodents.



Platypus *Ornithorhynchus anatinus*

DESCRIPTION AND CHARACTERISTICS

A Mammal? Marsupial?

The Platypus is one of only five known species of monotremes – the other four are all types of echidna. Monotremes are an interesting group of animals, they are a part of the mammal family, but differentiated by laying reptile-like eggs and having only one opening for their urinary, defecatory and reproductive tracts. Far from primitive - as they were once thought to be - monotremes are now widely recognised as highly evolved and fabulously specialised creatures.



Quite Defining Characteristics!

Platypus are certainly unique looking creatures, so much so that the first specimen sent to England in 1799 was deemed to be an elaborate hoax! The fact that the animal has a duck like bill, webbed feet to assist in swimming and equipped with claws for burrowing, as well as a 'beaver-like' flat tail, was so much for the zoologists of the time so confounded... this holds true for many people today! Adults vary from 700grams to over 2kg and measure between 40 and 50cm, with males typically larger

than females. They have thick brown fur, with over 900 hairs per square mm; set in two layers, the hairs trap air and keep the platypus warm and dry. Their flat tail helps them float, but is also used to store fat. While their bill is quite unusual in appearance, it serves an even more extraordinary function, lightly developed electro-receptors cover the bill, allowing the platypus to efficiently search out food on muddy river bottoms. Platypus have no teeth as adults - they have teeth when young, but shed them before maturity - but instead have heavily keratinised pads they use to grind up their food.



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Platypus have a fold of skin that covers their eyes and ears when they dive. Their body temperature is lower than other mammals at 31-32°C allowing them to survive quite harsh conditions. Males possess another interesting attribute, a sharp spur behind their hind legs which is used to inject venom. The venom is not lethal to humans - it can kill smaller animals - but can inflict severe pain. It is thought that the spurs play a role in male conflict during breeding season, enabling serious impairment of any victim - including humans!

North Central Waterwatch has developed education materials and will deliver regional education and training opportunities to complement the work of Platypus Care.

If you have sighted a platypus or water rat in a local waterway, or if you are interested in trying to find some, please read the instructions on the next page or contact your local Waterwatch Facilitator. They can send you either a hard copy or electronic 'sighting record sheet' to fill out and return to Platypus Care and North Central Waterwatch. The forms are also available from the Waterwatch Victoria website.

Teachers or community groups may request a Waterwatch Facilitator to run a platypus and water rat education session, which is normally delivered as part of a core Waterwatch education or training session.



North Central Waterwatch Water Rat and Platypus Monitoring

Instructions:

- The best time to see platypus is the hour before dawn and the hour before sunset and sunset for the water rat; although both can sometimes be seen during the day.
- Platypus - easiest to spot in still or slow flowing parts of the waterways, where the ripples formed from the animal swimming and diving show up best. It won't see you while it is diving, but you'll have to remain still when it is at the surface.
- Water rats - swim through the water with only their head and nostrils above the water, leaving a wake behind them. They will occasionally dive with flick of the tail
- To avoid confusion between the platypus and the water rat, be sure to look at the tail. Does it have a white tip? Is it flattened or narrow? Water rats are also much more likely to spend time outside of the water running along logs or sitting on a rock whereas platypus are rarely seen out of the water.
- If it's too dark to fill in the sheet at the site, be sure to note your location and don't forget to turn on your GPS and plot the point if you are using one. Thanks and good luck!

Health and Safety Considerations

- Make sure someone knows where you are.
- Wear appropriate clothing and footwear for outdoor activities.
- Always wear sun protection and sunscreen during daylight hours.
- When working at after dark, carry a torch or other light.
- Carry a first aid kit and a mobile phone in case of an incident.
- Carry adequate drinking water.
- Beware of sharp objects (eg. glass) that may be present in the area.
- Be conscious of unstable or steep banks, holes in the ground and uneven and slippery surfaces. Use the safest path to the waterway.
- Beware of animals and plants that may cause injury or harm eg. snakes and prickly vegetation.