

Structures for survival

Rakali, the Australian water rat

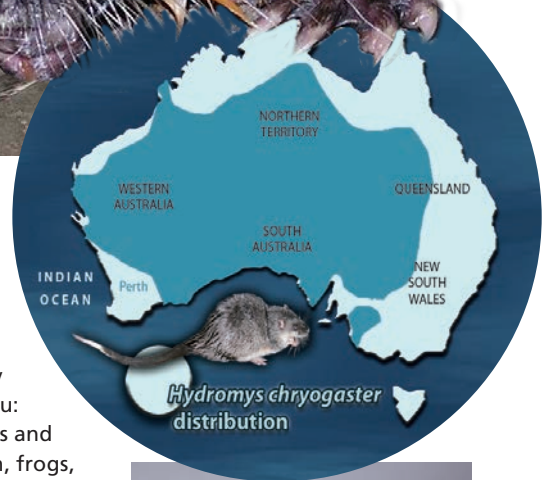
(*Hydromys chryogaster*)

Rakali is a specialised rodent that inhabits Australian freshwater systems. It is one of the top predators in this environment. It is Australia's largest rodent, with a body length of around 40 cm and a tail almost as long. The largest specimen recorded weighed an impressive 1.12 kg.

photo: Erin Whitford, used by permission



photo: Andrew McCutcheon, used by permission



What's in the name?

The Australian water rat is sometimes called the native otter, but generally they are called rakali, which is their Western Australian Indigenous name. Their scientific name is *Hydromys chryogaster*, and as you might have guessed, this is a rat that loves water.

Where do rakali live?

Rakali is one of Australia's most successful rodent species and is found across the country. They also live in New Guinea and adjacent islands.

Rakali habitats include creeks, rivers, estuaries, wetlands and farm dams. They are also found in brackish environments, including mangroves of New Guinea. West Australian locations include the Canning River, Perth metropolitan lakes and the Bremer River.

What's on the menu?

Rakali are predominantly carnivorous and opportunistic, so their diet is highly varied. Many aquatic organisms are on the menu: particularly insects, worms, spiders and crustaceans. They also dine on fish, frogs, tortoise, small mammals and waterbirds. Rakali prefer to take their meals on land, visiting favourite feeding platforms called middens.

Fashionable fur

Rakali were hunted extensively for their fur during the first half of the twentieth century, with over 10 000 animals trapped each year in Victoria alone. Rakali have been protected nationwide since the 1950s.

This fur coat was made in Sydney by furrier Sam Pressworn and worn by Mrs Buckland in the 1940s. It was made from over 200 rakali pelts, trapped by Mrs Buckland and her husband whilst on their honeymoon, camping near Dubbo.



photo: Sue Stafford (Powerhouse Museum collection, Sydney)

Water-holding frog

(*Cyclorana platycephala*)

The water-holding frog, *Cyclorana platycephala*, is one of many Australian frog species capable of surviving in an arid environment. There are an estimated 50 000 water-holding frogs living across central Australia.



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Distribution and habitat

From southern Queensland to central Western Australia, these arid survivors inhabit some of Australia's major deserts, including the Great and Little Sandy Deserts, Gibson Desert and Simpson Desert. Despite inhabiting arid areas, the water-holding frog lives where there is water, even if it's only seasonal water. They can be found in ponds, streams, claypans and even ditches. Water-holding frogs rely on water to supply most of their food, and of course it's here that they lay their eggs.



water-holding frog habitat in the wet, and in the dry
photos by Kellie McMaster, used by permission

What's to eat?

The water-holding frog is an opportunistic predator. Food on the menu includes invertebrates (especially insects), aquatic arthropods and even other frogs. These creatures are strong and muscular, and formidable hunters in water.

Bringing up kids

Water-holding frog reproduction depends on rainfall, so they reproduce from spring to late summer. Females produce hundreds of eggs that are laid in clumps in available water sources. Tadpoles emerge about 14 days later. The tadpole stage lasts about 30 days.



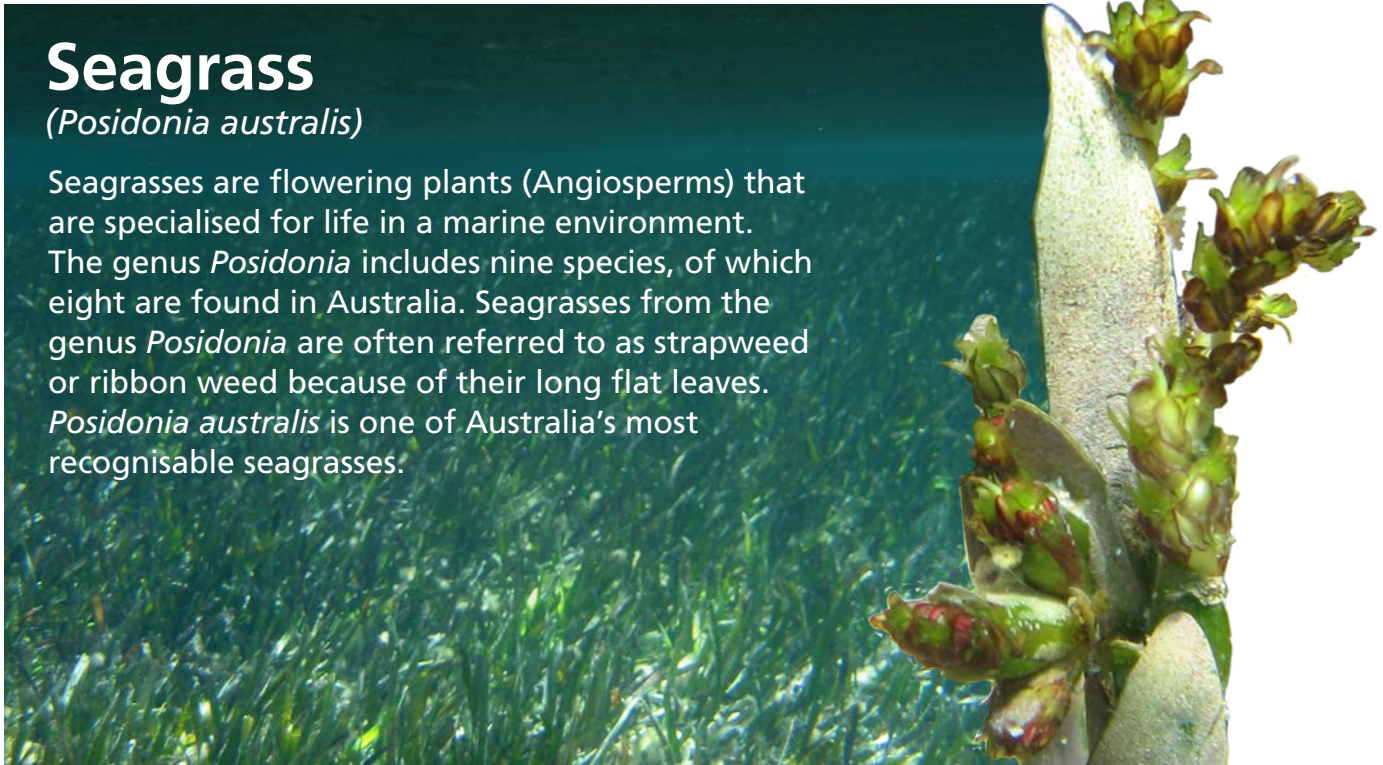
The water-holding frog isn't a giant; the average size of these frogs is around 66 mm in length, weighing in at a mere 80 g.
photo © Stewart Ford, used by permission

Seagrass

(*Posidonia australis*)

Seagrasses are flowering plants (Angiosperms) that are specialised for life in a marine environment. The genus *Posidonia* includes nine species, of which eight are found in Australia. Seagrasses from the genus *Posidonia* are often referred to as strapweed or ribbon weed because of their long flat leaves. *Posidonia australis* is one of Australia's most recognisable seagrasses.

photo: Marion Cambridge, used by permission



Habitat

Seagrasses usually grow in shallow coastal waters. Most seagrass species like to remain submerged, so they inhabit the subtidal zone, which is rarely exposed by low tides.

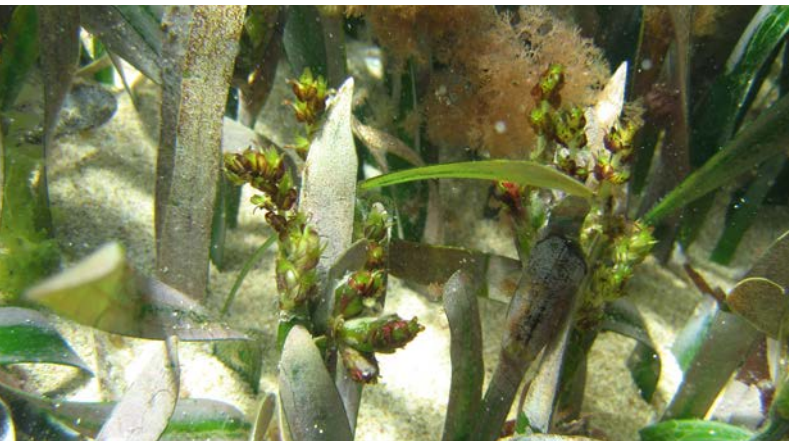
Seagrasses grow best in sandy or muddy sediments, although some species colonise rocky regions. In suitable conditions seagrasses cover vast areas, forming extensive underwater meadows that are visible from space. *Posidonia* grow in the subtidal zone, 1–12 metres underwater.

Ecologically important seagrass

Seagrasses provide an important habitat for marine animals; they are home to many fish and crustacean species, along with sea worms, sea squirts and razor clams. In Australia they are nursery grounds for economically important species such as prawns, lobster and fish. They are also a principal source of food for animals such as dugongs and turtles.



photo: Marion Cambridge, used by permission



Seagrass vs seaweed

Seagrasses aren't seaweeds; seaweed is actually a common name for algae. Algae don't have the same features as land plants or seagrasses – they lack veins and a root system. They also reproduce by spores, rather than seeds and fruits like angiosperms.