SOUTH AUSTRALIAN MUSEUM

North Terrace
Adelaide SA 5000
ABN 39 808 959 302
+61 8 8207 7500
samuseum.sa.gov.au

Government of South Australia

Freshwater Turtles of South Australia

Emydura macquarii

Mark Hutchinson

Version: 2021
https://www.samuseum.sa.gov.au/research/item/south-australian-reptile-keys

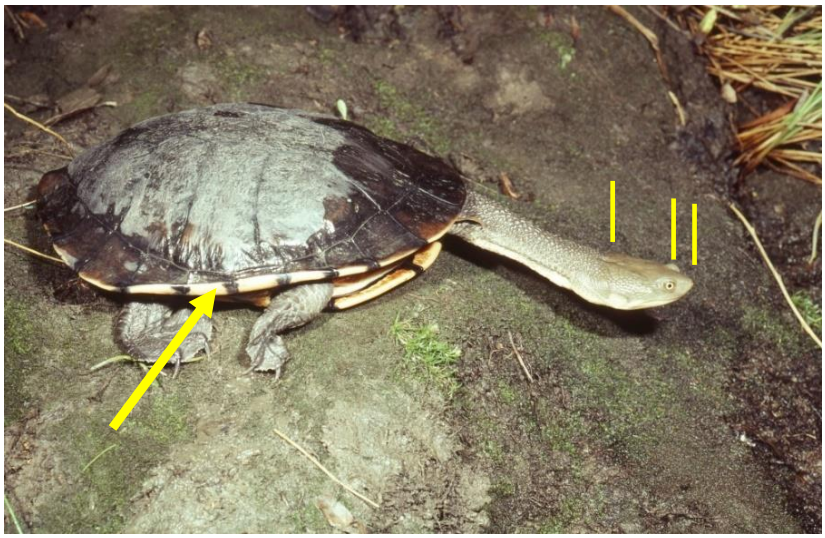
THE FRESHWATER TURTLES OF SOUTH AUSTRALIA

FAMILY CHELIDAE

Three species of freshwater turtles (or "tortoises" if you prefer; either name will do) inhabit South Australia. All belong to a southern hemisphere family, the Chelidae, that also occurs in South America. Chelids withdraw the head into the shell by bending the neck sideways; most other turtles bend the neck vertically, pulling it straight back.

The three species in South Australia are the common long-necked turtle (*Chelodina longicollis*), the larger and rarer broad-shelled turtle (*Chelodina expansa*), also with a long neck, and the short-necked Macquarie River turtle (*Emydura macquarii*).

1 Head and neck more than half the length of the shell



Common long-necked turtle, *Chelodina longicollis*

Curled up sides of shell reveal dark-edging on the underside shell plates; head relatively short and narrow, distance from eye to the back of the head about three times the distance from eye to snout.

Broad-shelled turtle, *Chelodina expansa*

Sides of shell not curled up, underside shell plates plain whitish; head long and wide, distance from eye to the back of the head about six times the distance from eye to snout.

2. Head and neck much shorter than the length of the shell

Macquarie River turtle, *Emydura macquarii*
Head chunky, deep, with a cream coloured stripe running back from the corner of the mouth

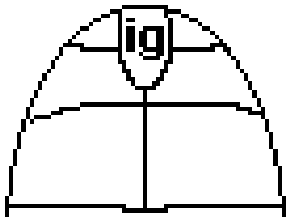
The broad-shell and the Macquarie River turtles are confined to the main channels of rivers. In South Australia the broad shell is found only along the Murray River, while the Macquarie River turtles occurs naturally along the Murray and in billabongs and channels of Cooper's Creek. Introduced populations exist in the Adelaide city area.

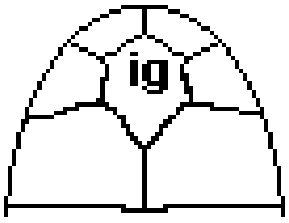
The common long-necked turtle is much more versatile. It inhabits rivers, creeks lakes and swamps, often using ephemeral water bodies that dry up completely. This species is well able to survive on land for long periods and makes energetic overland migrations between water bodies.

IDENTIFYING SHELLS

Turtles of course are readily recognised by their shells, an upper **carapace** and a lower **plastron**, joined by a bridge that separates the fore and hind limbs on each side. The details of shell structure differ in the three South Australian species, and shell proportions, shape and the arrangement of the tough, scaly plates ("scutes") that cover them can be used to readily identify them.

The short-necked species, the Macquarie River turtle has a different arrangement of plates on the front of its **plastron**, compared to the two long-necked species.



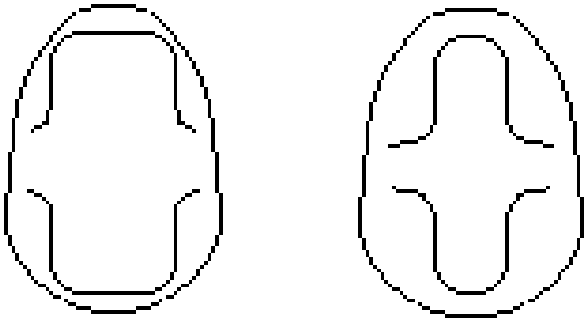


Macquarie River turtle

common long-necked turtle
broad-shelled turtle

The intergular plate ("ig" on the diagram) reaches the front edge of the shell in the Macquarie River turtle, but is surrounded by other plates in the two long-necked species.

Two species, the Macquarie River turtle and the broad-shelled turtle are almost completely aquatic and rarely travel over land, except for females when they are nesting. They have 'cut-away' plastrons that give their legs more freedom to move and provide more powerful swimming strokes. The downside of this anatomical change is that the plastron does not fully protect the turtles against the attack of land predators. The common-long-necked turtle spends a lot of time on land, often migrating overland to isolated water bodies like dams or temporary swamps. Its bottom shell is almost as wide as the top shell and gives it much better protection against attack by a predator.



common long-necked turtle

broad-shelled turtle
Macquarie River turtle

The shell of the common long-neck is also different from the other two species in other ways. The carapace has distinctively curled up lateral margins that expose the plastron when seen side on. There is also a well-marked arch over the tail at the back of the carapace. The underside of the plastron has distinctive and well-marked blackish margins round the edges of all the plates; the plates on the plastron in the other two species are uniformly bone-coloured with no dark edgings. In just-hatched juveniles of the common long neck the underside of the shell is mostly blackish but the centre of each scute on the plastron is pink or orange rather than whitish. The bright colour soon fades as they grow. Hatchlings of the other species have plain whitish plastrons.

Glands in the bridge of the shell of the common long-neck boost its defenses by releasing drops of a pungent, foul-smelling dark liquid that is similar to the repellent chemical defense of skunks.