

South Western Long-necked Turtle Facts and Identification

There's a saying in science which goes something like...90% of what we know to be true today will be incorrect in 30 years time. No truer words have been spoken than in relation to describing this animal. This species of freshwater turtle has had an extraordinary number of both scientific and common names over the last 50 years. This can be attributed to recent research conducted over the last 15 years into its taxonomic history and that the application of common names are open to interpretation by the various communities (both scientific and geographical) that use them.

Current Scientific Name: *Chelodina oblonga*

Current Common Name: South Western Snake-necked Turtle

Previous Scientific Names: *Macrodiemys oblonga*, *Chelodina (Macrodiemys) colliei* & *Chelodina (Macrochelodina) oblonga*.

Previous Common Names: Oblong Tortoise, Oblong Turtle, Oblong Snake-necked Turtle, Narrow-breasted Snake-necked Turtle and Western Long-necked Turtle.

The most common sightings of this turtle will be of adult females as they leave the safety of their freshwater habitats to nest in spring. Nesting is triggered by a specific weather pattern on certain days described by scientists as a 'rain-bearing low pressure front'. As a result, records of turtle populations in and around Perth show the start of the nesting season to be in September however Albany populations start nesting in early to mid-October.



Figure 1. A female turtle on the move to find a nesting site.

Females leave the water on these particular days to search for a suitable nesting site. They will return to the water within an hour or two, as soon as nesting has been completed and depending on how far they have travelled to the nest site (which can be over 500m away). Little is known about how turtles choose their nest site however observations of the turtle population at Lake Seppings, Middleton Beach over the last 13 years indicate they prefer nest sites that are along edges. Be it the edge of the

Albany Golf Club greens where the thicker vegetation starts, the edges of garden beds, fence lines, driveways, roads where the verge meets the kerb and more recently along the edge of the revegetation plantings along the western shore of the lake.



Figure 2. Turtle nesting along the edge of a road verge

A nest chamber is dug into the ground by their back feet and an average of 10-12 eggs are carefully laid and arranged in the nest. When all the eggs have been laid, the female will carefully refill the nest with her hind legs. As the nests becomes filled, she will drop her body onto the ground, compacting the dirt. She may also add additional vegetation over the dirt likely in an effort to conceal the nest from predators.



Figure 3. Turtle digging a nest.

She will then return to the water. On average a turtle will take between 20-40 minutes to dig the nest chamber, lay a clutch of eggs and refill the hole.

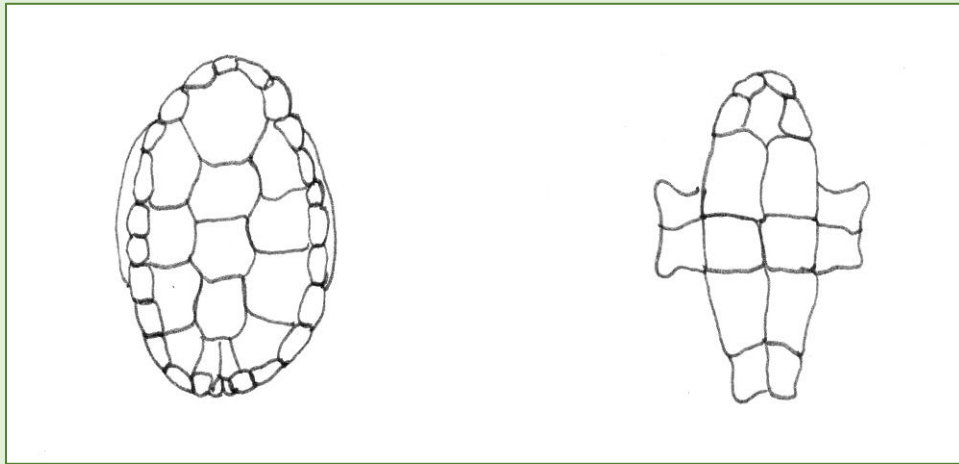


Figure 4. Hand drawn representation of a *C. collyei* carapace (top shell) and plastron (under shell)

Adults usually have a dark brown/olive carapace but are known to vary in colour according to the aquatic habitat of the animal. The plastron is generally a yellow/cream colour. Most adult turtles recorded by scientists have had a carapace length of 20-30cm with head/neck being generally proportionate to carapace length. However they are believed to grow up to 40cm long with the neck and head adding up to another 40+ cm in larger specimens. Studies have generally agreed males are smaller than females and breeding size is around 14cm for males and 15cm for females although weight may be a better indicator for breeding potential in females. Males have longer tails and the plastron has a concave depression towards the tail end which is believed to assist with mating. Animal growth is thought to be determined by the health of their habitat, with abundant food, good water quality and fringing vegetation encouraging animals to attain maturity faster. Currently these turtles are thought to live around 40 years but potentially up to 80 years.

Juveniles are a smaller version of their adult counterparts however they will have a more pear-shaped carapace which will develop into a more oval/oblong shape, hence the previous name of Oblong Turtle. Juveniles have not been recorded or observed out of the water voluntarily and are very hard to spot. This is likely because they are highly vulnerable to predators and rely on their aquatic habitat for protection.



Figure 5. An 8-month-old juvenile being released into Lake Seppings, December 2008. The egg was rescued from a raided nest in October 2007, hatched in April 2008 and raised until release.

Hatchlings have a distinctly pear-shaped, dark brown/ black carapace and a yellow/cream plastron.



Figure 6. Photo showing the variation of hatchling sizes and shapes.

There is evidence to suggest hatchlings from the Perth area emerge within weeks of hatching out of the egg, around May / June. However, Albany hatchlings appear to stay in the nest chamber for a number of months until August / September.



Figure 7. Newly emerged hatchling.

Newly hatched turtles have an average carapace length of 30mm and carapace width of 22mm and will often look very dry and shriveled.

Hatchling sightings are highly opportunistic as it is not known what triggers them to emerge from the nest. In Albany, most sightings have been reported on warm sunny afternoons in August however hatchlings have also been found on the roadside as late as October.

Eggs are hard shelled, oval shaped, approximately 34mm long x 23mm wide and white in colour (on par with the size of a 50c piece, much like the hatchlings).



Figure 8. Photo of two deceased hatchlings found on the roadside in August 2007 and an egg from that nesting season rescued from a raided nest in October.

Most clutches of eggs are laid in Spring, as detailed previously and take around 7 months to hatch. Scientist believe up to three clutches of eggs can be laid in a nesting season which lasts until December, with the later clutches being laid independent of any weather trigger.

Egg sightings are predominantly of excavated nests although occasionally a turtle will be interrupted during laying, causing the nest and any eggs laid, to be abandoned but this is rare. The two main predators of nests in Albany are the native Raven (*Corvus coronoides*) and the introduced fox (*Vulpes Vulpes*). Nests raided by Ravens have a relatively intact nest chamber as the birds are only able to dig up the freshly compacted dirt covering the eggs.



Figure 9. A nest raided by Ravens

Very few egg shells are left next to the hole as the Ravens often take the eggs away to eat at a later time. Nests excavated by foxes are often completely destroyed, leaving an open depression in the soil with numerous egg shells scattered nearby.



Figure 10. A nest raided by foxes

Hopefully the information shared here will help you have a greater understanding of this species and assist with your sighting reports.

More general information on this species can be found on the Department of Water and Environmental Regulation webpage <https://rivers.dwer.wa.gov.au/species/chelodina-colliei/> .

Unfortunately very few scientific studies have been undertaken of *C.colliei* populations outside the Perth metropolitan area. Initially the information you provide via this survey will help to map the distribution of turtle populations in the Albany area but hopefully this will lead to further research being undertaken.

Perth turtle populations are under threat. Freshwater turtle habitat has significantly reduced and become fragmented by urban development. The habitat quality of these isolated lakes and wetlands has often declined since the urbanisation of the surrounding land. A 2018 study of the Hyde Park population of turtles show that despite a relatively healthy population of fertile animals, no hatchlings or juveniles were recorded (Hosgson & Becini 2018). No recruitment means this population's long-term survival is under threat. Similar stories are playing out throughout the Perth metropolitan area.

The more we understand, the better equipped we are to find a way to live harmoniously with these animals and the greater natural environment, enjoying the benefits of a modern lifestyle without sacrificing the health and abundance of the natural ecosystems on our doorstep.

