

CARTER'S FRESHWATER MUSSEL: AN AQUATIC MACRO-INVERTEBRATE OF SOUTH-WESTERN AUSTRALIA

South-western Australia is a biodiversity hotspot, one of 25 of Earth's biologically richest and most endangered ecoregions. Carter's Freshwater Mussel (*Westralunio carteri*) contributes to this unique biodiversity; it is the only known freshwater mussel species found in south-west WA and found nowhere else in the world. It is a very important part of the freshwater ecosystem, filter-feeding on tiny particles in the water column such as algae and plankton, and helping to maintain water quality and clarity.

The mussel is reliant on native freshwater fish for its dispersal. The female mussels brood their young in specialised pouches in their gills (marsupia). When the time is right, the tiny (<1mm) larval mussels (glochidia) are released on mucus strands and then attach to native freshwater fish, using specialised hooks on their shells, known as 'larval teeth'. They live on the fish as parasites for a brief period, before dropping off to begin life in the sediments. Presumably, this is how freshwater mussels distribute their population. Several animals, including water rats, birds and, historically, people eat these mussels.

The species was listed as 'Vulnerable' by the International Union for the Conservation of Nature (IUCN) in 1995 and as a Priority 4 (P4) species by the Department of Environment and Conservation (DEC), Government of Western Australia, as a result of population decline from salinisation of fresh water. The mussel cannot live in salt water. Carter's Freshwater Mussel only occurs in the freshwater rivers of south-western Australia.



6
After a period of weeks to months, the developed glochidia become juveniles, drop off of the fish and begin life in the sediments, growing up to become adults

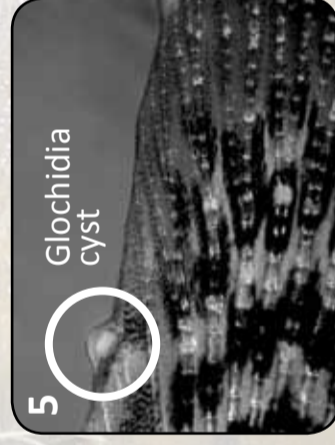


1
Adult mussel



2
Adults get together to breed

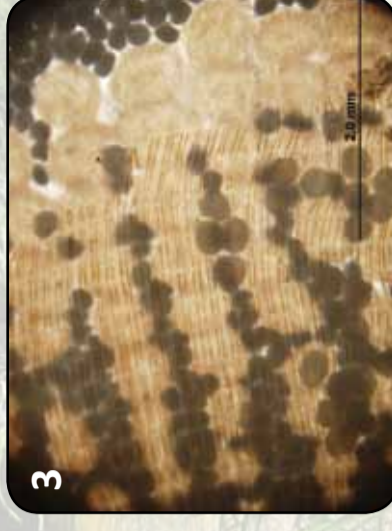
Life Cycle of CARTER'S FRESHWATER MUSSEL *Westralunio carteri*



5
Once glochidia attach, they are encased in fish skin, forming a cyst



4
Larvae (glochidia) are released from the females' gills and use specialised hooks to attach to fish



3
Eggs are fertilised in the brood pouches (marsupia) of females' gills

