

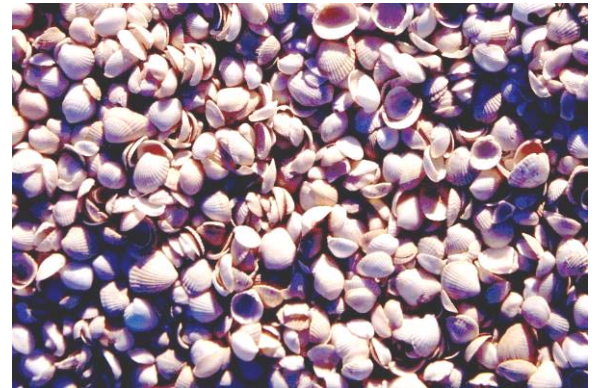
Hamelin Cockle (*Fragum erugatum*)

What does it look like?

Sometimes called the Heart Cockle or Cardiid Cockle, this brown mollusc is enclosed in tiny bivalve shells no more than 14 mm long. The shell appears pure white, but is translucent when held up to light.

Where does it live?

This burrowing species lives warm coastal waters between the Dampier Archipelago, in north-western Western Australia, and the Houtman Abrolhos Islands, near the mid-west city of Geraldton. But there are more Hamelin cockles in Shark Bay than anywhere else. This is because the cockle can survive in very salty water, and Shark Bay has one of the world's few hypersaline marine environments. The water in L'haridon Bight and Hamelin Pool, where the cockle lives, is twice as salty as the open ocean.



Since there is not a lot of food in this environment, the Hamelin cockle 'makes' its own. Zooxanthellae (green algae) lives within the cockle's mantle and gills; like other plants, the algae photosynthesise energy from the sun, producing sugars and oils which are then used by the host, the cockle. In these shallow waters the algae get plenty of sunlight, and the cockle never goes hungry.

Why is the cockle so special?

This super-salty habitat is perfect for the Hamelin cockle but not so great for its predators, such as shell-drilling gastropods (snails). So for more than 4,000 years the cockle has lived a trouble-free existence and millions of its shells have accumulated on the sea floor. The shells are washed ashore continuously, but stormy weather can dump large deposits. Over the years the shells have built up to form spectacular white beaches such as Shell Beach, which stretches for 60 km up the coast! In some places the shell ridges are 10 m deep and 1 km wide!

Further inland, the shell deposits have compacted and cemented together to form a rock called coquina. Blocks of coquina were used to build some of Shark Bay's oldest buildings, including St Andrew's Church in Denham. A coquinite quarry can be visited at Hamelin Pool, adjacent to the historic Telegraph Station.

How does it breed?

The Hamelin cockle is a hermaphrodite: it has both male and female reproductive organs. It is thought to spawn once a year, between winter and spring.

Any threats to its survival?

Dead, washed up shells and shell grit are quarried at mining leases near Shell Beach and L'haridon Bight Sanctuary Zone. Although this appears to have had little impact on living cockles, more research on the biology of the species is needed to ensure that mining activities are sustainable, and do not disturb their habitat by causing pollution or sediment run-off into the Pool.