



Identification of giant clams (*Family Tridacnidae*)



UNEP

GreenCustoms

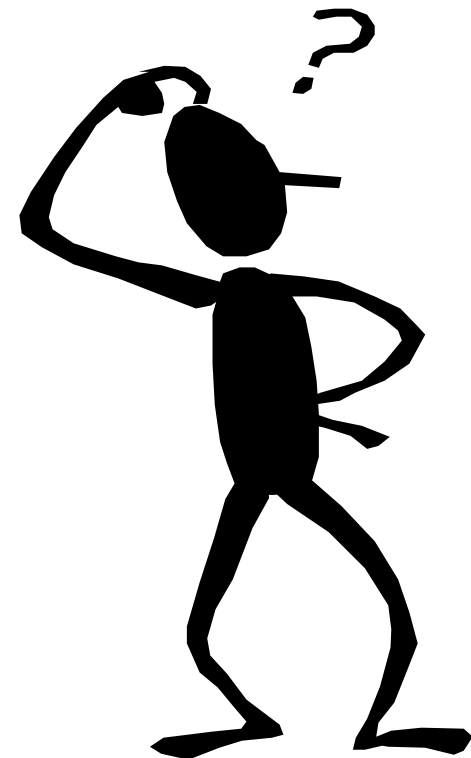
Developed by the CITES Secretariat





Questions to answer

- What are giant clams?
- Where are they from?
- What species are listed under CITES?
- What parts are in trade?
- How can the different species be identified?
- Are there imitation giant clams?





Giant Clams

- Giant clams are large bivalve molluscs of the Family Tridacnidae, that are native to shallow coral reefs of the South Pacific and Indian oceans
- The largest individuals of the largest species can weigh more than 200 kg and measure 1,2 m across, and can live for over 100 years





Giant Clams

- Mantle tissues act as a habitat for the symbiotic algae (zooxanthellae) from which the clams get their nutrition
- During daylight the algae receive the sunlight they need to photosynthesize





Giant Clams

- All 9 species of the Family **Tridacnidae** are included in **Appendix II** of CITES
 - *Tridacna gigas*
 - *Tridacna derasa*
 - *Tridacna squamosa*
 - *Tridacna maxima*
 - *Tridacna crocea*
 - *Tridacna rosewateri*
 - *Tridacna tevoroa*
 - *Hippopus hippopus*
 - *Hippopus porcellanus*





Giant Clams

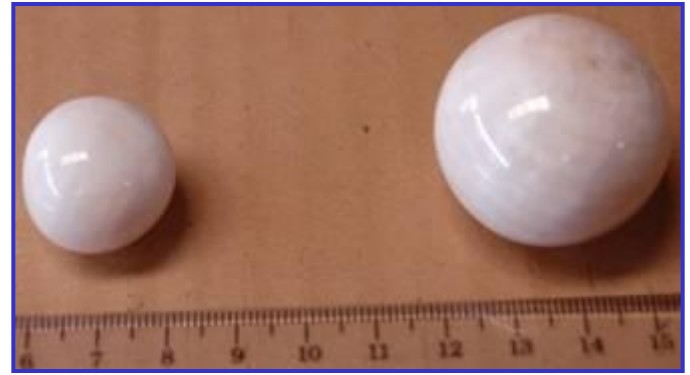
- While there may be some trade in meat for sushi (Himejako), most trade is in the form of clam shells (either single or in pairs, or made into curios and souvenirs)





Giant Clams

- "Pearls" from giant clams are occasionally offered for sale
- These are likely polished shell material and are either sold as polished beads or made into necklaces or other items





Giant Clams

- True nacreous pearls from giant clams are known, but are very rare and irregularly shaped





Giant Clams

- Live specimens are also traded for aquariums





Giant Clams

- Not all specimens are taken from the wild, as mariculture of clams for meat and shell is widespread in several South Pacific countries and territories





Identification of Giant Clams

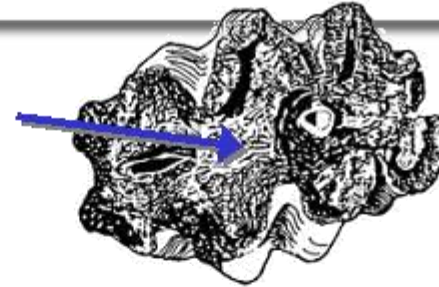




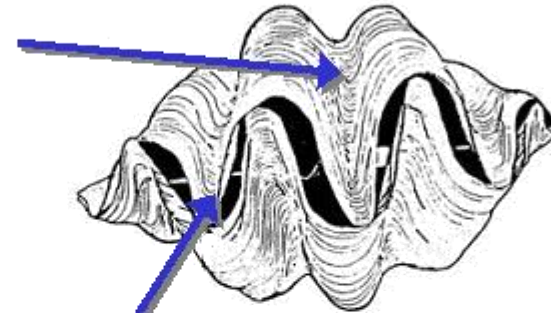
Giant Clams

- Terminology

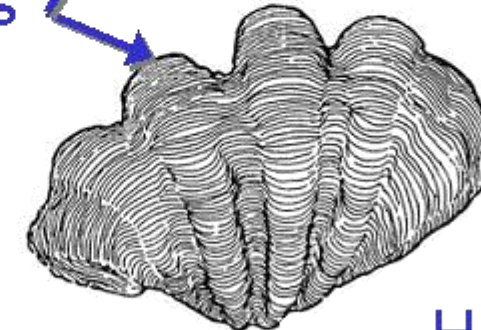
Mantle



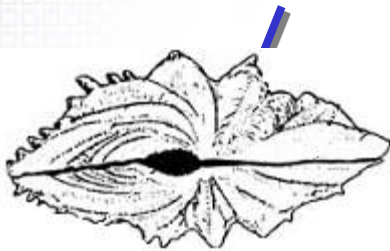
Rib interstices



Valve margins

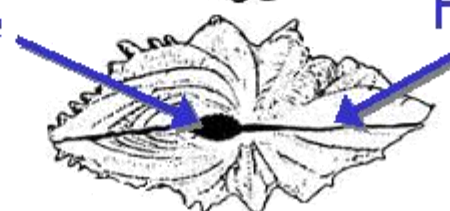


Umbo



Byssal orifice

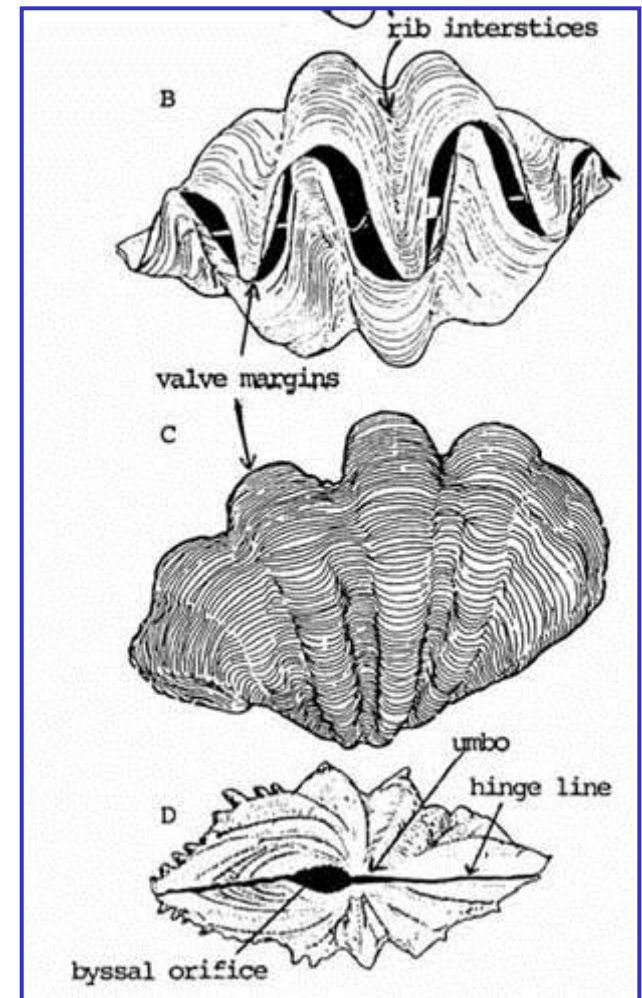
Hinge line





Giant Clams

- *Tridacna gigas*
 - Shell length to 137 cm
 - Equilateral valves, umbos central
 - Valves very heavy (300 kg +) and thick in large specimens
 - Valve margins undulate and fan-shaped in outline with 4-5 generally sharply pointed extremities of rib interstices
 - Hinge line longer than half the shell length
 - Byssal orifice small to nearly closed



Australian National Parks and Wildlife Service



Giant Clams

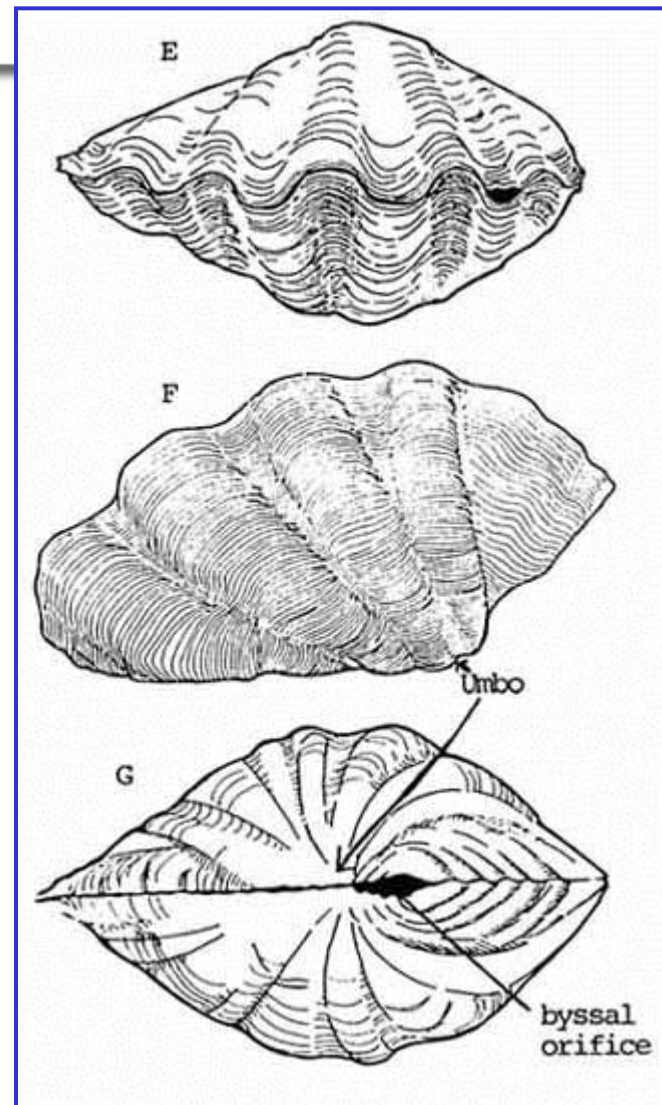
- *Tridacna gigas*





Giant Clams

- *Tridacna derasa*
 - Second largest species of giant clam
 - Shell length to 60 cm
 - Valves heavy and very thick at umbos
 - Valve margins undulate with 6-7 rounded extremities of rib interstices
 - Byssal orifice narrow and short and hinge line usually longer than half the shell length

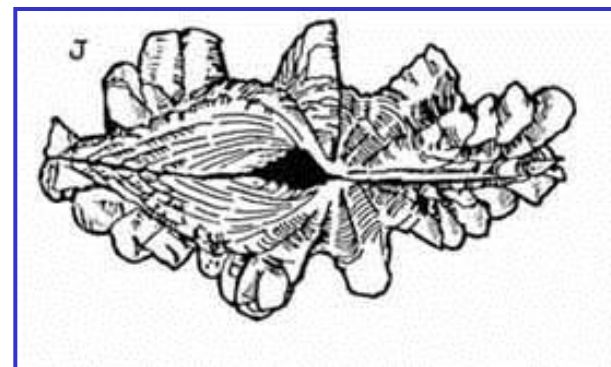
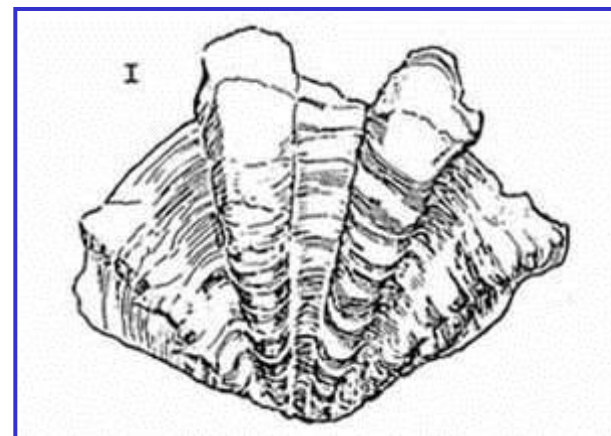


Australian National Parks and Wildlife Service



Giant Clams

- *Tridacna squamosa*
 - Shell length up to 41 cm, valves moderately thick and heavy
 - Valve margins undulate with 4-6 pointed to bluntly rounded, crenulated extremities of rib interstices
 - Hinge line half of shell length
 - Broad leaf-like projecting scales on primary folds of ribs very distinguishing characteristic
 - Medium to small byssal orifice



Australian National Parks and Wildlife Service



Giant Clams

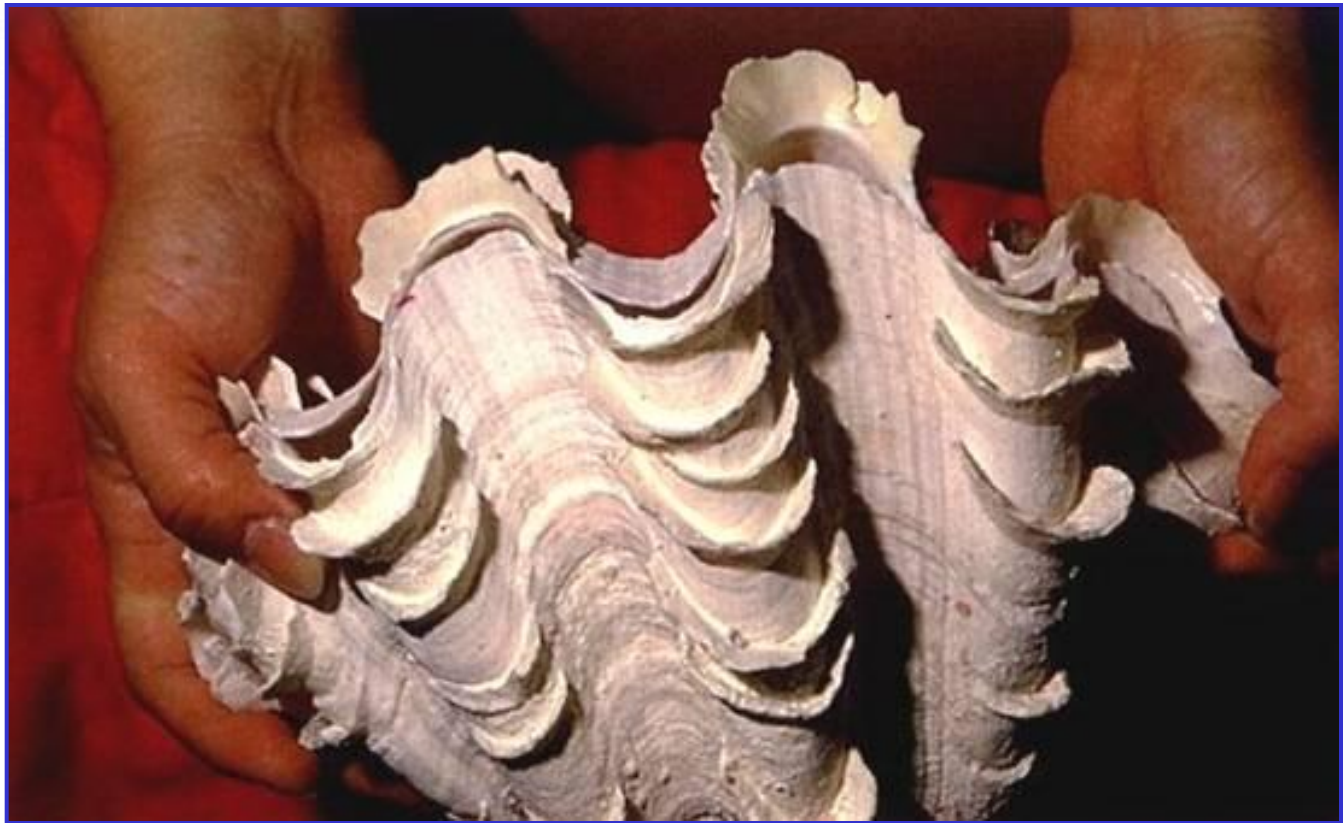
- *Tridacna squamosa* in nature





Giant Clams

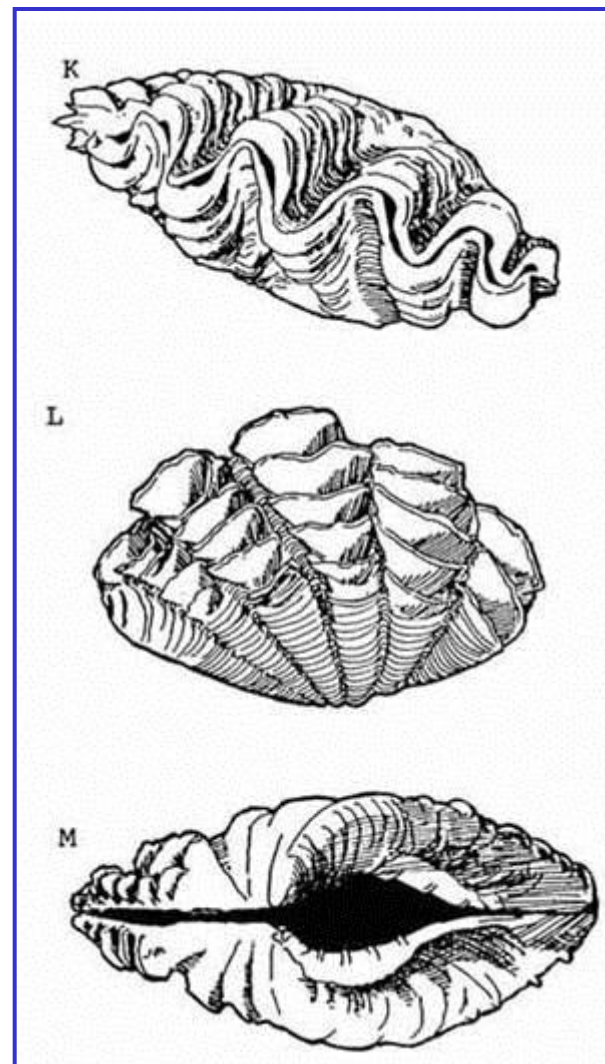
- *Tridacna squamosa* shell in trade





Giant Clams

- *Tridacna maxima*
 - Shell length up to 35 cm, valves heavy and thick
 - Valve margins undulate with about five generally sharply triangular extremities of rib interstices
 - Hinge line less than half of shell length
 - Raised external valve sculpture
 - Large byssal orifice but relatively shorter than *T. crocea*





Giant Clams

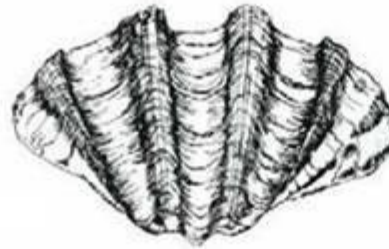
- *Tridacna maxima*





Comparison (1)

T. gigas



T. derasa



T. squamosa



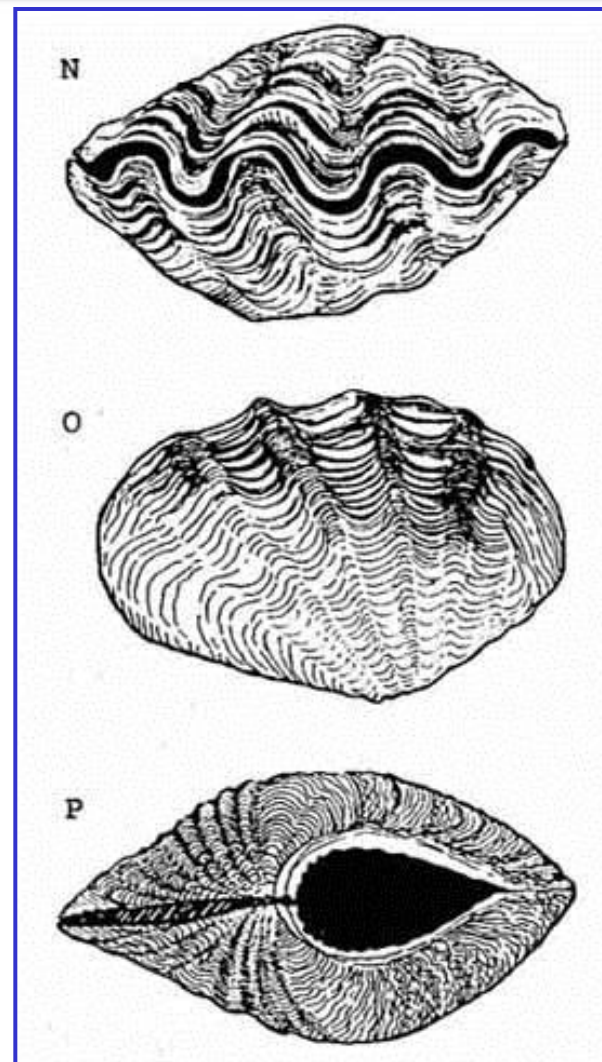
T. maxima





Giant Clams

- *Tridacna crocea*
 - Shell length to 15 cm (smallest species).
 - Valves moderately heavy and thick
 - Valve margins undulate with 4-5 bluntly triangular extremities of rib interstices
 - Hinge line less than half of shell length
 - Shell triangular-ovate in outline
 - Large byssal orifice



Australian National Parks and Wildlife Service
22



Giant Clams

- *Tridacna crocea*





Giant Clams

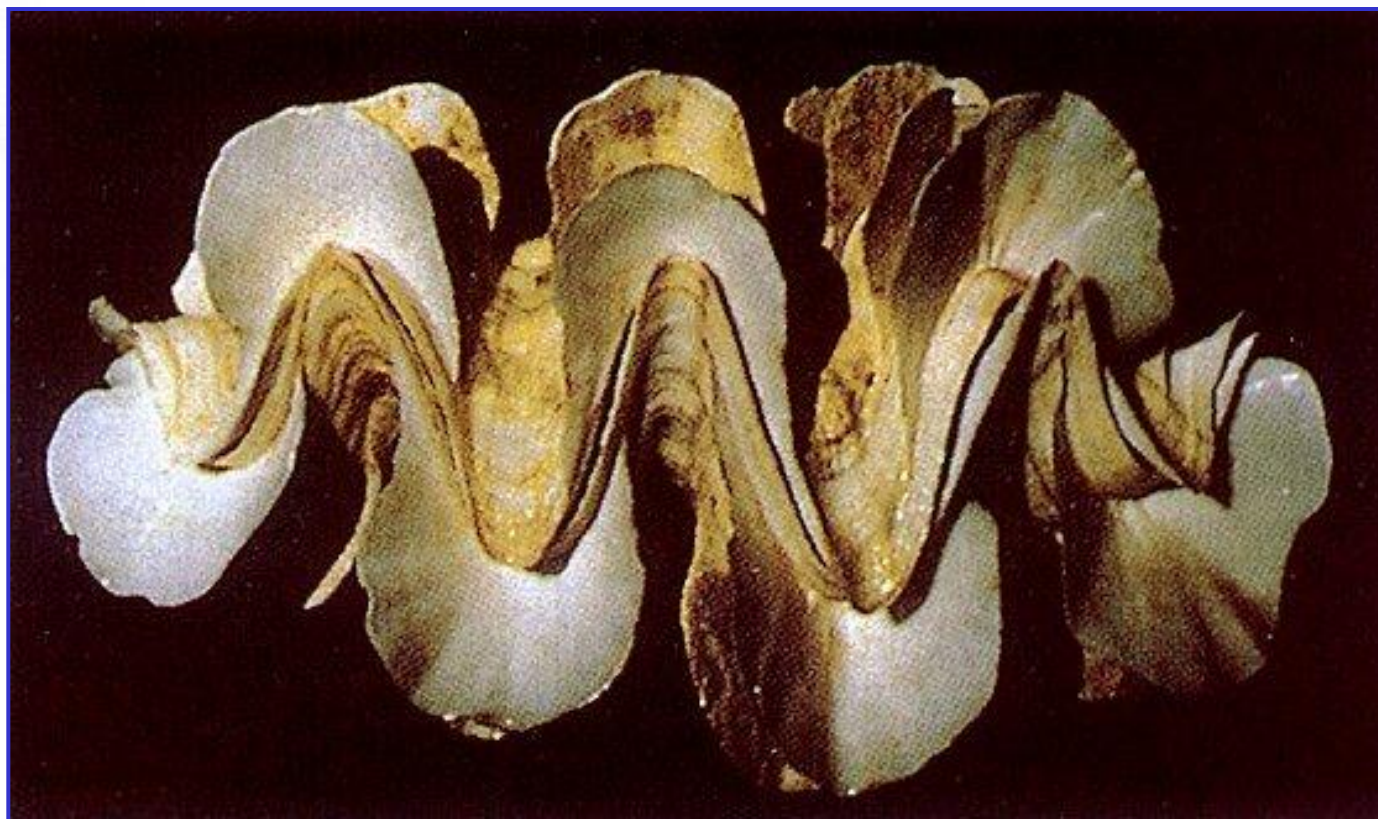
- *Tridacna crocea* in nature





Giant Clams

- *Tridacna rosewateri* (found in Mauritius only)





Giant Clams

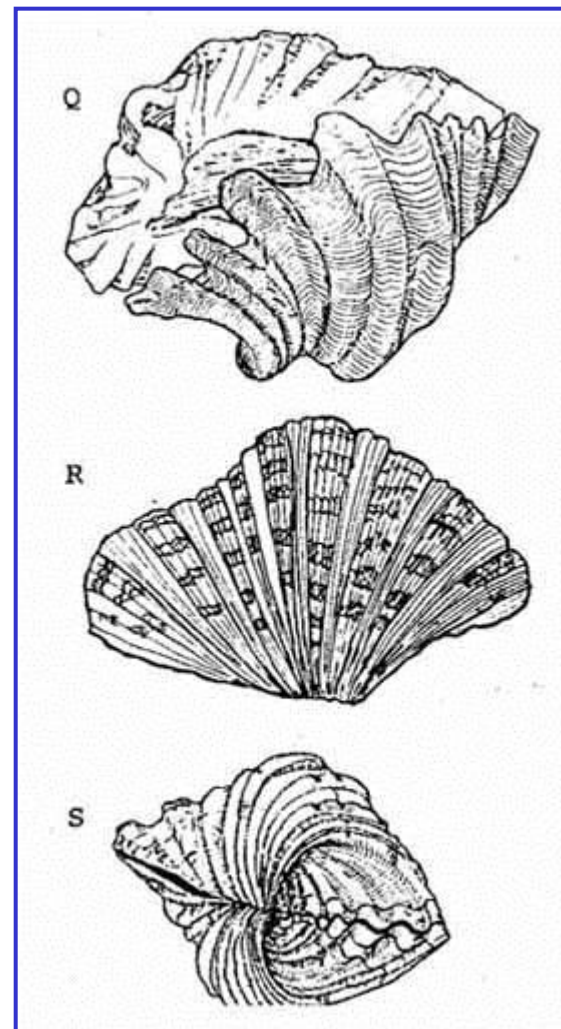
- *Tridacna tevoroa*
(found in Tonga and Fiji)





Giant Clams

- *Hippopus hippopus*
 - Shell length to 40 cm and weighing up to 12.9 kg
 - An elongate triangular shape
 - Thick, heavy valves with colored strawberry blotches in irregular bands
 - Valve margins undulate with 8-12 squarish extremities of rib interstices
 - The byssal orifice closed tightly in adults

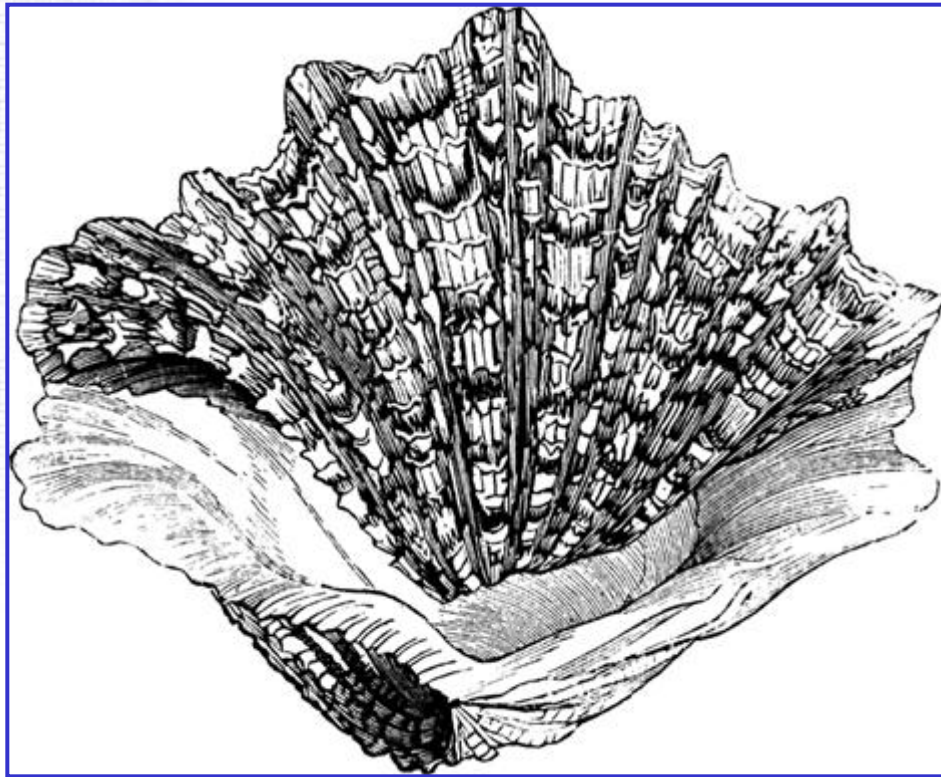


Australian National Parks and Wildlife Service



Giant Clams

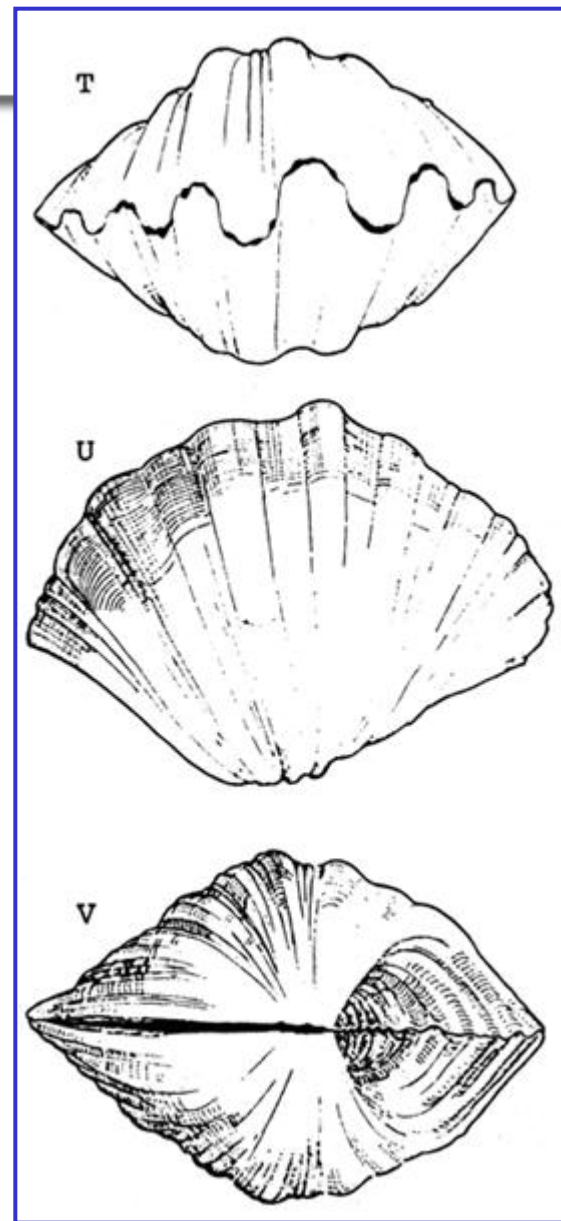
- *Hippopus hippopus*





Giant Clams

- *Hippopus porcellanus*
 - Shell length up to 35 cm, of a globose shape
 - Valves not as thick or heavy as *H. hippopus* in clams less than 20 cm, and with scattered or concentric weak strawberry blotches
 - Valve margins undulate with 8-9 squarish extremities of rib interstices
 - Hinge line usually greater than half the shell length
 - Byssal orifice opening very slight





Giant Clams

- *Hippopus porcellanus*



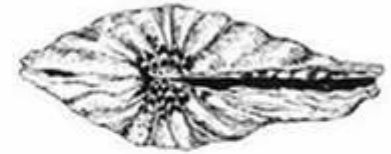


Comparison (2)

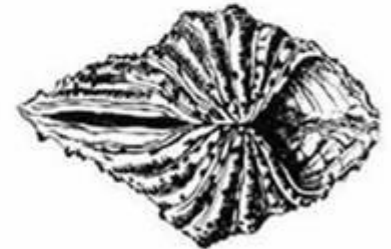
T. crocea



T. tevoroa



H. hippopus



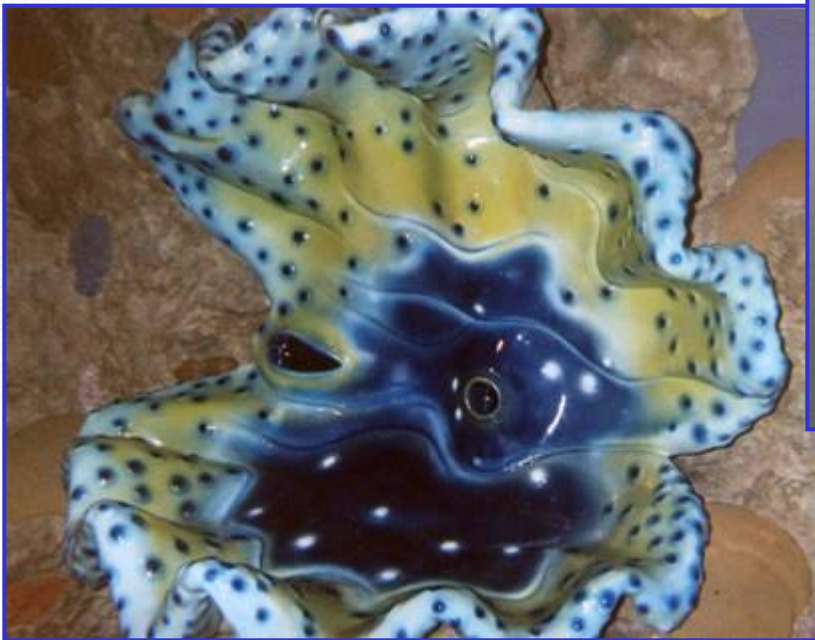
H. porcellanus





Imitations

- Imitations can be found that are made of porcelain or ceramic





Imitations

- Some imitations made from resin can be very realistic in appearance





Summary

- All 9 species of giant clams (Family Tridacnidae) are listed in CITES Appendix II
- Trade is mainly in whole shells and shell products, though there is some trade in meat for sushi (Himejako)
- Specimens may be sourced from the wild or from mariculture
- Identification of shells is possible by looking at size and basic morphological characteristics
- Some imitations/fakes exist



CITES Secretariat Geneva

www.cites.org

