A Guide to Shells Commonly Found in Aboriginal Shell Middens

This guide has been developed as an aid to accurately completing the *Shell Midden* Aboriginal Place component form on the Aboriginal Cultural Heritage Register Information System (ACHRIS). For the purposes of recording a shell midden component, shell material generally needs only to be identified to the Genus level and in some case (e.g Limpets and Chitons) to a Family or Order level, depending on the physical similarity of species. Only in cases where there is no ambiguity in the identification of individual species is recording to the species level expected.

Shellfish can be divided into three classes;

- Polyplacaphora - commonly called chitons, a group of animals covered with eight plates;
- Gastropods - shellfish with a single, generally spiral shell, sometimes closed with a shelly "door" known as an operculum; and
- Bivalves - shellfish having two shells e.g mussels, oysters, pipis;.

The identification chart below provides the scientific grouping (genus), any common names, a description of the shell(s) accompanied by a drawing of the shell or representative species and a description of the type of habitat where the animal can be found. Scientific names are subject to change and revision as research progresses. FPSR used the CSIRO *Fauna of Australia* series for determining current scientific names.

Further Reading:

Beesley, P.L., G.J.B. Ross, & A. Wells (eds) 1998. *Mollusca: the southern synthesis. Fauna of Australia Volume 5.* CSIRO Publishing. Melbourne.
Macpherson, J. H. & C. J . Gabriel. 1962. *Marine Molluscs of Victoria.* Melbourne University Press. Melbourne.
Smith, B.J. & R. C. Kershaw. 1979. *Field guide to the non-marine molluscs of south eastern Australia.* ANU Press. Canberra.
Smith, B.J. 2002. *A handbook to Australian seashells.* Reed New Holland. Sydney.

Images obtained from MacPherson & Gabriel 1962, Beesley *et al*. 1998 and Smith & Kershaw 1979.

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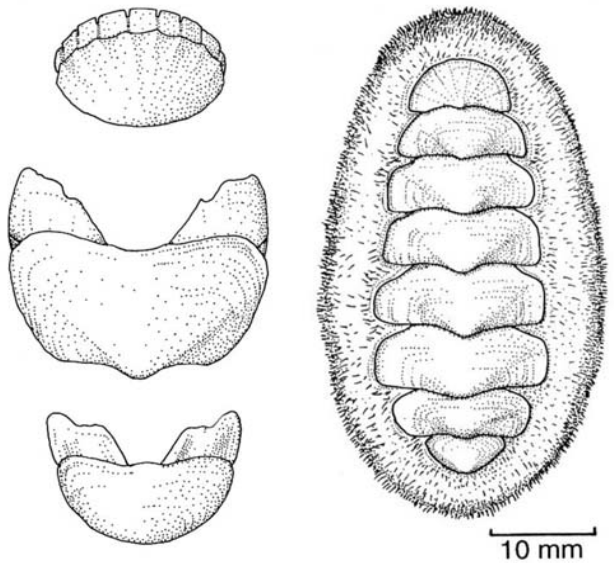
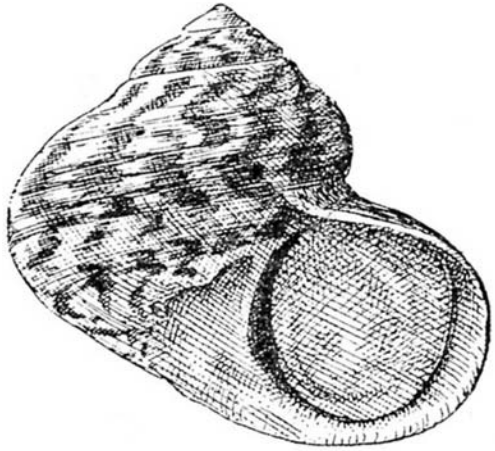
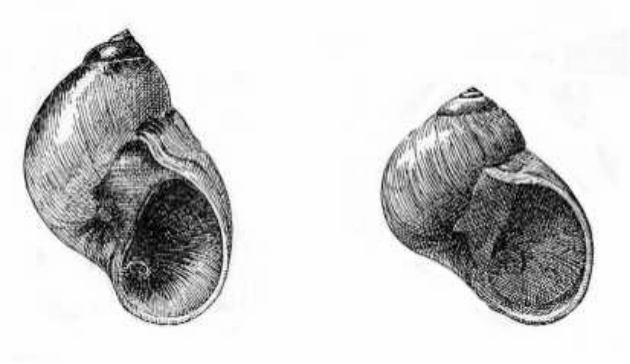
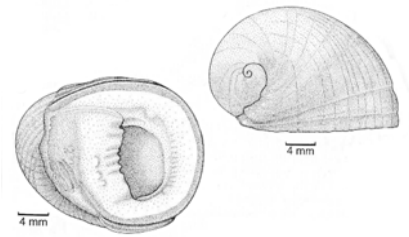
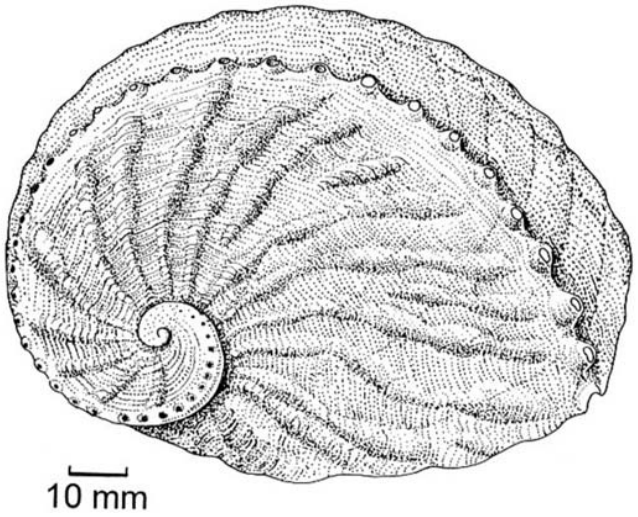
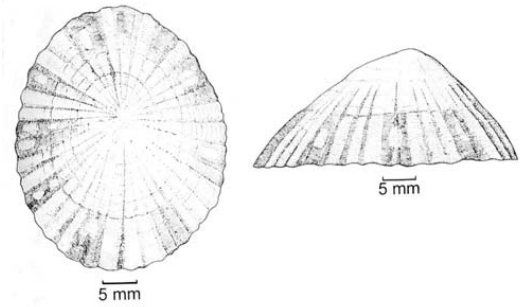
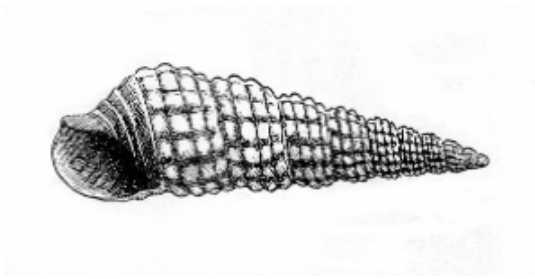
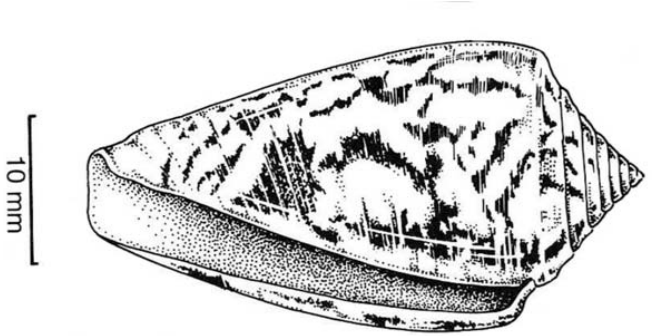
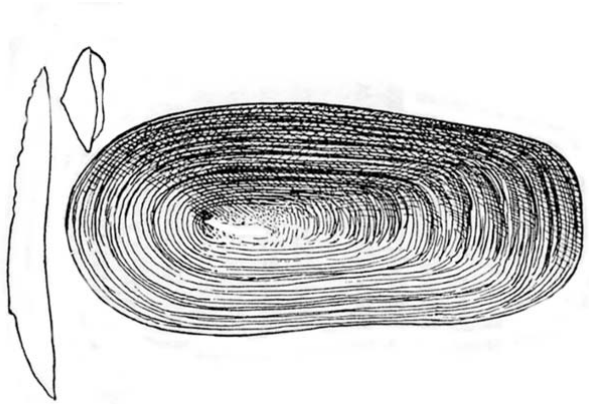
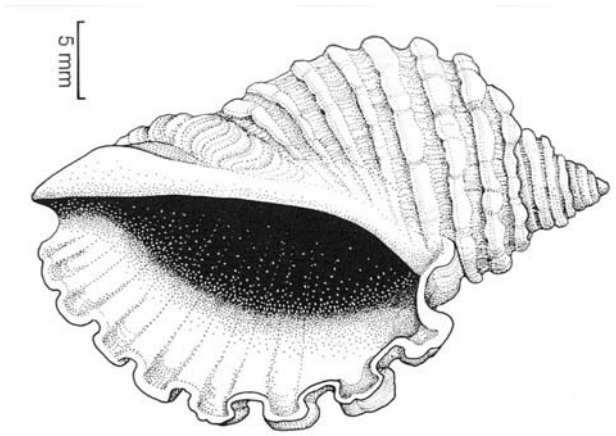
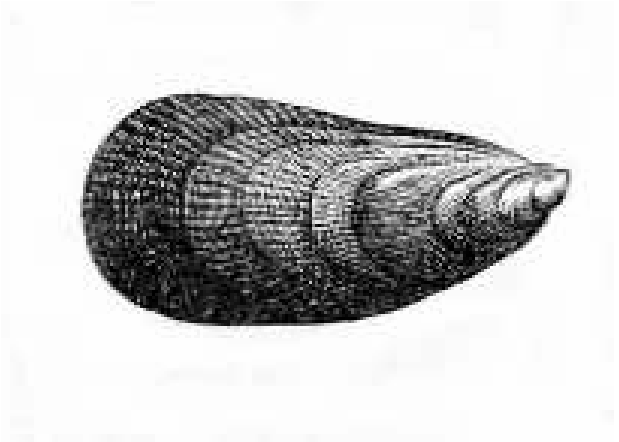
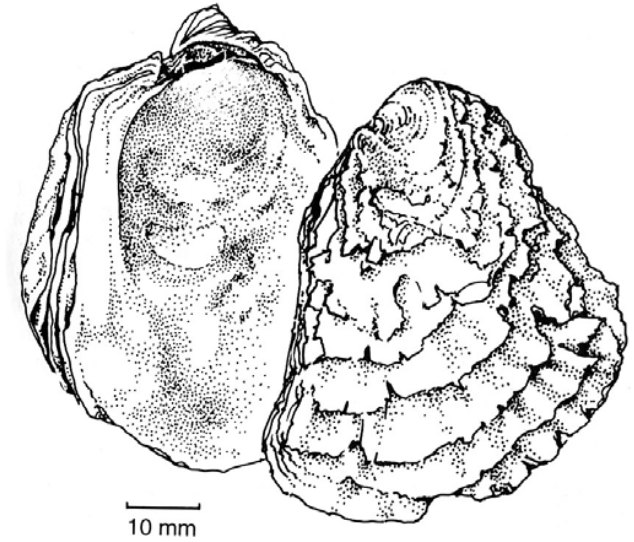
Genus	Species	Common name	Description	Diagram	Environment
Polyplacaphora		Chiton	There are an extremely large number of different species in this group generally only differentiated by experts. For the purposes of Aboriginal Place registration, the general identification of *Chiton* is sufficient. They are covered in eight valves of which the head and rear valves are distinct from the other body valves. The valves may show a diversity of ribs, scales, nodes and lines depending on species. Shown here is a common chiton species, *Plaxiphora albida* and the separate head (top), body (centre) and rear (bottom) valves.		Rocky shore
Gastropod	*Turbo* sp.	Turban shells	Turbos have large and heavy thick-walled shell with generally blue-green to pink zigzag streaks. Shells can be smooth (*T. undulates*) or ridged and nodular in other species. Turbo have a distinctive operculum (cat's eye) that is harder than the shell. This means that it tends to survive well in middens. In some circumstances the opercula can form wave-washed, concentrated drifts. Shown is the common *Turbo undulates* (Warrener or Wavy Turbo) with the operculum in place 1:1.		Rocky shore, generally calcium carbonate substrate (sandstone, limestone)

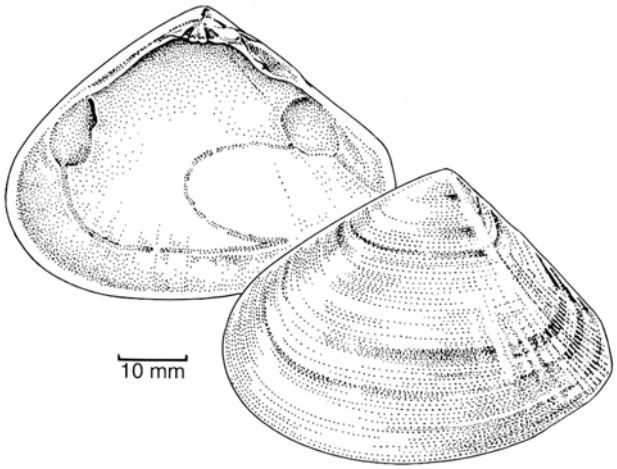
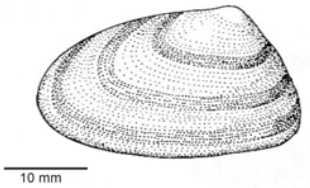
Genus	Species	Common name	Description	Diagram	Environment
Gastropod	*Austrochochlea sp.*	Top shell	Small robust shells, colours highly variable. *A.constricta* is very common on intertidal rock surfaces. Shown are *Austrochochlea constricta* (left) and *Austrochochlea concamerata* (right) 1:1.		Rocky shore
Gastropod	*Polinices* sp.	Sea Snail	Large carnivorous gastropod. Shells are smooth, grey to white. Shown are *Polinices conicus* (left) and *Polinices sordidus* (right) 1:1.		Sheltered sandy shore
Gastropod	*Cabestana* sp.	Tritons	Large heavy shell, with ridges and nodes on external surface. Shown is *Cabestana spengleri* 1:2.		Sheltered, sandy shore - Rocky areas when breeding

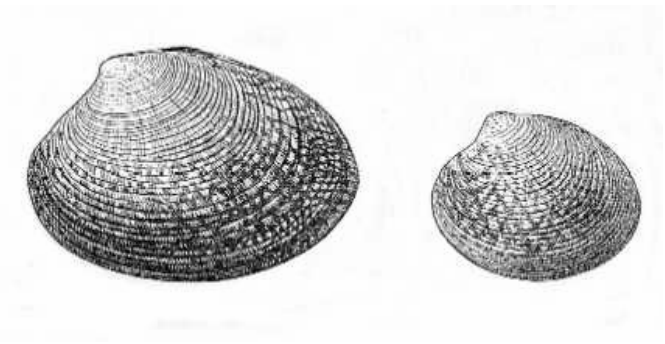
Genus	Species	Common name	Description	Diagram	Environment
Gastropod	*Nerita* sp.	Nerite	Small herbivorous thick-shelled gastropods found along the tidal margin of sheltered rocky shores. Shown is *Nerita atramentos.*		Rocky shore
Gastropod	*Haliotis* sp.	Abalone, Ear Shell, Mutton Fish	Very flat, spiral shell with a row of pores on the outer edge, outside roughened and sometimes a pink colour, interior is highly nacreous (mother-of-pearl). The animal is found in deep water attached to rocks. The most common Abalone found is *Haliotis ruber.* Shown is *Haliotis Ruber.*		Rocky shore
Gastropod	*Cellana* sp.	Limpet	Gastropod. There are many species of limpets, all inhabit the intertidal zone on rocky shores. Shown is the common Cellana tramoserica.		Rocky Shore

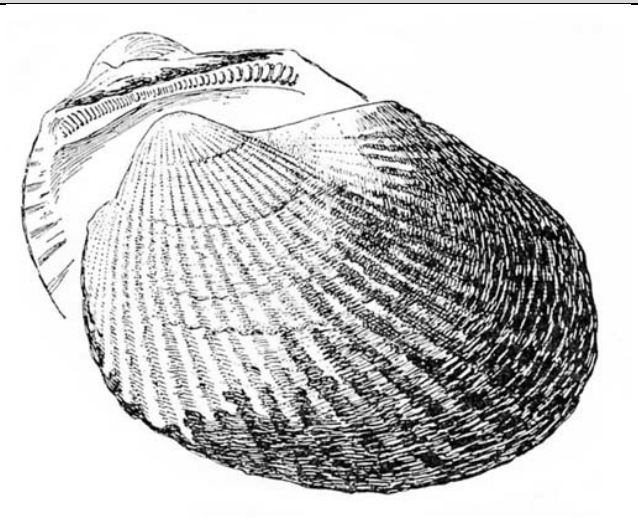
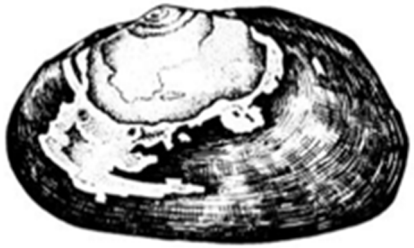
Genus	Species	Common name	Description	Diagram	Environment
Gastropod	*Zeacumantus* sp.	Mud whelk	Small (2 cm), greyish brown shell. Generally found in estuarine environments, often associated with seagrasses. Shown is *Zeacumantus diemenensis.*		Sheltered, sandy shore
Gastropod	*Conus* sp.	Cone shells	Cone shells are distinguished by their long shape and long and narrow aperture. Only 3 species are found in Victorian waters. C*onus anemone* (shown here) is most common. Generally rare in Aboriginal midden deposits.		Rocky shore
Gastropod	*Scutus* sp.	Black elephant slug, Elephant fish	Gastropod. A white shell, generally flattish and oblong. Shown here is *Scutus antipodes* 1:1.		Rocky shore

Genus	Species	Common name	Description	Diagram	Environment
Gastropod	*Thais* sp.	Dog Whelk, Cartrut whelk	Carnivorous gastropod. Large heavy shells, generally white or creamy with obvious ridges on the exterior. Shown is *Dicathais orbita.*		Rocky shore
Bivalve	*Mytilus edulis planulatus*	Common or Blue Mussel	Dark, brittle scooped shell with purple to white interior surface and black.to blue exterior. Shown is *Mytilus edulis planulatus* 1:2 size.		Sheltered, rocky shore

Genus	Species	Common name	Description	Diagram	Environment
Bivalve	*Austromytilus rostratus*	Beaked Mussel	Blue/black, thin, brittle shell with a distinctive beak at the hinge end. 1:1 size.		Exposed rocky shore
Bivalve	*Saccostrea commercialis*	Sydney Rock Oyster	Blueish and wrinkled shells are not uniform shape and are often distorted by the material they are attached to, particularly the lower valve.	No image See *Ostrea angassi* for similar.	Sheltered, rocky shore
Bivalve	*Ostrea angasi*	Mud Oyster	Bivalve with irregular and wrinkled shell, lower valve is generally flat.		Sheltered, sandy shore

Genus	Species	Common name	Description	Diagram	Environment
Bivalve	*Donax deltoides*	Pipi, Goolwa cockle (SA)	Very abundant shellfish inhabiting the surf zone of ocean beaches just below the sand surface. Heavy, triangular wedge-shaped shells with white interior and striped variegated exterior.		Exposed sandy shore
Bivalve	*Paphies* sp.	Wedge clam	Similar to *Donax* sp. But found in more sheltered environments. Shells are generally thinner than *Donax* sp. Shown is *Paphies elongata.*		Sheltered sandy shore
Bivalve	*Glycemeris* sp.	Dog cockle	Large (up to 100mm) heavy smooth shells, white with variable brown streaks. Shown is *Glycemeris flammeus* 1:1.		Sheltered sandy shore

Genus	Species	Common name	Description	Diagram	Environment
Bivalve	*Katelysia* sp.	Sand Cockle	Variable colours, generally white to brown with distinct curved hinge section. Shown are *Katelysia rhytophora* (left) and *Katelysia peronii* (right) 1:1.		Sheltered sandy shore
Bivalve	*Mactra* sp.	Clam	Solid, pale brown shell, often with purple markings on interior and striated exterior. Shown is *Mactra rufescens* 1:1.		Sheltered sandy shore

Genus	Species	Common name	Description	Diagram	Environment
Bivalve	*Anadara trapezia*	Ark Shell, Sydney Cockle, Blood Mussel	Bivalve, very common in mud flats and associated with sea grasses. Shell is generally white and quite robust and thick with slight yellow to grey markings on interior (when new) and distinctive toothed hinge. Shown is *Anadara trapezia* 1:2 size.		Sheltered, sandy shore
Freshwater bivalve	*Velesunio* sp.	Freshwater mussel	Freshwater bivalve. Variable in shape, outer hinge area often eroded, thin shell. Interior is white and may be spotted, exterior dark brown. Found throughout southeast Australia. 50 -95 mm. Shown is *Velesunio ambiguous.*		Freshwater rivers and streams, muddy bottoms
Freshwater Bivalve	*Alathyria* sp.	Freshwater Mussel	Freshwater mussel. Large, thick shell. Exterior is brown to black, interior is bluish white. Found on the Murray and tributaries and streams of eastern Victoria. *60* - 150mm. Shown is *Alathyria jacksoni*		Freshwater rivers and streams, muddy bottoms