

Bivalve Family Identifier

HINGES, LIGAMENTS & PALLIAL SINUSES

Ligaments and Dentition

Ligament External

Hinges taxodont, heterodont or isodont

With **taxodont** hinge —

Small, sub-equal teeth in two rows to either side of the umbo.
Hinge plate straight (Arcidae, Cucullaeidae) or arched (Glycymerididae).



ARCIDAE, *Tegillarca*



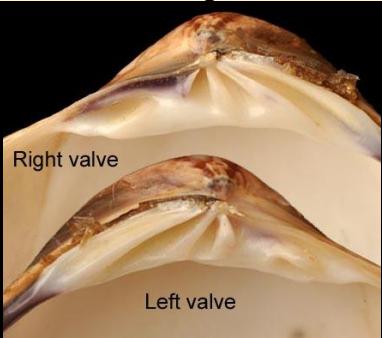
CUCULLAEIDAE, *Cucullaea*
Lateral teeth horizontal
(arrowed at right)



GLYCYMERIDIDAE, *Glycymeris*

With **heterodont** hinge —

Cardinal teeth radiating from the umbo and lateral teeth parallel to the shell margin in various combinations, ligament external.



VENERIDAE - *Meretrix*



CYRENIDAE, *Geloina*



CYRENIDAE, *Corbicula*
Serrated lateral teeth arrowed

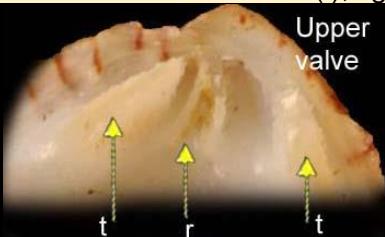
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With **isodont** hinge —

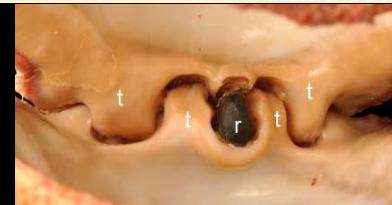
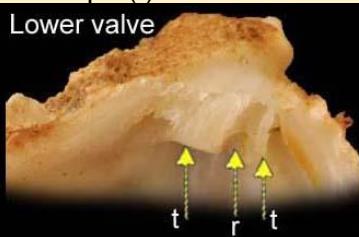
A solitary tooth and a socket to either side of the umbo with a central internal ligament.

Spondylidae: thick, rounded teeth (t), ligament (r)

Plicatulidae: narrow teeth (t), ligament pit (r)



PLICATULIDAE, *Plicatula*



SPONDYLIDAE, *Spondylus*

Ligament Internal

Heterodont

Ligament in a pit or groove (chondrophore), heterodont teeth



CRASSATELLIDAE, *Eucrassatella*: central, triangular pit.



SEMELIDAE, *Semele*: oblique, linear pit.



MACTRIDAЕ, *Mactra*: deep central pit, diverging cardinals.



MACTRIDAЕ, *Mactrinula*: projecting ligament pit (chondrophore) arrowed.

Continued over

Ligament Various

Hinge edentulous or teeth insignificant
Ligament in multiple pits (multivincular)



PTERIIDAE, *Isognomon*

Toothless hinge or teeth insignificant, external ligament present



OSTREIDAE, *Saccostrea*
Ridges either side of hinge are chomata.



PINNIDAE, *Pinna*
Ligament long, along antero-dorsal margin.



MYTILIDAE, *Perna*
Ligament short along curved antero-dorsal margin.



MYTILIDAE, *Septifer*
Ligament short along antero-dorsal margin, an anterior calcareous shelf.

Continued over

Toothless and devoid of ligament



PHOLADIDAE, *Martesia*



TEREDINIDAE, 'Teredo'

Valves held together by soft tissues. A linear projection (apophysis) present for muscle attachment.
Both species are wood borers.

Toothless, internal ligament attached to divaricating ridges (crura) or grooves; or otherwise



PLACUNIDAE, *Placuna*

Left:

Crura and ligaments (black colour) in upper valve, grooves in lower valve.

Right:

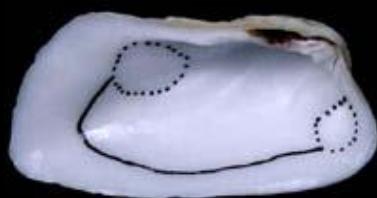
Lower valve has a central deficit, through which the byssus passes, for attachment to the substrate.



ANOMIIDAE, *Anomia*

Muscle attachments and pallial lines

Two muscle scars (dimyarian)



TRAPEZIDAE, *Trapezium*



CHAMIDAE, *Chama*

Two muscle scars, entire pallial line without sinus

Continued over



VENERIDAE, *Meretrix*
Indented pallial sinus.



MACTRIDAЕ, *Oxyperas*
Small pallial sinus with short
inferior limb.



DONACIDAЕ, *Donax*
Large pallial sinus.



PSAMMOBIIDAЕ, *Gari*
Muscle scars unequal, very large
pallial sinus.

The pallial sinus is a scar left by the line of attachment of the part of the mantle that forms the incurrent and excurrent siphons and are proportionate to the length of the siphons. Shallow burrowers have small pallial sinuses and deep burrowers have large ones.



TELLINIDAЕ, *Tellinides*
Extremely large pallial sinus,
cruciate muscle scars present.

Continued over

Single muscle scar (monomyarian)

Single muscle scar, pallial line indistinct, no pallial sinus



OSTREIDAE,
Magalana, Crassostrea



GRYPHAEIDAE, *Hyotissa*



PLICATULIDAE, *Plicatula*



PECTINIDAE, *Decatoppecten*

Left:
Internal ligament in a small V-shaped pit, an external component stretching over the hinge line.

A single posterior muscle scar, usually very indistinct.