

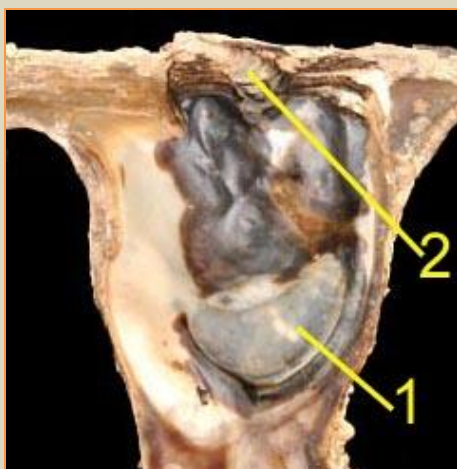
HAMMER SHELLS

Family: MALLEIDAE

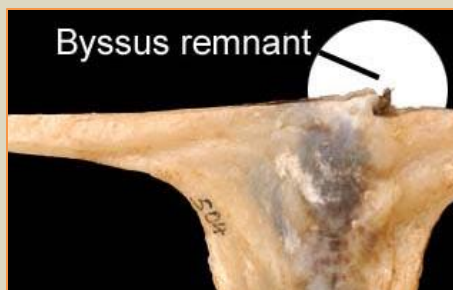
Malleus albus Lamarck, 1819
Malleus anatinus (Gmelin, 1791)
Malleus malleus (Linnaeus, 1758)
Malleus regula (Forsskål in Niebuhr, 1775)

Shells compressed, elongated dorso-ventrally, often hammer- or T-shaped with the straight dorsal margin produced into long wing-like ears—at one or both ends, or not at all. The left (upper) valve is somewhat more inflated than the right and the commissural plane often undulating. A byssal notch may or may not be present, stronger in the right valve. Outer surface smooth or flaky. The umbones are small on top of a relatively wide cardinal area that has a transverse groove in which the ligament is attached. The ligament is largely external with an internal component. The hinge is narrow without teeth. The interior is partly nacreous with an extensive non-nacreous ventral portion. There is one large posterior muscle scar. The pallial line is without a sinus.

Hammer shells are sedentary animals attached by a byssus to various hard substrates, or free and partially buried in soft substrates where they may nevertheless be attached by byssal threads to small stones. In the buried forms, only the upper portion including the long wings are buried and help to stabilise these species, with only the ventral ends protruding.



Nacreous area of *M. malleus* showing the single muscle scar (1) and the ligament groove (2).

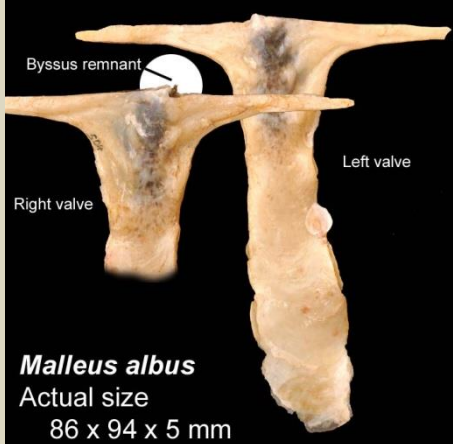

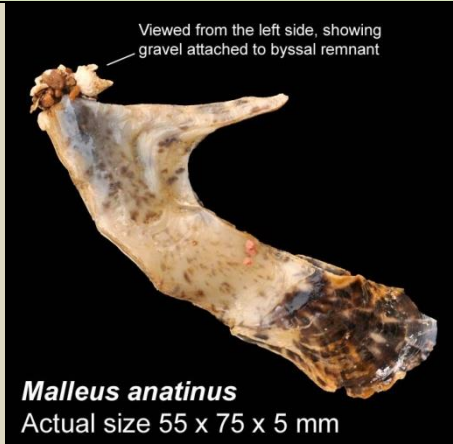
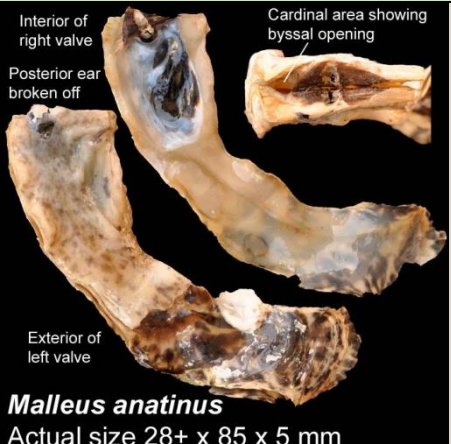
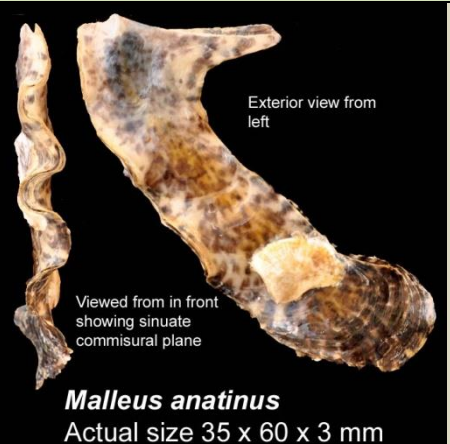


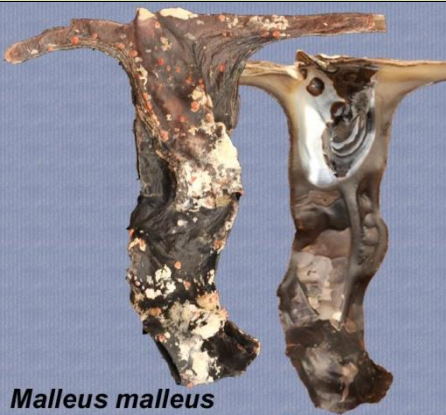
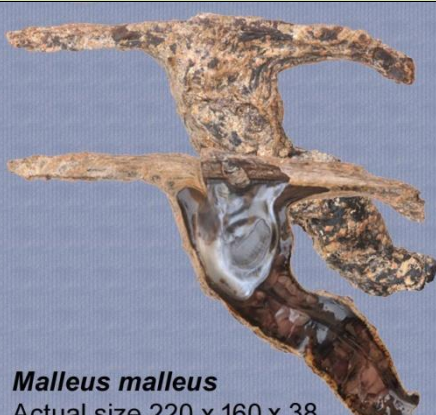
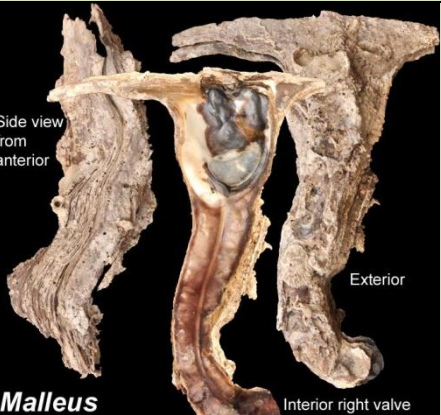
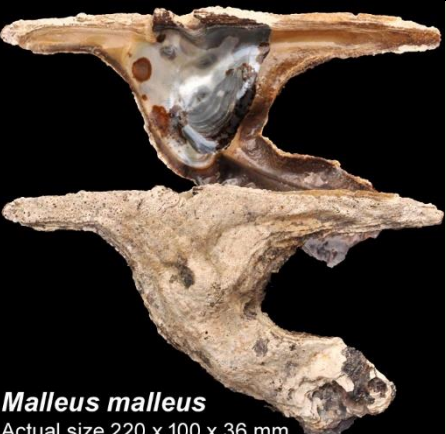
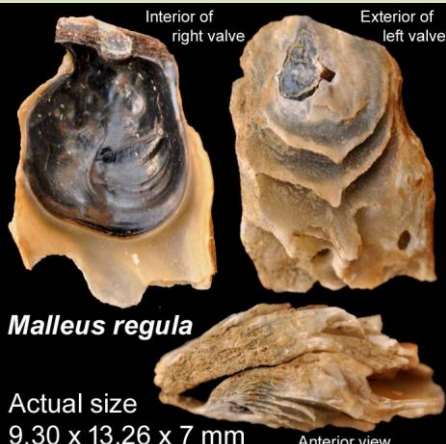

Above:
Byssus remnant in dead *M. albus* beside the small pointed umbo.



Right:
Anterior view of *M. anatinus* showing the sinuate commissural plane.



<i>Malleus albus</i>		
 <p><i>Malleus albus</i> Actual size 86 x 94 x 5 mm</p>	 <p><i>Malleus albus</i> Actual size 115 x 105 x 6 mm</p>	<p><i>Malleus albus</i> White hammer shell.</p> <p>Shells with long straight hinge prolonged well beyond the anterior and posterior margins of the valves as two "ears". The main part of the valves quite straight and prolonged at right angles to the hinge line. Edges markedly wavy and folded. Exterior rough and flaky, interior nacreous portion quite small, glossy, coloured brown to blue-black. Other parts both external and internal creamy-white.</p> <p>Found frequently in the Maggona fishing trash, at times with oyster species attached to the ventral ends of the shells.</p> <p>Anchored in soft substrates by the wings, the terminal 1/3 of the ventral end protruding.</p> <p>- Poutiers, 1998 p. 196.</p>
<p>MF504: Maggona, Thudawa Bay, SBFH, fishing trash. 4 shells: Ht. 120 mm to 89 mm. Tips of ears with minor damage.</p> <p>MF731: Kalpitiya, fishing trash. Ears undamaged, ventral margin damaged. Coll. ACM Niyas.</p>		
<i>Malleus anatinus</i>		
 <p><i>Malleus anatinus</i> Actual size 55 x 75 x 5 mm</p>	 <p><i>Malleus anatinus</i> Actual size 28+ x 85 x 5 mm</p>	 <p><i>Malleus anatinus</i> Actual size 35 x 60 x 3 mm</p>
<p>MF505 & 586: Maggona, Thudawa Bay, Small Boat Fishery Harbour, fishing trash. Found together with <i>M. albus</i>, mostly with rotting soft tissue. One specimen preserved with byssus attached to gravel.</p>		
<p><i>Malleus anatinus</i> Spotted hammer shell</p> <p>Shell elongated vertically, strap-shaped, curved posteriorly, the edges wavy and folded, widening towards the hinge that is straight, the posterior prolonged into a long ear, the anterior flush with the anterior margin. A small byssal notch in front of the elevated, pointed umbo. Exterior glossy with growth lines. Colour light tan, lightly or profusely marked with brown to blue-black spots and streaks arranged in divaricating radial rays that coalesce at the ventral extremity colouring it dark. Interior yellowish-tan except for the small nacreous area that is blue-black, the exterior spots and streaks showing through.</p> <p>These shells were collected on two occasions, three years apart, mixed with <i>M. albus</i>, suggesting that they were from the same underwater location. All were with remnants of soft tissue and the byssus, the fibres attached to grains of gravel.</p> <p>Heavily encrusted with small oysters, pink coralline algae and worm tubes of an unusual sculpture and colouration never seen before, but also seen on the <i>M. albus</i> from the same site. <i>M. albus</i> said to be soft bottoms, gregarious; and so must this be, sympatrically.</p> <p>- Femorale has an image of a Sri Lanka shell / WoRMS</p>		

<i>Malleus malleus</i>		
 <p><i>Malleus malleus</i> Actual size 140 x 196 x 17 mm</p>	 <p><i>Malleus malleus</i> Actual size 220 x 160 x 38 mm</p>	 <p>Side view from anterior Exterior <i>Malleus malleus</i> Interior right valve 150 x 221 x 30mm</p>
MF776: Maggona, Thudawa Bay, SBFH, fishing trash. Lightly encrusted.	MF174: Colombo, Degal Meda (reef), 23 m, attached rock. Coll. Praki Thomas. Also, from Colombo, Kelani Gala, 17 m, 145 x 180 mm.	MF540: Jaffna, Mandaitivu, fishing trash. Much encrusted, interior bleached.
 <p><i>Malleus malleus</i> Actual size 220 x 100 x 36 mm</p>	<p><i>Malleus malleus</i> Common or Black hammer shell</p> <p>Large T-shaped, thick-valved shells, elongated dorso-ventrally. The hinge prolonged greatly to either side as long wings, the total hinge length often exceeding the height. The wings sub-equal in length, the posterior often longer than the anterior. The ventral portion strap-shaped, usually bent in two planes, the ventral margin rounded. The beak is small and pointed, in front of the ligament which is in a long, oblique, triangular groove mostly external, partly internal. The byssal groove is deep in the right valve, shallow in the left. Exterior is rough, coloured black, with thick flaky layers that are thickly encrusted with a variety of growths. The interior is black, glossy, with a small rounded nacreous area in which lies the pear-shaped muscle scar.</p> <p>112 x 111.5mm to 221.5 x 180 mm (hinge length x height)</p> <p>Some shells have been live collected byssally attached to rock substrates and one attached to a dead gorgonian sea fan.</p> <p>- Poutiers, 1998 p. 196</p>	
MF500: Jaffna, Delft, boat landing site. Fishing trash. Heavily encrusted.		
<i>Malleus regula</i>		
 <p>Interior of right valve Exterior of left valve <i>Malleus regula</i> Actual size 9.30 x 13.26 x 7 mm Anterior view</p>	 <p>Damaged ventral end Single valve <i>Malleus regula</i> Actual size 6.6 x 13+ mm</p>	<p>Left - MF654: Maggona, Thudawa Bay, Small Boat Fishery Harbour, fishing trash. In sedimentary rock cavity.</p> <p>Right - MF800: Same location, in a coral rubble cavity. In poor condition, with fragile ventral portion. Single valve, interior white. Exterior ligulate laminae present. Also, a smaller one much fragmented.</p> <p>- Poutiers, 1998 p. 197</p>
<p><i>Malleus regula</i> Straight hammer shell</p> <p>Juvenile shells found within cavities in coral rubble and sedimentary rock.</p> <p><i>M. candeanus</i> is an Atlantic species that looks similar, <i>M. regula</i> is Indo-Pacific. Reported attached in rock crevices and amongst stones. A Femorale image shows a laminated exterior with midline ligulate processes.</p>		

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