# HONEYCOMB OYSTERS
# Family: GRYPHAEIDAE

*Hyotissa hyotis* (Linnaeus, 1758)
*Hyotissa inermis* (G. B. Sowerby II, 1871)
*Hyotissa numisma* (Lamarck, 1819)

Shells large and heavy or small and delicate, cemented to the substrate by the larger and deeper left (lower) valve. Both valves convex and similarly sculptured with irregular radial ribs bearing hollow processes for attachment, or upper valve flat with flaky horn plates. Shell with a microscopic vesicular structure that distinguishes this family from the true oysters (Ostreidae). The umbones not prominent, the umbonal cavities generally very shallow. The cardinal area with a shallow median groove. Hinge without teeth. A single large posterior muscle scar placed closer to the hinge than the ventral margin. The scar is circular or near circular, sometimes slightly flattened above. Pallial line, without a sinus, may be obscure or absent. Internal margins with branched, sinuous dendritic (or vermiform) chomata are present on either side of the ligamental area—another feature distinguishing this family from the Ostreidae. Some species develop unbranched lath chomata as well.

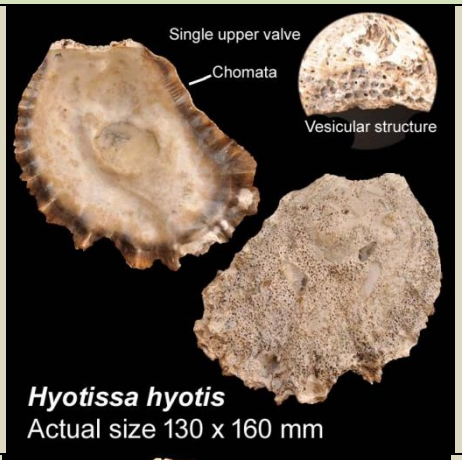
They are sedentary animals living attached to hard substrates. They are suspension filter feeders.

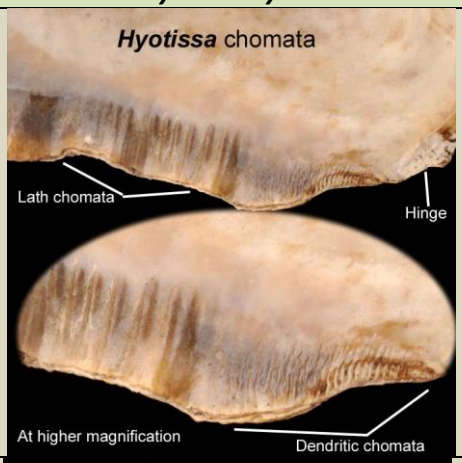
Alveolar structure in *Hyotissa numisma*

Dendritic chomata in *Hyotissa numisma*

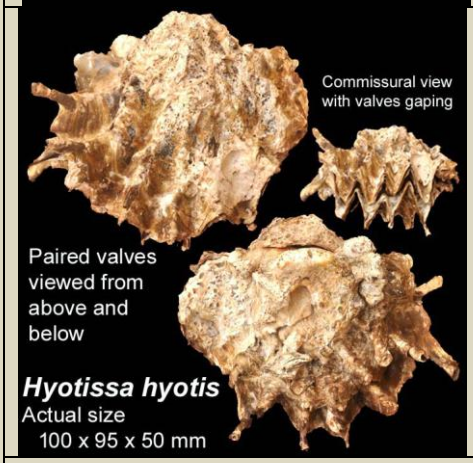
Lath chomata in *Hyotissa hyotis*

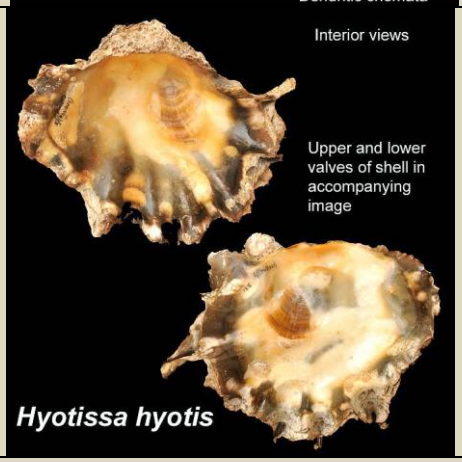
## *Hyotissa hyotis*



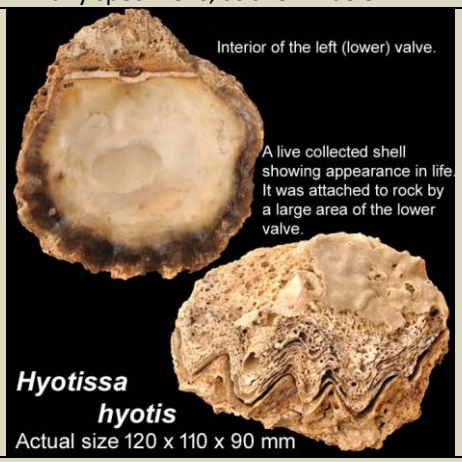

MF341: Trincomalee, harbour, 3-4 m, by diving. An upper valve detached from a cluster of shells. The outer surface eroded, exposing the vesicular structure. Dendritic (branched) and lath (unbranched, rod-like) chomata well developed on either side of the hinge. The muscle scar sub-circular with a raised lower border. The valve margin pigmented, strongly folded.



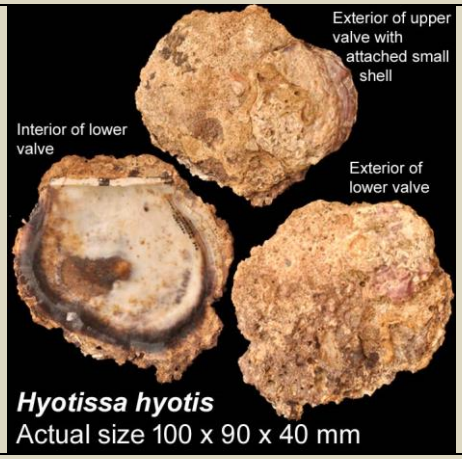



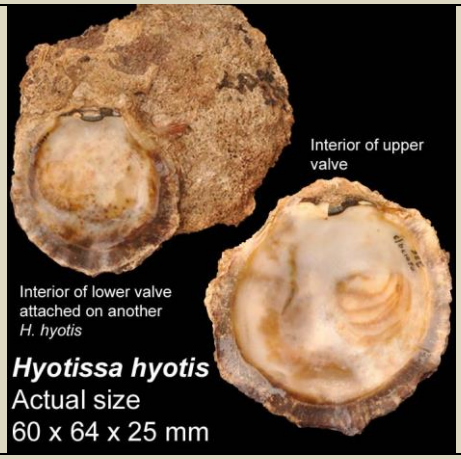


MF331: Colombo, by diving, a shell showing characteristic hyote spines arising from the crests of the folds in both upper and lower valves. Small area of attachment in umbonal region of left valve. The interior is tinged with a copper hue, the margin pigmented. The muscle scar is pigmented. At right are oblique views showing the spines in greater detail. These attaching spines are not seen in many specimens, as shown below.



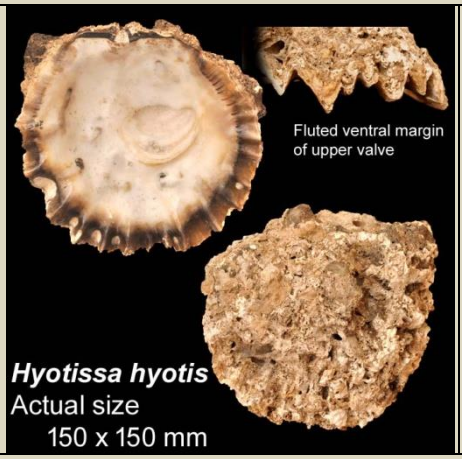

MF338: Mount Lavinia, Bellangala, 3 m, by diving.




MF336: Mount Lavinia, Bellangala North Channel, 7-8 m, free living; a smaller shell cemented by lower valve on upper valve – detail at right.

*H. hyotissa* continued next page





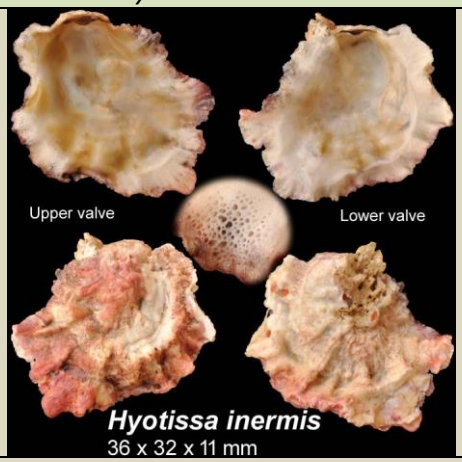
MF340 Colombo, 3-4 m, detached upper and lower valves, by diving. These shells do not show hyote spines, the external surfaces being quite eroded.

***Hyotissa hyotis***
Giant honeycomb oyster
Checklist 2010 as *Crassostrea* sp. 1: Ostreidae.
These large oysters grow on reefs, presenting a very characteristic appearance of rounded lumps with a narrow zigzag opening. All collected by diving to depths within 10 m off Colombo, except one from Trincomalee.

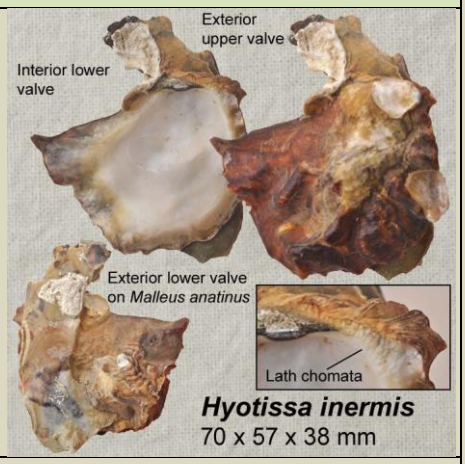
Shells heavy, thick-valved. Lower valve flat, upper convex. Muscle scar eccentric. Margin deeply pigmented. Exterior heavily laminated, brown, usually encrusted and eroded.

*Hyotissa inermis*

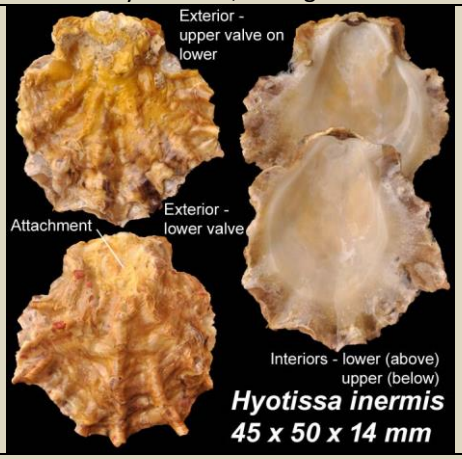

MF553: Maggona, Thudawa bay, Small Boat Fishery Harbour, fishing trash.

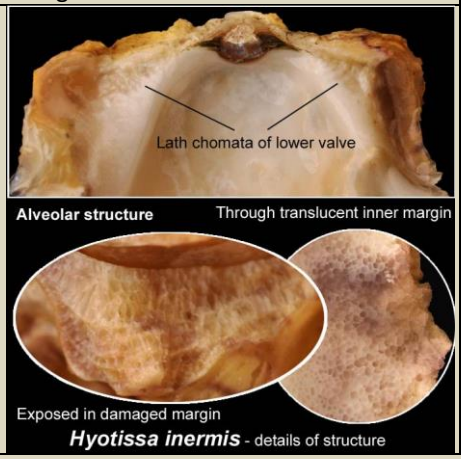



MF608: Maggona, Thudawa bay, SBFH, fishing trash.




MF825: Maggona, Thudawa bay, SBFH, fishing trash. On *Malleus anatinus.*




Shells smaller and lighter than *H. hyotis*. Low, rounded radial folds present on upper and lower valves. Attaching area small, umbonal; hyote spines on left (lower) valve short and infrequent. Muscle scar rounded, lath chomata on either side of hinge (not seen in some of the small shells), vesicular structure. The red colour in MF608 described by Harry, 1985.

MF814: Maggona, Thudawa Bay, SBFH fishing trash. Paired with soft tissue, good condition, brown.

***Hyotissa inermis*** Folded honeycomb oyster
Checklist 2010 - not listed as first collected 2013.

Shell thin, light, circular to fan shape. Hinge margin narrow, straight, anterior margin convex, posterior concave or convex, ventral convex continuous with anterior. Upper valve convex, left valve flattish, irregular, small umbonal cavity. Surface of upper valve irregular with radial folds, pronounced at the margin. Numerous short erect elevations from the folds. Underside of lower valve with numerous narrow radial folds with triangular erect processes peripherally. Exterior pink-red or light brown. Interior glossy, white or cream, the alveolar structure showing through at the periphery. Lath chomata present in the larger valves.

| ***Hyotissa numisma*** | | |
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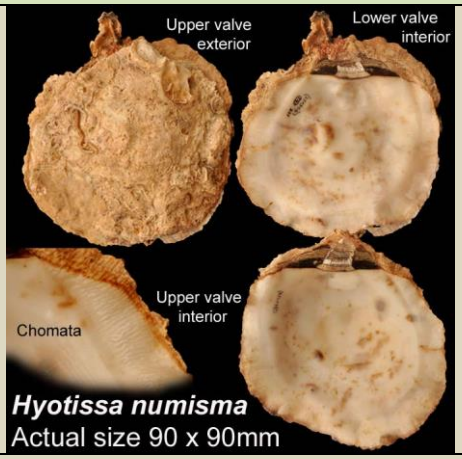
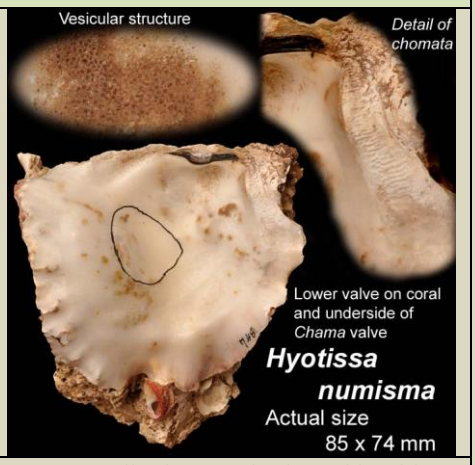
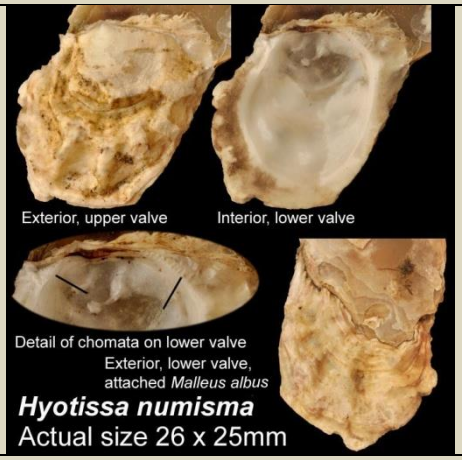
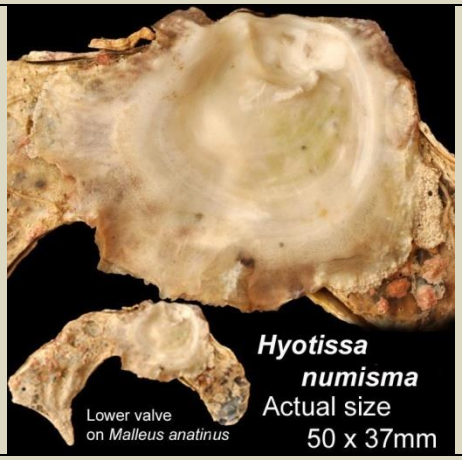
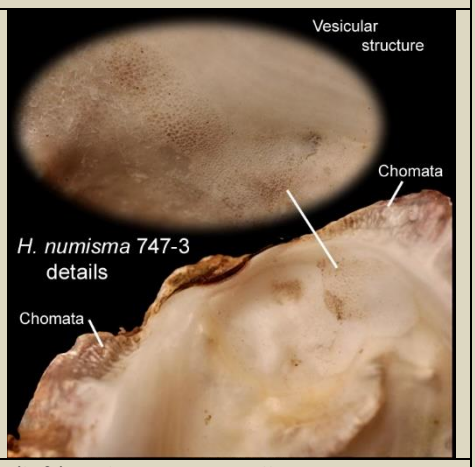
|  |  |  |
| MF337: Colombo, free on bottom, by diving. Encrusted exterior surfaces. | MF592: Colombo, Wellawatte, Kinross lagoon, single upper valve, by diving. A much encrusted and weathered upper valve with distinct dendritic chomata and alveolar structure. | MF748: Kalkuda, attached coral boulder thrown up by 2004 tsunami. |
|  |  |  |
| MF747-2: Maggona, Thudawa SBFH, fishing trash. Small shells attached on *Malleus albus* (left) and MF747-3 *Malleus anatinus* (right). Detail at right shows alveolar structure seen on the inside of the shell through the translucent surface layer. | | |
| ***Hyotissa numisma*** Smooth honeycomb oyster<br>Checklist 2010 as *Ostrea* sp. 1: Ostreidae.<br>Shell sub-circular, or oval higher than long. Valves compressed, thin but strong, the lower flat, the upper convex. Surface eroded and encrusted, no folds, margin thin, regular (not fluted). Hinge short, valves expanding ventrally. The posterior muscle scar not pigmented, nearer hinge than ventral margin. Prominent dendritic chomata. No marginal pigmentation.<br><br>This species described from western Indian Ocean - Aldabra, Chagos, Madagasca, Red Sea, Tanzania. Characterised by absence of radial folds (WoRMS). Most images show shells with short hinges, narrow dorsal regions and expanded ventral, regular outline. | | |

**Bibliography**

Citation: Bieler, R.; Bouchet, P.; Gofas, S. (2014). Gryphaeidae. In: MolluscaBase (2016). Accessed through: World Register of Marine Species at http://marinespecies.org/aphia.php?p=taxdetails&id=23048 on 2016-12-05.

Harry H. W. (1985). Synopsis of the supraspecific classification of living oysters (Bivalvia: Gryphaeidae and Ostreidae). *The Veliger 28*: 121-158, *available online at* http://www.biodiversitylibrary.org/item/134485#page/131/mode/1up.

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