

BITTERSWEET CLAMS, DOG COCKLES
Family: GLYCYMERIDIDAE

Glycymeris cf. flammea (Reeves, 1843)

Reported by other workers

Glycymeris rotunda (Dunker, 1882)
- Kirtisinghe, 1978,
possibly mis-identification
G. oblingus (Reeve)
- Fernando, 1977, name unverified

GLYCYMERIDIDAE Dall, 1908 (1847)

Shell solid, inflated, almost circular or oblique, not gaping ventrally. The umbones are nearly central on either side of a triangular cardinal area with tent-shaped grooves over which stretches the external ligament. The external surface is smooth or with radial striations or riblets and covered by a thin or thick, hairy periostracum. The taxodont hinge is strongly arched with a series of teeth diverging outwards, being small at the centre and at the ends and larger in between. The two muscle scars are sub-equal, their inner margins lying along radial ridges, the posterior one always stronger. There is no pallial sinus. The internal margins are crenulated.

They are shallow burrowers in soft bottoms. Some species are edible.

- Poutiers, 1998 p. 161



The Sri Lankan species are known to the author only from single valves, collected by diving, from fishing trash or beached. They have not been identified with any degree of certainty. Nine single valves are in the collection. They all appear to be of the one species, mostly weathered to varying degrees. One that is not weathered matches images on the World Wide Web: *Glycymeris fulgurata* Dunker, 1877 from the South China sea and *Glycymeris flammea* (Reeve, 1843) from the Bass Strait, Australia. The weathered specimens have similar outlines, sculpture, and external colour patterns but much paler interiors. *G. flammea* (Reeve, 1843) is accepted in MolluscaBase/WoRMS. *G. fulgurata* is not an accepted name, but *Pectunculus fulguratus* Dunker, 1877 is given as a junior synonym of *G. flammea*.

Two other species are reported in the recent Sri Lanka literature: *Glycymeris rotunda* (Dunker, 1882) by Kirtisinghe, 1978 and *G. oblingus* (Reeve) by Fernando, 1977.

Kirtisinghe describes *G. rotunda* as follows – “Nearly round shell, somewhat drawn-out at postero-ventral margin; outer surface lightly marked by radial and concentric grooves. Brown zigzag patterns on white background. Length 40 mm.” The image is of a right valve with sloping antero- and postero-dorsal margins,

a broadly rounded anterior margin and a drawn-out posterior margin. A WoRMS page has been created for this species in 2010 with an image of a shell from Japan—nearly round, off-white exterior with brown periostracum remnants, white interior. The basis of record includes a *Checklist of marine biota of China Seas* – Liu, 2008. **Kirtisinghe's shell is closer to shells in the author's collection than to the Japanese shell.**

Fernando describes *G. oblingus* as follows – “The shell is rotundate, solid and inflated. The surface is sculptured by shallow but prominent radial ribs. Surface colour is off white with brownish blotches randomly scattered, and covered by a thin periostracum. Length of 4 specimens 10-21 mm. The accompanying drawing is of a shell that resembles many of the shells in the author's collection. The name *G. oblingus* is not returned in the MolluscaBase/WoRMS databases.

Eight species of *Glycymeris* are reported in the recent Indian and Bangladesh literature available to the author. They are listed below with the WoRMS (October 2020) accepted names and localities mentioned in the articles or in the image captions.

Siddique et al, 2007 p. 260 –

Glycymeris reevei (Meyer, 1868). Reported from the Philippines.
Glycymeris violescens Lamarck, 1819 accepted as *G. nummaria* (Linnaeus, 1758).

Subba Rao & Dey, 2000 pp. 206, 207 –

Glycymeris castaneus (Lamarck), accepted as *G. undata* (Linnaeus, 1758).
Reported from Atlantic/Caribbean coasts of Central America.

Ramakrishna & Dey, 2010 pp. 72-74 –

Glycymeris arabica (H. Adam). Reported from the Mediterranean eastern basin, Red Sea, Gulf of Aqaba.
G. lividus (Reeve). Accepted as *G. livida*. Reported from South Africa, Reunion.
G. taylori (Angus). Listed WoRMS, no image or location.
G. tenuicostatus (Reeve). Accepted as *G. tenuicostata*. Reported from Australia.

None of the species in Regional literature listed above, of which images were found, match the Sri Lanka shells in the collection. It is suggested that Kirtisinghe's shell is the same as those in this collection with an incorrect identification. D. H. Fernando's shell is also thought to be the same, the name attached to it untraceable through the Internet resources available to the author.

A good match for the patterns on all specimens found in Sri Lanka was *Glycymeris fulgurata* Dunker, 1877. This was figured in www.yshells.com/category.php?id=228, hosted by Shells from China, POBox 1943 of XiaMen University, XiaMen, Fujian, China, the site being no longer accessible in October 2020. Images are also available in ViaNet Conchology, trawled from deep water (30 m) from the South China sea, with no description.



Glycymerididae

 <p>Glycymeris cf. <i>flammea</i> Actual size 33.4 mm</p>	 <p>Glycymeris cf. <i>flammea</i> Actual size 23.25 mm</p>	 <p>Glycymeris cf. <i>flammea</i></p> <p>16194 507 Kinross 20m</p> <p>Variable colour patterns</p>
<p>MF542: Jaffna, Mandaitivu, fishing trash. With periostracum remnants, right valve.</p> <p>Detailed surface view below.</p>	<p>MF092: Kirinda, Little Basses ridge, by diving, right valve.</p> <p>Detailed surface view below.</p>	<p>From various locations: These appear to belong to the one species. The pattern and sculpture match <i>G. cf. flammea</i>, the interior colour probably faded.</p> <p>Detailed view central shell below.</p>
 <p>Glycymeris cf. <i>flammea</i> Margin of valve showing ribs and periostracum</p>	 <p>Glycymeris cf. <i>flammea</i> Margin of denuded valve</p>	 <p>Glycymeris cf. <i>flammea</i> Margin of weathered valve</p>
<p>MF542 from Jaffna, with periostracal remnants.</p>	<p>MF092 from Kirinda, the Little Basses ridge, with periostracum rubbed off.</p>	<p>MF574, a weathered, beached shell with locality unrecorded.</p>
<p>Glycymeris cf. <i>flammea</i> Reeve, 1843</p> <p>[<i>Pectunculus flammeus</i> Reeve, 1843 original name; <i>Pectunculus fulguratus</i> Dunker, 1877, <i>Pectunculus marmoratus</i> Reeve, 1843, <i>Pectunculus scutulatus</i> Philippi, 1851 - synonyms]</p>		
<p>Only single valves in the collection.</p> <p>Shell somewhat inflated, longer than high ($l/ht = 1.02 - 1.15$). Umbo central, small, rising above the dorsal margin, the beak at the level of the commissural plane. The ligament external, set in a narrow cardinal area on the short, straight dorsal margin. Shell sub-oval in shape, the anterior margin broadly rounded with a flattened dorsal portion, the posterior margin narrowly rounded with a flattened dorsal portion, a bit drawn out, the ventral rounded. The flattening of the antero-dorsal and postero-dorsal margins together with the short, straight dorsal margin gives the shell a distinctive shape. Sculpture consists of wide, low, radial ribs, covered overall by narrow riblets crossed by concentric grooves. Reddish brown periostracal fibres present.</p> <p>Exterior colour is white with reddish brown radial bars of various length over the main ribs. The coloured bars are grouped in various patterns giving the effect of zigzag lines, discrete macules or larger areas of solid colour. The interior is purple with a white margin in the relatively fresh specimen, white with purple blushed umbonal area in another and white in the more weathered shells.</p>		
<p>33.33 x 29, 31.15 x 30.7, 24.46 x 22.3, 21.45 x 20.2, 19.7 x 17.6 mm</p> <p>Jaffna, Mandaitivu, fishing trash; Colombo, Palagala (reef), on sand bottom by diving; Wellawatte, Kinross Club lagoon, on sand bottom by diving; Kirinda, Little Basses Ridge, on sand bottom by diving; Batticaloa, Kalmunai, beached. All single valves.</p>		

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Images of *Glycymeris fulgurata* – see ViaNet Conchology available at (November 2020):

http://vianetconchology.com/index.php?main_page=4&parent=1705&parent0=121&parent1=3&parent2=1&parent3=0&level=3

Images of both *G. fulgurata* and *G. flammea* – see Worldwide Mollusc Species Database (WMSD) available at:

<https://www.bagniliggia.it/WMSD/HtmSpecies/5320250125.htm>

MF: 5.5.2016; 2.3.2017; 28.5.2018; 10.4.2020; 16.11.2020.