

Scrupocellaria diadema Busk, 1852. Tilbrook, 2006, p.58, pl.9A-C.

Scrupocellaria diadema Busk, 1852
Plate 9A-C

Scrupocellaria diadema Busk, 1852a: 370.

Scrupocellaria diadema Busk, 1852b: 24, Fig. 28, figs 1-3.

Scrupocellaria diadema: Kirkpatrick, 1890: 611; Harmer, 1926 (part): 375, Fig. 25, figs 20-25 (cum syn.); Dumont, 1981: 635; Rho & Song, 1980: 154, Fig. 3, Fig. 4; Rho & Seo, 1985: 9; Ristedt & Hillmer, 1985: 136, Fig. 1, Fig. 11; Hayward, 1988: 285, Fig. 3c; Liu, 1991: 69; Scholz, 1991: 284, Fig. 3, figs 6,7; Ryland & Hayward, 1992: 236, Fig. 7; Seo, 1992: 145; Liu, Yin & Ma, 2001: 492, Fig. 29, figs 1,2.

Not *Scrupocellaria diadema*: Lu, 1991: 46, Fig. 4, Fig. 4a,b.

Type material Holotype: NHM 1854.11.15.80, Moreton Bay, Queensland.

Other material examined SBMNH 365098-099, 501-87; NHM 1944.1.8.56, 9°59'S, 139°42'E, Arafura Sea, 51 m; NHM 1996.4.25.2, Tamarin, Mauritius, 5 m; NHM 1882.2.23.45-47, Prince of Wales Channel, Torres Strait, 13-15 m; NHM 1885.12.29.6, Mergui Archipelago, Dr Anderson; NHM 1862.7.16.83, 20 miles NW of ?Mino Sima? (Japan), 115 m; NHM 1927.8.11.8, Amoy (=Xiamen), China, Dr C. Ping; NHM 1928.3.6.181, "Siboga" Station 315, Paternoster Island, N of Sumbawa, 0-36 m; NHM 1890.3.24.43, Murray Island, Torres Strait, 27-36 m; NHM 1883.11.29.8, Thursday Island, Torres Strait; NHM 1881.10.27.72-81, Fitzroy Island, Queensland.

Description Colony erect. Autozooids gracile (0.50 x 0.20 mm), with smooth, proximal gymnocyst, approximately half area of opesia, cryptocyst around oval opesia very narrow and smooth, minimal evidence of lateral projections at proximal edge of operculum. Autozooids appear to be orientated at an angle to each other, partially back to back. Scutum, originating from midway along inner lateral margin of opesia, very gracile-looking, most often club-shaped, but may be small and rounded, the point of scutal spine insertion in middle of lobe, or slightly bifurcated. Two inner orificial spines, two outer orificial spines, short, the most proximal of each directed frontally and bifurcating. Two types of avicularia occur: very small, lateral avicularia on distolateral corner of a few autozooids, distolaterally directed, rostrum triangular, mandible triangular, curved basally with a sharp, hooked tip; frontal avicularia often seen, originating proximal to cryptocystal rim on inner side of zooid, directed distomedially, either, small and similar in shape to lateral avicularia, or, very large, almost aquiline, with rostrum serrated laterally, with a hooked tip, mandible triangular, curved basally with a sharp, hooked tip. Ovicells smooth with two to five circular or elongate oval pores. Single axial vibraculum, other vibracula projecting laterally, visible frontally, drop-shaped, setal groove directed proximomedially, setae long, curving across more than width of branch. A rhizoid foramen is present in proximal wall of all lateral vibracula, not on axial vibracula, however, rhizoids usually only present at base of branch.

Remarks *Scrupocellaria diadema* is characterised by its gracile, club-shaped scutum, its paucity of small, lateral avicularia and the often seen aquiline, frontal avicularia.

Although *Scrupocellaria diadema* was originally described from Queensland several of the specimens cited by Harmer (1957) from this region, as well as the Indonesian and Malaysian regions, do not belong to Busk's species as described above. Two specimens from Port Molle, Queensland (NHM 1882.2.23.492-496 and NHM 1882.2.23.448-457) have extremely large shield-like scuta that all but cover the

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frontal of the zooid, with a raised distal edge. Two other specimens, NHM 1928.3.6.175 and NHM 1928.3.6.178, from Indonesia and the Philippines respectively, have large cervicorn scuta. None of these four specimens have the bifurcating frontal spines.

The species described as *Scrupocellaria diadema* by Lu (1991) from the Nansha Sea differs from Busk's species in the shape and size of the lateral vibracular chambers.

Distribution *Scrupocellaria diadema* has been recorded on numerous occasions throughout the Indo-West Pacific, however, as a number of the specimens cited by Harmer (1957) appear to belong to other species it may not be as common as previously thought. A small colony of this species was found at Anuha Reefs, south end of Anuha Island, Florida Islands.

