

Nellia oculata Busk, 1852. Tilbrook, 2006, p.36, pl.4F.

Nellia oculata Busk, 1852
Plate 4F

Nellia oculata Busk, 1852b: 18, Fig. 64, fig. 6; Fig. 65(bis), fig. 4.

Nellia oculata: Busk, 1884: 27; Harmer, 1926: 240 (in part), Fig. 14, fig. 18; text figs 3B,D, 4A,B; Canu & Bassler, 1929: 185, Fig.5, figs 12,13; Brown, 1956: 597; Lagaaij, 1969 (part?): 167, text figs 1-3; Fig. 1, figs 1-6; Lu, 1991: 46, Fig. 7, fig. 7a-c; Liu, 1991: 72.

Nellia convexa Lu, 1991: 45, Fig. 7, fig. 6a-c.

Type material Lectotype: NHM 1854.11.15.256, Australia ("Rattlesnake", Torres Strait).

Other material examined SBMNH 365062-063, **401-84**; SBMNH 365064, **409-84**; SBMNH 365065, **408-84**; SBMNH 365066-068, **407-84**; SBMNH 365069, **406-84**; SBMNH 365070, **402-84**; NHM 1854.11.15.257, (as Lectotype).

Description Colony erect, delicate, branching, jointed, to 4 cm high, internodes square-sectioned, consisting of four longitudinal series of four or five autozooids, arranged in alternating back-to-back pairs, each internode tapered proximally (ca 2 mm long), dividing dichotomously, nodes consisting of slender cuticular tubes. Autozooids elongate (ca 0.55 x 0.25 mm), gymnocyst well developed, producing a raised mural rim, cryptocyst reduced to strip around extensive oval opesia, better developed proximally than laterally. Opesia three-quarters length of autozooid, with slight constriction at termination of cryptocyst distally, i.e. position of opercular fulcrum. Adventitious avicularia paired, small, positioned frontally on large proximal area of gymnocyst, rostrum semicircular, slightly raised from frontal plane, proximally directed, parallel to long axis of internode. Ovicells indistinct, immersed, indicated by slightly raised, more bulbous area distal to opesial constriction.

Remarks *Nellia oculata* is characterised by its delicate erect colony form, internodes consisting of four or five autozooids and very small, rounded avicularia on the proximal gymnocystal area of each autozooid.

Harmer (1926) described two forms of *Nellia oculata*, a "typical form" and "var. *quadrilatera* d'Orbigny, 1851". On examination of the material he listed it is clear that he was describing two species, the "typical form" agreeing well with Brown's (1956) lectotype specimen (NHM 1854.11.15.256) of Busk's species. The lectotype appears to be a small piece of a young colony as there are only two or three autozooids along each face of the internodes, but in all other characters it is identical to the above description. This morphology has been seen in the initial stages of the material from the Solomon Islands. The other species described by Harmer (1926) as "var. *quadrilatera* d'Orbigny, 1851" has longer autozooids, with 5-12 autozooids in each internode and avicularia which whilst in the same position as *Nellia oculata* are more acute triangular in shape, more raised from the frontal plane and more randomly directed with regard to the long axis of the internode. This species was taken as synonymous with *Cellaria tenella* Lamarck, 1816 by Scholz (1991). Winston & Cheetham (1984) following Cheetham (1966) whose considerable list of synonymies considered Busk's species, *Nellia oculata*, a junior synonym of Lamarck's species. This was also the conclusion of Levinsen (1909) and later d'Hondt (1979). However, in light of the differences described above between Harmer's varieties this is not a view held herein.

Lagaaij (1969) synonymised the species of Busk and d'Orbigny in his extensive treatment of *Nellia oculata*. In light of the above comparisons Lagaaij's (1969) lists of occurrences should be critically re-examined. It would also be a useful exercise to directly compare Harmer's material, including Busk's type of *Nellia oculata*, in the Natural History Museum, London with Lamarck's material of *Cellaria tenella* and d'Orbigny's *Cellaria quadrilatera* both deposited in the Muséum National d'Histoire Naturelle, Paris.

Nellia tenuis Harmer, 1926 differs from *N. oculata* in having a longer, more tapered proximal end to the internode and a more robust overall aspect, but, most importantly, avicularia which are positioned laterally at the distal end of each autozooid accentuating the squared-section of the internode. *Nellia simplex* Busk, 1852a differs from *N. oculata* in its lack of avicularia and prominent ovicells.

Lu (1991) described the new species *Nellia convexa* from the Nansha Sea. This species is identical to *N. oculata*, which he also illustrates.

Distribution Originally described by Busk (1852b) from the Torres Strait, *Nellia oculata* was accorded a "remarkable" distribution by Harmer (1926) covering two disjunct areas, the tropical Indo-Pacific and Florida and Brazil (see Lagaaij, 1969: Appendices I & II). Whilst this species is undoubtedly present in the Indo-Pacific its presence in the western Atlantic must be confirmed by the re-examination of material from the area. In the Solomon Islands *Nellia oculata* was found from Mbokona Bay and Lunga Pt., Guadalcanal, Mbanika Island, Russell Islands, Hamilton Passage, Choiseul and Taora Passage between Choiseul and Vealaviru.

