Exechonella magna (MacGillivray, 1895)
Plate 18E-F

? *Lepralia foraminigera* var. Kirkpatrick, 1890: 16, 19.

Hiantopora magna MacGillivray, 1895: 62, pl. 8, 23; pl. 10, fig. 27.

Exechonella magna: Canu & Bassler, 1929: 121, pl. 19, figs 1-4, text-fig. 28, A-C, 29, A-E; Harmer, 1957: 654, text-fig. 52; Wass & Yoo, 1983: 331, fig. 11: Cook & Bock, 2004: 273, figs 2A-D, 3A.

Exechonella paucipunctata Brown, 1956: 600, fig. 1.

Material examined

SBMNH 365265-266, **501-87**; NHM 1931.12.30.36, "Albatross" Station 5137, Jolo Light, Jolo, Philippines, 37 m; NHM 1889.8.21.45, Tizard, South China Sea, 64 m; NHM 1985.11.24.204, South China Sea, 6°40'30" N, 109°36'E, 205 m.

Description

Autozooids large (ca 0.90 x 0.70 mm), semi-erect, hexagonal or irregularly polygonal, separated by deep grooves. Frontal shield convex, perforated by approx. 20 irregularly spaced large foramina, surrounded by a raised narrow rim of thickened calcification, up to ten very inconspicuous small marginal pores. Orifice subcircular, wider than long (ca 0.22 x 0.17 mm), anter deep, rounded, poster narrow, very shallow, with thickened areas of oral rim calcification either side (condyles?). Peristome low most developed laterally and distally, sometimes extended into lateral lobes. Avicularia at lateral margins, single or paired, the rostrum triangular, raised from the lateral edge of a foramen, similar in size to others, tilted towards centre of zooid, mandible elongate, triangular, curving basally, directed proximally.

Exechonella magna is characterised by its few large frontal foramina, elongate triangular lateral avicularia and low peristome.

Remarks

Several species of *Exechonella* have been described as producing avicularia, *E. magna*, *E. antillea* and *E. brasiliensis*. However, only in *E. magna* are they always present and easily recognised, in the other species they seem to appear sporadically. In these species the avicularia are very small and appear raised on the lateral edges of a large lateral foramen. *Anarthropora horrida* Kirkpatrick, 1888, previously assigned to *Teuchopora* Neviani, 1895 by Harmer (1957) and *Exechonella* by Hayward (1988), produces "pedunculate" avicularia at the proximal margin of the autozooid, seemingly from a "latero-frontal septula" (Hayward, 1988). While these appear similar to the avicularia described for *E. magna*, only directed distally, examination of type material and SEM images supplied by Dr P. J. Hayward show that this species produces peristomial ovicells. Ovicells have only ever been described in *E. discoidea* previously, but their presence has never been subsequently substantiated in this species. The presence of ovicells and the fact that the frontal foramina do not possess either a thickened rim or associated spinous processes (one or other is seen in all other *Exechonella* species) suggest that the true generic assignment of Kirkpatrick's species is still a matter of some debate.

Cook & Bock (2004) noted large differences in fossil and Recent material of *Exechonella magna* from various Australian localities, particularly in the size and number of foramina and the size of avicularia and associated foramen. Subtle differences have also been seen in the material cited above. While the specimen from the Philippines is almost identical to that from the Solomon Islands, both appear inter-

mediate between the two specimens from the South China Sea. NHM 1889.8.21.45 has approx. 15 large foramina; the distal edge of its peristome is more raised than the Philippines and Solomon's material, as are the avicularian rostra. The avicularian mandibles are almost twice the length of the Philippines material, being extremely thin and setiform, but the associated foramen is no larger than the others. This is not the case in the other South China Sea specimen, NHM 1985.11.24.204, where the foramen is much larger than the other foramina. This specimen has only approx. ten frontal foramina and the avicularia are similar to the Philippines and Solomon Islands material. A more comprehensive review of material assigned to this species would doubtless highlight a complex of species, but this is outside the remit of this study.

Distribution

Exechonella magna was originally described from the Miocene of Victoria, southern Australia. It is now known from Victoria to the South China Sea. In the Solomon Islands this species was found at Anuha Reefs, Anuha Island, Florida Islands.