

Hippopodina feegeensis (Busk, 1884). Tilbrook, 1999, p. 451, fig. 1a-h.

***Hippopodina feegeensis* (Busk)**
(Fig. 1a-h)

Lepralia feegeensis Busk, 1884: 144, pl.22, figs 9,9a,9b.
Hippopodina feegeensis Levinsen, 1909 (in part): 353, pl.24, fig.3a,3c,3e,3f; Harmer, 1957 (in part): 974, pl.67, figs 8,9; Ryland & Hayward, 1992: 256, fig. 17a.
not *Hippopodina feegeensis* Brown, 1952: 275, fig.206.
Cosciniopsis fallax Canu & Bassler, 1929: 276, text-fig.113A-D, pl. 28, fig.7.

Material

TYPE SERIES: NHM 1887.12.9.570,571., 'Challenger' Stn 208, near the Philippines, 11°37' N, 123°31' E. 18 fathoms.

Other material: NHM 1882.2.23.551-6., Clairmont Island, NE Australia. sand, 11 fathoms, 'Alert'; NHM 1882.2.23.458-62., Port Molle, 'Alert'; NHM 1892.1.28.117., Holothuria Bank, 9-36 fathoms. Bassett-Smith Coll.; NHM 1899.5.1.829., Singapore or Philippines; NHM 1962.2.20.29,30., 23°32' N, 119°35' E. Prof. Ma Coll.; NHM 1899.5.1.831,832., Singapore. Hincks Coll.; NHM 1899.7.1.171., Hong Kong. Busk Coll.; NHM 1899.7.1.1479., Hong Kong. Busk Coll.; NHM 1961.11.2.13., on coral, Alacran Reef, Campeche Bank, Gulf of Mexico; NHM 1976.7.20.1., Wasin Channel, Zanzibar. 10m; NHM 1965.2.4.1., Massawa Harbour, Ethiopia. Coll. P. L. Cook 8.5.'65; NHM 1994.8.24.2., Heron Island, Stn B20, Australia; NHM 1994.8.24.18., Heron Island, Stn B4, Australia; NHM 1996.2.23.129., Heron Island, Stn B21, Australia; NHM 1996.2.23.120., Heron Island, Stn 25, Australia; NHM 1996.2.23.128., Heron Island, Stn B22, Australia; NHM 1996.2.23.127., Heron Island, Stn B10, Australia; NHM 1997.10.6.34,35., Marine Biology - James Cook, Sq. 5B, Stn. 985, 24.7.82; NHM 1997.10.6.36-42., Deuba Reef, Viti Levu, Fiji; NHM 1997.10.6.43., Joske's Reef, Suva, Fiji; NHM 1997.10.6.44., Suva Point, Suva Barrier Reef, Fiji; NHM 1997.10.6.45., Great Astrolabe Reef, Fiji; NHM 1997.10.6.46-48., Low Isles, Great Barrier Reef, Australia; NHM 1997.10.6.49., Cairncross Island, Great Barrier Reef, Australia; NHM 1997.10.6.50-55., Low Isles, Great Barrier Reef, Australia; USNM 8028. (Holotype of *Cosciniopsis fallax*), Alb. Stn 5151, off Sirun Island, Tawi-tawi Islands, Philippines. 24 fathoms; NHM 1931.12.0.89. (as *Cosciniopsis fallax*), Alb. Stn 5148, off Sirun Island, Tawi-tawi Islands, Philippines. 17 fathoms. (exc. USNM).

Description

Colony encrusting, often very extensive. Autozooids generally rectangular, separated by well-defined grooves. Frontal wall calcification convex, tuberculate, evenly perforated with numerous small pores. Primary orifice hoof-shaped; rounded distally, wider than the proximal margin which may be straight, slightly concave or slightly convex; two lateral condyles. Adventitious avicularia generally paired, though sometimes single, positioned disto-laterally to orifice, orientated medially; rostra raised, lengths variable; mandible acutely triangular; crossbar complete. Ovicells very large, lightly calcified, rounded, evenly perforate, embedded in concavity on frontal wall of distal zooid.

Orifice in ovicellate zooids wider than autozooids; operculum closes orifice. Ovicellate zooids very rarely bear avicularia, then only in disturbed areas of the colony. Tetrad ancestrular complex. This species is a reddish-orange colour in life (Powell, 1969; Hall, 1984).

Measurements (mean \pm standard deviation, mm):

Philippines. NHM 1887.12.9.571. ($n=30$), autozooid length 0.98 ± 0.09 ; width 0.62 ± 0.09 ; orifice length 0.24 ± 0.01 ; width 0.18 ± 0.01 ; avicularia length 0.29 ± 0.01 ; ovicellate orifice length 0.28 ± 0.01 ; width 0.28 ± 0.01 .

Australia. NHM 1996.2.23.129. ($n=30$), autozooid length 1.01 ± 0.11 ; width 0.63 ± 0.10 ; orifice length 0.26 ± 0.01 ; width 0.21 ± 0.01 ; avicularia length 0.40 ± 0.01 .

Fiji. NHM 1997.10.6.45. ($n=30$), autozooid length 0.97 ± 0.08 ; width 0.58 ± 0.08 ; orifice length 0.23 ± 0.01 ; width 0.19 ± 0.01 ; avicularia length 0.36 ± 0.04 .

Red Sea. NHM 1965.2.4.1. ($n=25$), autozooid length 1.07 ± 0.08 ; width 0.73 ± 0.08 ; orifice length 0.27 ± 0.01 ; width 0.20 ± 0.01 ; ($n=8$), avicularia length 0.38 ± 0.02 .

Remarks

This species is characterized by the shape and positioning of the avicularia, the dimorphism in the size of the orifices between autozooids and ovicellate zooids and the production of a tetrad ancestrular complex (Powell, 1967, 1968, 1969).

There is much variation in the morphology of this species and much of it seems to be geographically or even habitat determined; material from Fiji has straight proximal margins to the primary orifice; material from Heron Island, GBR has a thick lip around the orifice, especially in ovicellate zooids; material from the Low Isles has a very concave proximal margin to the orifice and is similar to specimens from the Red Sea. None of the above regional differences warrants the erection of separate species, as the majority of the morphological characters seen in the type material are constant throughout the material examined. Ristedt & Hillmer (1985) illustrate *H. feegeensis* from Cebu, Philippines, with a pair of proximo medially pointing avicularia positioned well distal of the primary orifice. Powell (1969) described colonies from the Red Sea that had adopted an upright unilaminate growth form in response to spatial competition. Ryland & Hayward (1992) describe colonies from Heron Island of over 100 cm².

Distribution

Hippopodina feegeensis has a circumtropical distribution in shallow waters within the 21°C surface water isotherms (Powell, 1969; Banta & Carson, 1977). It often forms very broad encrusting sheets on all kinds of substrata (Powell, 1969; Ryland & Hayward, 1992) and was considered by Hayward (1988) and Ryland & Hayward (1992) to be one of the most abundant bryozoans occurring on coral rubble, possibly one of the primary colonizing species. Powell (1969) provides a very comprehensive account of the distribution of this species.

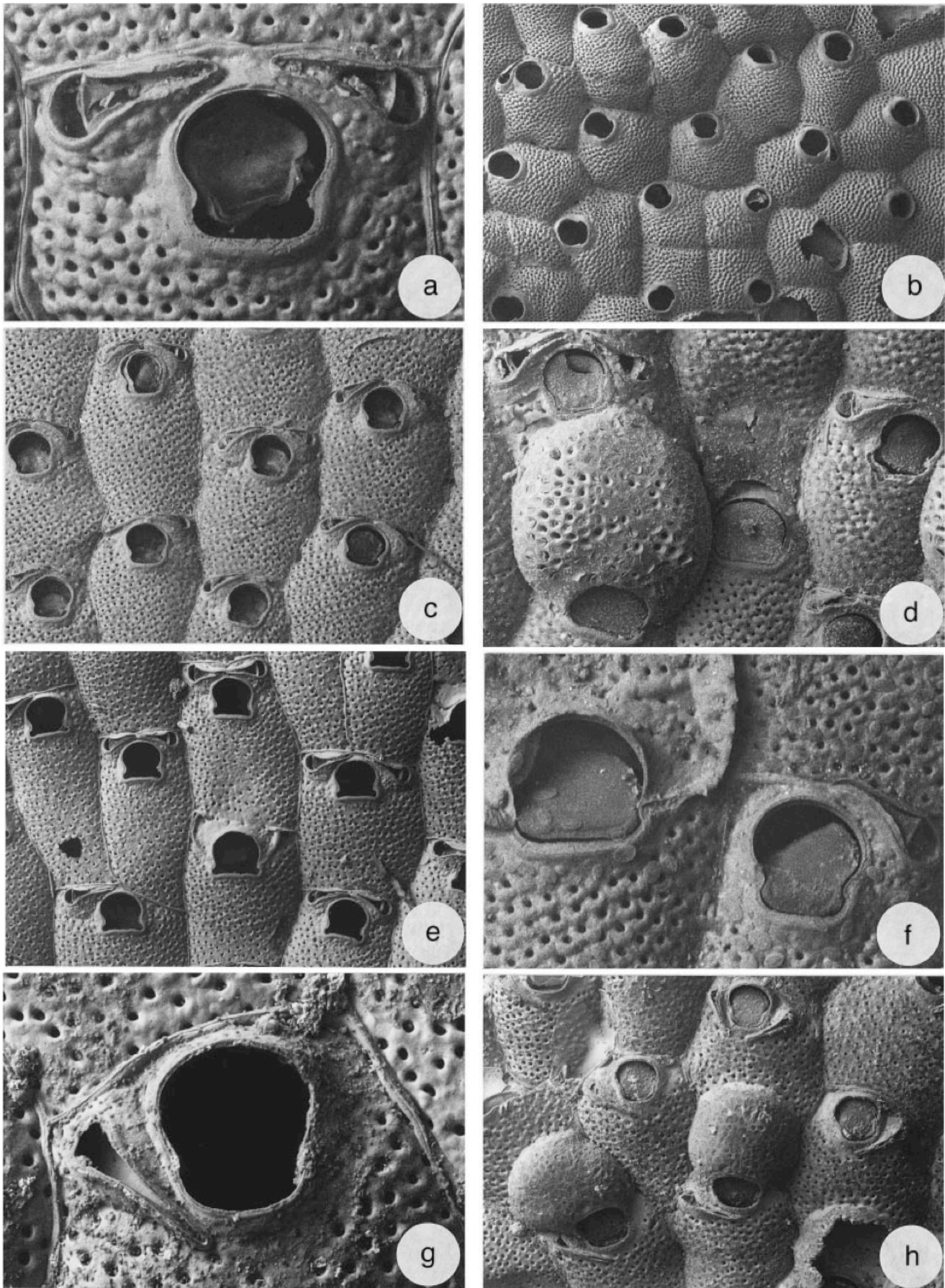


Fig. 1. (a)–(f), *Hippopodina feegeensis*. (a) Type, NHM 1887.12.9.571., Philippines. Primary orifice of autozoid, $\times 112$. (b) NHM 1965.2.4.1., Red Sea. Tetrads of autozooids, note slightly concave proximal edge to the orifice and general lack of avicularia, $\times 19$. (c) Type, NHM 1887.12.9.571., Philippines. Group of autozooids, $\times 32$. (d) USNM 8028 (Holotype of *Cosciniopsis fallax*), Philippines. Note the ‘balloon’ of frontal membrane marking the presence of a developing ovicell (centre), $\times 40$. (e) NHM 1892.1.28.117., Australia. Group of zooids, note the convex proximal edge to the orifice, $\times 24$. (f) Type, NHM 1887.12.9.571., Philippines. Comparison of autozooid and ovicellate zooid orifices, $\times 80$. (g) (h) *Hippopodina pulcherrima* NHM 1938.8.8.1., Curaçao. (g) Primary orifice of autozoid, $\times 112$. (h) Group of autozooids and ovicellate zooids, $\times 28$.