Notes on Indo-Pacific Scleractinian Corals. Part 7

Catalaphyllia, a New Genus of Reef Corals

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In his monumental book on the Great Barrier Reefs of Australia Saville Kent described (1893, pp. 39-40, 158, pl. 25, f. 3, chromo pl. 4, f. 7) the polyps of a hermatypic coral that he found in shallow water on the reefs at Warrior Reef (lat 9° 45' S), Thursday Island (lat 10° 35' S), and Albany Pass (lat 10° 45' S). He identified this coral correctly as a member of the Eusmiliidae and considered it to represent a new species, Pectinia jardinei. His reference to Pectinia is at present confusing, for that genus, as interpreted today, characterizes the family Pectiniidae, a group quite distinct from the eusmiliids, but at that time Pectinia comprised what is now known as Meandrina, a West Indian form. Saville Kent seems to have overlooked the very close resemblance of the flabello-meandroid corallum of "Pectinia" jardinei to that of Euphyllia fimбриata which he recorded from the same reefs.

Since 1893 Saville Kent's species has been quite overlooked, although, as will be shown, it has been recognized under a number of names and described as early as 1848.

Saville Kent's excellent photograph of the partly expanded living colony of his "Pectinia" jardinei (1893, pl. 25, f. 3), his color sketch of another example (1893, chromo pl. 4, f. 7), Yonge's photograph of a juvenile (1930b, pl. 39, f. B), and the color photographs of Catala (1964, pl. 2, f. 2; pl. 3, f. 7), show polyps strikingly different from those of Euphyllia, a difference more than specific. Recently I was able to observe a number of living colonies through the courtesy of Dr. R. L. A. Catala in the Aquarium de Nouméa, New Caledonia, and confirmed the supposition that this coral indeed represented a new genus of eusmiliid in spite of the homeomorphy of the skeleton with that of Euphyllia. In small recognition of his contributions to the study of the tropical marine fauna, the new genus is named for Dr. Catala.

ORDER Scleractinia

SUBORDER Caryophylliida

FAMILY Eusmiliidae

GENUS Catalaphyllia, new genus

Type Species

Rhipidogyra plicata Milne Edwards and Haime 1848. Syntype (Paris) figured by Matthai (1928, pl. 41, f. 1).

Corallum

Corallum forms large, flabello-meandroid colonies from a small base. Valley broad, sinuous, continuous or sometimes discontinuous. Wall septothecal, costate, finely granulate, lacking exotheca and epitheca. Septa thin, slightly exsert, margins entire. Columella absent or very weakly trabeculate. Endotheca coarsely vesicular.

Polyps

Oral disc very broad when fully expanded, with a central series of protuberant peristomes. Tentacles forming a single row around the margin of the oral disc, tapering gently with small terminal knobs. Edge-zone very narrow.

Remarks

In all respects save two minor characters, the corallum of this form is identical with that of Euphyllia, especially E. fimбриata (Spengler). The endothecal vesicles are coarser and fewer and the wall is externally more granulated. The polyps (Fig. 16), however, are quite different from those of the type species of Euphyllia, E.

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glabrescens (Chamisso and Eysenhardt), which have a relatively small oral disc with longer, less tapering tentacles with swollen bulbous tips, forming four or five rows over much of the disc (Quoy and Gaimard, 1826, pl. 96, f. 9; Saville Kent, 1893, pl. 25, f. 2; chromo pl. 4, ff. 2–6; Yonge, 1930a, f. 6). The polyps of E. fimbriata have not been described.

Catalaphyllia plicata
(Milne Edwards and Haime) 1848

Figures 1 a–f
Euphyllia picteti Eguchi 1938. Palao Tropical Biological Station Studies, no. 3, p. 338.

Euphyllia picteti Ma 1959. Oceanographica Sinica, Spec. Vol. 1, p. 79, pl. 152, f. 2; var. flexuosa, pl. 151, f. 2 a–b.
Euphyllia picteti Catala 1964. Carnival under the Sea, pl. 2, f. 2; pl. 3, f. 4; pl. 11, f. 4; pl. 13, f. 2.

Description
Corallum and polyps have the characters of the genus. Corallum fixed by a small base in early monostomatous flabelloid stage (Fig. 1c), breaking loose, lying free and becoming trochoïd, developing flabellum-meandroid colonies (Fig. 1a), up to 50 cm broad. Valley 20–30 mm in width, 15–20 mm deep. Septa are thin, 9–12 per centimeter at the wall, slightly exert, margins sloping evenly to bottom of valley where four or five larger ones may bend to meet, forming a very weak columella. Sides of septa with rows of fine, faint trabecular granules normal to margin (Fig. 1a). Wall septothecal, thin, with low costae corresponding to all septa. Costae and intercostal furrows more or less evenly granulated (Fig. 1e). Endotheca coarsely vesicular, two or three vesicles appear in interseptal spaces in transverse section; in longitudinal section (Fig. 1f) they are 3–5 mm apart (1.5–2 mm in E. fimbriata).

Polyps usually with brilliant fluorescent green oral disc, tentacles gray-brown with flecks of green, their tips pink (Catala, 1964, pl. 2, f. 2), or dusky purple with pink-tipped tentacles, or dusky-purple column and tentacles and green disc. Under ultraviolet radiation the oral disc is brilliant green, the tentacles bright blue with red-violet tips (Catala, 1964, pl. 11, f. 4).
Remarks

As the iconography of this species is fairly extensive (see especially Bedot (1907), Catala (1964), Matthai (1928), and Yabe, Sugiyama, and Eguchi (1936)), only a few figures are introduced in this note. Saville Kent's color sketch, while not wholly accurate, is reproduced in monochrome (Fig. 1b), for it does illustrate the aspect of polyp and corallum in the early detached trochoid condition.

Milne Edwards and Haime distinguished their E. plicata from E. fimbriata by the wider valleys, larger endothecal vesicles, and granulated wall. Fortunately one of their syntypes, from an unknown locality, is still in Paris and has been figured by Matthai as E. fimbriata (1928, pl. 41, f. 1).

Euphyllia fimbriata is alone amongst the several species of Euphyllia in having a flabellomaneandroid growth form, and it may prove, when the polyps are examined, to be a second species of Catalaphyllia.

Occurrence

Maldive Islands, 45–50 m; Lacépède Islands, northwestern Australia (lat 16° S); Amboina; Philippines: Mindanao, 180 m, and southern Philippines; Pescadore Islands, Formosa Straits (lat 23°40' N); Palau Islands; Great Barrier Reefs: Thursday Island south to Port Newry (lat 21° S); New Caledonia, 30–40 m.

LITERATURE CITED


Yabe, H., T. Sugiyama, and M. Eguchi. 1936. Recent reef-building corals from Japan and the South Sea islands under the Japanese mandate. Science Reports of the Tōhoku University, Sendai, Japan, series 2 (Geology), special vol. 1, 66 pp., 59 pls.
