



Article

***Euphyllia baliensis* sp. nov. (Cnidaria: Anthozoa: Scleractinia: Euphylliidae): a new species of reef coral from Indonesia**

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Abstract

Euphyllia baliensis sp. nov. (Hexacorallia: Scleractinia: Euphylliidae) is described from 10 specimens from Bali, Indonesia. This species forms phaceloid colonies, and is distinguished morphologically from others in its genus by its comparatively very small corallites (averaging 3 mm diameter) and much shorter, thinner, lightly calcified branches. It also exhibits an unusual pattern for Hexacorallia in having four or eight primary and secondary septa. Living corals typically have fleshy polyps extended during the day. Tentacles are ‘anchor’, ‘kidney’ or ‘hammer’ shaped at their tips, occasionally with additional smaller bulbous protuberances, the latter resembling ‘mittens’ or ‘gloves’. Tentacles are dull to dark reddish-brown with lime green bases and cream tips, becoming bluish on retraction. Type specimens were collected from 27–37 m depth off the central eastern coast of Bali, Indonesia. To date the species has not been reported from any other locality.

Key words: Biodiversity, coral systematics, coral reefs, Indo-Pacific, Coral Triangle

Introduction

The Indo-Pacific reef building coral family Euphylliidae Milne Edwards, 1857 was proposed by Veron (2000) to include zooxanthellate species in five genera: *Euphyllia*, *Plerogyra*, *Physogyra*, *Nemanzophyllia* and *Catalaphyllia* (commonly termed ‘bubble corals’). These were previously included in the mainly ahermatypic family Caryophylliidae Gray, 1847, in subfamily Eusmiliinae Milne-Edwards and Haime, a description of which follows:

“All species are hermatypic and colonial. All have large, exsert, widely separated septa which have little or no ornamentation. Costae are reduced, columellae reduced or absent. Corallite walls are septothecal or parathecal. The endotheca is vesicular. Polyps are large and have major specific differences in structure” (Veron and Pichon 1980).

More recent genetic studies of scleractinian phylogeny suggest that the above five genera may not be monophyletic, with representatives in both the “complex” and “robust” coral clades (Fukami *et al.* 2008, Kitahara *et al.* 2010). Based on molecular evidence, Fukami *et al.* (2008) suggested that the former oculinid genus *Galaxea* and monotypic meandrinid genus *Ctenella* should be transferred to Euphylliidae. More recently Dai and Horng (2009a,b) included the oculinids *Galaxea* and *Acrhelia* with *Euphyllia* in Euphylliidae in their treatment of the corals of Taiwan.

The genus *Euphyllia* has a significant fossil record. It has been recorded from: the Paleocene of Costa Rica, Pakistan and Slovenia (Duncan 1880, Drobne *et al.* 1988, Aguilar and Denyer 2001, Baron-Szabo 2006, 2008); the Eocene of India, Italy, Libya, Slovenia and Spain (Nuttall 1932, Drobne *et al.* 1988, Hladil *et al.* 1991, Alvarez *et al.* 1994, Bosellini *et al.* 1998); the Oligocene of Greece, Italy and Slovenia (Kolosvary 1967, Pfister, 1980, Drobne *et al.* 1988, Schuster 2002); the Miocene of France, Iran and Italy (Chevalier 1961, Schuster and Wielandt