Reef sites

Fishes (Gobiidae and Labridae) associated with the mushroom coral *Heliofungia actiniformis* (Scleractinia: Fungiidae) in the Philippines



Fig. 1 Gobies a Trimma sp. (undescribed species), b Eviota pellucida and E. lachdeberei, and the shrimp Cuapetes lacertae among tentacles of Heliofungia actiniformis

Although the presence of fish on coral colonies and individual polyps of the Anthozoa is relatively common (e.g., Munday et al. 1997), the only fish known to be associated with *Heliofungia actiniformis* is the white pipefish *Siokunichthys nigrolineatus* (see Hoeksema et al. 2011). Other fishes may hover over individuals of this large solitary coral polyp, but without direct contact with the tentacles.

In an attempt to find S. nigrolineatus, I searched several hundred polyps of H. actiniformis at 3-28 m depth in the Davao Gulf between July 2010 and May 2011. Instead of S. nigrolineatus, I regularly observed members of the Gobiidae (Eviota lachdeberei, E. pellucida, and Trimma sp., Fig. 1a) and Labridae (Bodianus diana, Cirrhilabrus exquisitus, Oxycheilinus celebicus, and O. orientalis) among the tentacles of H. actiniformis. About every 15th coral polyp was inhabited by one or two fish and, at a few occasions, specimens of more than one fish species were present on a single coral polyp (Fig. 1b). These fishes dwelled within the coral canopy apparently without being adversely affected. Although these fishes survive outside this coral microhabitat, I repeatedly observed one specimen of *E. lachdeberei* occupying the same coral polyp over a period of 5 days. The representatives of the Gobiidae were mostly adult specimens, whereas those of the Labridae were exclusively juveniles. Small juveniles (≤ 4 cm TL) resided among the tentacles, whereas larger juveniles hovered over the tentacles or swam along the coral periphery. This is the first observation of

fishes, other than *S. nigrolineatus*, associated with the mushroom coral *H. actiniformis*. Moreover, this is the first record of various fish species cohabiting in a single *H. actiniformis* individual, resembling cases involving various shrimp species in the same coral host (Hoeksema and Fransen 2011) and clown fishes in a single sea anemone (Bos 2011).

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