Commensal animals of a soft coral tree in the Singapore Strait

Subjects: Ball flowery coral tree, *Dendronephthya* sp. (Cnidaria: Nephtheidae); Fig. 1 & 3.
False cowrie, *Margovula marginata* (Mollusca: Gastropoda: Ovulidae); Fig. 1.
Coral shell, *Coralliophila rubrococcinea* (Mollusca: Gastropoda: Muricidae); Fig. 2.
Brittlestar, unidentified taxon (Echinodermata: Ophiuroidea); Fig. 3.

Subjects identified by: Contributors.

Location, date and time: Singapore Strait, Pulau Berkas; 17 November 2014; morning.

Habitat: Marine. At bottom of channel with rubble and gravel substrate, just beyond fringing coral reef, at depth of about 12 m.

Observer: Tan Heok Hui.

Observation: During a day dive, many ball flowery coral trees of the genus *Dendronephthya* (Fig. 1), were encountered along the bottom of the channel. Casual examinations of these soft corals revealed some commensal animals on them. A false cowrie, *Margovula marginata* (Fig. 1) and a coral shell, *Coralliophila rubrococcinea* (Fig. 2) were found on the same host coral. An unidentified whitish brittle star (Fig. 3) was seen on another coral.

Remarks: This appears to be the first documentation of a living *Margovula marginata* from Singapore (see Wong, 2011). The animal is remarkably well-camouflaged on its host coral (Fig. 1). The coral shell, *Coralliophila rubrococcinea*, was recently recorded from Singapore by Wong (2008), who found specimens in crevices of delicate and fragile ‘hard corals’ (probably bryozoans). Its association with the ball flowery coral tree may be noteworthy. Both the false cowrie and coral shell, are probably parasites, feeding on the polyps and living tissue of their host coral (Hadfield, 1976).

Brittlestars have a broad range of feeding types, which include suspension-feeding, deposit-feeding, scavenging, and predation (Stöhr et al., 2012). It is not clear which feeding type the featured brittlestar belongs to, but it probably uses the soft coral as a refuge.

References:

Note: This is a contribution of the Singapore Comprehensive Marine Biodiversity Survey conducted by the National University of Singapore’s Tropical Marine Science Institute and the National Parks Board.

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Fig. 1. Ball flowery soft coral tree, with arrow pointing to well-camouflaged parasitic false cowrie.

Fig. 2. Parasitic gastropod *Coralliophila rubrococcinea* (8.1 mm shell height), apertural view on the left, dorsal view on the right.

Photographs by Tan Heok Hui
Fig. 3. Ball flowery soft coral tree, with arrow pointing to a whitish brittlestar. Photograph by Tan Heok Hui