

Longspine sea urchins with commensal fish and shrimps

Subjects: Longspine sea urchin, *Diadema setosum* (Echinodermata: Diadematidae); Fig. 1 & 2.
Zanzibar urchin shrimp, *Tuleariocaris zanzibarica* (Crustacea: Palaemonidae); Fig. 1.
Urchin clingfish, *Diademichthys lineatus* (Teleostei: Gobiesocidae); Fig. 2.

Subjects identified by: Contributor.

Location, date and time: Singapore Straits, Pulau Satumu, western shore; 18 April 2014; around 2100 hrs.

Habitat: Coral reef, just beyond rocky breakwaters, between 2 to 5 m depth.

Observer: Contributor.

Observation: During a night dive to observe mass coral spawning, several longspine sea urchins were encountered on coral rubble and coral heads. Upon close inspection, up to three Zanzibar urchin shrimps (Fig. 1), the largest about 2 cm total length, were observed on the spines. An urchin clingfish of about 3 cm total length (Fig. 2) was found among the spines of another sea urchin.

Remarks: The colour patterns of the commensal fish and shrimp are strikingly similar, and seem to enable these animals to camouflage among the spines of the sea urchins. These animals have a dark reddish dorsum with three white narrow longitudinal stripes.

The urchin clingfish was first documented in Singapore at Terumbu Pempang Tengah by Low (2013). The present example appears to be the second record from Singapore waters.

The Zanzibar urchin shrimp occurs throughout the Indo-Pacific region and is typically associated with *Diadema* sea urchins (Humann & De Loach, 2010; De Grave & Fransen, 2011).

References:

- De Grave, S. & C. H. J. M. Fransen, 2011. Carideorum catalogus: the recent species of the dendrobranchiate, stenopodidean, procarididean and caridean shrimps (Crustacea: Decapoda). *Zoologische Mededelingen*. 85 (9): 195-589, figs 1-59.
- Humann, P. & N. De Loach, 2010. *Reef Creature Identification – Tropical Pacific*. New World Publications, Inc., USA. 514 pp.
- Low, J. K. Y., 2013. More noteworthy fishes observed in the Singapore Straits. *Nature in Singapore*. 6: 31-37.

Contributor: **Tan Heok Hui**

Contact address: nhmthh@nus.edu.sg

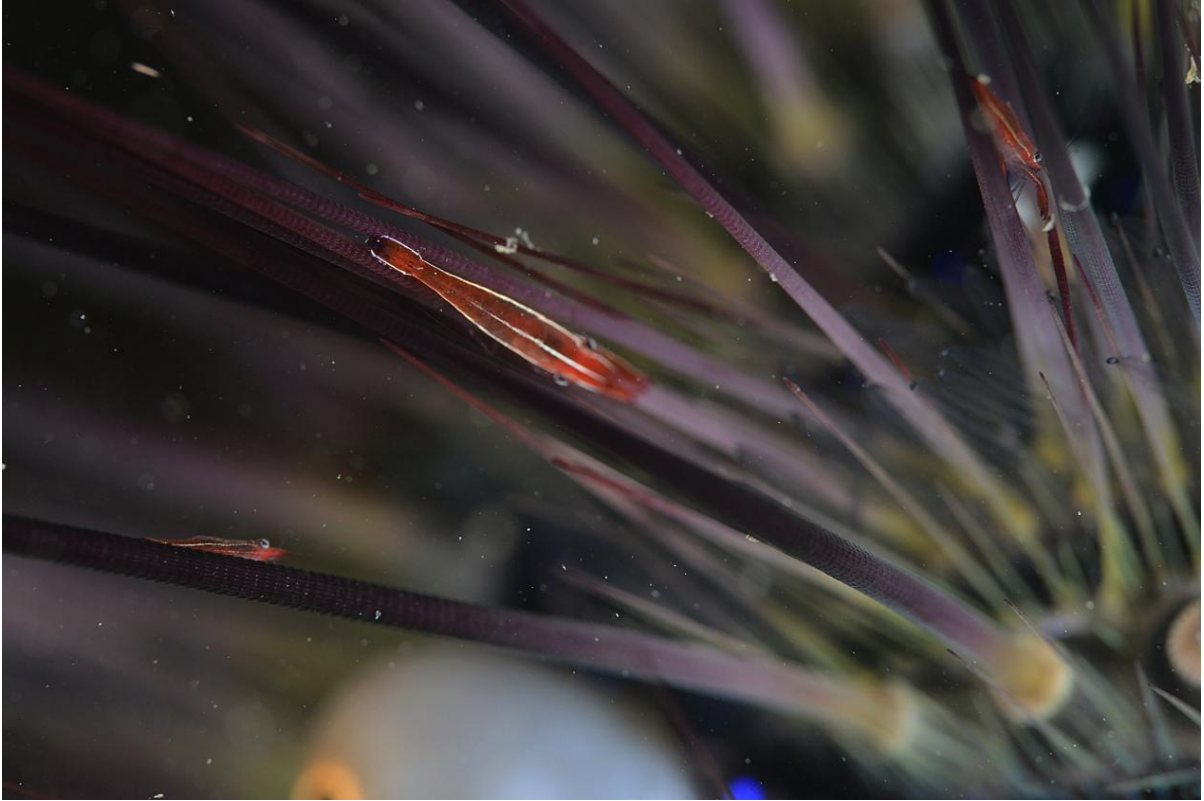


Fig. 1. Three examples of *Tuleariocaris zanzibarica*, the largest about 2 cm total length, on the spines of one sea urchin.

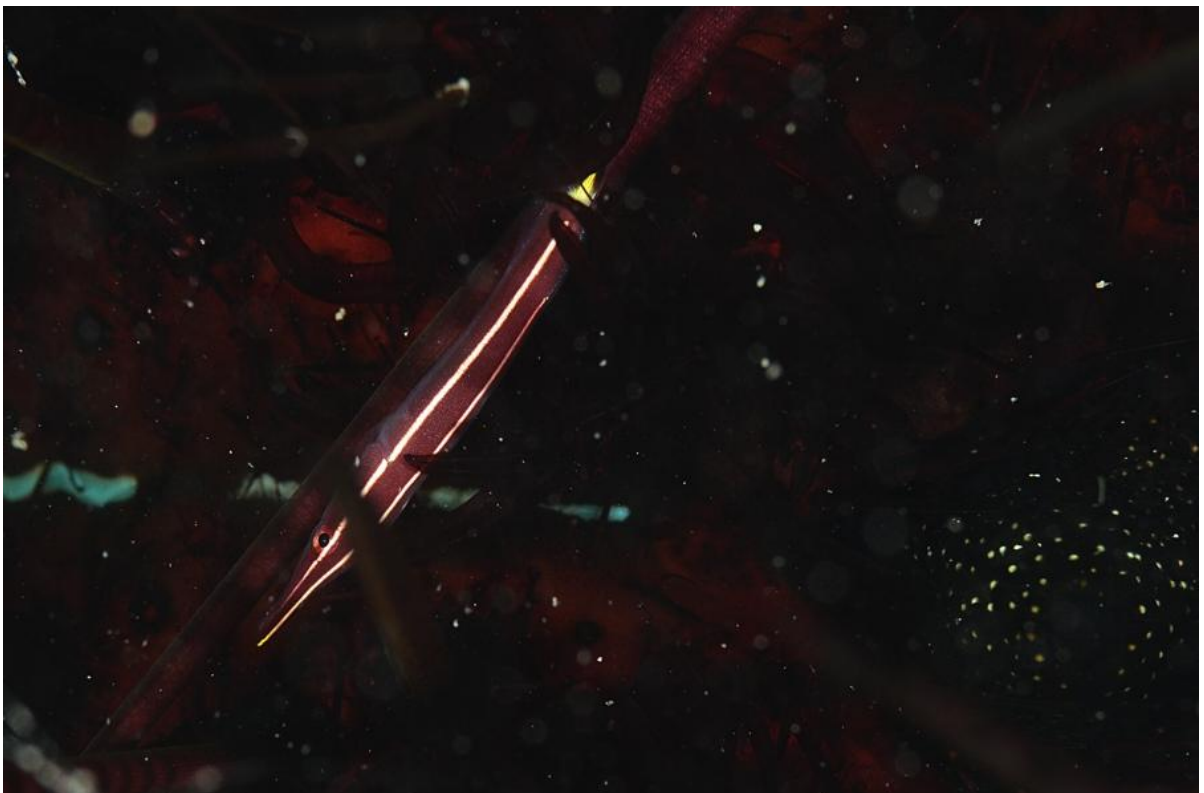


Fig. 2. Urchin clingfish of about 3 cm total length on spine of sea urchin.

Photographs by Tan Heok Hui