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First Singapore records of Emarginella incisura and Indomodulus tectum

Subjects: Slit limpet, *Emarginella incisura* (Mollusca: Gastropoda: Fissurelloidea: Fissurellidae); Modulus snail, *Indomodulus tectum* (Mollusca: Gastropoda: Cerithioidea: Modulidae).

Subjects identified by: Tan Siong Kiat.

Location, date and time: Singapore Strait at Pulau Satumu (Raffles Lighthouse); 21 August 2016; between 0630 and 0830 hrs.

Habitat: Marine. Rocks and coral rubble at the low intertidal zone.

Observers: Toh Chay Hoon, Ria Tan and others.

Observations: Two unusual live snails were encountered at predawn in the intertidal area. One example of *Emarginella incisura* (Fig. 1), appearing as a fleshy yellow lump with a bit of shield-like shell showing, was found on the underside of a piece of coral rock. A specimen of *Indomodulus tectum* (Fig. 3), well-camouflaged by algae and other marine growth on its surface, was encountered at the rocky area under the jetty. Dislodged from its hold on the substrate and turned over, a mottled pattern of orange and green showing through its operculum is revealed (Fig. 4). The two specimens were deposited as vouchers in the Zoological Reference Collection of the Lee Kong Chian Natural History Museum at the National University of Singapore. *Emarginella incisura* (Fig. 2) is catalogued as ZRC.MOL.7396, and *Indomodulus tectum* (Fig. 5) as ZRC.MOL.7397.

Remarks: The identities of the two snails were determined with reference to Wilson (1993), Okutani (2000), and Landau et al. (2014). Interestingly these two species do not seem to have been previously reported from Singapore (e.g., Tan & Woo, 2010; Sanpanich & Tan, 2016). The finds are thus regarded as the first records of these species from Singapore.

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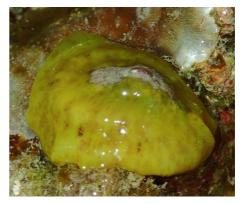


Fig. 1. *Emarginella incisura* in situ under a piece of coral rock. Photograph by Toh Chay Hoon

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Fig. 2. Dorsal (left) and ventral views of the cleaned shell of *Emarginella incisura* (ZRC.MOL.7396), measuring 14.6 mm in shell length. Photographs by Tan Siong Kiat



Fig. 3. Well-camouflaged *Indomodulus tectum* in situ. Photograph by Toh Chay Hoon



Fig. 4. Live *Indomodulus tectum* turned over to show the foot colouration through its corneous translucent operculum. Photograph by Toh Chay Hoon

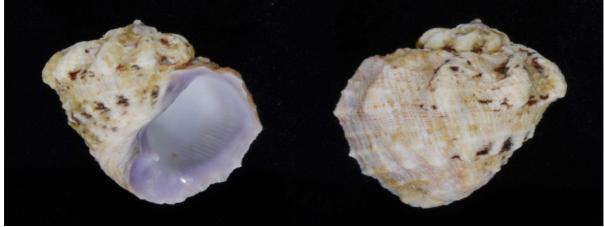


Fig. 5. Apertural (left) and dorsal views of cleaned shell of *Indomodulus tectum* (ZRC.MOL.7397), measuring 18.6 mm in shell height. Photographs by Tan Siong Kiat