

New record of adorned dove-shell, *Zafra ornata*, in Singapore.

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Subjects: Adorned dove-shell, *Zafra ornata* (Mollusca: Gastropoda: Columbellidae).

Subjects identified by: Chan Sow-Yan and Lau Wing Lup.

Location, date and time: Johor Strait, Changi Beach Park; 20 July 2019 at 0644 hours & 2 August 2019 at 0659 hrs.

Habitat: Estuarine beach. On the shell of a live saddle oyster (*Placuna ehippium*) in seagrass meadow exposed during morning low tide.

Observer: Lau Wing Lup.

Observation: Examples of *Zafra ornata* were found crawling on the shell of a live saddle oyster (*Placuna ehippium*) which was exposed to air at low tide (Fig. 1 & 2).

Remarks: *Zafra ornata* lives gregariously among barnacles, keel worms and other marine encrusting organisms (Fig. 1). Being minute, it tends to be overlooked by the casual observer. Its size ranges from slightly over 2 mm to about 4 mm, and can be misidentified as juveniles of the sympatric dotted dove-shell (*Euplica scripta*). The shell of *Zafra ornata* is beige with a white spiral band above the keel. This spiral band is quite distinctive when seen in the field at close range (Fig. 2). The last whorl of the shell is ornamented with random wavy brown lines (Fig. 3-5) which appears to be constant in this species (Pease, 1868). The original description and type figure of Pease (1868), as well as the type specimen of the species housed at The Academy of Natural Sciences (MolluscaBase, 2019) match the Singapore samples very well.

Zafra ornata seems to be common where it occurs, and is herein regarded as a new record for Singapore (see Tan & Woo, 2010; Sanpanich & Tan, 2016).

References:

- MolluscaBase, 2019. MolluscaBase: *Zafra ornata* (Pease, 1868). Accessed on 24 August 2019 at: <http://www.molluscabase.org/aphia.php?p=taxdetails&id=511625> on 2019-08-13
- Pease, W. H., 1868. Descriptions of marine gastropodae inhabiting Polynesia. *American Journal of Conchology*. 4 (2/3): 71-80, 91-132.
- Sanpanich, K. & S. K. Tan, 2016. Shell-bearing gastropod molluscs of the Singapore Strait. *The Raffles Bulletin of Zoology*. Supplement No. 34: 528–538.
- Tan S. K. & H. P. M. Woo, 2010. *A Preliminary Checklist of the Molluscs of Singapore*. Raffles Museum of Biodiversity Research, National University of Singapore. 78 pp.



Fig. 1: *Zafra ornata* (in red circle) attached to the shell of a live saddle oyster (*Placuna ehippium*).



Fig. 2: Seven live *Zafra ornata* in situ on the shell of a live *Placuna ehippium*.

Photographs by Lau Wing Lup



Fig. 3: Empty shells of *Zafra ornata*.



Fig. 4. Apertural view of adult *Zafra ornata* shells with thickened outer lips.



Fig. 5 Dorsal view of adult *Zafra ornata* shells with wavy brown lines at the last whorl.

Photographs by Lau Wing Lup