

Winged sea slugs at Marina Bay

Subjects: Winged sea slugs, *Gastropteron* sp. (Mollusca: Gastropoda: Opisthobranchia: Gastropteridae).

Subjects identified by: Contributors.

Location, date and time: Singapore Island, Marina Bay, mid-channel of waterway near Kallang River mouth leading out to Singapore Strait, at the foot of Benjamin Sheares Bridge support; 10 May 2005 (before damming of Marina Bay); ca. 1200 hrs.

Habitat: Estuarine.

Observer: Tan Heok Hui.

Observation: Around ten small opisthobranchs (each less than 10 mm in length) were obtained with a cast net used for catching fish. Apparently swimming in the water column, these molluscs were caught in between the folds of the net as it was being retrieved.

The body of these small molluscs is soft and semi-translucent white, with numerous large black and orange spots and gold specks (Figs. 1 and 2). The anterior siphon is tipped with a bold black margin, and the edges of the parapodia are yellow with black spots. In the laboratory, they were observed swimming by flapping their large parapodia (Fig. 2, bottom left animal).



Fig. 1. Six individuals of *Gastropteron* sp. (note the slime trail behind three individuals). Photograph by Tan Heok Hui

Remarks: The specimens were preserved in the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum at the National University of Singapore.

Attempts to identify these animals to species have not been successful as there are no morphologically close species found in the revision of the family by Gastropteridae by Gosliner (1989), or in field guides (e.g., Gosliner et al., 2008, 2015). This suggests that the specimens herein featured may be an undescribed species. Identical examples of this taxon was also recorded from the Johor Strait in October 2012 during the Comprehensive Marine Biodiversity Survey of Singapore (CMBS, 2015). Apart from that, gastropterids do not appear to have been previously recorded from Singapore (e.g., Tan & Woo, 2010).

This present record is interesting as it represents a first record of *Gastropteron* from shallow sub-saline waters. However, it is unlikely to occur at Marina Bay since it has been transformed into a freshwater reservoir upon the completion of the Marina Barrage in 2008 (Tan et al., 2010).

Most gastropterids are able to swim for long periods by flapping their large parapodia (Gosliner, 1989). Little is known about their ecology and biology. Some species feed on sponges while others are believed to be generalist carnivores (Gosliner, 1989; Gosliner et al., 2015).



Fig. 2. Two individuals of *Gastropteron* sp. showing parapodia extended (bottom) and folded (top). Photograph by Tan Heok Hui

References:

- CMBS (Comprehensive Marine Biodiversity Survey), 2015. *Opisthobranchs of Singapore*. National Parks Board and National University of Singapore. Single-sided A2 (597 × 420 mm) poster issued before April 2015 [unpublished data].
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- Gosliner, T. M., D. W. Behren & Á. Valdés, 2008. *Indo-Pacific Nudibranchs and Sea Slugs: A field guide to the World's most diverse fauna*. Sea Challengers Natural History Books & The California Academy of Sciences, Washington, USA. 425 pp.
- Gosliner, T. M., Á. Valdés & D. W. Behrens, 2015. *Nudibranchs & Sea Slug Identification – Indo-Pacific*. New World Publications, Inc., Jacksonville, Florida, USA. 408 pp.
- Tan H. H., M. E. Y. Low & K. K. P. Lim, 2010. Fishes of the Marina Basin, Singapore, before the erection of the Marina Barrage. *The Raffles Bulletin of Zoology*. 58 (1): 137-144.
- Tan S. K. & H. P. M. Woo, 2010. *A Preliminary Checklist of the Molluscs of Singapore*. The Raffles Museum of Biodiversity Research, National University of Singapore. 78 pp.

Contributors: **Tan Heok Hui**, **Toh Chay Hoon** & **Tan Siong Kiat**

Contact addresses: nhmthh@nus.edu.sg (Tan H. H.), nhmtohc@nus.edu.sg (Toh),
nhmtsk@nus.edu.sg (Tan S. K.)