

Two colour forms of an estuarine snail, *Orania bimucronata*, in Singapore

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Subjects: Double-pointed drill, *Orania bimucronata* (Mollusca: Gastropoda: Muricidae).

Subjects identified by: Chan Sow-Yan.

- 1) Sarimbun; 24 August 1997;
- 2) Khatib Bongsu; 16 June 2012;
- 3) East Coast Park, Area B; 4 May 2019.

Habitats: Mangrove forests (Sarimbun and Khatib Bongsu), and estuarine part of an urban monsoon canal (East Coast Park).

Observers: Chan Sow-Yan and Lau Wing Lup.

Observation: *Orania bimucronata* inhabits intertidal zones of estuarine environments. In Singapore, two distinct colour forms have been observed. The brown form (Fig. 1), which has a broader shell, was found at Sarimbun and Khatib Bongsu, in mangrove forest where it was attached to mangrove-tree roots. The black form (Fig. 2), which has a slightly more slender shell, was found in weep holes along the walls of the monsoon canal.

Remarks: It is almost impossible to tell the two colour forms of *Orania bimucronata* in the field. The distinctive shell colouration is only revealed after the shell surfaces are cleaned of debris and encrusting organisms. The shell colour and morphology in this species could be influenced by environmental factors, but this cannot be proven without research.

Orania bimucronata was described by Reeve (1846 as *Buccinum bimucronatum*). Its congener, *Orania livida*, was also described in the same publication (as *Buccinum lividum*). The shell of *Orania bimucronata* has a two-pointed spiral peripheral cord (Fig. 1, red arrows), is broader in width, brownish, often with distinct pale whitish spiral cord on the last whorl. In contrast, *Orania livida* has a single-point spiral peripheral cord, is more slender in proportion and very dark brown to almost black in colour (see Reeve, 1846; Houart, 1996). The black form of *Orania bimucronata* featured here can resemble *Orania livida* in appearance, but it has the diagnostic two-pointed spiral peripheral cord (Fig. 2, red arrows).

References:

- Houart, R. 1996. Results of the Rumphius Biohistorical Expedition to Ambon (1990). Part 5. Mollusca, Gastropoda, Muricidae. *Zoologische Mededelingen*. 70: 377-397, figs. 1-34.
- Reeve, L. A., 1846. Monograph of the genus *Buccinum*. *Conchologia Iconica*. Vol. 3: pl. 1-14 and unpaginated text. L. Reeve & Co., London.



Fig. 1. Apertural views of cleaned shells of *Orania bimucronata* from Sarimbun (left - 16.0 mm) and Khatib Bongsu (right - 17.0 mm) mangroves. Red arrows indicate two points on the spiral peripheral cord.



Fig. 2. Apertural views of cleaned shells of *Orania bimucronata* from the monsoon canal at East Coast Park (left - 18.5 mm and right - 17.0 mm). Red arrows indicate two points on the spiral peripheral cord.

Photographs by Chan Sow-Yan