

Biodiversity Record: Rajah Brooke's dove-shell, *Mitrella brookei*, in Singapore

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Subjects: Rajah Brooke's dove-shell, *Mitrella brookei* (Mollusca: Gastropoda: Columbellidae).

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

Location, date and time: Johor Strait, Changi Beach, off carpark 6; 15 November 2020; around 1740 hrs.

Habitat: Estuarine shore. On seaweed and seagrass meadows.

Observers: Chan Sow-Yan, Lau Wing Lup and Calvin Jiah Jay Leow.

Observations: Many live examples were found grazing on seaweed and seagrass (Figs. 1 & 2). The largest shells were around 11 mm.

Remarks: In life, *Mitrella brookei* has a yellowish body with dark grey blemishes (Figs. 3 & 4), and an elongated yellowish operculum (Fig. 5). The flame-like stripes and brownish to whitish spot-like blemishes on the shell (Fig. 6) are largely concealed under the periostracum, and are visible after the animal has died. This species seems to be gregarious, and live individuals can be difficult to see as their drab periostracum enables them to blend into their natural surroundings. *Mitrella brookei* is listed as a gastropod grazer of seagrass meadows by Fong et al. (2018).

The occurrence of *Mitrella brookei* in Singapore was confirmed by Tan & Woo (2010). In addition to Changi Beach, the authors have also recorded *Mitrella brookei* from the Johor Strait at Tuas near the end of Jalan Ahmad Ibrahim Road, at the end of Lim Chu Kang Road and at Pasir Ris Park in mangroves at the mouth of Sungei Api Api. The species was not found in the Singapore Strait (see Sanpanich & Tan, 2016), which suggests its preference for estuarine habitats.



Fig.1. Two live *Mitrella brookei* (indicated with arrows) in-situ among marine vegetation. (Photograph by: Lau Wing Lup)



Fig. 2. Four live specimens in-situ on sand. Fig. 3. Apertural view of a live specimen with emerging foot. Fig. 4. Apertural view showing the emerging foot and eye-stalk (indicated with arrow). Fig. 5. Aperture of a live shell showing the operculum (indicated with arrow). Fig. 6. Dorsal view of a dead shell (about 10 mm) without periostracum, revealing the distinctive colour pattern. (Photographs by: Lau Wing Lup)

Literature cited:

- Fong JM, Lai S, Yaakub SM, Ow YX, & Todd PA (2018) The diet and feeding rates of gastropod grazers in Singapore's seagrass meadows. *Botanica Marina*, 61: 181–192.
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