

Biodiversity Record: The tree-snail, *Mesembrinus multilineatus*, in Singapore

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Subjects: Multi-lined tree-snail, *Mesembrinus multilineatus* (Mollusca: Gastropoda: Bulimulidae).

Subjects identified by: Leong Si Wei, Chan Sow-Yan and Lau Wing Lup.

Location, date and time: Singapore Island, Marina Bay, Gardens by the Bay; 26 October 2024 at 1613 hrs and 21 February 2025 at 1741 hrs.

Habitat: Urban parkland. On reclaimed land along the edge of a freshwater reservoir.

Observers: Leong Si Wei and Lau Wing Lup.

Observations: Examples of *Mesembrinus multilineatus* were observed on two separate occasions —

On 26 October 2024, Leong Si Wei encountered one example aestivating on the stem of a *Philodendron warscewiczii* plant beside a rock monolith (Fig. 1), while another specimen was observed on the rock monolith apparently feeding on orange-brown lichen.

On 21 February 2025, Lau Wing Lup found one live individual on a rock monolith (Fig. 2). The snail's body is translucent pale grey with whitish specks. The tentacles are light grey, and the foot is dirty yellow (Figs. 3 & 4). Nineteen dead shells were also uncovered in the vicinity under monoliths and ornamental plants such as *Copernicia prunifera*, *Phoenix roebelenii*, *Colvillea racemosa*, *Euphorbia punicea* and *Cycas pectinata*. The largest shell was about 2.3 cm in height.

Remarks: *Mesembrinus multilineatus* is not native to Singapore. It was first recorded there on iNaturalist at Gardens by the Bay, on 31 January 2023 (<https://www.inaturalist.org/observations/188220863>). The two featured records confirm the presence of an established population in Singapore.



Fig. 1. Lateral view of *Mesembrinus multilineatus* in-situ, aestivating on a stem of a *Philodendron warscewiczii* plant, in October 2024 (Photograph by: Leong Si Wei). Fig. 2. Lateral view of a *Mesembrinus multilineatus* in-situ, on a rock monolith, in February 2025 (Photograph by: Lau Wing Lup).

Originally described from the southern part of Florida, USA, as *Bulimus multilineatus* by Say (1825), the native range of *Mesembrinus multilineatus* is challenging to verify, as much of its current distribution is probably the result of commercial transportation of plant materials. Imported plants from Florida are the possible source of a population on the Pacific island of Guam (Robinson 1999). The species is distributed along the coastal areas from Venezuela and Colombia, north to southern Mexico, and on the Bahamas, Cuba, Hispaniola, and several other Caribbean islands (Townsend et al., 2005; Avila & Breure, 2019; Breure & Borrero, 2019). It is highly likely that *Mesembrinus multilineatus* arrived in Singapore with shipments of ornamental plants. This is not just a first published record of this species in Singapore (see Tan & Woo, 2010), but apparently also for the whole of Asia.

Mesembrinus multilineatus is an arboreal snail that grazes on microphytes on leaves and other surfaces (Breure & Borrero, 2019). It is frequently observed aestivating in sizable numbers on vegetation and artificial structures a few meters off the ground (Townsend et al., 2005). Substantial colour variation, particularly in the presence and intensity of black and reddish-brown bands and stripes, and the colour band around the umbilical area, is known, and some specimens can be nearly white or very dark coloured (see Breure & Borrero, 2019).

Fig. 3. Aperture view of the live *Mesembrinus multilineatus* in February 2025, ex-situ. Fig. 4. Lateral view of the same snail with the animal emerging from the shell (Photographs by: Lau Wing Lup).



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