

## Biodiversity Record: Confirmation of the keyhole limpet, *Diodora ruppellii*, in Singapore

Chan Sow-Yan\* & Lau Wing Lup

Email: [chansowyan@gmail.com](mailto:chansowyan@gmail.com) (\*corresponding author), [suiseki1984@yahoo.com.sg](mailto:suiseki1984@yahoo.com.sg)

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**Subject:** Rüppell's keyhole limpet, *Diodora ruppellii* (Mollusca: Gastropoda: Fissurellidae).

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

**Location, date and time:** Johor Strait, Punggol Beach Park; 16 March 2024, 1109 hrs.

**Habitat:** Estuarine. Intertidal shore, during low tide.

**Observers:** Lau Wing Lup and Chan Sow-Yan.

**Observation:** A live specimen of about 14 mm in shell height was found immobile on the inner recess of a rock (Fig. 1). When dislodged, the foot was observed to be yellow (Fig. 2). The specimen was taken as a voucher. After cleaning, the following features of the shell are noted: steeply conical, with an obovoid, oblong-ovate shape; ovate opening inclined anteriorly, and about one third in shell length from the anterior end; apical hole edges with conspicuous crenulations where these meet the ribs, notches between crenulations continue a short distance towards the inside of the shell. The shell appears whiter towards its orifice, with the rest of its exterior adorned with radiating pattern of interrupted broad dark brown rays which appear faint in the shell's whitish interior. The shell is elaborately sculptured with radiating ridges of varying width. The encircling growth ridges are under-developed compared to the ribs, and form knobs where they intersect. The aperture margin or peristome is denticulate where the ribs terminate (Figs. 3–8).

**Remarks:** This record is a confirmation of the occurrence of *Diodora ruppellii* in Singapore. Previously, a 5.5 mm juvenile keyhole limpet shell, identified as *Diodora cf. ruppellii*, from a dredge haul from the Singapore Strait between 30 and 40 m off Pulau Satumu was reported (Tan & Low, 2022). The specimen herein featured matches the original description and drawings of G. B. Sowerby I (1835), as well as the descriptions and illustrations of the species by Reeve (1849–1850; as *Fissurella nigriadiata* and *Fissurella ruppellii*) and Kaicher (1988).

*Diodora ruppellii* occurs throughout the Indo-Pacific, and its presence in Singapore is to be expected. The species has spread into the Mediterranean Sea from the Red Sea through the Suez Canal (Zenetos et al., 2004; Rizgalla et al., 2019). This species is known to feed on sponges and, although generally regarded as a shallow water inhabitant, it has been found in depths down to 70 m (Zenetos et al. 2004; Wronski 2010).

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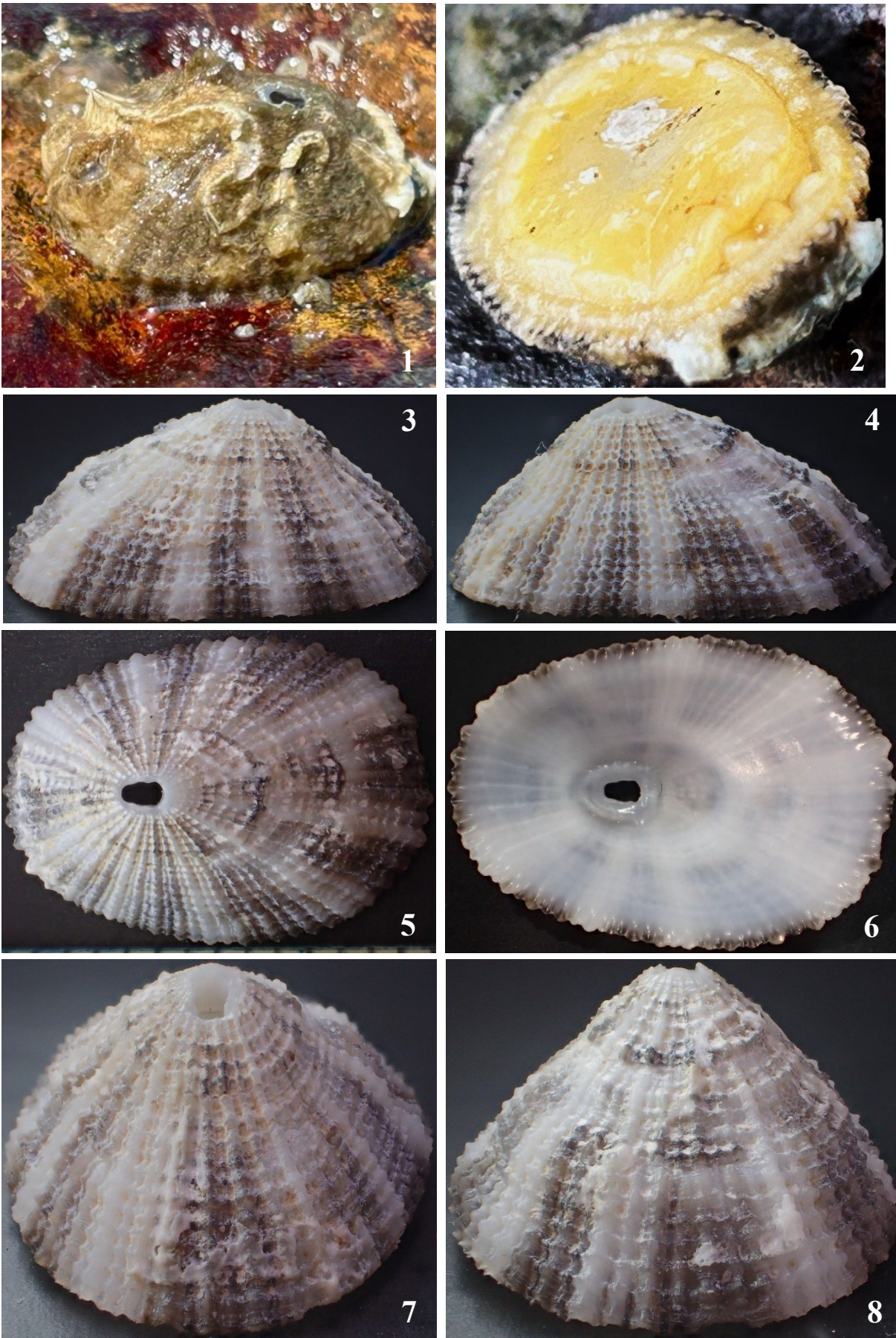


Fig. 1. Dorsal lateral view of live *Diodora ruppellii* in-situ on the inner recess of a rock. Fig. 2. The same animal dislodged and exposing its yellow foot. Figs 3-8. Views of cleaned shell of *Diodora ruppellii*. Fig. 3. Lateral view. Fig. 4. Lateral view from opposite side. Fig. 5. Dorsal view. Fig. 6. Aperture view. Fig. 7. Anterior view. Fig. 8. Posterior view (Photographs by: Lau Wing Lup).