

Biodiversity Record: An aberrant keyhole limpet, *Diodora octagona*

Chan Sow-Yan* & Lau Wing Lup

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

Recommended citation. Chan S-Y & Lau WL (2024) Biodiversity Record: An aberrant keyhole limpet, *Diodora octagona* in Singapore. Nature in Singapore, 17: e2024045. DOI: 10.26107/NIS-2024-0045

Subject: Octagon keyhole limpet, *Diodora octagona* (Mollusca: Gastropoda: Fissurellidae).

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

Location, date and time: Johor Strait, Punggol Beach Park; 9 February 2024; around 1751 hrs.

Habitat: Estuarine. Intertidal shore, under rock at low tide.

Observers: Lau Wing Lup and Chan Sow-Yan.

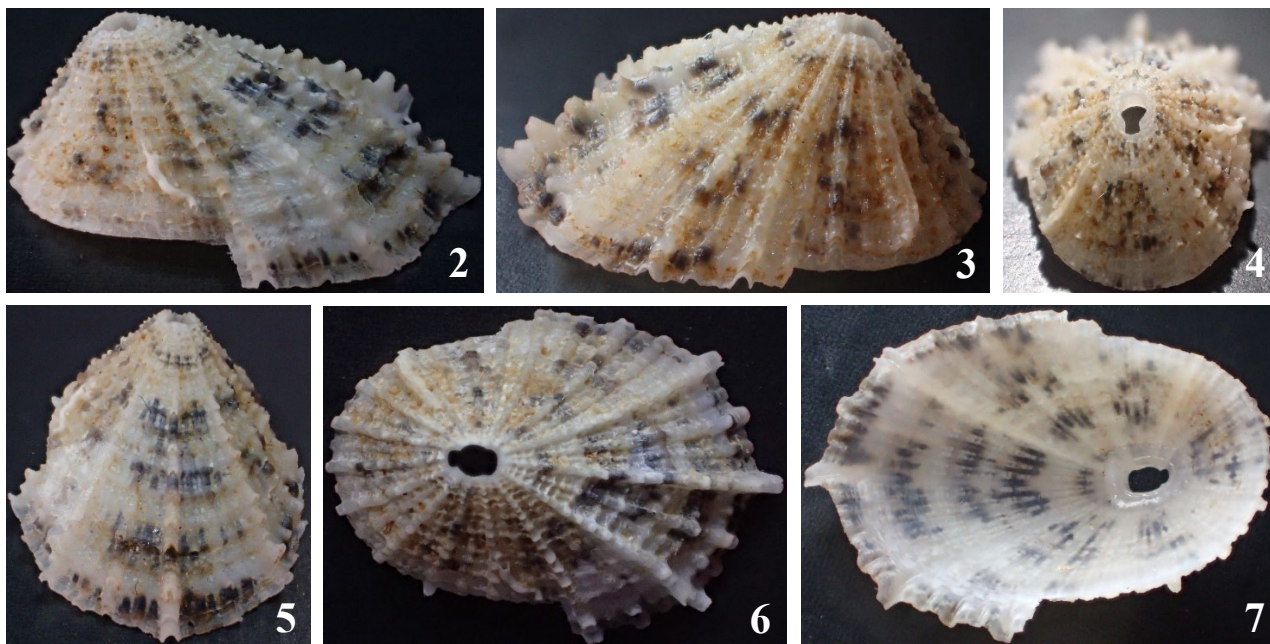
Observation: A specimen of about 11 mm shell height was found immobile within a rock crevice. It had two parasitic snails on its shell edge, and three small crabs were noted beside it (Fig. 1). This individual limpet appears to be somewhat deformed as the anterior portion of its shell seems to be smaller, underdeveloped, and having less pronounced ridges in comparison to its posterior part. The specimen was taken as a voucher. After cleaning, the shell was noted to have an ovate shape, rather elevated, and ribbed with thin, broadly granulated, scaled ridges. The orifice is ovate, rather broad and inclined to the shell's anterior region. The shell is generally whitish with irregular, broad, dark brown markings that can also be seen on the shell's interior surface (Figs. 2–7).



Fig. 1. Dorsal view of the live *Diodora octagona* in-situ in a rock crevice. There are three small crabs (green arrows) flanking its anterior shell margin and two small parasitic snails (yellow arrows) on the posterior surface of the shell (Photograph by: Lau Wing Lup).

Remarks: The first and only record of *Diodora octagona* in Singapore was by Tan & Woo (2010) as its junior synonym *Diodora reevei* (see MolluscaBase, 2024). Despite its deformity, the specimen depicted here closely matches the original description and illustration of Reeve (1849–1850). An aberrant form of *Diodora octagona* is herein recorded apparently for the first time. The inconsistent growth of parts of the shell may be influenced by the shape of its roosting site.

Diodora octagona has a wide Indo-Pacific distribution. It has been recorded from Hawaii (Moretzsohn & Kay, 1995), Guam, Micronesia (Smith, 2003), Vietnam (Hylleberg & Kilburn, 2003 as *Diodora reevei*) and French Polynesia (Tröndlé & Boutet, 2009). Examples have been found on corals at 10 m depth in Hong Kong (Christiaens, 1980 as *Diodora reevei*), and dredged from depths of between 87 and 166 m at the Ogasawara Islands of Japan (Hasegawa, 2018).



Figs. 2–7. Various views of the cleaned shell of *Diodora octagona*. Fig. 2. Dorsal lateral view. Fig. 3. Dorso-lateral view on opposite side. Fig. 4. Anterior region. Note that it is less developed compared to the posterior side. Fig. 5. Posterior region. Fig. 6. Dorsal view. Fig. 7. Aperture view (Photographs by: Lau Wing Lup).

Literature cited:

- Christiaens J (1980) The limpets of Hong Kong with descriptions of seven new species and subspecies. In: Morton B (ed.) The Malacofauna of Hong Kong and Southern China. Hong Kong University Press, Hong Kong, pp. 61–84.
- Hasegawa K (2018) Sublittoral and upper bathyal vetigastropods (Mollusca: Gastropoda) dredged from the Ogasawara Islands. *Memoirs of the National Museum of Natural Science, Tokyo*, 52: 105–152.
- Hylleberg J & Kilburn R (2003) Marine molluscs of Vietnam. Annotations, voucher material, and species in need of verification. *Phuket Marine Biological Center Special Publication*, 28: 5–300.
- Moretzsohn F & Kay EA (1995) Hawaiian marine molluscs – an update to Kay, 1979. Unpublished manuscript distributed at the 61st American Malacological Union Congress, held at the University of Hawai‘i at Hilo, Hawai‘i. University of Hawai‘i at Manoa Honolulu, Hawai‘I, June 1995.
- Reeve LA (1849–1850) Monograph of the genus *Fissurella*. In: *Conchologia Iconica, or, illustrations of the shells of molluscos animals*, vol. 6, pl. 1–16 and unpaginated text. L. Reeve & Co., London [stated dates: pls. 1–6, Aug. 1849; pls. 7 & 8, Dec. 1849; pls. 9–12, Jun. 1850; pls. 13–16, Aug. 1850]
- Smith BD (2003) Prosobranch gastropods of Guam. *Micronesica*, 35: 244–270.
- Tan SK & Woo HPM (2010) A Preliminary Checklist of the Molluscs of Singapore. Raffles Museum of Biodiversity Research, 78 pp. Uploaded 2 June 2010. https://lkcnhm.nus.edu.sg/wp-content/uploads/sites/10/app/uploads/2017/04/preliminary_checklist_molluscs_singapore.pdf (Accessed 28 May 2024).
- Tröndlé J & Boutet M (2009) Inventory of marine molluscs of French Polynesia. *Atoll Research Bulletin*, 570: 1–90.
- MolluscaBase (2024) *Diodora octagona* (Reeve, 1850). <https://www.marinespecies.org/aphia.php?p=taxdetails&id=571921> (Accessed 27 March 2024).