

Biodiversity Record: The sponge shell, *Litharium kurodai*, in Singapore

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Subject: Kuroda's sponge shell, *Litharium kurodai* (Mollusca: Gastropoda: Triphoridae).

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

Location, date and time: Singapore Island, Punggol Beach Park; 9 February 2024; around 1722 hrs.

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

Observers: Lau Wing Lup and Chan Sow-Yan.

Observation: An adult example of about 10 mm shell height was found motionless under rock. The soft tissue was not seen as it had retracted into the shell. Presence of the operculum (Fig. 1) indicates the specimen was alive. The shell, when clean, is conoidal rod shaped, and reddish-brown with yellowish white granules. Its microsculpture consists of three rows of granules, each row equal in size at the lower two-third of the spire. The median row diminishes at the early whorls. The broad axial columns are latticed with spiral keels, forming granules at their intersections. The apex is blunt with its protoconch immersed at the summit, but appears slightly as a tip of the smooth nucleus. The straight sided teleoconch has about 13 whorls, and is divided by a widely channelled and deep suture. On the last whorl are three smooth spiral keels on the periphery and base. The aperture is round with a long and slightly recurved anterior canal (Fig. 2).



Fig. 1. Aperture view of *Litharium kurodai* with intact operculum in life (Photograph by: Lau Wing Lup).

Remarks: *Litharium kurodai* was described as *Isotriphora kurodai* by Kosuge (1962) from central Japan. It has been recorded in Korea and the Philippines (Lee et al., 2018). This species was first recorded in Singapore by Sanpanich and Tan (2016) based on a shell dredged from the seabed off St. John's Island. Hence, the individual herein featured represents the second record and the first images of the species from the country.

Coriophora fusca (Fig. 3) and *Triphora subulata* (Fig. 4) are two of the similar looking triphorid species sympatric with *Litharium kurodai* in Singapore. The table below, based on Marshall (1983) and Albano et al. (2019), presents key morphological features that can be used to differentiate the three species.

Species	<i>Coriophora fusca</i>	<i>Triphora subulata</i>	<i>Litharium kurodai</i>
Shell shape	Slightly expanded at mid spire with deep sutures.	Very pointed and elongated with shallow sutures.	Conoidal rod shape with widely channelled and deep sutures.
Number of whorls	About 12–14.	About 16.	About 13.
Tubercles	3 rows per whorl. Mid spire tubercles less developed.	2 rows on each whorl.	3 rows per whorl. Each row equal in size at lower two-third of spire. Median row tubercles diminish at early whorls.
Shell height	6–12 mm.	Up to 6.5 mm.	To about 10 mm.
Shell surface	Eroded at times, with apex missing, usually obscured by encrustations.	Not eroded, with minimal encrustations.	Not eroded, with minimal encrustations.
Shell colour	Dark brown with paler brown tubercles.	Brown with grey tubercles.	Reddish brown with yellowish white tubercles.

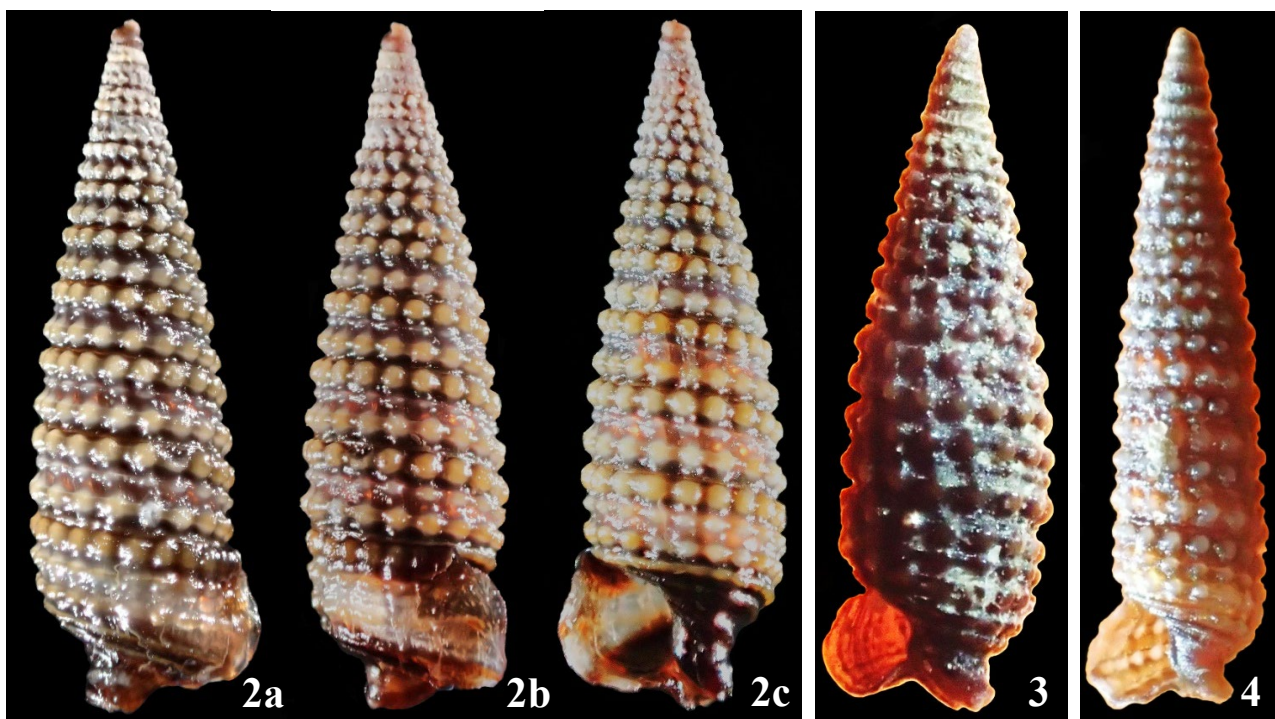


Fig. 2. Cleaned *Litharium kurodai* shell [c 10 mm]: (a) dorsal, (b) lateral, and (c) aperture views. Comparison with aperture views of two similar looking sympatric species – Fig. 3. *Coriophora fusca* [c 4 mm], Fig. 4. *Triphora subulata* [c 4 mm] (Photographs by: Lau Wing Lup).

Literature cited:

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