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Biodiversity Record: The scalariform nutmeg snail, *Scalptia scalariformis*, in Singapore

Chan Sow-Yan* & **Lau** Wing Lup

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

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Subjects: Scalariform nutmeg snail, *Scalptia scalariformis* (Mollusca: Gastropoda: Cancellariidae).

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

Location, date and time: Johor Strait, Changi Beach Park, 18 June 2022; around 0813 hrs.

Habitat: Estuarine shore. Intertidal zone, in shallow (ankle-deep) water among seagrass, during low tide.

Observer: Lau Wing Lup.

Observation: Two specimens were found separately. One, about 20 mm in shell length and covered with algae and wormholes, was found on the shell spine of a ramose murex snail, *Chicoreus ramosus* (Figs. 1 & 3). The other, minimally encrusted specimen of 16 mm shell length (Figs. 4 & 5) was seen on the test of a live sea urchin, *Salmacis sphaeroides*.

The shell of *Scalptia scalariformis* has strongly pronounced sutures. Adults have about six angular, convex, stairs-like volutions, flat-faced near the suture. The aperture is triangularly ovate, wide and tapers to a narrow and short open siphonal canal (Figs. 2 & 5). There is no operculum. The umbilicus is a small and narrow fissure behind the inner lip callus. The straight columella has three plaits. The inner lip reflects onto the body whorl and partially covers the umbilicus. The wet shell has an orange-brown tinge when viewed under strong lighting, but turns greyish brown when it is dry. There is a thick longitudinal brownish band within the last whorl on the larger specimen. The smaller specimen has several spiral brownish bands when viewed from its aperture, and with the soft tissue retracted deep into the shell (Fig. 5). Orange-brown spiral bands can also be seen on the wet shell surface too, especially on less eroded surfaces of both shells. The shell micro-sculpture consists of spiral lirae and thicker axial ribs that form pointed knobs at its periphery. These ribs are further crossed by elongated and whitish denticulations with brownish dashes between them, with the latter fading away across interstices. The shell's thick outer lip edge has brownish markings. Lirae can also be seen on the palatal wall. There is a palatal denticle on the interior of the upper lip where it meets the suture. The foot is yellowish with brownish spots (Fig. 2). The flesh is grey with white mottling. The pair of sensory tentacles is reddish brown with black eyespots at the base.

Remarks: *Scalptia scalariformis* occurs in the Indo-west Pacific across Australia, Indonesia, Philippines and Japan, where it is usually found sub-tidally down to 45 m (Garrard, 1975). In Singapore, the species was previously recorded as *Trigonaphera bocageana* (see Chuang, 1973; Tan & Woo, 2010). Images of the snail's shell, soft tissue and possible hosts appear to be illustrated here for the first time in local literature. *Scalptia scalariformis* seems to be locally uncommon and was not recorded at the 67 sites in the Singapore Strait during the Comprehensive Marine Biodiversity Survey (CMBS) of Singapore (Sanpanich & Tan, 2016). The presence of the two featured examples on a sea urchin and ramose murex shell suggest that *Scalptia scalariformis* could be feeding on the body fluids of these animals.

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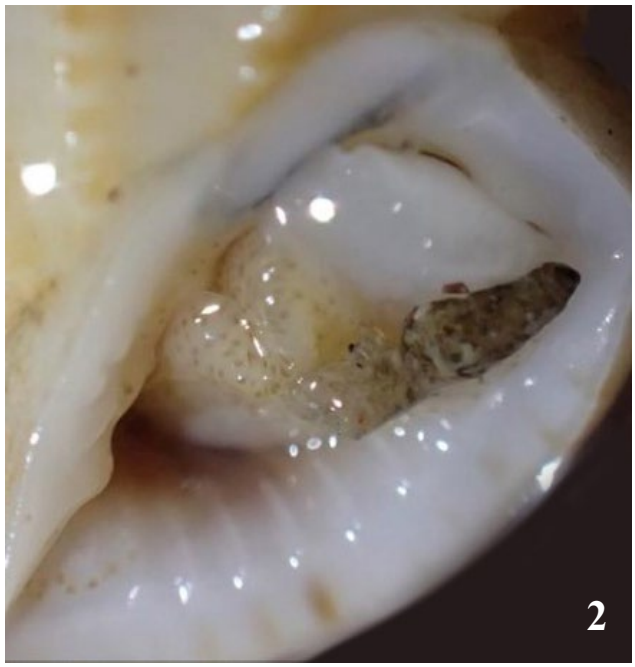

Fig. 1. The larger specimen in-situ on a ramose murex spine (circled in black). Fig. 2. The flesh of an emerging snail. (Photographs by: Lau Wing Lup).

Fig. 3. Dorsal view of the larger specimen. Fig. 4. Dorsal view of the smaller specimen. Fig. 5. Apertural view of the smaller specimen. (Photographs by: Lau Wing Lup)