

Biodiversity Record: Kusan snails, *Philalanka kusana*, in Singapore

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Subjects: Kusan snail, *Philalanka kusana* (Mollusca: Gastropoda: Charopidae).

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

Location, date and time: Singapore Island, Singapore Botanic Gardens; 23 August 2021; around 1215 hrs.

Habitat: Patch of lowland rainforest surrounded by suburban parkland (Fig. 1).

Observers: Chan Sow-Yan and Lau Wing Lup

Observation: Around seven live specimens were found grazing on plant debris and leaf litter (Fig. 2) along a boardwalk under bayur (*Pterospermum sumatranum*) and sea almond (*Terminalia catappa*) trees in wet weather conditions during a drizzle. Two freshly dead juvenile and adult shells were also noted. Empty shells appear thin, yellowish white, glossy and translucent. The largest individuals have a shell height of about 4 mm.

The adult shell has a conical shape with about six whorls, with convex, flat to angular sides and a rounded apex (Fig. 7). The shell sculpture consists of very fine transverse striations with two to three prominent spiral ridges in between. These spiral striations gradually disappear towards the umbilical region. The radial sculpture consists of fine growth lines and radial riblets. The umbilicus is open and narrow (Fig. 6). The peristome is simple and thin even in mature specimens. The aperture is subquadrate in shape (Figs. 5, 7).

The animal has two pairs of brownish-grey tentacles. The foot is dirty-yellowish-white (Figs. 3, 4). Round, whitish eggs are visible from within the last two whorls of some adult specimens (Figs. 5, 6).

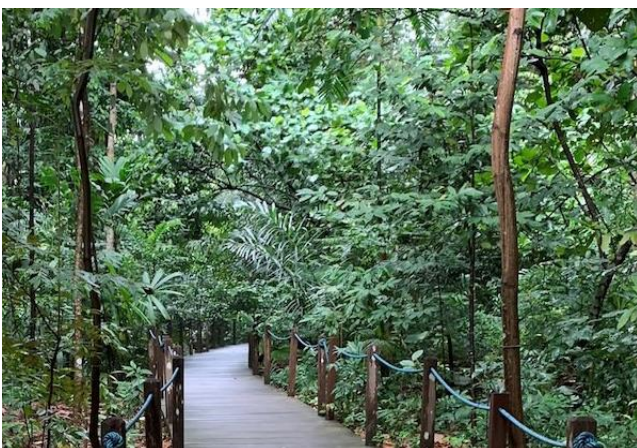


Fig. 1. Patch of rainforest in the Botanic Gardens where *Philalanka kusana* snails were found. (Photograph by: Lau Wing Lup).



Fig. 2. In situ dorsal view of a grazing *Philalanka kusana* snail on a dead leaf. (Photograph by: Lau Wing Lup).

Remarks: *Philalanka kusana* was described from the Penggiron and Kusan districts of South Kalimantan, Indonesian Borneo (Aldrich, 1889). It has also been recorded from Malaysian Borneo, Peninsular Malaysia, Bali, the Maluku Islands and New Guinea (Vermeulen & Whitten, 1998; Maassen, 2001; Vermeulen et al., 2015; Marzuki et al., 2021). This species is noted to exhibit ecological plasticity and has been found in primary and secondary forests, disturbed environments, rocky outcrops with sparse vegetation, on limestone, sandstone and volcanic soil, within leaf litter, on

low vegetation and on shrubby regrowth, from the lowlands up to an altitude of 1,500 m (Vermeulen & Whitten, 1998; Vermeulen et al., 2015).

In Singapore, *Philalanka kusana* was first recorded by Tan et al. (2012), and has thus far only been found in the rainforest patch of the Botanic Gardens (pers. obs.). It is thus difficult to ascertain if this population is native. It is believed that living individuals of *Philalanka kusana* are herein illustrated for the first time, with the specimens significantly larger than the 2.5-mm shell figured in Tan et al. (2012).



Fig. 3. Dorso-lateral view of a grazing *Philalanka kusana*. (Photograph by: Lau Wing Lup).



Fig. 4. Lateral view of another *Philalanka kusana*. (Photograph by: Lau Wing Lup).



Fig. 5. Latero-ventral view of a live *Philalanka kusana* snail, with large white eggs in the last whorl visible through the thin shell. (Photograph by: Lau Wing Lup).



Fig. 6. Umbilical view of a live *Philalanka kusana* snail, showing the open and narrow umbilicus and fine radial riblets. (Photograph by: Lau Wing Lup).



Fig. 7. Aperture view of an adult *Philalanka kusana* shell, showing the convex, flat to angular whorls, and shell sculpture of fine growth lines and radial riblets, with three spiral ridges in between. (Photograph by: Lau Wing Lup).

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