

Biodiversity Record: Terrestrial snails at Changi Beach Park

Chan Sow-Yan^{1*} & Lau Wing Lup²

¹VBox 888313, Singapore 919191; Email: chansowyan@gmail.com (*corresponding author)

²Hougang Avenue 10, Singapore 530450; Email: suiseki1984@yahoo.com.sg

Recommended citation. Chan S-Y & Lau WL (2022) Biodiversity Record: Terrestrial snails at Changi Beach Park. Nature in Singapore, 15: e2022029. DOI: 10.26107/NIS-2022-0029

Subjects: Panther pythia snail, *Pythia pantherina* (Mollusca: Gastropod: Ellobiidae);
Tiny climbing glass-snail, *Kaliella scandens* (Mollusca: Gastropoda: Cronidae);
Toothless pupa snail, *Pupisoma dioscoricola* (Mollusca: Gastropoda: Valloniidae);
Bioluminescent snail, *Quantula striata* (Mollusca: Gastropoda: Dyakiidae);
Giant African land snail, *Lissachatina fulica* (Mollusca: Gastropoda: Achatinidae);
Miniature awl snail, *Subulina octona* (Mollusca: Gastropoda: Achatinidae).

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

Location, date and time: Singapore Island, Changi Beach Park; 2 February 2022, around 1900 hrs.

Habitat: Disturbed patch of coastal forest (Fig. 1).

Observer: Lau Wing Lup.

Observation: Six species of terrestrial snails were noted in close proximity on a patch of ground (Figs. 1 & 2). On a sea hibiscus (*Talipariti tiliaceum*) plant, about three *Kaliella scandens* (Fig. 3 left) and nine *Pupisoma dioscoricola* were observed aestivating on the underside of leaves. They were partially covered in white, fluffy fungus and other whitish substances that were apparently secreted by spiders and insects such as mealy bugs. Three of the living *Pupisoma dioscoricola* have sinistral shells (Fig. 4 left). One dead sinistral shell of *Pupisoma dioscoricola* (Fig. 4 right) was also found on a dead leaf. On the ground, three dead and three live (one adult and two juvenile) *Quantula striata* (Figs. 2 & 5), two dead *Lissachatina fulica* shells (Fig. 2), one dead *Subulina octona* shell (Fig. 3 right), and 14 aestivating *Pythia pantherina* (Fig. 6A) were found amongst leaf litter, organic debris, and trash materials. The shells of *Pythia pantherina* are variable with some being more mottled than others, and some having prominent axial and spiral lines and ribs on their shells (Figs. 6B-F).



Fig. 1. Patch of ground in the coastal forest where the snails were found. (Photograph by: Lau Wing Lup).



Fig. 2. Some shells on the ground. A dead and eroded *Pythia pantherina* shell on the extreme right, a dead *Lissachatina fulica* (shell height about 50 mm) on the extreme left, and two adult *Quantula striata* shells in between. (Photograph by: Lau Wing Lup)



Fig. 3. Left: Dorso-lateral view of *Kaliella scandens* shell of about 2 mm. Right: A dead *Subulina octona* shell of about 6 mm. (Photographs by: Lau Wing Lup)

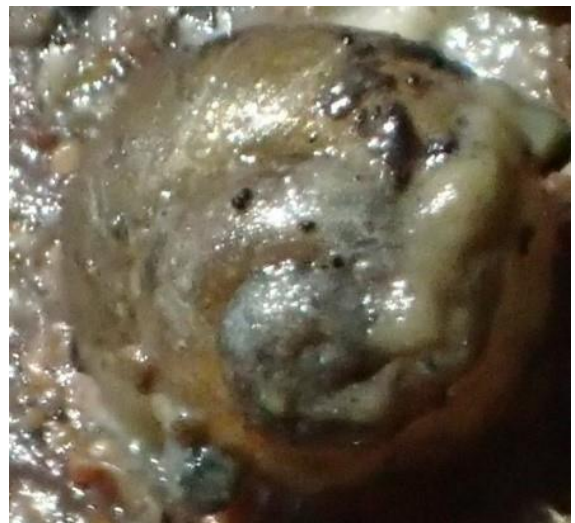


Fig. 4. *Pupisoma dioscoricola*. Left: Three live sinistral snails of about 1.5 and 1 mm, covered by organic matter aestivating under a leaf. Right: A dead sinistral shell of about 1 mm covered by mud and other organic debris. (Photographs by: Lau Wing Lup)



Fig. 5. *Quantula striata*. A: Three juvenile beside a 5-cent coin as scale. B: Dorsal view of an adult of about 20 mm shell diameter. C: A juvenile of about 5 mm shell diameter. D: Juveniles of about 10 and 3 mm (top left) against an adult (below) of about 25 mm shell diameter. (Photographs by: Lau Wing Lup)

Remarks: Three of the snail species in this record deserve special mention.

- 1) *Pupisoma dioscoricola* — three live and one dead sinistral shells (Fig. 4). This appears to be the second time sinistral shells of this species are reported in Singapore (see Chan & Lau, 2021).
- 2) *Pythia pantherina* — rarely seen by the authors, and here depicted for the first time in its natural habitat in Singapore (Fig. 6). A shell was illustrated by Tan et al. (2012 in part as *Pythia scarabaeus*). The species is distinguished from *Pythia scarabaeus* in having a conically-pointed spire (see e.g., Raven & Vermeulen, 2007).
- 3) *Quantula striata* — juvenile snails are rarely illustrated in malacological literature (e.g., Tan et al., 2012). These have thin and translucent shells, blackish stripes on the animal, and their flesh is dark grey in contrast with the whitish flesh of adults (Fig. 5). As such, juvenile *Quantula striata* can easily be misidentified as another species.

Literature cited:

- Chan S-Y & Lau WL (2021) Biodiversity Record: Sinistral toothless pupa snails, *Pupisoma dioscoricola*, in Singapore. Nature in Singapore, 14: e2021035. DOI: 10.26107/NIS-2021-0035
- Raven H & Vermeulen JJ (2007) Notes on molluscs from NW Borneo and Singapore. 2. A synopsis of the Ellobiidae (Gastropoda, Pulmonata). Vita Malacologica, 4: 29–62.
- Tan SK, Chan SY & Clements GR (2012) A Guide to Snails and Other Non-marine Molluscs of Singapore. Singapore Science Centre, 176 pp.

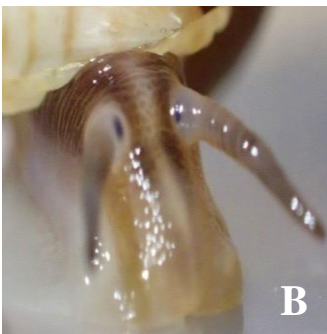


Fig. 6. *Pythia pantherina*. A: Five aestivating specimens showing slight variation in shell colour pattern. Largest shell about 24 mm in height. B, C, D: Fronto-dorsal views of the head of three snails showing negligible variation of the flesh colour and markings. E: Lateral view of a grazing snail of about 18 mm shell height. F: Lateral view of the head. (Photographs by: Lau Wing Lup).