

Sightings of live *Auriculastra brachyspira* snails in Singapore

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Subjects: *Auriculastra brachyspira* (Mollusca: Gastropoda: Ellobiidae).

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

Location, date and time: Singapore Island, Pasir Ris, Api Api River; 14 September 2019 at around 1530 hrs.

Habitat: Back mangroves during low tide.

Observer: Lau Wing Lup.

Observations: At least 11 live examples of *Auriculastra brachyspira* were found hidden under damp decomposing dead leaves on soft mud. A small group was located in the crevices of rotten tree branches. Except for one empty shell, all individuals were live. See Fig. 1-12.

Auriculastra brachyspira has a glossy, translucent, sub-cylindrical and yellowish white shell (Fig. 10-11). The shell spire is very low and its last whorl is around 5/6 of the shell height in adults (Fig. 11). The shell has radial sculpture of fine growth lines (Fig. 7), and very fine, regular and wavy spiral striation, which is absent on some parts of the shell (Fig. 5-6). The shell's aperture has one to two columellar folds and a distinct parietal fold at about 1/3 of the aperture's height (Fig. 11). The species grows up to 10 mm in shell height. The animal's body and foot vary from yellowish white to greyish white (Fig. 4, 7, 8 & 9). The eyes are black and almond shaped, and located at the base of grey to greyish white tentacles. The snail's mantle edge is thick and much darker than the head, foot and body (Fig. 9).

Remarks: *Auriculastra brachyspira* is often unnoticed due to its cryptic behaviour. This terrestrial, air-breathing pulmonate, originally known as *Melampus brachyspirus*, was described from Cebu Island in the Philippines (see Quadras & Möllendorff, 1894). Although the species is already recorded in Singapore (see Raven & Vermeulen, 2007 & Tan & Woo, 2010), based on freshly dead shells and drift material obtained at St. John's Island, Tekong Island, Ubin Island, Changi Beach near Changi Village, Kranji and Mandai mangroves (Raven & Vermeulen, 2007). The live animal is hardly mentioned and illustrated in literature, and online search for images of the living animal by the authors proved futile. Apart from the Philippines and Singapore, *Auriculastra brachyspira* has also been recorded from Brunei, Malaysia and Vietnam (Raven & Vermeulen, 2007).

References:

- Quadras JF & Möllendorff OF (1894) Diagnoses specierum novarum ex insulis Philippinis. *Nachrichtsblatt der Deutschen Malakozoologischen Gesellschaft*, 26 (7-8): 113-130.
- Raven H & Vermeulen JJ (2007) Notes on molluscs from NW Borneo and Singapore. 2. A synopsis of the Ellobiidae (Gastropoda, Pulmonata). *Vita Malacologia*, 4: 29-62.



Fig. 1. Live *Auriculastra brachyspira* in-situ on rotten wood living sympatrically with springtails *Pseudanurida billitonensis* which could be feeding on the snail's mucus.



Fig. 2. Apertural view of a live snail showing the translucent shell, yellowish foot and greyish tentacles.



Fig. 3. A live snail emerging from a crevice on a piece of rotten wood.



Fig. 4. A group of live snails with springtails moving about on their shells in a rotten tree branch.



Fig. 5. The almond-shaped black eye-spots of the snail are situated below the tentacles. Fine, wavy spiral striations are found inconsistently on shell surfaces.

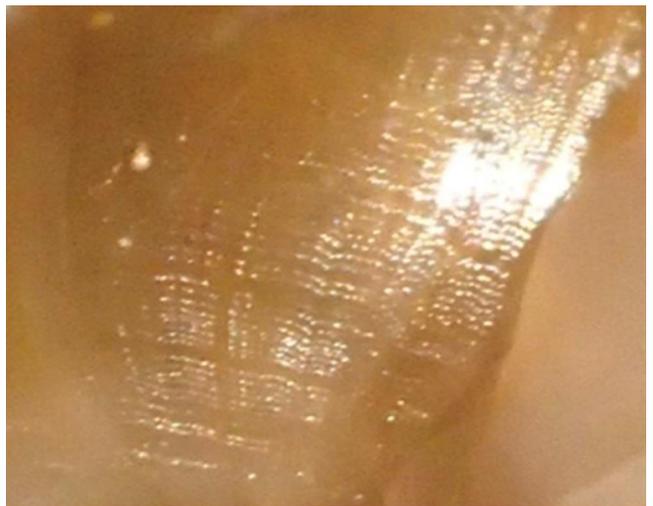


Fig. 6. An enlargement of the shell's spiral sculpture (red square) depicted in the red box in Fig. 5.

Photographs by Lau Wing Lup



Fig.7. The radial sculpture of fine growth lines (blue square) are quite distinct on some individuals.



Fig. 8. A group of snails showing colour variation especially on the tentacles.



Fig. 9. A live snail showing the thick and dark mantle (orange oval).



Fig. 10. Aperture views of shells featuring a paler dead example (red oval) with heavy folds (see Fig. 11) among live snails.



Fig. 11. Aperture view of an empty shell showing the distinctive parietal fold (green oval) at about 1/3 of the aperture height (blue line), and two columellar folds (red oval).



Fig. 12. Dorsal views of live snails retracted into their shells which are thin, sub-cylindrical, glossy and translucent. Distance between black bars on the ruler is 1 mm.

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