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Biodiversity Record: New Singapore record of the parasitic snail, *Vitreobalcis tripneusticola*

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Subjects: Urchin parasitic snail, *Vitreobalcis tripneusticola* (Mollusca: Gastropoda: Eulimidae).

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

Location, date and time: Johor Strait, Changi Beach; 18 June 2022 around 0842 hrs; 2 July 2022 around 0800 hrs; 3 July 2022 around 0830 hrs.

Habitat: Estuarine shore. Within intertidal zone during low tide, in shallow water on exposed patches of seagrass.

Observer: Lau Wing Lup.

Observation: On the first visit (18 June), a live example was found on the exterior valve edge of a living saddle oyster, *Placuna ephippium* (Mollusca: Bivalvia: Placunidae) (Fig. 1). On subsequent visits (2 & 3 July), five more live specimens were spotted solely on white sea-urchins, *Salmacis sphaeroides* (Echinodermata: Camarodonta: Temnopleuridae), with a single snail encountered each time on an urchin (Figs. 2–8). The six specimens range from approximately 2 mm to a little more than 5 mm in shell height. Slight variations in the shell morphology and soft tissue colour pattern were noted among the specimens (Figs. 5–8).

In general, the shell of *Vitreobalcis tripneusticola* is slender, smooth, conical and shiny, with colour ranging from white to semi-translucent yellowish. The spire is almost straight (Fig. 6), but some specimens show slight curvature (Figs. 5 & 7). The teleoconch whorls are slightly convex with the suture slightly impressed. The body whorl is expanded with a round periphery. The aperture is short, rounded, or pyriform in shape (Fig. 8). The columellar parietal wall is slightly curved or slightly angulated. Its outer lip margin is strongly curved convexly. Thin superficial growth scars are present on some shells. The operculum is thin and yellowish (Fig. 8). Two large black eyespots (Figs. 3–5) below the yellowish tentacles (Fig. 4) are visible through the translucent shell. Pink spots adorn the yellowish body and foot (Figs. 3–8).

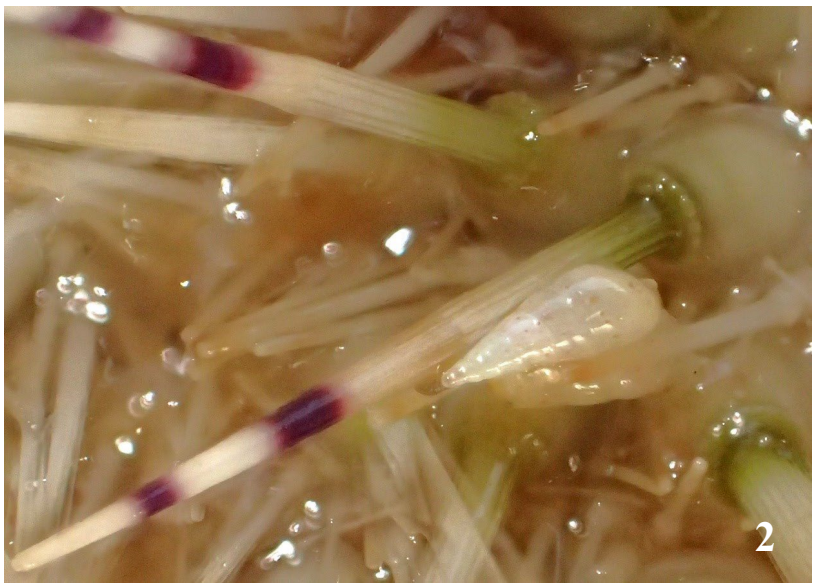

Fig. 1. Live *Vitreobalcis tripneusticola* insitu on the external valve edge of a live saddle oyster, *Placuna ephippium*.
Fig. 2. Another live example in situ on spines of a sea-urchin, *Salmacis sphaeroides*. (Photographs by: Lau Wing Lup)

Remarks: This is the first record of *Vitreobalcis tripneusticola* in Singapore (see Tan & Woo, 2010; Ying, 2017). The species was recently described based on specimens found on the sea urchin *Tripneustes gratilla* obtained in Japan by Matsuda & Nagasawa (2019), and hitherto not reported from elsewhere. As the original description was based on dried specimens, the animal's soft tissue, other host species and mode of parasitism were hitherto unknown. The present publication may be the first to illustrate live examples of *Vitreobalcis tripneusticola*, as well as in-situ images of the snails on their hosts (Figs. 1–3).

An unidentified species of *Vitreobalcis* was previously found on white sea urchins (*Salmacis sphaeroides*) at Cyrene Reef by Ying (2017). As the photographs in that record do not show details on the animals, the authors are unable to ascertain with certainty if the specimens herein featured are conspecific with those. As eulimid snails remain poorly studied, many confamilials found locally and globally await proper identification (see Warén, 1980).

Fig. 3. Umbilical view of a *Vitreobalcis tripneusticola* on a sea-urchin spine, in-situ. Fig. 4. Lateral view of a live snail with foot and tentacles extended, showing the pink spots on the internal flesh and black eye spot visible through the translucent shell. (Photographs by: Lau Wing Lup)

Fig. 5. Dorso-lateral view showing the two eye spots that are visible through the thin shell, and also the slightly curved spire. Fig. 6. Dorsal view of a shell with a relatively straight spire. Fig. 7. Dorsal view of a snail showing slightly curved spire, and pink dots on the flesh that are visible through the thin shell. Fig. 8. Apertural view of a snail showing the yellowish operculum. (Photographs by: Lau Wing Lup).

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