

Biodiversity Record: Shells of the family Olividae at Changi

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Subjects: Orange-mouth olive snail, *Oliva miniacea* (Mollusca: Gastropoda: Olividae) [Fig. 1];
Weasel olive snail, *Oliva mustelina virgata* (Mollusca: Gastropoda: Olividae) [Fig. 3];
Tiger olive snail, *Oliva tigridella* (Mollusca: Gastropoda: Olividae) [Fig. 2].

Subjects identified by: Lau Wing Lup.

Location, date and time: Singapore Island / Johor Strait, Changi Beach Park; 10 October 2025 at about 2000 hrs; 8 November 2025 at about 1730 hrs; 19 December 2025 at about 1700 hrs.

Habitat: Estuarine shore. On intertidal sand flats near patches of algae and seagrass during evening low tides.

Observer: Lau Wing Lup.

Observations: Empty shells of three *Oliva* species were found stranded on sandy shore over three visits. *Oliva miniacea* was represented by a highly eroded shell with a hole likely made by a predatory snail (Fig. 1). The other two species were represented by freshly dead shells (Figs. 2–4). Two shells of *Oliva mustelina virgata* were found separately on November and December. The slightly larger individual found on December has the pattern of brown zigzag lines mostly missing at the later part of the body whorl (Fig. 3).

Remarks: The genus *Oliva* seems to be overlooked in modern taxonomic research. Their classification established solely on shell morphology is problematic due to their high intraspecific variability and low interspecific variability. It is not always discernible whether a specific population represents a species, a subspecies, or colour morph (Raven & Recourt, 2018).

Oliva miniacea tends to be found offshore burrowing in sand and around coral reefs, intertidally to shallow subtidal zones. Apart from Changi, it has also been recorded from East Coast Park, Pulau Hantu, Sisters' Islands and Cyrene Reef, and is the only olive snail in Singapore to be listed as 'vulnerable' due to its low numbers and populations appearing to be episodic and relatively ephemeral (Tan & Tan, 2024). The species is distributed from the Andaman Sea to Queensland, Australia (Raven & Recourt, 2018). It is characterised by shells ornamented with wavy longitudinal lines, and two transverse bands somewhat interrupted, encircling one at the top and one at the centre of the last whorl. The aperture is always a deep orange (Burch & Burch, 1967). These markings are faded on the highly eroded shell in Fig. 1.

Oliva mustelina virgata is deemed slenderer than the nominate subspecies, and with a more acute apex. It is cream to yellow with a coarser and more open pattern of dark brown zigzag lines (Raven & Recourt, 2018; Figs. 3 & 4). *Oliva mustelina virgata* was first described by Sterba (2005, as *Oliva virgata*) from Kuantan on the east coast of peninsular Malaysia where it is common and extensively dispersed.

Oliva tigridella has a characteristic pattern of abaperturally pointing triangle markings which are rather obscured in the specimen shown on Fig. 2. It is distributed from the east coast of peninsular Malaysia to Vietnam and Japan and southwards to Indonesia, Papua New Guinea and Vanuatu. It appears to be most abundant in the Philippines (Raven & Recourt, 2018).

Ten species of *Oliva* have been recorded in Singapore (Tan & Woo, 2010; Leow, 2019), but none was found at Pulau Satumu (Tan & Low, 2022). Besides the three species herein featured, *Oliva hanleyorum* has also been found intertidally

in Changi (Leow, 2019). Future surveys along the Changi coast are likely to discover additional *Oliva* species, especially in the subtidal zones.

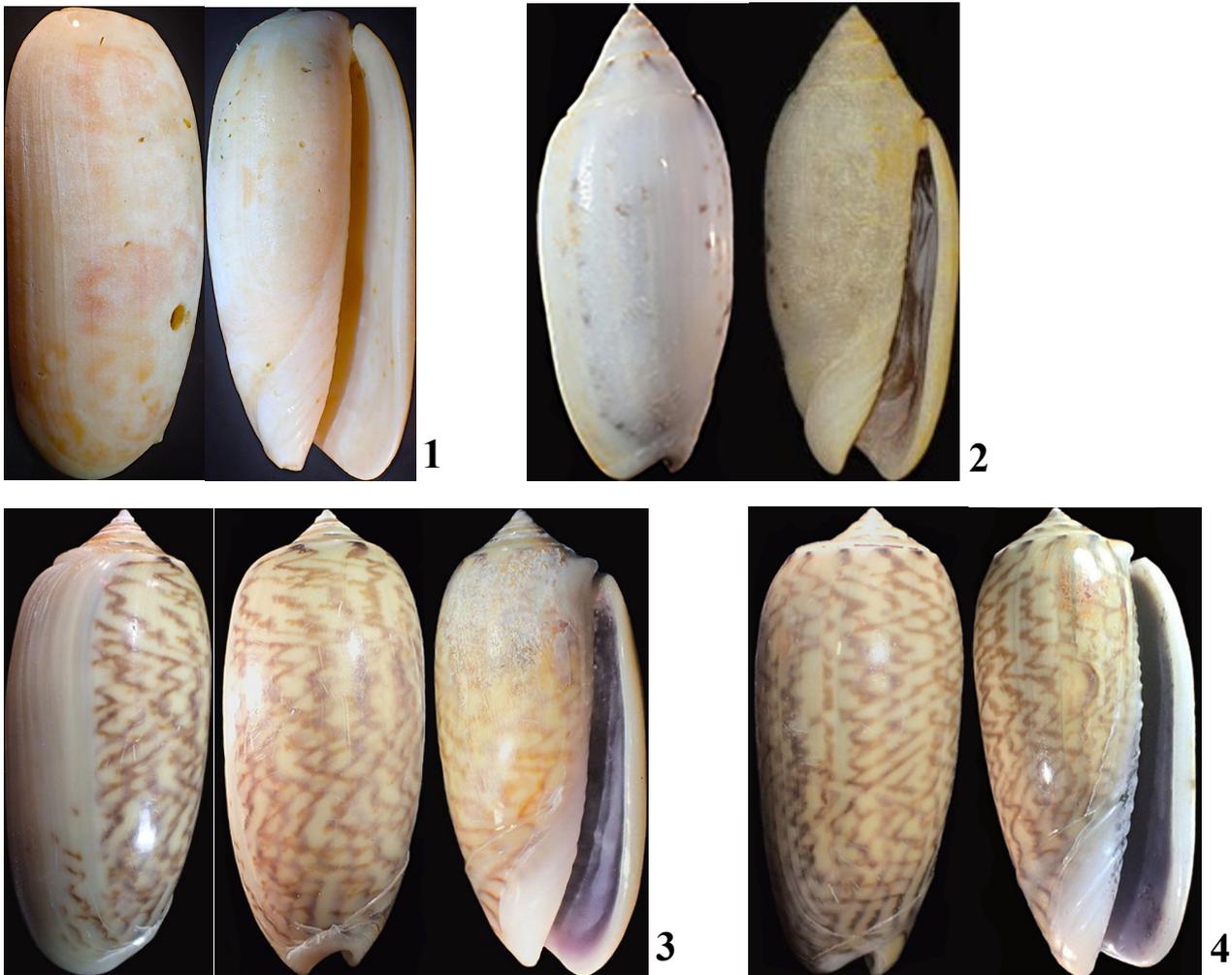


Fig. 1. *Oliva miniacea* (shell height 54 mm) – highly eroded, dorsal view (left) showing hole likely made by a predatory snail, and apertural view (right) on which the diagnostic orange colour on the aperture has faded. Fig. 2. *Oliva tigridella* (shell height 36 mm) – dorsal (left) and apertural (right) views. Fig. 3. *Oliva mustelina virgata* (shell height 32 mm) – dorso-lateral (left), dorsal (middle) and apertural (right) views. Note brown zigzag lines mostly missing at later part of body whorl. Fig. 4. *Oliva mustelina virgata* (shell height 31 mm) – dorsal (left) and apertural (right) views. (Photographs by: Lau Wing Lup).

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