

Sightings of the long-leaf irus clam, *Irus irus*, in Singapore

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Subjects: Long-leaf irus clam, *Irus irus* (Mollusca: Bivalvia: Veneridae).

Subjects identified by: Chan Sow-Yan, Lau Wing Lup and Tan Siong Kiat.

Location, date and time: Johor Strait at Changi Beach Park; 9 March 2020, 1842 hrs.

Habitat: Estuarine. On seawall along mouth of canal leading to the sea.

Observers: Chan Sow-Yan and Lau Wing Lup.

Observation: Two live and one dead examples (Fig. 1-7) were found attached by their strong byssus on the seawall, nestled in crevices and bore holes among oysters, barnacles, mussels, algae and other marine encrusting organisms.

Remarks: *Irus irus* was first described as *Donax irus* by Linnaeus in 1758 (Oliver & Morgenroth, 2018). It has many synonyms such as *Venerupis macrophylla* (see Huber, 2010 and Morton, 1983), *Venerupis chinensis* (see Huber, 2010) and *Venerupis tenuistriata* (see Jonas, 1846), the last was described from Singapore.

Irus irus grows to about 26 mm in shell length. Its shell is usually distorted (Morton, 1983) as the animal nestles itself in constrained small spaces, possibly to avoid predation by crabs. The shell is distinctive in having a very small lunule, extensive escutcheon, three cardinal teeth in each valve, limited, concentric frill-like lamellae, combined with radial grooves and concentric lines to give a reticulate sculpture (Fig. 5-7). This species is highly adaptable and inhabits intertidal areas, down to a depth of 40 m (Huber, 2010). It can be found nestled under rocks, on piers, buoys and rafts (Morton, 1983). *Irus irus* is widely distributed, and is found in Indo-Pacific, west Africa, South Africa, Red Sea and Mediterranean Sea (Huber, 2010).

In Singapore, *Irus irus* has been recorded in the Johor Strait at Kranji Dam (Tan & Low, 2013), and is commonly encountered in mangroves and muddy conditions. The featured specimens from Changi (Fig. 1-7) were found above the sandy beach on a seawall. They match the descriptions and illustrations of the species in Huber (2010) and Tan & Low (2013). Because of its small size and cryptic habits, locating and identifying *Irus irus* can be challenging in the field (Figs. 1-2). A similar looking clam species, *Neotrapezium sublaevigatum* (Fig. 3), which lives sympatrically, adds to the confusion.

References:

- Huber M (2010) Compendium of bivalves. A full-color guide to 3,300 of the world's marine bivalves. A status on Bivalvia after 250 years of research. Hackenheim, ConchBooks. 901 pp.
- Jonas JH (1846) Descriptions of new species of shells. Proceedings of the Zoological Society of London, 14: 34-36.
- Oliver PG & Morgenroth H (2018) Additional type and other notable specimens of Mollusca from the Montagu Collection in the Royal Albert Memorial Museum & Art Gallery. Zoosystematics and Evolution, 94 (2): 281-303.
- Morton B (1983) Aspects of the biology and functional morphology of *Irus irus* (Bivalvia: Veneridae: Tapetinae) with a comparison of *Bassina calophylla* (Chioninae). In: Morton B & Dudgeon D (eds.) Proceedings of the Second International Workshop on the Malacofauna of Hong Kong and Southern China, Hong Kong, 1983. Hong Kong University Press, Hong Kong. pp. 321-336.
- Tan SK & Low MEY (2013) Singapore Mollusca: 2. The family Trapezidae with a new record of *Glossocardia obesa* (Bivalvia: Veneroidea: Arcticoidea). Nature in Singapore, 6: 247-256.



Fig. 1. Ventral view of a *Irus irus* in its natural habitat.



Fig. 2. Lateral view of a *Irus irus* (same animal in Fig. 1) in its natural habitat.

Photographs by Lau Wing Lup

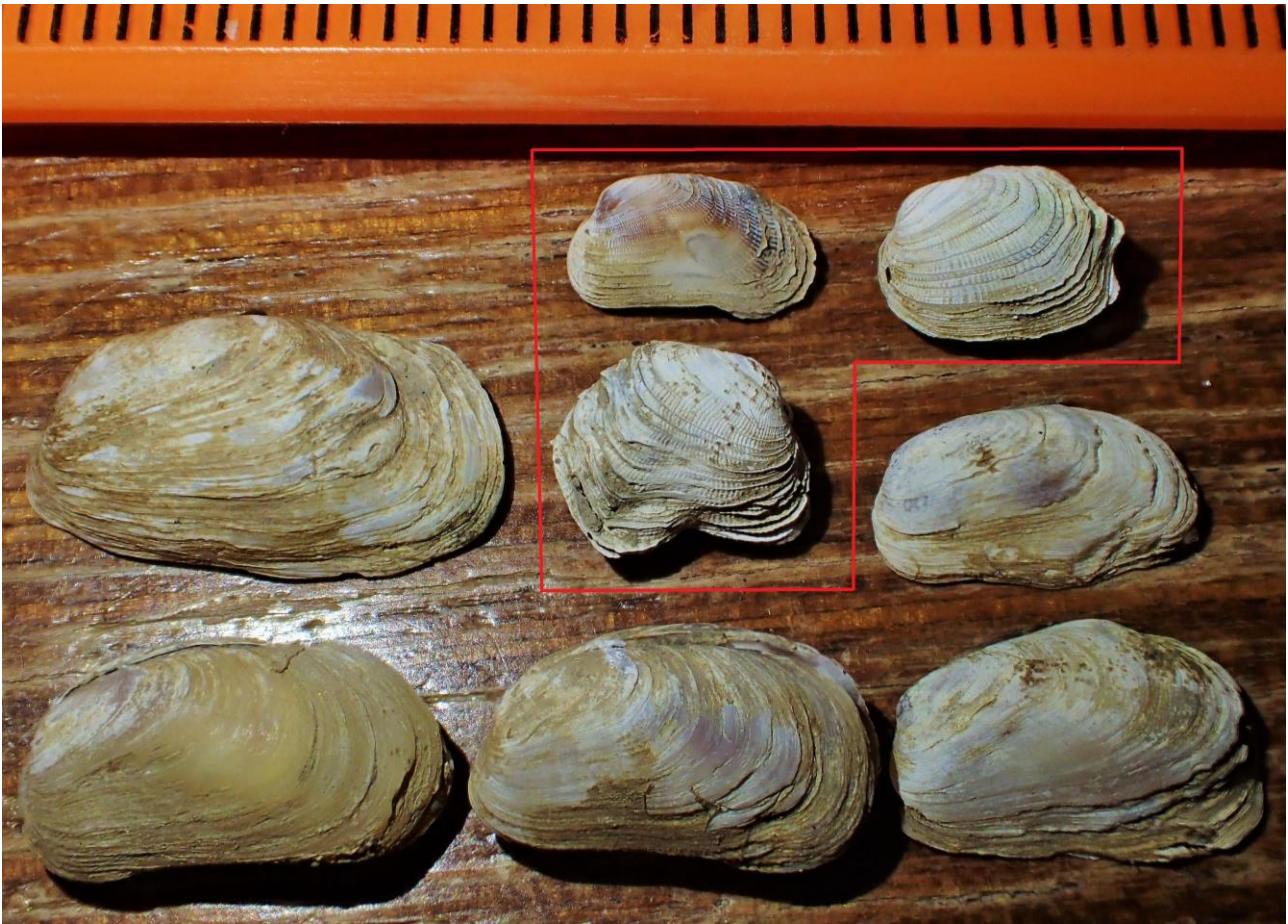


Fig. 3. Three examples of *Irus irus* (enclosed in red) and five examples of *Neotrapezium sublaevigatum* found on the same seawall. Note the differences in shell sculpture. *Irus irus* has frilly lamellae, radial grooves, concentric lines and cancellate sculpture. Intervals between the black bars on the ruler at the top are 1 mm each.



Fig. 4. *Irus irus*. The bottom two examples are alive, while the top one is freshly dead. Note variation in shell shape, colour and sculpture.

Photographs by Lau Wing Lup



Fig. 5. Lateral view of *Irus irus* shells. The example on the right shows the interior of its valve with the three cardinal teeth (circled in yellow).



Fig. 6. Ventro-lateral view of *Irus irus* shells. Note the differences in shell shape, sculpture and colour.

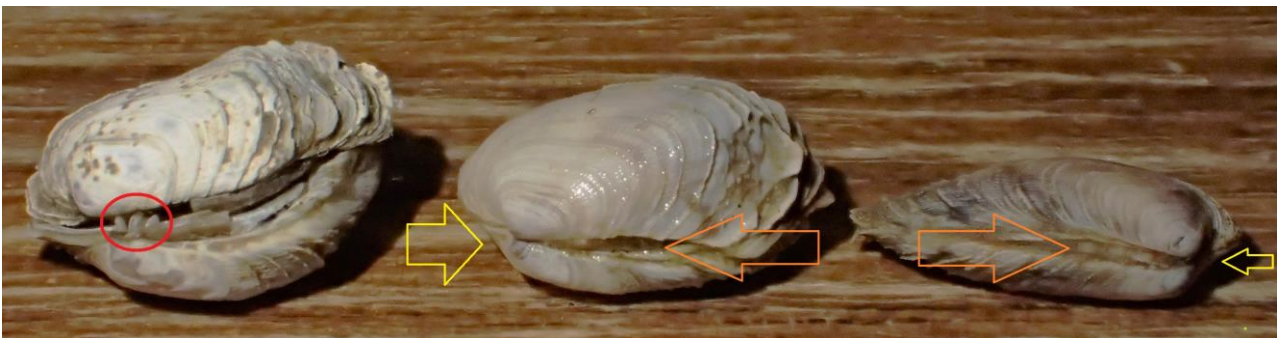


Fig.7: Dorso-lateral view of *Irus irus* shells. Note the prominent three teeth (circled in red) of the dead specimen. Yellow arrows indicate small lunule. Orange arrows indicate extensive escutcheon.

Photographs by Lau Wing Lup