

Biodiversity Record: New Singapore record of the chiton, *Acanthochitona lanae*

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Subject: Lan's chiton; *Acanthochitona lanae* (Mollusca: Polyplacophora: Chitonida: Acanthochitonidae).

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

Location, date and time: Singapore Island / Johor Strait, Punggol Beach Park; 9 November 2025 at around 1733 hrs.

Habitat: Estuarine. Intertidal shore at low tide.

Observer: Lau Wing Lup.

Observation: A live example of about 13 mm total length (Figs. 1–3) was found on the underside of a rock in shallow water amongst barnacles.

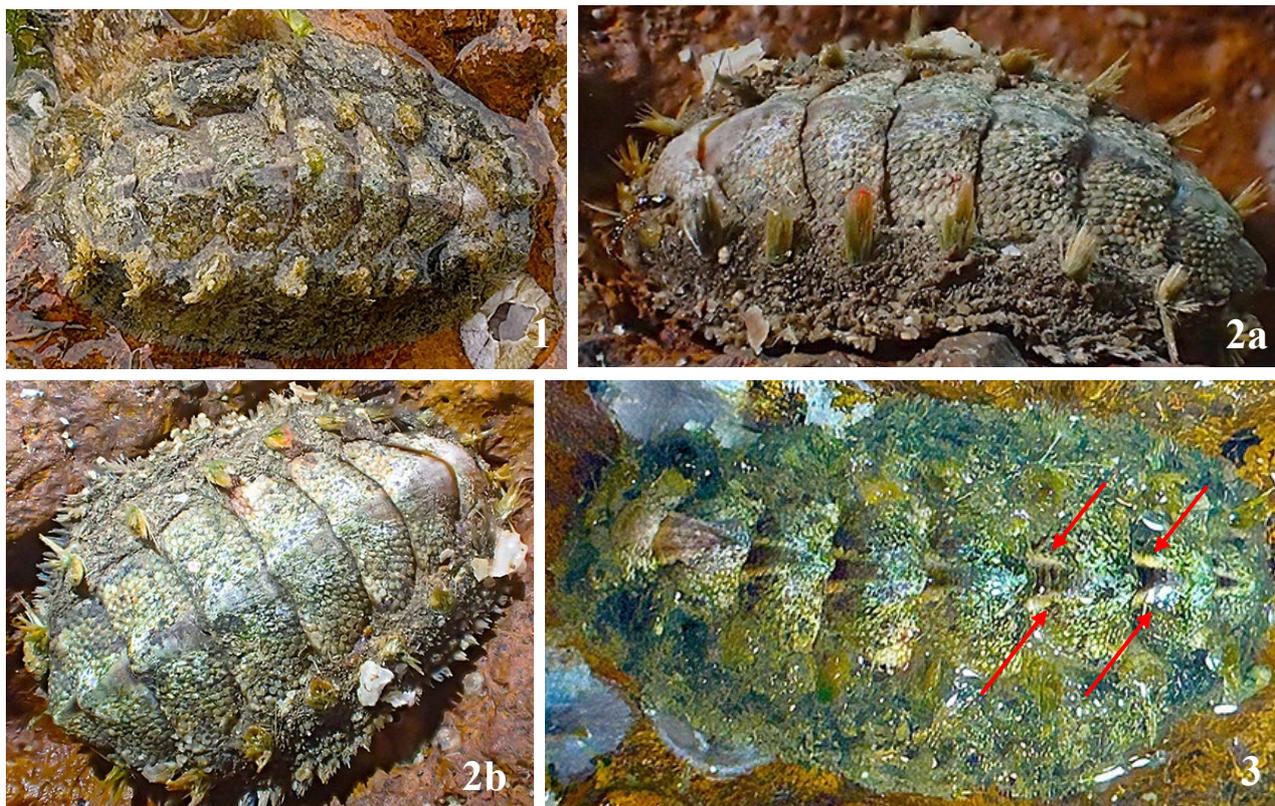


Fig. 1. Dorsal view of the subject in-situ in damp state. Fig. 2a. Lateral view of the same specimen in dried state. Fig. 2b. Dorsal view of the subject when dried. Fig. 3. Dorsal view of the subject immersed in water. Note the dark brown bands on the shell appear prominent when wet, accentuating the whitish colour on the midline of the jugal area, as indicated by the red arrows (Photographs by: Lau Wing Lup).

The chiton is elongate oval. Its tegmentum is light green with brown marks on the lateral and pleural areas. The perinotum is light yellowish brown with dark brownish bands around the terminal valves and at the sides of the intermediate valves (Fig. 1). The intermediate valves are relatively wide and low. About 18 prominent sutural tufts are present, each consisting of thick, slightly curved and smooth needles. The head valve is semicircular and has no ribs. Its posterior margin is nearly straight, and anterior slope slightly convex. The intermediate valves appear rather wide, somewhat rectangular, low, round-backed, beaked, with almost straight front margin, and hind margin slightly concave at both sides of the beak. The jugum is wedge-shaped, white on midline and bordered with dark brownish streaks on both sides (Fig. 3). Its sculpture comprises of longitudinal rows of fused pustules. The pustules on the tegmentum are densely distributed, arranged in quincunx order on all areas except for the jugum. Each pustule on the tegmentum appears droplet-shaped or diamond-shaped, flat or slightly concave at top (Fig. 2a). The lateral areas appear slightly raised. The tail valve is small, semicircular and has a central and low mucro. The width of the tail valve tegmentum is approximately equal to half width of valve IV. The posterior slope of the tail valve is slightly convex.

Remarks: *Acanthochitona lanæ* is herein recorded for Singapore apparently for the first time. It may represent a southern extension of the species as it is hitherto known only from the coast of Vietnam, from intertidal zones down to a depth of 7 m. The chiton has been found on barnacles and red crustose calcareous algae, and on shells of bivalves encrusted with the afore-mentioned organisms (Sirenko & Saito, 2017).

This is the second species of *Acanthochitona* recorded in Singapore. The first being the oyster-loving glass-hair chiton, *Acanthochitona ostreaphila* observed by Chan & Lau (2024). The table below, based on Sirenko & Saito (2017) and Chan & Lau (2024), lists morphological features that can be used to differentiate the two species.

Species	<i>Acanthochitona ostreaphila</i>	<i>Acanthochitona lanæ</i>
Posterior margin of head valve	Nearly straight.	Widely V-shaped.
Front margin of valve V	Almost straight.	Concave.
Tegmentum pustules	Sparsely distributed.	Densely distributed.
Jugum	Granulose and coloured rose pink.	Longitudinal rows of fused pustules. White on midline and bordered with dark brownish streaks on both sides.
Sutural tufts	Small, of very fine fibrous or ‘asbestoid’ spicules among some thicker needles.	Prominent, thick, slightly curved, smooth needles.
Tail valve (posterior slope)	Nearly straight.	Slightly convex.

Generally, *Acanthochitona lanæ* differs from other *Acanthochitona* in the Indo-West Pacific area by the extensive and rectangular intermediate valves which are sculpted with irregular rows of longitudinally fused pustules on the jugum and the girdle, which is uniformly covered with minute, somewhat flattened spicules (Sirenko & Saito, 2017).

Literature cited:

Chan S-Y & Lau WL (2024) Biodiversity Record: New record of the chiton, *Acanthochitona ostreaphila*, in Singapore. Nature in Singapore, 17: e2024084. DOI: 10.26107/NIS-2024-0084
 Sirenko BI & Saito H (2017) New species of chitons of the superfamily Cryptoplacoidea (Mollusca: Polyplacophora) from Vietnamese waters. Zootaxa, 4299: 451–506.