

Biodiversity Record: First record of the bivalve *Cardilia martini* from Singapore

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Subject: *Cardilia martini* (Mollusca: Bivalvia: Cardiliidae).

Subject identified by: Tan Siong Kiat.

Location, date and time: Singapore Strait, off East Coast Park, in the vicinity of 1°18'17.9"N 103°56'14.0"E, some 400–500 m to the west of Bedok Jetty; 18 May 2023; around 1300 hrs.

Habitat: Marine. Clay-mud sediment of seabed, containing many shells and fragments, around 7.5–9.7 m deep.

Observers: Collected by members of the staff of the Lee Kong Chian Natural History Museum aboard the National University of Singapore's research vessel Galaxea.

Observations: A single right valve of an unusual clam, measuring 12.9 mm in shell height (Fig. 1), was recovered in a dredge haul during a series of dredge samplings. This specimen was deposited in the Zoological Reference Collection of the Lee Kong Chian Natural History Museum, at the National University of Singapore.

Remarks: Cardiliids are apparently rare, very poorly represented in collections, and seldom mentioned in recent literature (Huber, 2010; Signorelli & Raven, 2018). No prior records of any cardiliid from Singapore are known (e.g., Tan & Woo, 2010). Therefore, although represented by merely a single valve, the discovery of the seemingly rare *Cardilia martini* in Singapore is interesting, but not totally unexpected. This species was first described from the Strait of Malacca by Deshayes (1844) and since reported from China and the Philippines (Signorelli & Raven, 2018, and references therein cited).

Some doubts remain over the species determination of the Singapore specimen as available information on the inter- and intraspecific variations of the known species and species delimitation seems inadequate. Four extant and eleven extinct (fossil) species of the genus *Cardilia* are currently recognised, with three of the extant species occurring within the Indo-West Pacific region (see Huber, 2010; Signorelli & Raven, 2018). Of the three species found in this region, the shell sculpture of widely spaced ribs on the posterior region agrees best with the original illustrations of *Cardilia martini* (i.e., Deshayes, 1844: pl. 101) in our opinion. However, our shell is also noticeably wider or less elongated in shape, and the ribs do not extend as far anteriorly (for comparisons, see Deshayes, 1844; Signorelli & Raven, 2018). Additional comparative material will be preferred, if possible, for a proper taxonomic reassessment.

Literature cited:

Deshayes GP (1844) G. *Cardilia*. Deshayes. Magasin de Zoologie, d'Anatomie Comparée et de Paléontologie: Série 2, 6: 1–8, pls. 99–101.

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. Conchbooks, Hackenheim, 901 pp.

Signorelli JH & Raven JGM (2018) Current knowledge of the family Cardiliidae (Bivalvia, Mactroidea). Journal of Paleontology, 92: 130–145.

Tan SK & Woo HPM (2010) A Preliminary Checklist of the Molluscs of Singapore. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore, 78 pp. Uploaded 2 June 2010. https://lkenhm.nus.edu.sg/wp-content/uploads/sites/10/app/uploads/2017/04/preliminary_checklist_molluscs_singapore.pdf (Accessed 26 February 2024).

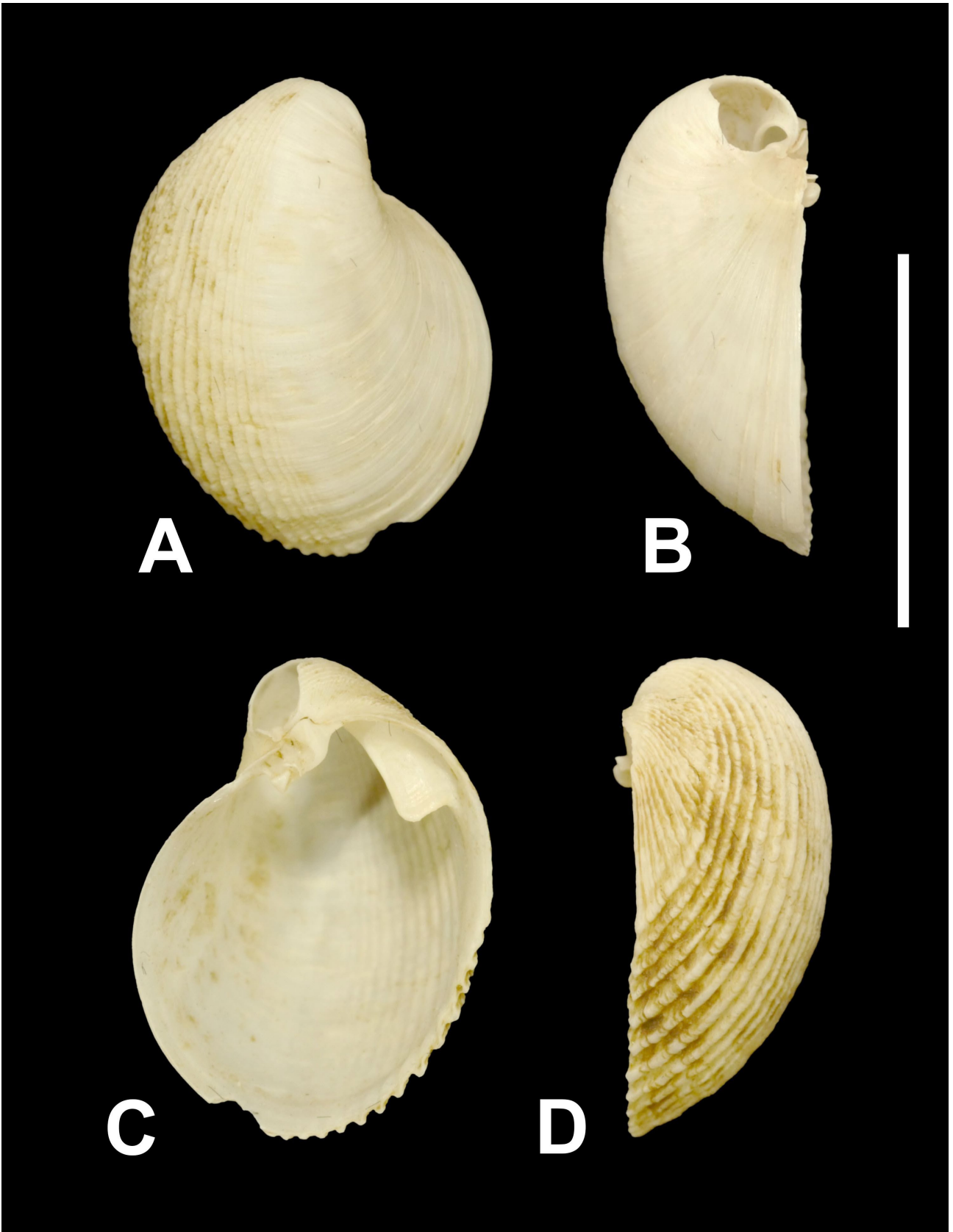


Fig. 1. Exterior (A), anterior (B), interior (C), and posterior (D) views of the right valve of *Cardilia martini* collected off East Coast Park, Singapore; scale bar 10 mm (Photographs by: Tan Siong Kiat).