A new Species of *Panacca* (Bivalvia: Pholadomyoidea: Parilimyidae) from Kanesunose Bank, off Central Japan

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The genus *Panacca* is a member of the Pholadomyoidea and comprises just six rare species in the world (Coan, 2000). In the Indo-Pacific region and adjacent areas, there are only three known species in the genus: *P. sumatrana* Thiele & Jackel, 1931 from Indonesia (175 m deep), *P. tasmanica* (Hedley & May, 1914) from Tasmania, southern Australia (91 m deep) and *P. chilensis* Coan, 2000 from Chile (130–180 m) (Coan, 2000). During a research cruise by the R/V *Tansei-Maru*, the first author (TS) collected a single valve of an unknown species of *Panacca*. We describe this species here as the first reliable record of the genus from Japan.

Taxonomy

Family Parilimyidae Morton, 1982
Genus *Panacca* Dall, 1905

Panacca trigona n. sp.
(Fig. 1)

Material: A right valve of the new species, which is designated as the holotype, was collected from Kanesunose Bank, off Suruga Bay, Japan (34˚18.154´ N, 138˚14.749´ E – 34˚18.339´ N, 138˚14.938´ E) at depths of 344.1–393.8 m on April 30, 2004, using a 1m ORI-type biological dredge during a cruise of the R/V *Tansei-Maru* (cruise KT-04-6, station KS 2(2)). The specimen seems originally to have been complete and articulated, though lacking the soft parts, but the left valve was probably crushed in the dredge. The sediment at the sampling site was mud. The holotype was registered in the Department of Historical Geology and Paleontology, The University Museum, The University of Tokyo (UMUT RM29202).

***Diagnosis*:** Dorsal and ventral margins nearly straight; umbonal angle about 90 degrees; sculpture consisting of 13 primary radial ribs with nearly equal interspaces.

Description: Shell fragile, subtriangular, well inflated at umbonal part, strongly inequilateral with posterior part much longer than anterior (Fig. 1A–B). Beak prosogyrous. Anterior margin truncate, slightly concave, without gape. Posterior margin straight, very short, with narrow gape. Ventral margin nearly straight, broken in middle part. Anterodorsal margin straight, steeply sloped. Posterodorsal margin weakly concave; slope gentle.

Outer surface of umbonal part eroded, underlying nacreous layer exposed; outer surface along ventral margin covered with grayish thin outermost shell layer that is pustulose at high magnification (Fig. 1C). Periostracum not visible. Shell sculptured by prominent radial ribs; ribs along posterodorsal margin weak. Radial ribs visible as grooves inside shell (Fig. 1B); ventral margin subtly crenulated by radial ribs. Along dorsal margin, escutcheon with sharp carina formed, observable in inner and dorsal view (Fig. 1D).

Ligament external, opisthsodetic, composed of thinner lamellar and thicker fibrous layers (Fig. 1D: l, f), attached to weak nymph (Fig. 1D: n). Hinge edentulous, thickened only along nymph. Shell interior pure white, slightly lustrous. Adductor muscle scars and pallial line not clearly traceable.

Discussion: The new species reported here is allocated to the genus *Panacca* based on several conchological characters such as (1) the fragile, white shell with radial sculpture, (2) the triangular outline, (3) the prosogyrous beak, (4) the nacreous layer covered with a pustulous outermost layer, (5) the edentulous hinge plate, and (6) the external opisthsodetic ligament supported by the nymph. The possibly related genus *Nipponopanacca* Habe,

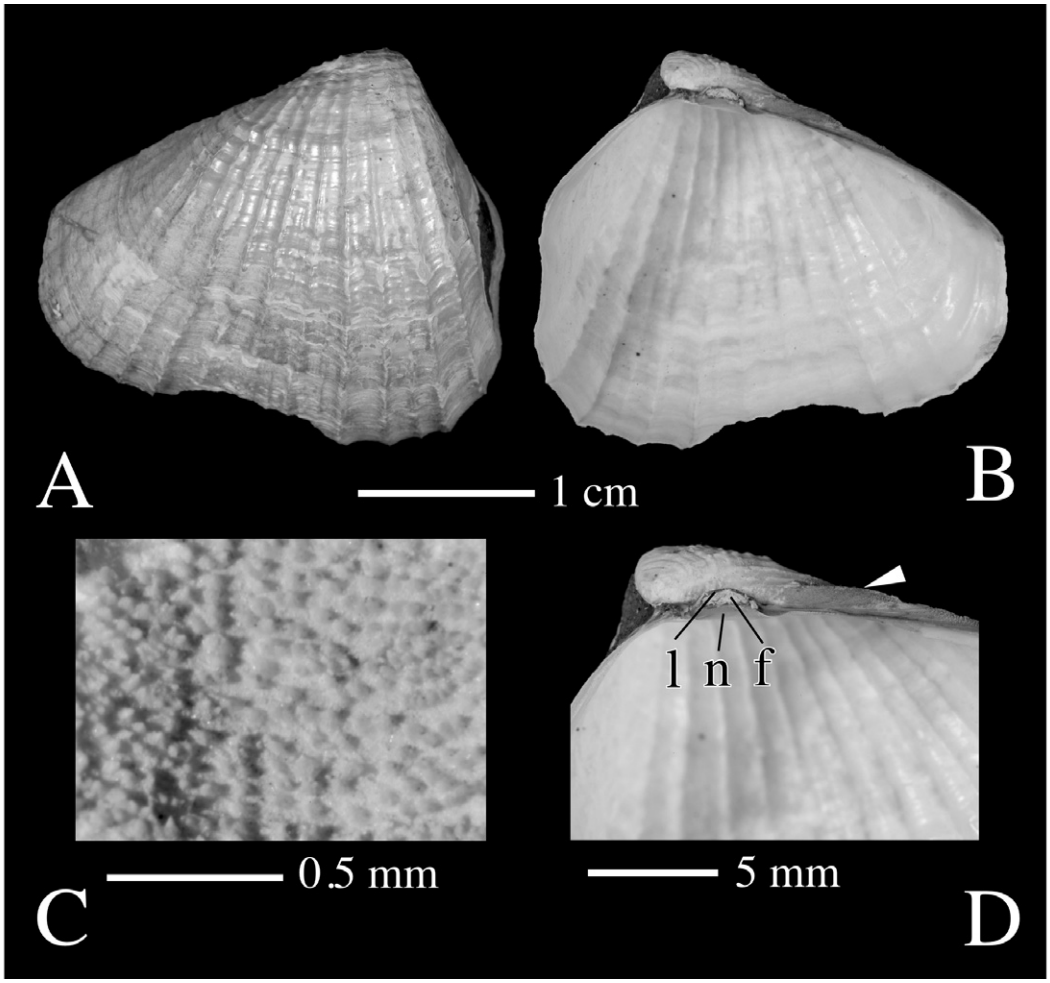

Fig. 1. *Panacca trigona* n. sp. Holotype, UMUT RM29202. **A.** Exterior view. **B.** Interior view. **C.** Enlarged view of the outer surface, showing pustulose sculpture. **D.** Umbonal and hinge region of the interior. Arrowhead indicates a keel along the dorsal margin. Abbreviations: f, fibrous layer of ligament; l, lamellar layer of ligament; n, nymph.

1977 differs in lacking prominent radial ribs (Matsukuma, 1989) and is now synonymized with *Parilimya* Melvill & Standen, 1899 (Coan, 2000).

The genus *Panacca* comprises six described species in the world (Coan, 2000). The specimen illustrated here does not match any of the known species.

(1) *P. sumatrana* (Thiele & Jackel, 1931) from Indonesia (Coan, 2000: fig. 6) is the closest in terms of geographic distribution, but considerably different in having a smaller umbonal angle (85 degrees), more convex ventral margin and larger number of radial ribs. In addition, the ribs on the posterior half in *P. sumatrana* are denser than on the anterior part, and the posterodorsal to posterior margin is smooth and lacks ribs.

(2) *P. tasmanica* (Hedley & May, 1914) from South Australia (Lamprell & Healy, 1998: 224–225, fig. 660; Coan, 2000: fig. 7) is most similar morphologically among known members of the genus, especially in the sculpture and outline of the shell. However, the anterior slope of *P. tasmanica* is less steep and not concave.

(3) There is possibility that the species reported here is closely related to an unidentified species recorded from Tosa Bay as "*Pholadomya* sp. cf. *sumatrana*" by Tsuchida (1994: pl. 3, fig. 4). However, the outline of Tsuchida's specimen is

subovate rather than triangular; the radial ribs are more deeply grooved inside, and the anterior and posterior slopes are striated by finner radial ribs (Tsuchida, 1994: pl. 3, fig. 4).

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遠州灘金洲の瀬から採集されたサンカクウミタケモドキ属の新種

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静岡県沖，金洲の瀬の水深 344 ～ 394 m より，ウミタケモドキ上科の未知種が採集された。本種は殻頂が前側に偏った三角形の殻に多数の放射肋があり，鉸歯と内靱帯を欠く。この殻形態から *Panacca* 属（サンカクウミタケモドキ属:和名新称）に分類される。本属には世界中から 6 種が知られているが，そのいずれとも殻形，放射肋の強さ，数，間隔等において一致しない。一方，土田（1994）によって *Pholadomya* sp. として土佐湾から報告された未同定種も本種に類似する点があるが，外形の丸みが強く，放射肋が殻の内面に強く刻まれ，前後の殻縁部にも細肋がある点によって異なる。従って，本種を新種 *Panacca trigona* n. sp. サンカクウミタケモドキ（和名新称）として記載する。