

***Labidodemas pseudosemperianum* sp. nov.**

(figures 5A–K, 6A–G; map 4)

Labidodemas semperianum: Massin, 1999: 61, figures 49, 111f (non *L. semperianum* Selenka, 1867).

Name-bearing type. Holotype RMNH Ech 6087.

Material examined. Indonesia (Celebes, Kapoposang), 30 September 1994, 5 m depth under a coral slab, coll. C. Massin, RMNH Ech 6087 (holotype); Mariana Islands (Guam, Tumon Bay), 14 August 1992, 1 m depth under rocks, outer reef flat at south part of bay, coll. A. Kerr, USNM E 53083 (one specimen).

Diagnosis. Medium-sized species, body cylindrical, white-pink with yellow tube feet; around the mouth colour deep pink to brown. Calcareous ring ribbon-like; ventral body wall with tables and buttons; dorsal body wall with tables, buttons, pseudo-buttons and rods; disc of tables smooth; spire of tables low, single cross beam; crown of spines with 2–10 central holes and five to eight huge, often deeply bifurcated spines; crown of spines up to twice the diameter of the table disc.

Description. Holotype 120 × 10 mm; specimen from Guam 48 × 11 mm. Living holotype white pink with pink-brown around the mouth; in alcohol uniformly white. Body cylindrical with mouth and anus terminal; mouth surrounded by 20 tentacles; few long, slender, slightly conical papillae scattered over the whole bivium, presenting a vague alignment in three double rows close to the mouth

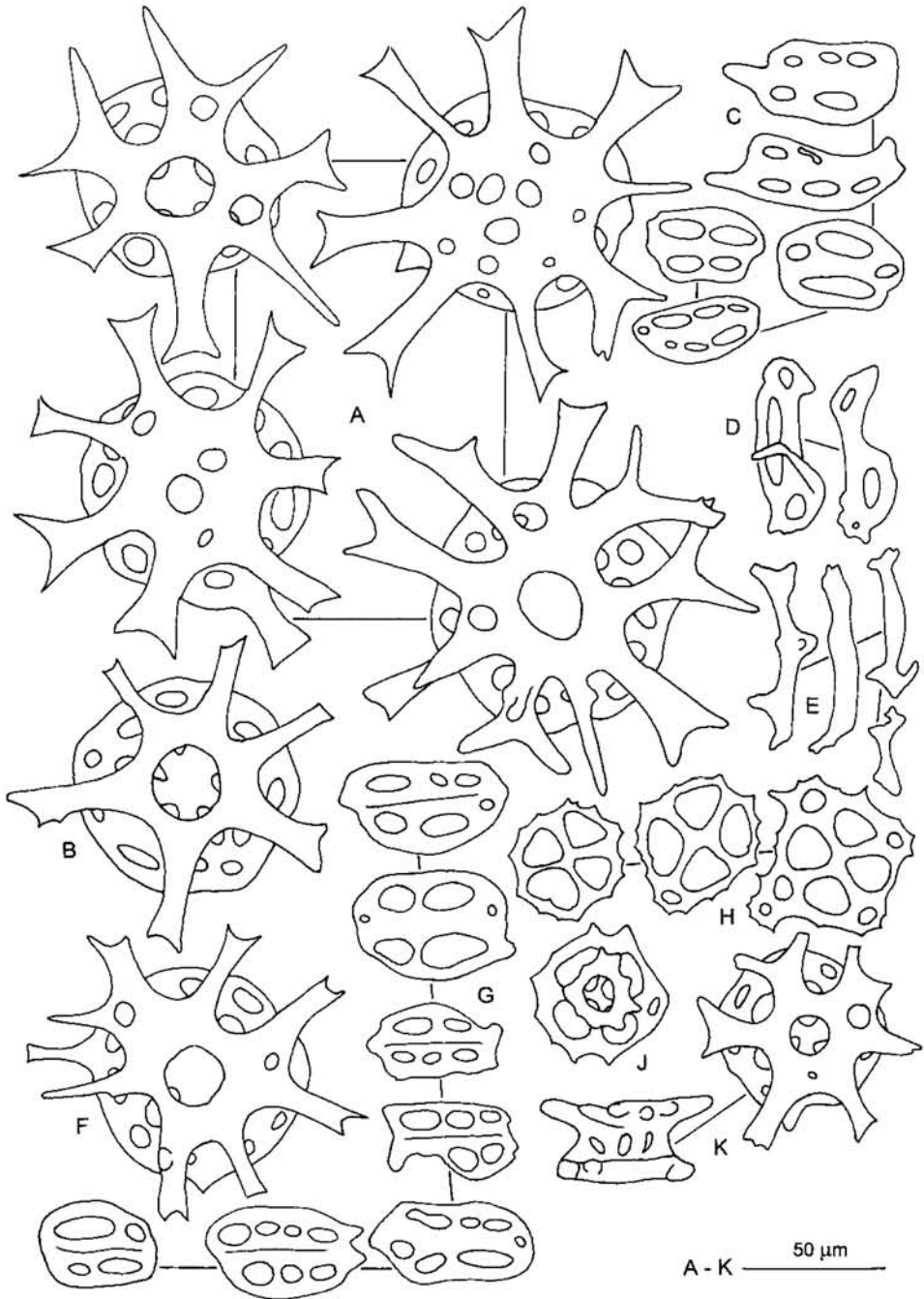


FIG. 5. *Labidodemas pseudosemperianum* sp. nov. (A) Tables of dorsal body wall (holotype); (B) table of dorsal body wall (USNM E53083); (C) buttons of dorsal body wall (holotype); (D) pseudo-buttons of dorsal body wall (USNM E53083); (E) rods of dorsal body wall (USNM E53083); (F) table of ventral body wall (holotype); (G) buttons of ventral body wall (holotype); (H) tables reduced to disc of dorsal tube feet (holotype); (J) reduced table of dorsal tube feet (holotype); (K) tables of dorsal tube feet. Scale bar: 50 μ m (A-K).

Table 2. Differences in body wall ossicles of *Labidodemas semperianum* Selenka, 1867, *L. pseudosemperianum* sp. nov. and *L. quadripartitum* sp. nov.

Character	<i>L. quadripartitum</i> sp. nov.	<i>L. semperianum</i> Selenka, 1867	<i>L. pseudosemperianum</i> sp. nov.
Tables	Disc with four central holes Disc with zero to two (occasionally six) peripheral holes Disc 30–60 μm across Rim of disc spiny Crown with four huge spines that occasionally bifurcate distally Table disc < table crown Crown of spines with one central hole	Disc with four to six central holes Disc with 5–10 peripheral holes Disc 55–90 μm across Rim of disc spiny Crown with four to five huge spines that bifurcate slightly distally Table disc \leq table crown Crown of spines with one (occasionally two) central hole	Disc with five to eight central holes Disc with 5–15 peripheral holes Disc 70–95 μm across Rim of the disc smooth Crown with five to eight huge spines that bifurcate deeply distally Table disc < < table crown (crown up to twice the disc) Crown of spines with 2–10 central holes
Ventral buttons	Dorsal tables few Absent	Dorsal tables numerous Absent	Dorsal tables numerous Present
Dorsal buttons	Absent	Present	Present

only in the specimen from Guam (figure 5D, E). Ventral body wall with tables (figure 5F) and buttons (figure 5G) similar to those of dorsal body wall; a few irregular rods in the specimen from Guam. Dorsal tube feet with plates and tables; close to the end plate, perforated plates with spiny edge (figure 5H); middle of tube feet has tables with reduced crown of spines (figure 5J); base of tube feet with tables, 40–60 μm across, similar to those of body wall (figure 5K). Ventral tube feet with numerous rods (figure 6D), some of them C-shaped (figure 6E), and a few pseudo-buttons (figure 6F); base of tube feet with few tables similar to those of body wall (figure 6C) in addition to many reduced tables (figure 6B); close to end-plate spiny perforated plates (tables reduced to disc) also present (figure 6A). Tentacles with small rods, 15–60 μm long, straight, curved and Y-shaped (figure 6G).

Etymology. The name *pseudosemperianum* refers to the close similarity between the new species and *Labidodemas semperianum*.

Geographical distribution (see map 4). Indonesia (Celebes, Kapoposang); Mariana Islands (Guam).

Ecology. Shallow waters (1–5 m depth) under coral rocks; digestive tract filled with rough sand.

Comments. At first glance (general morphological and anatomical aspects), *Labidodemas pseudosemperianum* is hard to distinguish from *L. semperianum* or *L. pertinax*. However, close examination of the ossicles (mainly the tables) reveals clear differences (see table 2) which cannot be linked to the size of the specimens. The two examined specimens of *L. pseudosemperianum* are 120 and 48 mm long and both have smooth table discs whereas all the examined specimens of *L. semperianum* (from 64 to 125 mm long) have spiny table discs. If the observed ossicle variation should be dependent on the body length, one would expect to find more spiny or knobbed ossicles with increasing body size (Massin, 1994; Massin *et al.*, 2000); the reverse is true in the present situation.

The three main characters specific to *L. pseudosemperianum* are: (1) the smooth edge of the table disc, (2) the numerous holes of the crown of spines and (3) the presence of buttons in the dorsal and ventral body wall. As the other characters (see table 2) show a progressive change from *L. quadripartitum* sp. nov. (see below) over *L. semperianum* to *L. pseudosemperianum*, one could suspect a highly variable species. However, as these variations could not be linked to zoogeography, ecology or to the size of the specimens, such cannot be the case. Moreover, a highly variable species would be exceptional within the genus *Labidodemas*, as all the other species show little, if any, variation through their distribution area and their size.

Up to now, *L. pseudosemperianum* is restricted to the West Pacific shallow waters.