



Labidodemas quadripartitum sp. nov.
(figure 7A–G; map4)

Name-bearing type. Holotype RMcA1694/RSAKZN/0196.

Type locality. Sodwana Bay, 1/4 Mile Reef (Republic of South Africa).

Material examined. Republic of South Africa (KwaZulu-Natal, Sodwana Bay, 1/4 Mile Reef), February 2001, 12 m depth, coll. Y. Samyn, RMcA1694/RSAKZN/0196 (holotype).

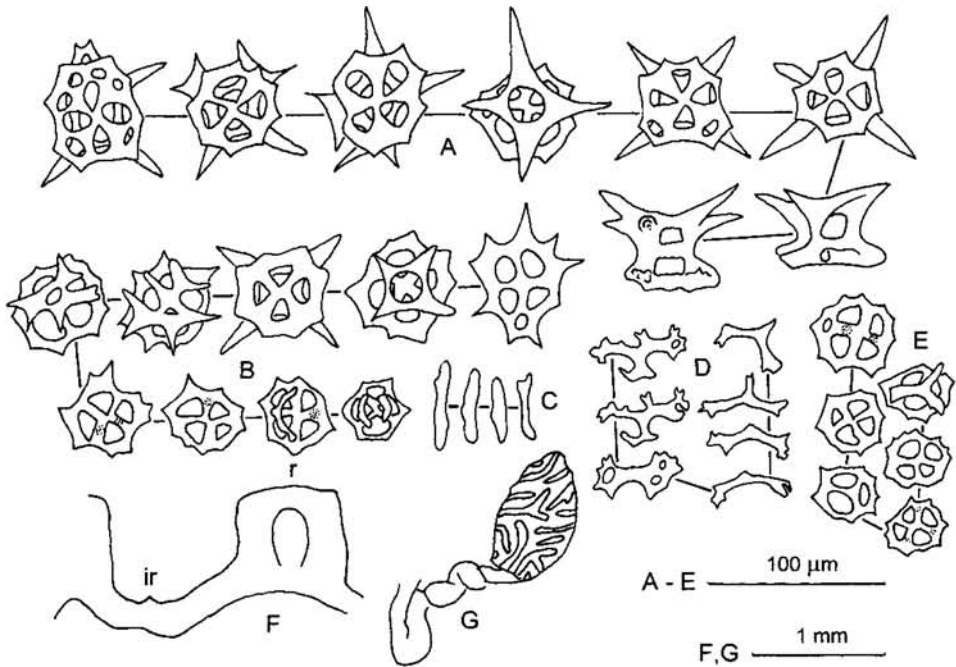


FIG. 7. *Labidodemas quadripartitum* sp. nov. (L=110 mm). (A) Tables of ventral body wall; (B) tables of dorsal body wall; (C) rods of dorsal body wall; (D) rods of ventral tube feet; (E) tables of ventral tube feet; (F) calcareous ring (r, radial plate; ir, interradial plate); (G) stone canal and madreporic plate. Scale bars: 100 μ m (A-E); 1 mm (F, G).

Diagnosis. Medium-sized species; body vermiform; dorsal body wall whitish, ventral body wall reddish; calcareous ring ribbon-like; ventral body wall with tables only; dorsal body wall with tables and rods; tables with rim of disc spinose; spire of table low, single cross beam; crown of tables with four huge (occasionally slightly bifurcated) spines, wider than disc diameter.

Description. Specimen 110 mm long and 8 mm wide at its widest point. Body vermiform, tapering anteriorly with mouth and anus terminal. Colour in life similar to colour in alcohol: dorsally whitish yellow, ventrally claret-red. Skin thin (1–2 mm), rather smooth to the touch. Mouth terminal, tentacles retracted; number could not be determined. Anus small, terminal. Anal papillae absent. Ventral side with short but wide brownish tube feet distributed in three rows in ambulacral areas; dorsal side at first sight apparently without tube feet or papillae, but examination of inner body wall reveals large tube feet ampullae in ambulacral areas. Cuvierian tubules absent. Calcareous ring ribbon-like, with radial pieces 2.5 times height of interradials; radial pieces massive, with medial depression for longitudinal muscle, posterior margin slightly concave; interradial pieces brittle, anteriorly with tooth-like projection (figure 7F). Stone canal contorted, ending in large madreporic plate (figure 7G). Gonad not observed.

Ossicles. Dorsal and ventral body wall devoid of buttons. Ventral body wall (figure 7A) with tables only; table disc 45–60 μ m across, perforated by four large central holes and zero to occasionally six peripheral holes; rim of disc spinose, height of spire equal to width of disc, spire with single cross beam and ending in a crown with four huge spines that occasionally bifurcate distally, crown

of spines considerably wider than disc. Dorsal body wall with tables and rods (figure 7B, C); tables (figure 7B) with disc 30–60 μm across, perforated by four large central holes and zero to one peripheral hole, rim of disc moderately to very spinose, spire often reduced to knobs on disc, but occasionally persists as high as width of disc but then with a single cross beam that ends in a four-spined crown, usually not wider than disc; rods, 35–50 μm long, straight or with slightly undulating margins (figure 7C). Ventral tube feet with tables and rods (figure 7D, E); tables mostly reduced to disc, 33–42 μm across, perforated by three to four central holes and occasionally a single peripheral one, rim of disc slightly spinose, spire reduced to two or four knobs on surface of disc; rods 33–55 μm long, branched medially or distally, often perforated by one to several holes.

Etymology. The name *quadripartitum* refers to the crown of the tables that ends in four huge spines; *quadripartitum* (Latin) meaning split into four.

Ecology. The single specimen was collected at 12 m depth; over coarse sand under and between several large slabs of dead coral and rock.

Geographical distribution (see map 4). At present only known from the type locality.

Comments. The new species, with its ribbon-like calcareous ring, its ventral side with three rows of tube feet and dorsal side with two rows of tube feet, and its ossicle assemblage, undoubtedly belongs to *Labidodemas*. Nevertheless, the general body morphology of *L. quadripartitum* is unique to the genus. The dorsal body wall is yellowish to light brown and at first sight seems devoid of tube feet or papillae; however, inspection of the inner surface of the body wall reveals large tube feet ampullae in all five ambulacra. The ventral body wall is claret-red and has three rows of wide brownish tube feet. Although we have currently only one specimen at our disposal it is unlikely that this species will ever present a body wall that is translucent. The ossicle assemblage reveals that *L. quadripartitum* is very close to *L. semperianum* and *L. pseudosemperianum*, but several differences warrant it new species status. Table 2 lists the differences in the body wall ossicles of the three species.

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