

**A new species of *Leptochiton* Gray 1847
(Mollusca: Polyplacophora)
from the South Barbados accretionary prism**

P. Kaas

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P. Kaas, National Museum of Natural History, P.O. Box 9517, 2300 RA Leiden, The Netherlands.

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A new species of *Leptochiton*, viz. *L.* (*L.*) *micropustulosus*, is described from the South Barbados accretionary prism.

Introduction

The expedition DIAPISUB, organized by the Department of Geology and Oceanography, URA 197, University of Bordeaux, and performed by r.v. "Nadir" in the southern end of the South Barbados accretionary prism, aimed a.o. at a better understanding of distribution, structure and functioning of benthic ecosystems going with the flowing of cold rivers into warm seas.

The South Barbados accretionary prism is the system formed by the watermass of the Orinoco flowing into the Caribbean Sea. Among the many invertebrate organisms captured by the expedition by dredging in this area are ten specimens of a hitherto unknown *Leptochiton* species, to be described hereafter as *Leptochiton* (*L.*) *micropustulosus* spec. nov.

Systematics

Class Polyplacophora Gray, 1821

Order Neoloricata Berghayn, 1955

Family Leptochitonidae

Genus *Leptochiton* Gray, 1847

Type species: *Chiton cinereus* Montagu, 1803 (non Linnaeus, 1767) = *Chiton asellus*
Gmelin, 1791

Subgenus *Leptochiton* Gray, 1847

Leptochiton (*L.*) *micropustulosus* spec. nov.

(figs. 1-10)

Material.— Expedition DIAPISUB, sta. 16, sample DS 16/6, 08.01.1993, 11°13'82 N 59°21'82 W, 1236 m, 1 specimen, 16 × 7.7 mm, girdle folded under, holotype (MNHN, Paris); sta. 16, sample DS 16/3, 08.01.1993, 11°13'82 N 59°21'82 W, 1236 m, 1 paratype (MNHN, Paris); sta. 15, sample DS 15/1, 07.01.1993, 11°13'97 N 59°20'92 W, 1135 m, 8 paratypes (one dried disarticulated specimen (RMNH no. 56885) and three complete specimens (RMNH no. 9380) in RMNH, Leiden; one disarticulated and three complete specimens in MNHN, Paris).

Diagnosis.— Animal of small to moderate size, maximally 16.2×8.0 mm, elongate oval, moderately elevated (height:width ratio of valve IV c. 0.36), subcarinated, side slopes regularly arched, lateral areas not raised, valves not beaked, sculptured with rows of coalescing, roundish pustules. Girdle rather narrow, spiculate on both sides. Colour of tegmentum dirty white.

Description.— Head valve semicircular, anterior slope straight to slightly convex, posterior margin almost straight to very widely V-shaped; no apical notch. Valve sculptured with more than 60 rows of little elevated, coalescing pustules, interrupted by c. 6 weak concentric wrinkles. Intermediate valves transversely rectangular; anterior margin almost straight, side margins little rounded, posterior margin straight, the rather sharply pointed apex not projecting; lateral areas not raised, distinctly separated from the central area by differently oriented tegmental sculpture formed by longitudinal chains of slightly raised, roundish, coalescing pustules on central area including the jugum, c. 32 rows on each side, c. 24 pustules per row on mid-girdle; some 20 radiating rows on lateral areas, interrupted by 6-9 concentric wrinkles, getting stronger towards the side margins. Circumference of tail valve c. $\frac{1}{3}$ of a circle, mucro finely pointed, central; posterior slope almost straight, only slightly concave directly under the mucro; antemucronal area sculptured like central areas, postmucronal area like head valve, c. six concentric wrinkles towards the outer margin.

Articulamentum transparent white, apophyses subtriangular with rounded top, rather wide apart, jugal sinus straight to slightly convex, taking about $\frac{1}{3}$ of the total width of the valve.

Girdle rather narrow, dorsally clothed with slender, bluntly pointed, longitudinally 3-5-ribbed spicules, up to 400×64 μm ; sutural spicules smooth, needle-like, 640×80 μm ; ventral spicules sharply pointed, finely longitudinally striated, $96-112 \times 20$ μm .

Central tooth of radula with finely denticulated, rounded cap; minor laterals partly embracing the central tooth, inner margin concave, with inwardly directed, pointed projection at the top, bearing a narrow, straight cutting edge; dental cap of major lateral with two very short, bluntly pointed cusps.

Gills merobranchial, adanal, from suture of valves VI/VII to anus; 15 ctenidia to a row.

Etymology.— The specific name *micropustulosus* (= full of small pustules) refers to the tegmental sculpture of the present species.

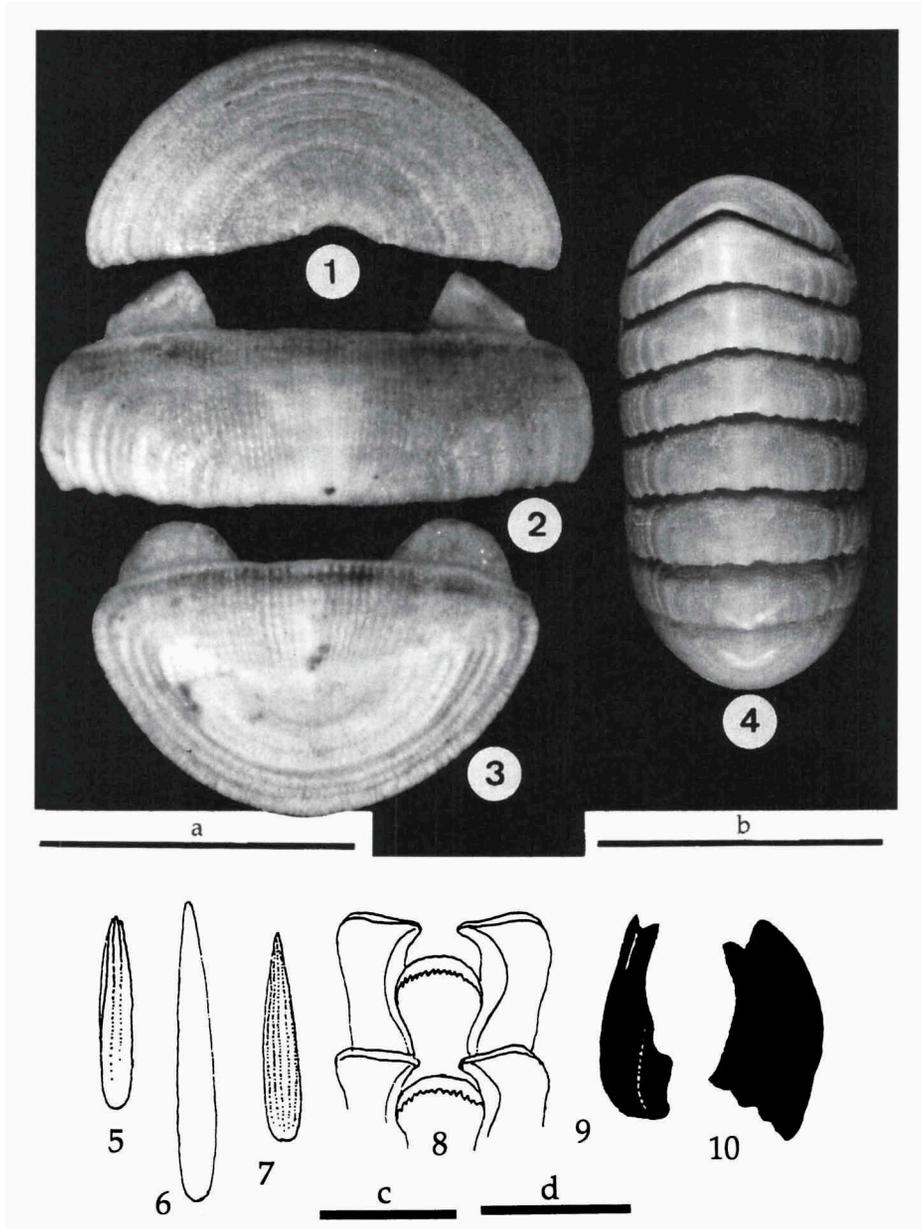
Observations.— *Leptochiton* (*L.*) *micropustulosus* appears to be related to *L.* (*L.*) *pergranatus* Dall, 1889, known from near Dominica, Porto Rico, off the Florida Keys and the Gulf of Mexico, in depths varying from 260 to 2250 m. It resembles *L.* (*L.*) *pergranatus* in tegmental sculpture, except for the concentric wrinkles on lateral areas and end valves. But the armature of the girdle differs widely, especially on the dorsal side, which, in *L. pergranatus*, is covered with long, glassy spicules, up to more than 200 μm long.

Another Caribbean deep water species, *L.* (*L.*) *binghami* (Boone, 1928), from Honduras, 912 m, and Colombia, W of Guajira Peninsula, 300-400 m, has the valves decidedly beaked and differs also in tegmental sculpture and girdle armature. This goes also for the round-backed *L.* (*L.*) *darioi* (Righi, 1973) from Brazil, São Paulo, 50 m.

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Figs. 1-10, *Leptochiton (L.) micropustulosus* spec. nov. Figs. 1-3, separate valves of paratype, dorsal view: 1, valve I; 2, valve IV; 3, valve VIII; fig. 4, holotype, dorsal view; figs. 5-10, anatomical details of paratypes: 5, dorsal girdle scale; 6, sutural spicule; 7, ventral spicule; 8, central and first lateral radula teeth; 9, dental cap of major lateral tooth, lateral view; 10, do., ventral view. Figs. 1-3, 5-10, paratypes in RMNH, Leiden; fig. 4, holotype in MNHN, Paris. Photos: courtesy of F.J.A. Slieker, Schiedam. Figs. 1-3 scale bar a (= 5 mm); fig. 4 scale bar b (= 10 mm); figs. 5-7 scale bar c (= 100 µm); figs. 8-10 scale bar d (= 50 µm).