

A new species of *Microcancilla* (Gastropoda: Cancellariidae) from the continental slope off northeastern Brazil

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ABSTRACT

Microcancilla jonasi new species is described from deep waters off northeastern Brazil. The genus *Microcancilla* Dall, 1924, had not previously been recorded in Brazilian waters. Specimens were collected from sediment dredged as part of the REVIZEE program (Assessment of the Sustainable Potential of Living Resources in the Exclusive Economic Zone) during prospecting work on the continental slope off the state of Pernambuco at depths of 425 to 690 meters. The present study reveals that these specimens present affinities to the species *Microcancilla microscopica* (Dall, 1889), which differs from the new species, among other features, by having strong spiral sculpture between sigmoid axial ribs. In addition, a lectotype for *Cancellaria microscopica* Dall, 1889, is designated herein.

Additional keywords: *Cancellaria*, Neogastropoda, Pernambuco.

INTRODUCTION

In his work on the gastropods collected in the West Indies (1879–80) by the U.S. Coast Survey Steamer BLAKE, Dall (1889a) described *Cancellaria microscopica* Dall, 1889, based entirely on empty shells. Dall later (1889b: 106) placed that species with a query in the genus *Admete* Kröyer in Möller, 1842. Still later, Dall erected the cancellariid genus *Microcancilla* Dall, 1924. When introducing this genus, Dall did not give a genus description, and listed only the single species *Admete* [sic] *microscopica* Dall, 1889. Until now no congeners have been reported.

Most species of *Admete* are found in shallow waters of polar regions but a few occur in deeper water in temperate zones (Harasewych and Petit, 1986; Knudsen, 1964). However, all of the taxa described as *Admete* have not been studied in detail and it is probable that some are not properly placed in this genus (Bouchet and Warén, 1985).

A recent study of deep-water Cancellariidae from the New Caledonia area (Bouchet and Petit, in preparation)

shows that the central Pacific fauna contains species clearly attributable to *Microcancilla* and others that are morphologically similar to *Admete aethiopica* Thiele, 1925, from Somalia [illustrated in Verhecken (1997: 312, fig. 52)]. Intermediate between these seemingly disparate morphologies and having various features in common with them are a series of species. Verhecken (1997), in figuring the Somalia specimen, placed it in the genus *Admete* with a query but offered no other possible placement.

It is not contended here that *Microcancilla jonasi* new species, “*Admete*” *aethiopica* Thiele, and *Microcancilla microscopica* (Dall) are truly congeneric species. However, *Microcancilla* is considered at the moment the best available placement within the existing genera of the Cancellarioidea and such placement is provisional. Until the small deep-water species of Cancellariidae are better understood and the validity and limits of other available genus group taxa are established, we do not wish to introduce a new genus-group taxon. This problem with the available genera for small cancellariids was succinctly pointed out by Maxwell (1992: 167). *Microcancilla jonasi* new species is considered endemic to the continental slope off the state of Pernambuco, Brazil.

MATERIALS AND METHODS

All specimens examined were obtained in 1999–2000, during oceanographic prospecting work on the continental slope off the state of Pernambuco, Brazil. No live specimens were collected. Shells were mounted on specimen stubs and examined and photographed under a Jeol JSM 6360 Scanning Electron Microscope, at the “Instituto Tecnológico de Pernambuco (ITEP)”. Shells were measured using a stereo microscope with eyepiece micrometer. The type material was deposited at the Academy Natural of Sciences, Philadelphia, USA (ANSP); Museu Nacional, Rio de Janeiro, Brazil (MNRJ); Museu de Zoologia da Universidade de São Paulo, Brazil (MZUSP); Museu Oceanográfico do Rio Grande, Rio Grande, Brazil (MORG).

SYSTEMATICS

Family Cancellariidae Forbes and Hanley, 1851

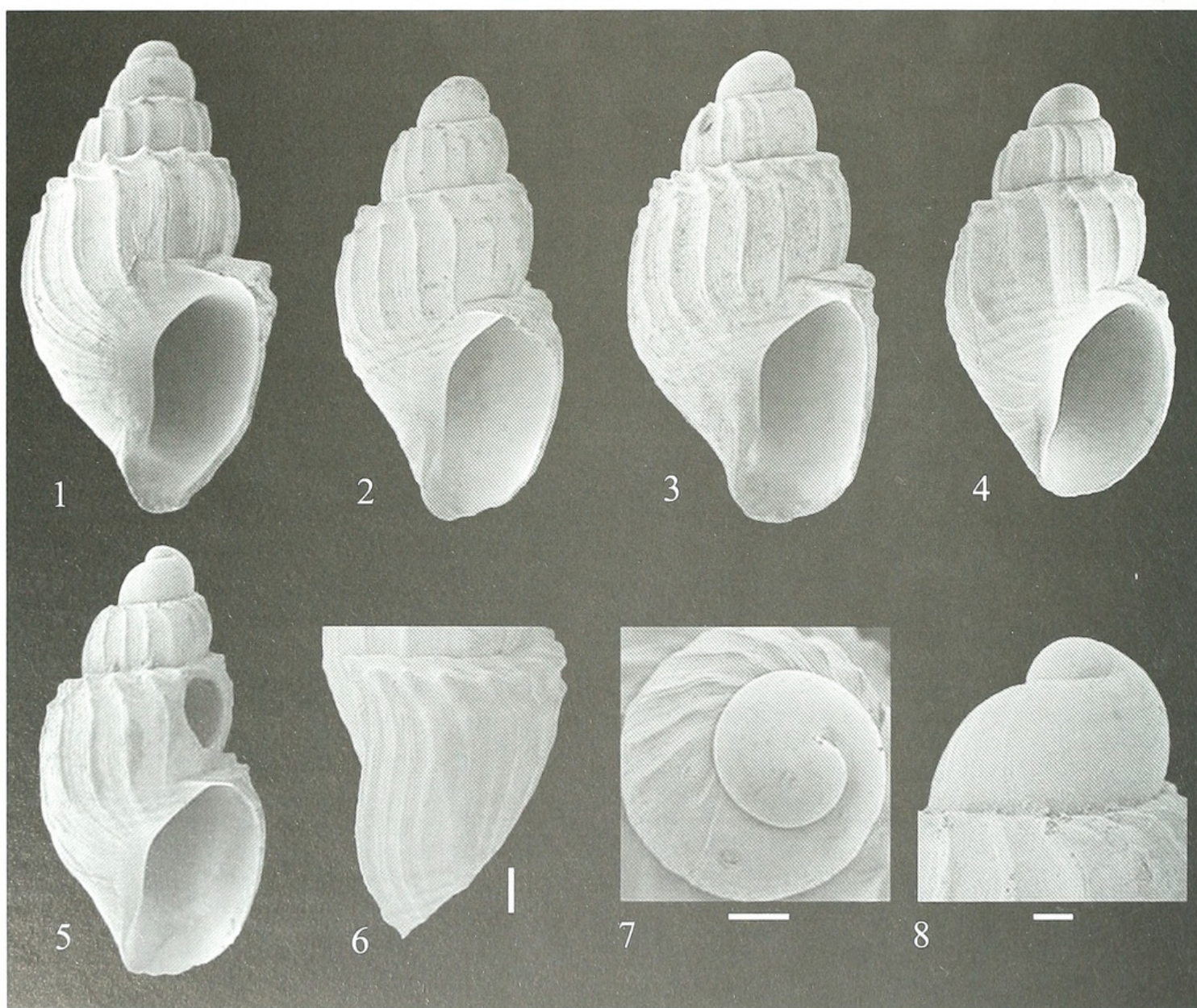
Genus *Microcancilla* Dall, 1924

Type Species: *Admete microscopica* (Dall, 1889) [= *Cancellaria microscopica* Dall, 1889a] by original designation. Recent, Caribbean.

Microcancilla jonasi new species
(Figures 1–8)

Description: Shell conical, small, fragile, translucent, whitish, short spire. Protoconch smooth, globose, paucispiral with 1.5 whorls, terminating with the emergence

of the axial sculpture of the teleoconch (Figures 7–8). Teleoconch with 2.5 slightly convex whorls. Suture well-marked, with a small, flattened subsutural region ornamented by the adapical portion of the axial ribs. On the margin of this region, there is a strongly nodular shoulder, nodules coinciding with axial ribs below, resembling a small crown. Below the shoulder, there is a second, weaker spiral cord, with nodules somewhat smaller than those of the crown on margin of a small, concave, spiral depression (Figure 6). Body whorl developed, very wide, with about 69% of the total size of the shell, sculptured with 15 to 18 rounded, regularly spaced ribs, which disappear toward the base. Interspaces ornamented by obscure threads. Base imperforate, strongly conical, with



Figures 1–8. Scanning electron micrographs of *Microcancilla jonasi* new species (all deposited in MORG): **1.** Holotype, apertural view, length = 4 mm; **2.** Paratype, apertural view, length: 3.28 mm; **3.** Paratype, apertural view, length = 3.12 mm; **4.** Paratype, apertural view, length = 2.85 mm; **5–8.** Paratype, length: 3.60 mm. **5.** Apertural view. **6.** Subsutural view, showing strongly nodular shoulder and weak spiral cords (Figure 5). **7–8.** Protoconch (shell in Figure 5). Scale bars: Figure 6 = 500 μ m; Figure 7 = 200 μ m; Figure 8 = 100 μ m.

convex contour, ornamented by 3 to 5 weak spiral cords that emerge from the interior of aperture. Aperture elliptic. Outer lip fragile and smooth inside. Inner lip strongly reflected, wide parietal region, without callus, median portion of the columella with reflected appearance, thickened upon the umbilical wall with no columellar folds. Final anterior portion of the columella inclined to the left of the shell axis.

Type Material: Holotype, MORG 50.716, length = 4 mm; 4 paratypes, MORG 50.718 (Figures 2–8); 3 paratypes, MZUSP 81755; 3 Paratypes ANSP 413549, 1 paratype, MNRJ 10839, Pernambuco, Brazil, D-4, 08°42.1' S, 34°44.1' W, 425 m, muddy bottom, 25 Mar. 2000; 2 paratypes, MNRJ 10838; 3 paratypes, MZSP 81756; 1 paratype MORG 50.717 (Pernambuco, Brazil, D-11, 08°46.5' S, 34°44.5' W, 690 m, muddy bottom, 18 Sep. 2000).

Type Locality: Continental Slope from the State of Pernambuco, northeastern Brazil, D-4, 08°42.1' S, 34°44.1' W, 425 m, muddy bottom, 25 Mar. 2000.

Etymology: The species is named after Mr. Rainer Jonas, scientific director of the Gesellschaft für Biotechnologische Forschung (GBF), Germany, for his assistance in obtaining literature and his constant support during the identification work of gastropods from the continental slope of Brazil.

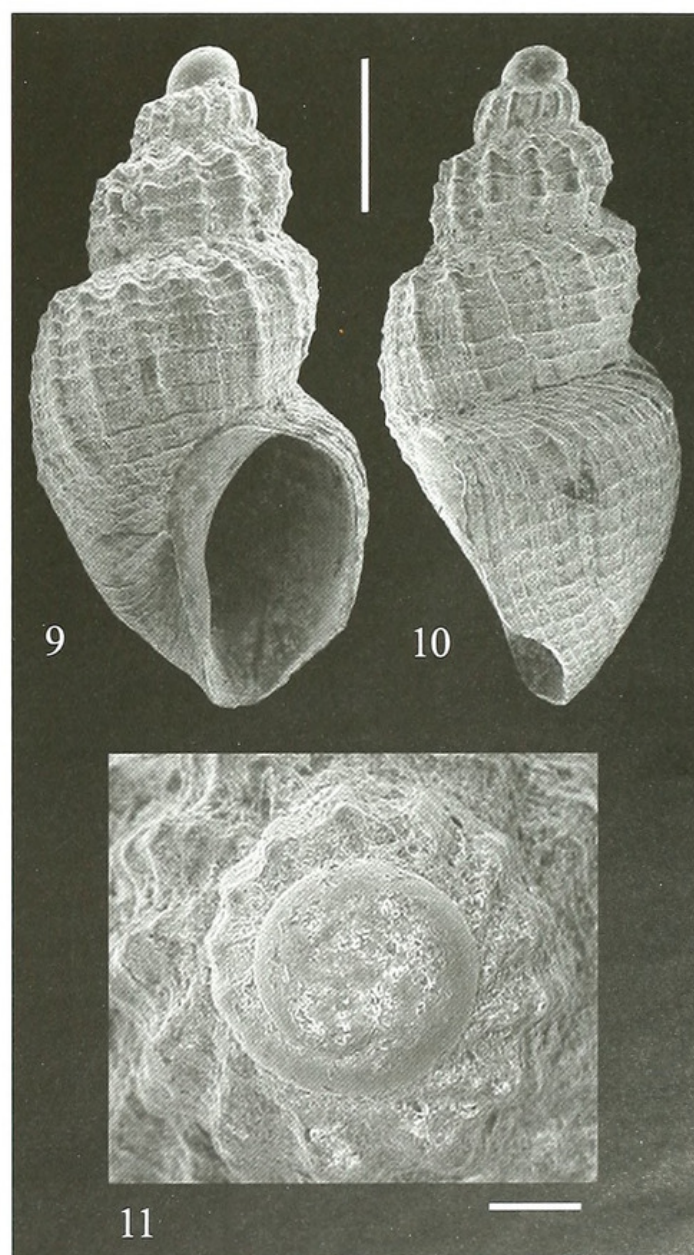
Geographic Distribution: Endemic to the Continental Slope of the State of Pernambuco, northeastern Brazil.

Habitat: Muddy substrate, 425 to 690 m.

Discussion: *Microcancilla jonasi* new species studied here is distinguished from *Microcancilla microscopica* and *?Admete aethiopica* based on the following characteristics: (1) sculpture of the body whorl: *M. microscopica* has a strong spiral sculpture, with subequal rather coarse threads, forming a reticulum with the axial spirals, *?A. aethiopica* presents a wide body whorl, with a strong axial sculpture and smooth spiral bands separated by narrow grooves disappearing near the base, *M. jonasi* has strong axial ribs, sinuous and rounded, and an obscure spiral ornamentation with no reticulation; (2) Spiral ornamentation: *M. microscopica* has threads that alternate between strong and weak, crossed by raised growth threads, *?A. aethiopica* has strong axial ribs crossed by weaker spiral threads, *M. jonasi* only presents raised axial ribs; (3) Shoulder: on *M. microscopica*, the shoulder is obsolete and the subsutural platform becomes rounded on the body whorl, *?A. aethiopica* presents an angular shoulder, strongly nodular, and a narrow, flat subsutural platform, *M. jonasi* has a small, flat subsutural platform, bordered by a nodular shoulder with a lower depression and followed by a second sub-shoulder cord that is more weakly nodular; (4) Umbilicus: *M. microscopica* has a distinct, moderate umbilicus with no bounding carina or siphonal fasciole, *?A. aethiopica* and *M. jonasi* do not possess an umbilicus; (5)

Aperture: *M. microscopica* has an aperture that is rounded behind and strongly angular in front, *?A. aethiopica* has an oval aperture, slightly square-cut adapically, *M. jonasi* has an elliptic aperture, weakly constricted behind; (6) Inner lip: *M. microscopica* has a moderately callous inner lip with one extremely faint fold about the middle, *?A. aethiopica* has an inner lip with two very weak folds near the halfway height, *M. jonasi* has a reflected inner lip, wide parietal region, with no folds; (7) Columella: In *M. microscopica* and *?A. aethiopica*, the columella is straight, parallel to shell axis; in *M. jonasi*, it is inclined to the left of the shell axis.

Only the type species has been allocated in *Microcancilla* since the genus was proposed. The specimen figured by Dall (1902: pl. 29, fig. 4; 1903: pl. 75, fig. 4 [same



Figures 9–11. Scanning electron micrographs of *Microcancilla microscopica* (Dall, 1889), lectotype, USNM 82977. **9.** Apertural view. **10.** Lateral view. **11.** Protoconch. Scale bars: Figures 9, 10 = 1 mm; Figure 11 = 200 μ m.

drawing]) and illustrated herein (Figures 9–11) is more rounded at the anterior than in most specimens in the syntype series and also has a heavier columellar callus. Kaicher (1978: Card 1940) photographically illustrated this same specimen from the USNM type collection (USNM 62977 [sic; error for 82977]) as *Admete microscopica* (Dall), *Admete* being the genus used by Dall in 1889b and 1903. She incorrectly referred to this specimen as holotype but Dall did not designate a type specimen. The species was originally described from two localities and there are numerous specimens in the original lots. Under Article 74.5 of the current Code (International Commission on Zoological Nomenclature, 1999) Kaicher's statement does not qualify as a lectotype designation. In order to rectify this, USNM 82977, off Yucatan, 366 m (originally 200 fathoms), is here **designated lectotype of *Cancellaria microscopica* Dall, 1889. The type locality thus becomes restricted to Campeche Bank, off Yucatan, Mexico.**

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