

# Scientific note

## New records of *Acanthochitona spiculosa* (Reeve, 1847) from Brazil

(Mollusca, Polyplacophora)

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*Acanthochitona spiculosa* (Reeve, 1847) is an acanthochitonid recorded from the Caribbean to northeastern Brazil (Righi 1969–70, Lyons 1988). The only confirmed record of the species in Brazil is very old and based on a specimen from Fernando de Noronha Archipelago (Smith 1890) even though the author at the time could not distinguish *A. spiculosa* from *A. astrigera*, since he was not able to recognize differences in the ornamentation. The records reported after Smith (1890), e.g. Righi (1971) and Rios (1985), are doubtful and voucher specimens have not been deposited in any collection or institution.

Herein we report new records based on specimens deposited in the Mollusca Collection of Museu de Zoologia da Universidade de São Paulo. Based on these specimens, we confirm the occurrence of *A. spiculosa* in southeastern Brazil, expanding its distribution ca. 2300 km southward of Fernando de Noronha, and its bathymetric range to depths of 70 m.

Specimens were identified based on the literature and comparison with types from the Natural History Museum UK (lectotype NHMUK1981251/1 and paralectotype NMHUK 1981251/2–5) designated by Lyons (1988).

**Examined material.** Brazil. Rio de Janeiro State: Cabo Frio (“Saldanha”, 70 m), 1 spm: 14 mm, VI.1967 (MORG 17121); São Paulo State: Peruíbe, 24°20' S 47°00' W, intertidal zone, 2 spms: 13–14 mm, 26.VII.2017, (MZSP 151445); Santos, 23°58' S 46° 21' W, intertidal zone, 4 spms: 15–22 mm, 26.VII.2017 (MZSP 134515); 1 spm: 23 mm, 26.VII.2017 (MZSP 134516).

*Acanthochitona spiculosa* was reported for the first time in Brazil from the Fernando de Noronha Archipelago by Smith (1890) and several authors replicated this information for nearly a century (Morretes 1949, Righi 1967, Rios 1970). Lyons (1988) reviewed the Caribbean Acanthochitonidae and did not endorse the occurrence of *A. spiculosa* in Florida, USA, reporting its range from the Caribbean to Brazil. He considered *A. spiculosa* as “species inquirenda” due to hard identification of the species.

Righi (1971) expanded the distribution of *A. spiculosa* from northeastern to southeastern Brazil, reporting records to São Paulo state. However, his voucher specimens were never deposited in the Museu de Zoologia da Universidade de São Paulo (MZSP) and could

not be found at his former workplace at the Instituto de Biociências da Universidade de São Paulo (IB-USP), and are presumed to be lost. Rios (1985) reported the presence of *A. spiculosa* in Bahia state, but he did not refer to any vouchers and a subsequent version of his catalogue from 1994 suppressed the information.

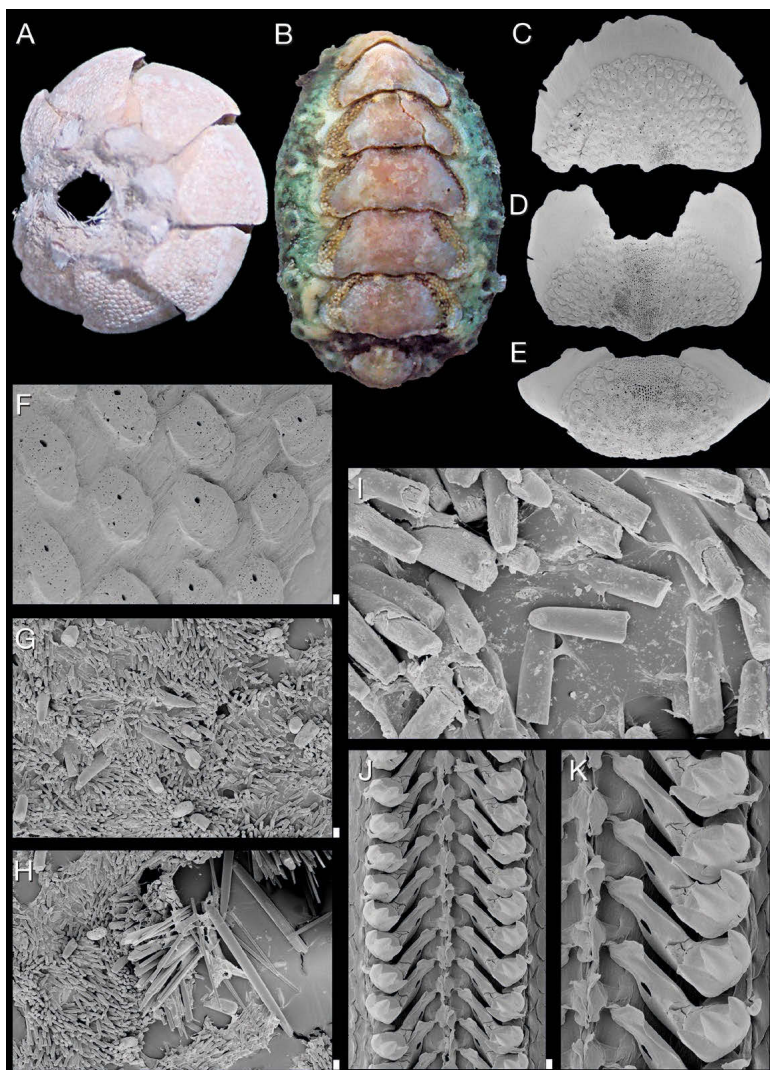
The historical confusion began with Smith (1890), who pointed out *A. astrigera* as a synonym of *A. spiculosa*. It was made worse by Watters (1981) agreeing with Dall (1889) on *A. pygmaea* being a synonym of *A. spiculosa*. Based on SEM images, there is an explicit difference between the three species. Pustules in *A. spiculosa* are convex, with a rounded edge, and the microaesthetes are distributed along the entire pustule surface, while *A. astrigera* presents concave, beaked pustules where microaesthetes are restricted, and *A. pygmaea* shows concave, slightly beaked pustules with microaesthetes positioned more centrally. SEM images are not the only tool to distinguish these species, as it is also possible to tell them apart by comparing the apophysis of the intermediate valves and elements of the perinotum.

Based on these features, it is possible to reliably recognize that *A. spiculosa* is clearly distinct from the congeneric species mentioned above and cited by Lyons (1988:89). Therefore, based on morphological aspects *A. spiculosa* is herein considered a valid species and not “species inquirenda”.

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**Fig. 1.** Specimens of *Acanthochitona spiculosa* recorded in Cabo Frio, Rio de Janeiro State and Santos and Peruíbe, São Paulo State, Brazil. **A.** Dorsal view, MZSP 151445 (c. 14x7 mm), Peruíbe. **B.** Dorsal view, MZSP 134515 (22x12 mm), Santos. **C-E.** Disarticulated valves in SEM, MZSP 134515: **C.** head valve, dorsal view, scale=300 µm; **D.** intermediate valve, dorsal view, scale=300 µm; **E.** tail valve, dorsal view, scale=200 µm. **F.** Intermediate valve, detail of pustules from left side of the pleurolateral area in SEM, MZSP 134515, scale=30 µm. **G-I.** Girdle in SEM, MZSP 134515: **G.** perinotum, scale=30 µm; **H.** same, detail of spicules tufts, scale=30 µm; **I.** detail of hyponotum, scale=10 µm. **J-K.** Radula in SEM, MZSP 91581: **J.** panoramic view, scale=30 µm; **K.** detail of radular teeth, scale=30 µm.

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