



RESEARCH NOTE

**New size record for *Stramonita brasiliensis*  
(Gastropoda, Muricidae) from southeastern Brazil**

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**Pedro N.C., Cavallari D.C. & Simone L.R.L.** (2021) New size record for *Stramonita brasiliensis* (Gastropoda, Muricidae) from southeastern Brazil. *Strombus* 27(1-2): 1–3.

The muricid subfamily Rapaninae comprises predominantly tropical marine gastropods widely recognized as active predators. They are usually found in intertidal areas restricted to the upper strata of rocky shore environments, and are thus often exposed to desiccation and thermal stress (Vermeij & Carlson 2000; Veiga et al. 2016). They play an important role in the ecological structuring of coastal communities due to their predatory activity, usually feeding on bivalves and smaller gastropods, among other prey (Tan 1995; Vermeij & Carlson 2000).

*Stramonita brasiliensis* Claremont & D. Reid, 2011 is a recently described species reported from the southern Caribbean to Brazil, previously understood as a population of *S. haemastoma* (Linnaeus, 1767) – a widespread species complex in the Atlantic, Mediterranean and eastern Pacific (Clench 1947; Abbott 1974). A thorough analysis based on molecular data identified the Brazilian population as a distinct species (Claremont et al. 2011). Morphologically, *S. brasiliensis* indeed shares several external features with *S. haemastoma* and can be roughly characterized by shell characters such as an orange to cream aperture, shoulder devoid of or bearing a row of nodules, and smooth outer surface with a silky luster (Claremont et al. 2011), despite having a highly variable shell.

During a review of the Malacological Collection of the Museu de Zoologia da Universidade de São Paulo (MZSP), a specimen of *S. brasiliensis* with dimensions much larger than the average size of 75 x 52 mm (Rios 2009, as *S. haemastoma*) was found (Figure 1A–C). The specimen in question was collected at Praia dos Ossos in the municipality of Búzios, Rio de Janeiro state, southeastern Brazil, at 5 m depth. In the present paper, we report the new size record for the species based on this specimen. We take the opportunity to discuss the new record within the history of the recent division of the *S. haemastoma* complex, clarifying the data present in the literature.

Specimens analyzed in this study are empty shells deposited in the Malacological Collection of the Museu de Zoologia da Universidade de São Paulo. Measurements were obtained with the aid of a 6" (150 mm) carbon fiber digital caliper with a rated accuracy of  $\pm 0.2$  mm ( $>100$ ) to  $\pm 0.3$  mm ( $>100$ –200 mm). The distance from the apex of the shell (posterior) to the distal end of the siphonal canal was measured to obtain the total length (L), and for the maximum width (W) the greatest distance between the body whorl and the end of the outer lip was measured. Literature searches were performed to confirm the specimen in question as representative of the size record for the species.

The newly reported specimen had a total length of 129.3 mm and a maximum width of 74.2 mm (Figure 1A–C). Table 1 shows the size records for *Stramonita* species that occur in the Western Atlantic, with references for each record.

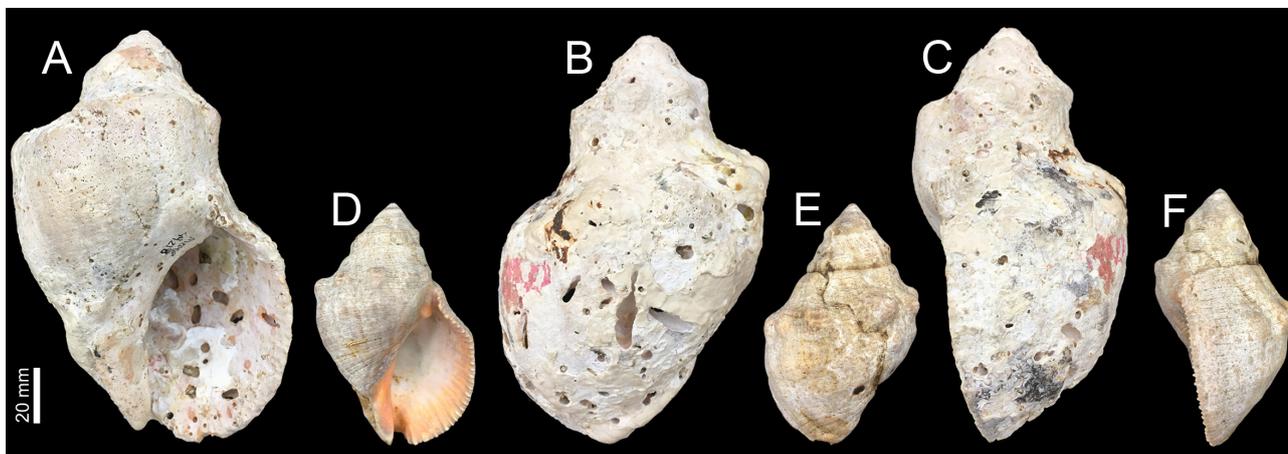
Notably, data on the size of *S. haemastoma* complex specimens published to date have been obtained from northern Atlantic specimens, specifically from Florida and the northern Caribbean. This is the case of widely consulted reference works and catalogs such as Abbott (1974), which was in turn followed by Rios (1994, 2009). Similarly, Quiquandon et al. (2017) reported the maximum size of specimens attributed to *S. haemastoma* species complex also collected in the Caribbean and Florida. However,

the localities allow us to conclude that these specimens correspond to what is today understood by *S. floridana* (Gray, 1839) and *S. canaliculata* (Conrad, 1837), also recently separated from the *S. haemastoma* complex. As Claremont & Reid (2011) did not address the issue in the original description, there is no unambiguous record of the maximum size attained by *S. brasiliensis* beyond the one presented here. In light of the present data, *S. brasiliensis* is revealed as the third-largest species of *Stramonita* in the Western Atlantic, comparable to *S. haemastoma* and *S. floridana*.

**Table 1:** Species of mollusks as bycatch in Atlantic seabob fishery and number of individuals collected per season.

Species	Size Record	Reference
<i>S. brasiliensis</i> Claremont & D. Reid, 2011	129.3 mm	Present paper
<i>S. buchecki</i> Petuch, 2013	28.0 mm	Petuch, 2013
<i>S. canaliculata</i> (Gray, 1839)	112.5 mm	Rosenberg (2009)
<i>S. floridana</i> (Conrad, 1837)	132.8 mm	Quiquandon et al. (2017)
<i>S. haemastoma</i> (Linnaeus, 1767)	133.0 mm	Quiquandon et al. (2017)
<i>S. rustica</i> (Lamarck, 1822)	50.0 mm	Rosenberg (2009)

Unfortunately, the lack of additional data (e.g., associated organisms, abiotic data) related to the present specimen prevents us from deducing why the object of this study attained such an enormous size. Vermeij (1973) argued that, in the upper strata rocky shores, evaporation tends to increase salinity and calcium carbonate concentration in cut-off water bodies, and that this potential increase in calcium carbonate levels in higher shorelines can result in shells with a sturdier build. These shells may bear larger nodules, such as the ones verified in the present specimen (Fig. 1A–C). The wide variation in shell size in rapanines may be related to intense physiological stress, which could at least partially explain our findings.



**Figure 1.** *Stramonita brasiliensis*: A–C. MZSP 49218, giant specimen (L = 129.3 mm, W = 74.2 mm). D–F. MZSP 49351, an already large specimen (L = 81.1 mm, W = 52.8 mm).

Several species of mid-coastal neogastropods common in southeastern Brazil have young individuals distributed in the upper regions of the rocky shores, inhabiting progressively deeper regions as they increase in size (see Vermeij 1972). The present giant specimen was collected in the subtidal zone at 5 m depth, and it probably lived in this depth range. Smaller individuals should be more susceptible to predation, which justifies their presence in the intertidal zone where they cannot be reached by most aquatic predators (Connell 1961, 1970). As the individuals grow in size, the action of predators is expected to decrease, allowing the colonization of deeper waters where the diminished influence of waves could also favor their activities.

## ACKNOWLEDGMENTS

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## APPENDIX

**Material examined:** BRAZIL. **Rio de Janeiro;** Buzios, 22°44'43"S 41°32'53"W, 6 m, 1 shell, MZSP 49218 (L.R.L. Simone col., 21.iii.2005). **São Paulo;** São Sebastião, 23°45'40"S 45°24'44"W, 2 shells, MZSP 49351 (O. de Fiore col.).