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Revision of genera *Gaza* and *Callogaza* (Vetigastropoda, Trochidae), with description of a new Brazilian species

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Abstract

A revision of the trochid genera *Gaza* and *Callogaza*, inhabiting the deep waters of western Atlantic Ocean and eastern Pacific Ocean, is here provided. Species are separated mainly by shell characters, but anatomical features are also used in some species. The species considered in this study are: *Gaza compta* **n. sp.** (SE Brazil), *G. daedala* Watson, 1879 (Central Pacific), *G. rathbuni* Dall, 1890 (tropical W Pacific), *G. fischeri* Dall, 1889 (E Caribbean), *G. superba* (Dall, 1881) (Gulf of Mexico and Caribbean), *G. cubana* Clench & Aguayo, 1940 (N Caribbean), *G. olivacea* Quinn, 1991 (NE South America and SE Brazil), *Callogaza watsoni* Dall, 1881 (Gulf of Mexico), *C. sericata* (Kira, 1959) (NW Pacific) and *C. frederici* (Smith, 1906) (S India). Anatomical data are provided for: *Gaza compta*, *G. olivacea*, *G. fischeri*, *G. superba* and *G. cubana*. Both *Gaza* and *Callogaza* are characterized by having iridescent, thin-walled shell, with the outer lip deflected (determined growth), and a flat callus partially or completely covering the wide umbilicus, making it a hollow chamber. Anatomically, the examined *Gaza* spp. have long epipodial tentacles and two series of holes between the propodium and the base of the head. The number of these structures can assist in the differentiation of species. Based on similarities of the shell and comparison with species of other trochid genera, we conclude that *Gaza* and *Callogaza* have some characters in common, which most probably constitute synapomorphies that support a monophyletic branch of the family. *Microgaza* is not regarded as part of this trochid branch, but may rather belong to Solariellinae.

Key words: Trochidae, *Gaza*, *Callogaza*, *Gaza compta* new species, Anatomy, Brazil, revision

Introduction

Gaza Watson, 1879 (type species *Gaza daedala* Watson, 1879: 601, OD), in the trochid subfamily Margaritinae, encompasses, at present, six species, two of them occurring in the Pacific Ocean (*G. daedala* and *G. rathbuni* Dall, 1890), and four in the Atlantic Ocean (*G. fischeri* Dall, 1889; *G. superba* Dall, 1881; *G. cubana* Clench & Aguayo, 1940, and *G. olivacea* Quinn, 1991). Furthermore, *Gaza* has also been considered by some authors (e.g., Abbott 1974; Rios 1994) as possessing two additional nominal subgenera: *Callogaza* Dall, 1881 (type species *C. watsoni* Dall, 1881, OD, from Caribbean) and *Microgaza* Dall, 1881 (type species *M. rotella* Dall, 1881, OD, from Caribbean). *Gaza* (*s.s.*) is characterized by having an iridescent, thin walled shell, a deflected outer lip (determined growth), and the development of a flat callus partially or completely covering a wide umbilicus, making it a hollow chamber. Most *Gaza* species occur in deep waters and have shells of about 3-4 cm. *Callogaza* has similar characters to *Gaza*, but is normally smaller (about 2 cm) and has more colorful shells.

A study of the Brazilian deep waters mollusks found some specimens of *Gaza*. The analysis of this material revealed a new species formally described herein. The investigated data and worldwide material is sufficient to perform a revision of *Gaza* and *Callogaza*, a subgroup of trochids that share some conchological characters. These two

