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Five new species and two records of Triphorinae (Caenogastropoda, Triphoridae) from Brazil

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Abstract

Triphoridae is one of the most speciose families of marine mollusks, being mainly represented by the subfamily Triphorinae. The present study aims to describe five new species of Triphorinae, and to report two species in Brazil previously known only from the Caribbean: *Nanaphora verbernei* (Moolenbeek & Faber) comb. nov. is herein disregarded as belonging to the genus *Cheirodonta*, owing to differences especially related to shell morphology; *Triphora portoricensis* Rolán & Redfern has its known geographic distribution greatly increased, despite its non-planktotrophic development; *Cheirodonta mizifio* sp. nov. has a brown shell, with the median spiral cord emerging weakly in the beginning of sixth to eighth whorl of teleoconch; *Eutriphora costai* sp. nov. has a beige shell, with the median spiral cord emerging in the fifth whorl of teleoconch; *Nanaphora leei* sp. nov. has a large shell for the genus, with the median spiral cord emerging between the eighth and ninth whorl of teleoconch; *Triphora charybdis* sp. nov. has a white adapical spiral cord, brown median/abapical cords, with the median one usually emerging in the seventh whorl of teleoconch; *Triphora scylla* sp. nov. has a reticulated embryonic shell, with the median spiral cord of teleoconch emerging between the end of the sixth to the end of the tenth whorl.

Key words: taxonomy, marine mollusks, microgastropods, Triphoroidea, western Atlantic

Introduction

Triphoridae is one of the most speciose families of marine mollusks (Bouchet *et al.* 2002, Albano *et al.* 2011), comprising sponge feeders (Marshall 1983). These microgastropods have a large variation in the composition of the radula (Marshall 1983) and are traditionally allocated in two subfamilies: Metaxiinae, composed of species with dextral shells, and Triphorinae, comprising species with sinistral shells; we do not recognize Iniforinae as a distinct subfamily (Marshall 1983, Fernandes *et al.* 2013). The taxonomy of western Atlantic triphorids has been recently studied in the Caribbean (e.g. Rolán & Fernández-Garcés 2008) and Brazil (e.g. Fernandes & Pimenta 2011, Fernandes *et al.* 2013, Fernandes & Pimenta 2014). In Brazil, 26 species are now recorded (Fernandes & Pimenta 2014).

Several papers indicate that many triphorid species still need to be described (e.g. Albano *et al.* 2011), which will improve the knowledge about the real richness of this group. The present study aims to describe five new species of Triphorinae from Brazilian waters, and includes two species previously known only from the Caribbean.

Material and methods

The material was obtained by dredging, collected by different expeditions along the Brazilian continental shelf, especially from Rio Grande do Norte, Bahia, Espírito Santo and Rio de Janeiro states. Some species were compared with similar ones from the Caribbean through direct examination or photographs of type material. Length and width of shells (Fig. 1A) were measured with a digital caliper. The terminology used for shell