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Seguenziidae (Gastropoda: Vetigastropoda) from SE Brazil collected by the Marion Dufresne (MD55) expedition

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Abstract

The present work deals with the vetigastropods of the family Seguenziidae collected by the Marion Dufresne (MD55) expedition in SE Brazil, reporting the occurrence of eight species. The following species have their geographical range extended: *Ancistrobasis costulata*, *Carenzia carinata*, *Carenzia trispinosa*, *Hadroconus altus*, *Seguenzia elegans* and *Seguenzia formosa*. Two new species, *Halystina umberlee* sp. nov. and *Seguenzia triteia* sp. nov., are described.

Key words: Deep-water, *Halystina umberlee* sp. nov., MD55 Expedition, *Seguenzia triteia* sp. nov., Seguenzioidea

Introduction

The cruise of the R/V Marion Dufresne (MD55), Terres Australes et Antarctiques Françaises, was a joint project of the Muséum National d'Histoire Naturelle (MNHN; Paris, France) and the Universidade Santa Úrsula (USU; Rio de Janeiro, Brazil), which took place during May and June, 1987 (Tavares 1999). The malacologists on board recovered a vast quantity of deep-water Mollusca from the southeastern Brazilian coast. Some material collected during this expedition has already been studied, resulting in numerous publications (e.g., Leal 1991; Simone & Cunha 2012; Cavallari *et al.* 2014). The present work continues these studies, dealing with the vetigastropod family Seguenziidae.

Recently, the study of this kind of material has increased in priority: a complete knowledge of the deep-water fauna became imperative for further environmental studies and possible legal protection, since the Brazilian government started the extraction of the “Pré-Sal” (pre-salt) level of petroleum, which is causing major disturbances in depths up to 2000 m off the SE Brazilian coast (Romero *et al.* 2011).

The Seguenziidae are a group of marine snails of worldwide distribution, mostly living in bathyal depths (between 200–1000 m) on fine sedimentary substrates. The family has a scarce but worldwide fossil record; the oldest known seguenziids stem from the Middle Paleocene of Greenland (Kollmann & Peel 1983), but there is also a doubtful record from the Late Cretaceous of Germany (Fischer 1992). They have been considered as either a vetigastropod taxon or an intermediate between Vetigastropoda and Caenogastropoda, showing a perplexing mixture of plesiomorphic and apomorphic characters (Haszprunar 1988; Hickman 1998). Seguenziids are common in collections of deep-water mollusks, but never in large numbers and almost never collected alive; therefore, their classification is almost completely based on shell characters (Quinn 1983b).

Material and methods

The specimens studied here are all empty shells collected by malacologists P. Bouchet, B. Métivier, and J. H. Leal during the MD55 expedition and are housed in the malacological collections of the MNHN and the Museu de Zoologia da Universidade de São Paulo (MZSP; São Paulo, Brazil). A complete list of the examined material

currently known only from off Alagoas state, northeastern Brazil (Lima *et al.* 2013), and *Basilissa discula* (Dall, 1889), currently known from Texas, USA, to Rio de Janeiro state, Brazil (Rios 2009).

According to Quinn (1983b), most Atlantic seguenziids are rather provincial in distribution, occurring on a single side of the ocean and usually within one or two basins. Nevertheless, most species reported here show a very broad geographical distribution. Seguenziids are often represented only by empty shells (Quinn 1983b), which precludes a more refined taxonomy. Moreover, studies of South American, especially Brazilian, seguenziids are very scarce. Perhaps, when anatomical and molecular data becomes available, the South Atlantic seguenziids will prove to be more diverse and endemic, as seen, for instance, in the South Pacific (Marshall 1991).

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