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Taxonomic revision of Brazilian Mactridae Lamarck, 1809 (Bivalvia: Cardiida)

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Abstract

The worldwide distributed family Mactridae Lamarck, 1809, is well represented in the western Atlantic Ocean. An exhaustive literature research revealed 54 nominal species from the Brazilian coast. The study was done using morphological characters of shell and in some cases mantle cavity organs. All type material was examined and illustrated. Eleven valid living species are confirmed from the Brazilian littoral and their synonymies and geographic distributions are updated. Redescriptions are provided for *Mactrellona alata* (Spengler, 1802); *Mactrotoma fragilis* (Gmelin, 1791); *Mulinia cleryana* (d´Orbigny, 1846) and *Anatina anatina* (Spengler, 1802). The revision of *Trinitasia iheringi* (Dall, 1897) new combination, reveals the presence of a Tertiary genus among the Recent fauna of South America.

Key words: *Mactrellona*, *Mactrotoma*, Taxonomy, *Mulinia*, Southwestern Atlantic

Introduction

The family Mactridae was registered since the Early Cretaceous in North America (Skelton & Benton, 1993). Bieler *et al.* (2010) recognize five subfamilies: Mactrinae Lamarck, 1809; Lutrariinae Gray, 1853; Kymatoxinae Stenzel & Krause, 1957 [=Pteropsellinae Keen, 1969]; Zenatinae Dall, 1895 [=Resasniinae Marwick, 1931] and Tanysiphoninae Scarlato & Starobogatov in Nevesskaja *et al.* 1971. However, the suprageneric arrangement is still under study. Nevesskaja (2009) considered Tanysiphonidae as a separated family and Beu (2006) considered Zenatinae as a synonym of Lutrariinae. Recently, the subfamily Darininae was proposed to include the genera *Darina* and *Darcinia* from South America (Signorelli in Carter *et al*. 2011). The morphological character that defines mactrids is the V-shaped tooth in the left valve, which is formed by the fusion of two cardinal teeth (Keen in Cox *et al.* 1969). The anterior and posterior lateral teeth have, in general, only one cusp. Several authors have studied anatomical characters such as ctenidia morphology, labial palp fusion, siphons, stomach, and shell microstructure to quantify the morphological variation within the group (Atkins 1937; Yonge 1948; Purchon 1960; Stasek 1963).

During the 19th and early 20th centuries, several authors contributed to the knowledge of the mactrids over the world introducing new species (e.g. Spengler 1802; Lamarck 1815–1822; Gray 1825, 1837, 1853, 1854; Conrad 1831, 1837; Reeve 1854; Deshayes 1854, 1855a, 1855b; Dall 1894a, 1894b, 1894c, 1895, 1897, 1915; Smith 1915; Doello-Jurado 1949, among others). Lamy (1913, 1914, 1917–1918, 1925) studied the species described by Lamarck (1815–1822) and all other South American forms deposited at the Museúm national d'Histoire naturelle in Paris. Species catalogues provided by Rios (1966, 1969, 1975, 1994, 2009), Abbott & Dance (1986), Díaz Merlano & Puyana Hegedus (1994) and Mikkelsen & Bieler (2007) mention about twelve living mactrids from the southern coast of the United States, Caribbean Sea and along the Brazilian coast. However, an exhaustive literature search reveals 54 nominal species for the Brazilian and Argentine zoogeographical provinces. For our ongoing revision of the Magellan and Argentine Mactridae (Signorelli & Scarabino 2010; Signorelli & Pastorino 2011, 2012) it therefore became necessary to carry out a taxonomic revision of Brazilian species. As a result, this article determines the valid names for the mactrid species living along the southern Brazilian coast updating their synonymy and biogeographic distribution.

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