

PRESS RELEASE

COLLE, AC. and CALLIL, CT.. Environmental influences on the composition and structure of the freshwater mussels in shallow lakes in the Cuiabá River floodplain. *Braz. J. Biol.*[online]. 2012, vol.72, n.2, pp. 249-256. ISSN 1519-6984. http://dx.doi.org/10.1590/S1519-69842012000200004.

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Press release

What determines the distribution of freshwater mussels in the Pantanal?

There's no doubt that the freshwater mussels (Unionoida) are a crucial component of aquatic ecosystems. They are considered a metabolic reactor because they transfer nutrients and energy from the water column to the sediments through their filtering activity. In this study researches from Federal University of Mato Grosso face the challenge to list the factors that determine the distribution of these bivalves in the Pantanal. For being parasites of fishes during the larval stage, this challenge becomes even more provocative because its distribution depends necessarily of these hidden actors.

In the Pantanal, it is common the generalizations concerning the composition and community structure due to the dominance of river water over other aquatic environments. To test this, the study published in Brazilian Journal of Biology Volume 72 (2) considers twenty lakes adjacent to the Cuiabá river over nearly 300 kilometers, where were found 1143 living individuals belonging to six species corresponding only to 20% of the known richness for lotic environments in this system.

The lakes of Pantanal present the same granulometric composition, but have differences in the percentages of sediment fractions. Generally the fine sediments are related to the higher diversities of bivalves, but the various sediment particle sizes are important to the maintaining complexity of the bivalve assemblages in the rivers. Many species have a tolerance to various types of sediments, others occur in specific kinds. *Anodontites trapesialis*, the largest bivalve found, did not occur in lakes with predominance of sandy in contrast with *Castalia ambigua* that prefers this type of sediment. These differences may be essential to maintain the diversity observed in this study. Among the factor investigated, the particulate organic matter too influences these mollusks, fact that this study demonstrates by the positive relationship between *A. trapesialis* and concentration of organic matter in the sediment.

The development policy established in the country promotes the unbridled expansion of the energy matrix and has been changing drastically the hydrological dynamics without enough time to know the aquatic biodiversity. Studies like this have direct application in predictive models of changes in patterns of community and provide useful information for the consistent management of water resources.

This paper is part of the Ana Claudia Colle Master Dissertation developed at the Federal University of Mato Grosso during Long Term Ecological Project – PELD, Site 13- Pantanal Norte, with financial support from CNPq and FAPEMAT.

Artigo completo:

Colle, AC. and Callil, CT.

"Environmental influences on the composition and structure of the freshwater mussels in shallow lakes in the Cuiabá River floodplain". Braz. J. Biol., 2012, vol. 72, no. 2, p. 01-08.

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