



XIII Congresso de ECOLOGIA

III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

TOP DOWN AND BOTTOM UP EFFECTS ON GUILDS OF AQUATIC INSECTS, AN EXPERIMENTAL EVALUATION.

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Tema/ Meio de apresentação: Ecologia de comunidades/oral

Trophic cascades determine the structure and function of communities. However, the effects of the presences of allochthonous resources from riparian forests and predatory fish on aquatic insect diversity are unexplored on the Neotropics. The aim of this experiment was to evaluate simultaneous effects, the exclusion of predatory fish (top down) and the addition of food resources (bottom up) on abundance and richness of aquatic insect in a stream stretch located in Rio Parauninha river basin, district of Itacolomi, in Minas Gerais state, Brazil. Four different treatments were reproduced in a factorial experiment using basket type samplers: a control treatment, an exclusion of top predator treatment, an addition of organic matter treatment, and an exclusion of top predator with addition of organic matter treatment. We collected, sorted and identified 14643 individuals belonging to 40 families, distributed among eight orders of insects. The highest abundance of aquatic insects was found in the predators' exclusion treatments. Regarding the number of families, there was a significant difference in treatments with addition of organic matter and exclusion of predators. The results indicate that both top down and bottom up effects determine the aquatic insect diversity, although the insect abundance is mainly affected by the exclusion of predators. An analysis of variance (factorial ANOVA) for richness was performed resulting in a significant p value excluding top predator and including organic matter ($p=0,046$ e $p=0,022$ respectively). This experiment shows both a top down and bottom up effect on richness of aquatic insects.

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