

Effects of water bugs on crustacean zooplankton in a shallow littoral zone



Interactions within the food chain are essential to ecosystem ecology. At the same time, very little is known of the trophic relationships between Heteroptera and zooplankton. The aim of this study was to examine the community structure of water bugs in the littoral zone of shallow lakes and their impact on crustacean zooplankton communities. A study on the effect of Heteroptera on zooplankton communities was carried out in the conditions of a laboratory experiment with two treatments: (1) aquariums in which the Heteroptera species *Ilyocoris cimicoides* and *Plea minutissima* were present (control treatment) and (2) aquariums from which Heteroptera were removed (removal treatment). The decisive factor in reducing the number of crustacean zooplankton was most likely the presence of predatory Heteroptera in a composition typical of the shallow littoral of eutrophic lakes. Their impact is reflected in both a decrease in the species richness and abundance of crustaceans and a transformation of the size structure of the zooplankton. The results of the study are the first to suggest a substantial seasonal impact of water bugs on crustacean zooplankton in a shallow lake. The results of the experiments confirm that predatory Heteroptera exert considerable pressure on crustacean zooplankton during the spring and summer peaks in abundance.

Auteurs du document : Wojciech Plaska, Tomasz Mieczan

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