

EDAPHIC MESOFAUNA COMMUNITY STRUCTURE IN SOME ECOSYSTEMS AFFECTED BY INVASIVE PLANTS IN THE DANUBE DELTA BIOSPHERE RESERVE

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Abstract

Edaphic mesofauna is involved in decomposition and mineralization of organic matter and the regulation of nutrient cycles. These organisms are associated with soil quality and plants diversity. Invasive alien plants into an ecosystem can determine dramatic changes in both the native plant and animal assemblages. Consequently, the purpose of the article is to highlights a potential influence of invasive species (*Elaeagnus angustifolia*, *Amorpha fruticosa*, *Ailanthus altissima*, *Vitis vinifera*, *Cannabis ruderalis*) on the quantitative and qualitative parameters of the edaphic mesofauna, on the main systematic and trophic groups. Among mites oribatids are predominant in almost of the investigated plots with a maximum of 84% in the plantation with Canada poplar and *A. fruticosa*. Another group of mites, the *Trombidiformes* characterized by a various trophic regime, is also with high densities, the highest one being registered in the ecosystem with *A. altissima* (78%). The ratio between some groups (oribatids/ collembolans, oribatids/ astigmatids) which is considered a good bioindicator of the quality and humification stage of an organic substrate was with high values in all the examined plots. These results have shown that humification is predominant, and the nutrient cycle is slower in all investigated plots. It is remarked a small number of collembolans in all analysed samples and also, an absence of this decomposer group of mesofauna, a group that generally has a high share in the whole fauna of edaphic microarthropods, especially in good humidity conditions.

Key words: microarthropods, alien plants, Danube Delta
