THE ROLE OF MEZO- AND MACROFAUNA IN SOIL FUNCTIONING

Summary

In the last decade soil invertebrates are considered as "webmasters" in terrestrial ecosystems. It was found that interactions between soil faunal and microbial communities are extremely important for decomposition rate and nutrient cycling. The impact of soil invertebrates on soil structure is so significant, that they are reckoned as ecosystem engineers. Groups of invertebrates of relatively large size (meso- and macrofauna) stimulate humification of organic matter. It was found that drastic decrease in the density of soil fauna, as a result of intensive agriculture causes decrease in soil fertility. Our article focuses mainly on the role of arthropods and enchytraeids, basing on literature and our own studies. The role of earthworms has been omitted in our considerations because it has been well known and appreciated. The investigations indicate, however, the importance of the other taxa of soil fauna, especially in habitats too dry, too wet or too often disturbed, where the number of earthworms is low. The knowledge of the importance of particular groups of fauna has considerably widened recently. Many experiments, consisting in elimination or enrichment of a system with selected groups of fauna, and the influence of such changes on soil processes, have been made. The interdisciplinary research on the role of soil fauna and microflora are strongly recommended.