

COMPOSITION AND DYNAMICS OF THE ZOOPLANKTON COMMUNITY IN THE SREBARNA LAKE UNDER DIFFERENT HYDROLOGICAL REGIME OF THE DANUBE RIVER

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(Summary)

The development of the zooplankton community in the Srebarna Lake was traced after the restoration of the hydraulic connection between the lake and the Danube River. The factors responsible for the annual and seasonal changes in the composition, structure and abundance of the zooplankton community in Srebarna Lake, in the conditions of a variable flooding regime from the Danube River in the period 1999-2011, have been identified, described and analyzed. Zooplankton samples were collected from a depth of 0.1-0.8 m by straining 50 l of water through an Apstein conical plankton net with a mesh size of 86×10^{-6} m. During the first eight years of the study, zooplankton samples were collected, with few exceptions, monthly from 5 permanent points in the lake. Over the next five years, the study 15 additional sampling points were also includes lateral puddles that become waterlogged at high levels of inundation with Danube waters. Simultaneously, supporting physical and chemical water parameters were measured in situ and samples were collected for laboratory measurement of biogens, BOD, COD and chlorophyll „A“. Statistical analysis for living systems software package (R statistics) and statistical package *Statistic 4.0 for Windows* were used for data analysis.

It was established that the contemporary zooplankton community of the Srebarna Lake is secondary allochthonous, with eurybiotic species predominating in its composition. The transfer of organisms from the Danube River plays an initiating role in the early stage of zooplankton recovery in the lake. The Rotifers are characterized by the highest species richness, which indicates a continuing process of eutrophication. The Cladocera community is characterized by an unstable, pulsating composition and abundance during the studied period. In the structure of the zooplankton community, dynamic complexes of rotifers are formed, consisting of two or more genera, represented by two or more species and/or subspecies (according to Kutikova), changing during the annual cycle.

The dynamics of the zooplankton community is directly and indirectly related to the flooding regime of the Danube River, and the dependence on the flood regime is much better expressed in an annual aspect than in a seasonal one. The main biotic factor determining the dynamics of zooplankton in the lake is the predatory press. The seasonal dynamics of the zooplankton community of the polymictic Srebarna Lake follows the PEG-model, characteristic of the dimictic lakes of the temperate climate zone.