

STRUCTURE AND FUNCTIONS OF HYDROZOOCENOSES IN TEMPORARY DRY WATER BODIES

The findings of the study confirm that the structure and functioning of zooplankton and macrozoobenthos (MZB) communities are directly influenced by changes in the hydrological regime of lakes. In the studied temporary water bodies, the dynamics of the hydro zoocenoses are determined by two distinct periods - dry and wet, where the duration of flooding (hydroperiod) and the water volume affect the changes in the water's physicochemical parameters and nutrient concentration. The process of structuring the communities involves three stages of settlement of the basin after it is filled with water. These stages are as follows:

- Eurybiont species with a wide distribution;
- Species found exclusively or predominantly in temporary water bodies;
- Colonizing (pioneer) species, mainly from the class Insecta.

The hydrological regime of the basins depends on the local climate and the area's geological structure. Therefore, different environmental conditions will form communities with diverse structures each year. The hydro-chemical parameters of temporary reservoirs are highly dynamic during the hydroperiod and over the years. These dynamics directly affect how the community functions - longer hydroperiods provide the basis for more stable conditions and allow the development of species with longer life cycles and more time to colonize the basin. In contrast, short hydroperiods exclude the development of many species, especially predatory ones, and allow other species' rapid and mass development. As a result, the trophic chains become shorter, and the connectivity decreases. It can be expected that hydro zoocenoses will be unstable under these conditions. However, despite this, the models show that the system can be resilient and recover more quickly after extreme impacts. Due to the lack of predatory pressure in the short hydroperiods of seasonal lakes and the various annual conditions, environmental factors become primary limiting factors for the hydrozoocenoses, while biotic factors have little or no significance.

In the studied river sections, there is no stage of complete drying up, similar to the temporary lentic basins. With the decrease in precipitation and increase in solar heating, the spring-summer season causes the temperatures to rise. Consequently, the studied rivers reduce their water level to the point of total flow stopping, and the river body fragments. However, the MZB community does not react negatively to this stress, and in the preserved water basins, a stable and diverse community develops following the River continuum concept. The trophic groups are fully represented, and their distribution is typical of the lower and estuarine zones of such a river type. The absence of flow and a significant reduction in predatory pressure in

the preserved water pools allow the development of a zooplankton community. Ultimately, there is no data for a substantial influence of the variable hydrological regime on the formation and functioning of the MZB and zooplankton community in the partially drying sections of the small rivers flowing into the Black Sea.