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Zooplankton Spatial Distribution in the Dnieper-Bug Estuary

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ABSTRACT

Zooplankton composition and quantitative indices of its development in the Dnieper-Bug estuary were studied in 2001-2018. It has been found that zoo-plankton structure is evened out. Thus, the values of the Pielou evenness index were approximated to one (0.95-0.99). In the lower reaches of the Dnieper River and in the Bug liman, zooplankton was highly diverse in its species composition. The values of the Shannon-Weaver diversity index in terms of zooplankton numbers accounted for 1.56 and 1.57, respectively. From the eastern part of the Dnieper liman towards its western part, the number of zooplankton species increased from 38 to 47 taxa. The values of the Shannon-Weaver diversity index varied from 1.50 to 1.55. In the lower reaches of the Dnieper River, zooplankton species composition was closely similar to that observed in the Bug liman, which is supported by high values of the Sorensen coefficient of community similarity (for Rotatoria C = 0.83). Rotatoria and Cladocera prevailed in terms of the number of their species, predominance index (D) accounted for 0.756 and 0.706, respectively. Copepoda were represented by a lower number of species (D = 0.284). It has been found that zooplankton development depends on the Dnieper River flow. In the Dnieper liman and in the lower reaches of the Dnieper River, this relationship accounted for respectively r = 0.68 and r = -0.93 ($p \geq 95\%$).

KEY WORDS: the Dnieper-Bug estuary, zooplankton, species diversity, taxa, Cladocera, Copepoda, Rotatoria