

# SPATIAL DISTRIBUTION FEATURES OF *VIVIPARUS* (*VIVIPARUS*) *VIVIPARUS* (MOLLUSCA, GASTROPODA, VIVIPARIDAE) IN THE PLAIN RIVER OF THE LOWER VOLGA

**R. A. Mikhailov**

*Institute of Ecology of the Volga River Basin of the Russian Academy of Sciences –  
Branch of Samara Federal Research Scientific Center of the Russian Academy of Sciences,  
10 Komzina street, Tolyatti, 445003, Russia  
E-mail: roman\_mihaylov\_1987@mail.ru*

**Abstract.** *Background.* Small rivers of the Lower Volga are the main type of watercourses that represent its river system. High importance of these rivers for preserving the biodiversity of natural complexes in the Volga basin is relevant. Macrozoobenthos is an important faunal component of rivers of aquatic organisms including mollusks. These organisms make a significant contribution to the overall diversity of invertebrates in inland water bodies. However, they are still poorly understood in water bodies. The purpose of our work is to identify patterns of distribution, environmental and biological features of *Viviparus* (*Viviparus*) *Viviparus* in the Samara river. *Materials and methods.* We explored the Samara river in the summer of 2017. 17 stations were explored from the source to the river mouth. The collected material was determined and the density and biomass at the stations were calculated. Morphometric measurements of the shells of all individuals were made. Statistical processing of the species data was performed to establish the dependence in different abiotic and biotic characteristics of the river. *Results.* In the river, there are significant fluctuations in the flow rate that lead to different areas of vegetation and types of bottom sediments. In terms of water quality, the river is classified as "very polluted", with the main pollutants being copper and nitrite nitrogen. The results of the analysis of the occurrence, density and biomass of mollusk individuals showed the preference of the species to certain biotopes of the river. Morphometric characteristics of mollusk shells are statistically distinguishable in different sections of the river. The habitat of *V. (V.) viviparus* depends on local abiotic and biotic factors. Their influence on the distribution of mollusks is complex. *Conclusions.* The results obtained enrich the accumulated information on the biology and ecology of the *V. (V.) viviparus* species. The available data on the species biotopic preference in rivers and the factors that determine it are expanded. This data will allow us to better assess the state of aquatic ecosystems with similar environmental conditions.

**Keywords:** the Samara region, plain river, mollusks, gastropods, spatial distribution.