

SIZE STRUCTURE OF THE DREISSENA POLYMORPHA POPULATION OF LAKE MYASTRO

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Introduction. *Dreissena polymorpha* (Pallas, 1771) is an actively spreading bivalve mollusk. In Lake Myastro *dreissena* was first discovered in 1984 (Burlakova, Karatayev & Padilla, 2006). Since then, the mollusk population has firmly established itself in the lake. With the massive distribution of *dreissena*, it began to have a serious impact on the ecosystem of the water body. *Dreissena* accelerates benthification processes (Mayer et al., 2014) and affects the development of populations of other species, i.e. actively inhibits the development of large bivalve molluscs by overgrowing their shells (Panko, Kryuk & Zhukava, 2019). The development of the *D. polymorpha* population in water bodies should be monitored. The last work describing in detail the structure of the population of *D. polymorpha* in the lakes of Naroch group was published in 2006 (Burlakova, Karatayev & Padilla, 2006). In addition, there are no published works describing the size structure of the *D. polymorpha* population in Lake Myastro. In this work, we briefly describe the size structure of the population of *D. polymorpha* at the present stage of evolution in Lake Myastro.

Materials and methods. The studies have been carried out in Lake Myastro on the premises of the Educational and Research Centre “Naroch Biological Station named after G.G. Vinberg” in July 2017. *D. polymorpha* samples were collected by hands (with the help of divers at big depths) from four littoral and seven pelagic sites, 0.25 m² at each site. Sizes of the mollusks (length, width, height) were measured by calipers.

Results. The average length ($\pm$ Sd) of *dreissena* shells sampled at different stations of the pelagic zone of the lake varies from (9.62 ± 1.55) to (16.14 ± 6.13) cm. The average shell width varies from (4.10 ± 0.80) to (12.2 ± 7.34) cm. The indicators of the average shell height vary from station to station in the range from (4.90 ± 3.82) to (9.30 ± 2.76) cm. The smallest specimens were found at the stations near Kochergi campground (N 54 50.755 / E 026 54.541) at a depth of 3.1 m and near the village of Minchaki (N 54 52.952 / E 026 53.694) at a depth of 1.9 m. The largest specimens were found at the station located near autocamping Kochergi (N 54 51.601 / E 026 53.932) at a depth of 4 m.

The average length of shells at different stations of the littoral ranged from (14.25 ± 6.03) to (17.52 ± 7.27) cm. The average width of zebra mussels in the littoral varied from (6.78 ± 3.17) to (8.77 ± 4.13) cm. The average height varied from (6.68 ± 2.62) to (8.28 ± 3.10) cm. The smallest specimens were found in the littoral of the lake at the station near Gatovich village (N 54 51.448 / E 026 52.387). The bottom substrate at the station is silty sand. The largest specimens were recorded at the station near Nikoltsy village (N 54 52.835 / E 026 52.096). The substrate at this station is coarse sand and stones.

Conclusion. Thus, it can be concluded that in Myastro Lake the average size of *Dreissena* individuals is larger in the littoral zone. However, the size of the zebra mussel does not strongly interdepend with the depth in the pelagic zone of the lake. There is a significant interrelation between size characteristics of *dreissena* and substrate type. The smallest individuals taken from pelagic stations were found mainly at sampling sites located in bays. The largest individuals, on the contrary, were found in the central parts of the lake, which also allows us to conclude that the indicators of the zebra mussel size are sensitive to the intensity of the hydrodynamic of water mass in the habitat.

According to the results of the study of the size structure of the *D. polymorpha* population in lakes Naroch and Myastro in 2016–2017, it can be stated that the population of *dreissena* inhabiting Lake Myastro on average is larger in size, comparing to that in Lake Naroch

(Panko, Kryuk & Zhukava, 2017). This is probably due to the presence of a food base (planktonic algae development).

References

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