Changes in the species diversity of sandy spit mollusc groups in the north of the Black Sea-Azov basin under the influence of ecological changes in the environment

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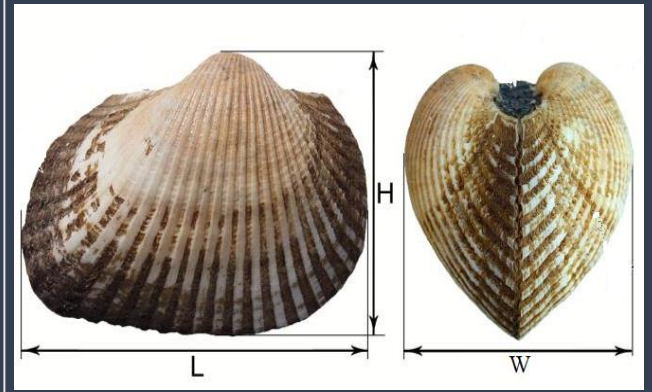
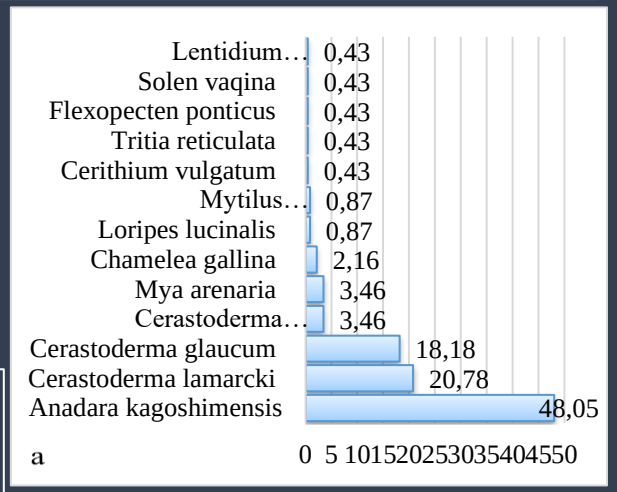
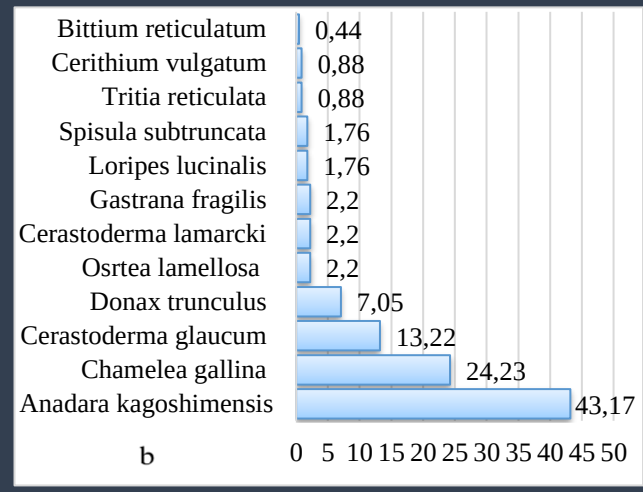
Introduction. The species diversity of marine organisms, like terrestrial species, has a tendency to change. The cause of internal or external changes in an individual is the influence of environmental factors. Depending on the type of impact: anthropogenic or abiotic depends on the further existence of the species. Thus, to determine the impact factors on the marine ecosystem of the Black Sea-Azov basin samples of bivalve molluscs were taken.

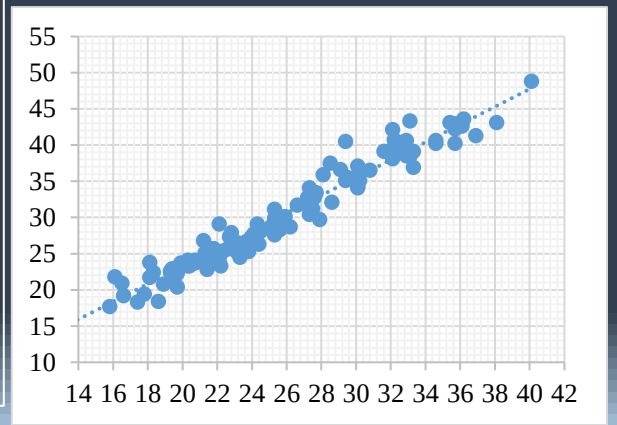
The aim here is to research the species diversity of molluscs of the northern areas the Black Sea and the Sea of Azov. And also to determine ecological factors influencing the species diversity of benthic communities in the Black Sea-Azov basin.

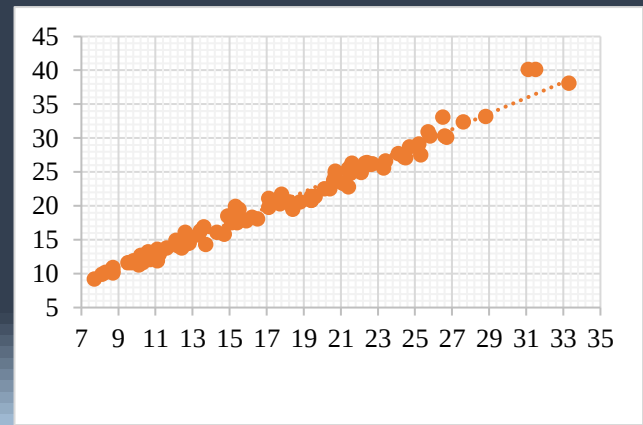
Materials and methods. The study area was the northern coast of the Azov Sea (Fedot Spit) and the Black Sea (Jarylgach Spit). Shells of bivalve and gastropod mollusks were used as study material. The sample was systematized using the modern World Register of Marine Species (WoRMS) system. Morphometric measurements of Anadara and Cerastoderma shells were made to determine ecological factors influencing the diversity of benthic communities - total length (L), width (W) and height (H) of all samples were measured with a caliper (± 0.01 mm). Statistical analysis of the data was performed in the program Statistic 8.0, the results were presented in the form of histograms and graphs.











Conclusions

Analysis of species diversity of molluscs in the Black Sea-Azov basin revealed 13 species of molluscs in the coastal area of the Azov Sea and 12 species in the coastal area of the Black Sea. The number of shells discarded on the coast indicates the population density of coastal benthic communities.

By making additional studies on the measurement of bivalve shells, the ecological factors controlling the species inhabiting the studied areas were determined. Thus, having studied the parameters of Anadara shells and the Cerastoderma, we can state that the population size and areal distribution depend on water salinity. Besides, other factors influencing the abundance of bivalve mollusk populations are also important. Other water parameters such as temperature, pressure, oxygen level, siltation, etc., human activities, interspecific relationships and competition are also important.