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**THE MOLECULAR FORMS AND EXPRESSION OF
ESTERASES *NEOGOBIOUS MELANOSTOMUS* FROM
DIFFERENT WATER AREAS OF NORTHERN
WEST PART OF BLACK SEA**

Nowadays round goby (*Neogobius melanostomus* Pallas) plays a very important role in aquatic ecosystems, not only in Ukraine but also in Europe and North America. However, its intraspecific structure is poorly understood. This work was carried out to study the diversity esterases of round goby from different regions of North-Western Black Sea. Individuals *Neogobius melanostomus*, caught in the lake Yalpug, in coastal waters of island Zmeinyi and in the Odessa bay. The electrophoretic spectrum of tissue esterases round goby from all these areas of the North-Western Black Sea region is represented by four major fractions.

Esterase round goby from the lake Yalpug characterized by a distinct sub factional composition, suggesting the presence of S-and F-allozymes for each form of the enzyme. In rare cases, some individuals there is no

element of S-esterase 3, whereas esterases 1 found individuals without S-, or without F-forms. Tissue esterases round goby from an area near island Zmeinyy have little distinguish in mobility in the polyacrylamide gel, all identified esterases, except esterase 4, have distinctly sub factional composition. Esterase 2 is observed as the specimens without S-, or without F-shape. This sign indicates heterogeneity of natural groupings.

For round goby from the Odessa bay identified forms esterases are distinguished by degree of mobility in the gel and sub factional composition - only esterase 3 could characterized by the presence of S-and F-allozymes. For fish of this area the highest level of expression observed for esterase 4 and S- allozymes of esterase 3, the lowest activity showed esterases 1 and 2.

According to all signs studied group represents contentedly homogeneous by genetic structure system. Data, which we received, reflect separate biochemical characteristics of the phenotype *Neogobius melanostomus* also it can be used to study not only the intraspecific structure, but for the comparative analysis of individual species Neogobius. These researches allowed to realize the monitoring of dynamic processes, occurring in populations of this species living in different waters north-western Black Sea.

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