ESTEROLITIC SYSTEM ENZYMES OF *NEOGOBIUS MELANOSTOMUS* DWELLING IN THE VICINITY OF ISLAND ZMEYNYI

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Lately the special importance acquired researches, conducted in the vicinity of island Zmeynyi, which is characterized by the variety of existence condition, rich specific composition in the conditions of low anthropogenic influence. However information about the genetic structure of natural populations of fish of the island aquatorium is absent in literature. Different enzyme systems are widely used as markers in investigations of populations of different species of animals. The study of enzymes allows to expose the degree of relationship between different groupments, and also their adaptation and sensitiveness to the external factors. Genetic markers, esterase in particular, are is linked to their high in- and interspecific changeability and simplicity of their exposure. The main purpose of our work is to study the variety and the level of expression of carboxyesterases in *Neogobius melanostomus.*

As research material served samples of *Neogobius melanostomus* of the spring hunting in 2008, conducted round island Zmeynyi. Fresh caught fish was frozen and kept to the moment of analysis at - 20 ^{0}C. The fish was unfrozen before the experiment, branchiates were separated and homogenized in a 0,1 M of glicin NaOH buffer pH 9,0 with 1 % by triton X-100 in correlation 1 : 5. After the gomogenates preparation, they were centrifuged during 15 minuts at 10 000g in-cold. The extracts were exposed to the electrophoretic separation in 7 % polyakrylamid gel, in gel pulleys carboxyesterases were exposed by means of a-naphtylpropionate and salts of diazonium. The expression of specific esterases was evaluated in the indices of the optical density in the according areas of gel pulley, which held enzymes. The received dates were processed statistically.

Electrophoretic spectrum of tissue carboxyesterases in *Neogobius melanostomus,* dwelling in the vicinity i. Zmeynyi is presented by four basic fractions of esterases which are characterized by different mobility in polyakrylamid gel (range Rf is from 0,120 to 0,400). As follows from received data, the exposed forms of carboxyesterases possess different levels of expression in relation to a-naphtylpropionate. So, the least activity had a high-tagile esterase 1, and the most expressed expression was observed for esterase 4. All exposed esterases, except esterase 4, have clear by expressed subfraction staff, which allows supposing presence S- and F-allosomes for every enzyme form. Interesting are samples without S-, and without F-forms of esterase 2. It indicates that: this biochemical sign used for an analysis group, and consequently natural groupment, is the genetic structure system with enough heterogeneous.