

ALTERATIONS OF A GLYCOPROTEINS COMPOUND IN THE BLOOD SERUM AND THE LIVER OF MARINE FISHES IN THE PROCESS OF THEIR ADAPTATION TO THE EXTREME ENVIRONMENTAL FACTORS.

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ABSTRACT

The non-specific adaptation of marine fishes to the action of extreme factors of surroundings (γ -irradiation) is accompanied with reduction of a number of glycoproteidic components (GC) in blood serum as well as in a liver to 18-30 % in 3-5 days after the influence and with increase of GC up to 20-30 days.

Dynamics of GC in blood serum and a liver of marine fishes, irradiated by γ -rays in the dose of 2 Gy, was studied for the purpose of investigation of mechanisms of hydrobionts adaptations to extreme factors of surroundings. Reduction of number of glycoproteins fractions in females to 25-30 % while in males - to 18-30 % in 3-5 days was determined by the method of electrophoresis in 7 % polyacrylamide gel (I). The quantity of carbohydrate-containing proteins in blood serum of fishes increases during the subsequent periods when it exceeds values inherent in intact animals by 10-15 % in 20-30 days. This parameter for the males liver remains reduced by 15 % where as for the females liver increases up to 15 %. Both growth of number of GC in blood serum, played a protective function, and a character of changes in a liver, where their biosynthesis takes place, reflect the influence of non-specific molecular mechanisms (2), which form stability of a fish organism to the action of extreme factors of surroundings.

BIBLIOGRAPHIE

DAVIS B.J., 1964. Ann. N.Y. Acad. Sci., vol. 121, pp. 404-427.

SCOTT D.F., BUTCHER E.R., REYNOLDS R.D., VAN POTTER R., 1971. In : Biochemical responds to environmental stress. New York, London, Plenum Press, p. 51-76.

