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THE TREMATODE INVASION INFLUENCE ON GLUCOSE CONTENT OF MOLLUSCA'S ORGANISM

It is known, that freshwater mollusca (Gastropoda, Bivalvia) are intermediate hosts of trematodes and aspidogastrea. The latter affect mollusca's vital functions including carbohydrate metabolism. The glucose content was analysed in the haemolymph of 320 specimens of Gastropoda: Pulmonata – Lymnaea stagnalis (Linné, 1758), Planorbarius corneus, (Linné, 1758), P. purpura, (O.F. Müll., 1774); Pectinibranchia – Viviparus viviparus duboisianus Mousson, (1863) and in different organs (hepatopancreas, gonads, mantle, foot, gills) of 240 specimens of Bivalvia – Unio tumidus falcatulus Drouët, 1881, U. conus borysthenicus Kobelt, 1879, U. rostratus rostratus Lamarck, 1819, affected and not affected by the invasion.

The dominant carbohydrate of the mollusca's haemolymph is glucose. The glycemia level varies from 6 to 46 mg%, making up 86,9% of the total sugar in males, 82,6% – in females V. viviparus and 88,6% in P. corneus. In P. corneus invaded dy Notocotylus thienemani (Trematoda) the glucose level is 2,2 as large, in Cotylurus cornutus – 2,3 as large, in Pleurogenes clariger – 2,4 as large, and after Cercaria pseudogracilis invasion is 25,4% lower that in non-invaded specimens. The rise of this index is also notised in L. stagnalis (due to Echinostoma revolutum invasion it is 2,13 as large, due to Opisthioglyphe ranae – 31,44% higher). In invaded individuals P. purpura the glycemia level amounts to 1,28±0,06 mmole/l and in non-invaded specimens it makes up 1,18±0,06 mmole/l. Slight hyperglycemia is also characteristic of V. viviparus invaded by Echinoparyphium petrowi. It makes up 85% in males and 12% – in females. Parasites are localized in Bivalvia's gonads, gills, mantle and hepatopancreas, i. e. in a medium with the maximum glucose content is observed in their gills. The glucose level in their mantle and foot is 12,18% and 10,46% lower that in their gills. In gonads the glucose content increases in accordance with ripening genital products and reaches it's maximum in the pre-spawning and spawning periods, making up in U. rostratus 2,9593±0,074 and 3,5983±0,032 mg/g correspondingly. The second peak of glucose concentration was fixed in autumn during new ripening of genital products. The latter are not rejected but resorbed in winter being a spare source of nutrients for the organism. The comparison of the glycemia level in the organs of U. rostratus, U. conus, U. tumidus showed that it was the highest in U. conus and somewhat less in U. tumidus and U. rostratus.