

The effect of heavy metals on the pond snail *Lymnaea stagnalis*

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Nowadays, heavy metals become one of the most dangerous sources of the water pollution. So we decided to examine the peculiarities of freshwater mollusks *Lymnaea stagnalis* (Linne, 1758) living under the influence of heavy metals. The aim of our research was to show the possibility to use one of the most spreaded freshwater gastropod mollusks as the indicator of water toxicity. It is well-known, that the deviation from the norm of any physiological process in organism witnesses about the violation of the vital activity in organism as a whole and can be an indicator of physiological status of this animal. This mollusk is an important part of benthos ecosystems in the continental reservoirs of our planet. Its behavior and physiology can show us the way of adaptation of other hydrobionts under the influence of heavy metals. During the exploration it has been used copper sulphate, zinc chloride and lead nitrate in concentration up to 10000 mg/dm³. It was established, that copper sulphate is strongly toxic substance for *L. stagnalis*, but zinc chloride and lead nitrate is moderate toxic substance. At first, poisoning adaptation take place through ethological changes. Almost simultaneously quick physiological reactions were registrated. Then pathological changes prevail. At least, it leads to lethal result. Heavy metals inspire true histopathological changes of skin and digestive gland, decrease the heart-beat, breath and nutrition in *L. stagnalis*. Nevertheless, even 0,2 mg/dm³ solution of copper sulphate leads to increasing of the cordial activity and breath intensivity. But 1 mg/dm³ of copper sulphate exposure results in a strongly decreasing of all examined physiological parameters. It has been determined, that a negative influence of the examined toxicants on *L. stagnalis* is partly compensated through increasing of the food assimilation coefficient and breath intensivity. At low intensivity of infection the influence of the parasites was almost invisible, but moderate and general infection essentially oppressed the living of the organism.