P 55. THE INFLUENCE OF ABIOTIC FACTORS ON THE RECONSTRUCTION OF THE BIOCOENOSIS AREAS POLLUTED WITH ORGANIC AND INORGANIC COMPOUNDS FROM THE LOWER SECTOR OF THE JIU

Cioboiu Olivia[1], Cismașiu Carmen-Mădălina[2]

[1]*The Museum of Oltenia Craiova, Section of Natural Sciences, Street Popa Șapcă, No. 8, 200416, Craiova, Romania*
[2] *Institute of Biology Bucharest, Department of Microbiology, Romanian Academy, Street Splaiul Independenței, No. 296, 060031, Bucharest, Romania*

E-mail: oliviacioboiu@gmail.com, carmen.cismasiu@ibiol.ro, madalinabio@yahoo.com

ABSTRACT: Uncontrolled discharges into inland rivers hydrographic network including the waste water containing metallic ions, determine significant changes in water quality, which consist in the imbalance of the lacustrine ecosystems in South Romania due to the disturbance processes within food chains, inhibition of mineralization, accumulation of metals in high concentrations in the aquatic organisms.
Knowing the environmental conditions allows us to understand the distribution of microorganisms in nature and establish methods to fight against and eliminate undesirable microorganisms. Our studies illustrate the toxic effects of metals on living organisms and above all effective technologies for reducing concentrations of metals in the waste water by classical and modern systems to treat them.
The concentrations of Pb^{2+}, Cd^{2+}, Cu^{2+}, Zn^{2+}, Mn^{2+} and Fe^{2+} from the water of the lakes in the lower sector of the Jiu were found below the limit of detection admissible by international standards. Pb^{2+} and Cd^{2+} are not considerable to be essential for life, but these metals are concentrated in the populations of *Viviparus acerosus* and *Radix balthica* from the aquatic environment. The process of the metallic ions accumulation in populations of microorganisms and gastropods strongly depends on its concentration in water and sediments as a living environment. Patterns of accumulation and HM transfer in biocoenosis are used for the characterization of risks of environmental pollution in the aquatic ecosystems from Romania. The presented data are the result of the convention between the Institute of Biology Bucharest and the Oltenia Museum of Craiova.

Keywords: biocoenosis, metallic ions, bioaccumulation, Romania.