

## BACTERIOFLORA OF MOLLUSCS *IN VITRO*

Janina Šyvokienė

Institute of Ecology of Nature Research Centre, Akademijos str. 2, LT-08412 Vilnius, Lithuania

Tel. +370 5 2729241, fax +370 5 2729352, e-mail: janina370@yahoo.com

**Summary.** The abundance, composition and hydrocarbon-degrading bacteria, as possible biomarkers of contamination with oil hydrocarbons, of autochthonous and allochthonous bacterioflora of the digestive system of bivalve molluscs *Anodonta cygnea* (A) and *Unio tumidus* (U) were estimated. For microbiological examination molluscs were collected in Lithuanian rivers: Avandelta, Atmata and Aklas Stream. Bacterioflora of the digestive system of molluscs was investigated by the methods of attenuation and inoculation on agar mediums. The abundance values of heterotrophic, proteolytic and amylolytic bacteria of functional groups in the digestive system of bivalve molluscs *A. cygnea* and *U. tumidus* in individuals of different species and in investigated rivers were variable. The highest amount of heterotrophic and amylolytic bacteria was determined in *U. tumidus* from Atmata river and *A. cygnea* from the Aklas Stream. The high amounts of hydrocarbon-degrading and coliform group bacteria in molluscs from Atmata and Aklas Stream rivers showed possible contamination of water by petroleum, its products and effluent. It was established that abundance of hydrocarbon-degrading bacteria in molluscs ranged from 0.9 % to 64.3 %. Further, the highest prevalence of coliform bacteria (from 1.2% to 4.3%) was registered in digestive system of molluscs *A. cygnea* and *U. tumidus* from Atmata and Aklas Stream rivers.

**Keywords:** molluscs, digestive system, bacterioflora, biomarkers, pollution, petroleum.