Different response of freshwater mussels *Unio tumidus*, *Unio pictorum* and *Sinanodonta woodiana* to environmental stress

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Freshwater mussels concentrate various environmental trace elements in soft tissues and they are important in genotoxicity monitoring. In previous studies we detected statistically significant difference between adults and juveniles of *U. tumidus* and *U. pictorum* in respond to environmental stress. The aim of this work was to determinate if there was any difference in respond to environmental stress between the adults of *U. tumidus*, *U. pictorum* and *S. woodiana*. Mussels were collected from the River Danube at polluted site Bela Stena during 2010. Haemolymph was collected from the posterior adductor muscle sinus, soaked into physiological solution and subjected to alkaline comet assay. Images of randomly selected cells were analyzed with fluorescence microscope Leica and image analysis software (Comet Assay IV Image analysis system, PI, UK). Fifty nuclei were analyzed per experimental point, tail moment was chosen as the most relevant measure of DNA damage. Statistically significant difference was recorded between the comet tail moment of *U. pictorum* and *S. woodiana* \( p=0.00477 \) and between *U. pictorum* and *U. tumidus* \( p=0.008241 \). We assume that greater sensitivity to environmental stress of freshwater mussel *U. pictorum*, compared with other species, is reliable tool for genotoxicity screening and monitoring of aquatic environments.

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