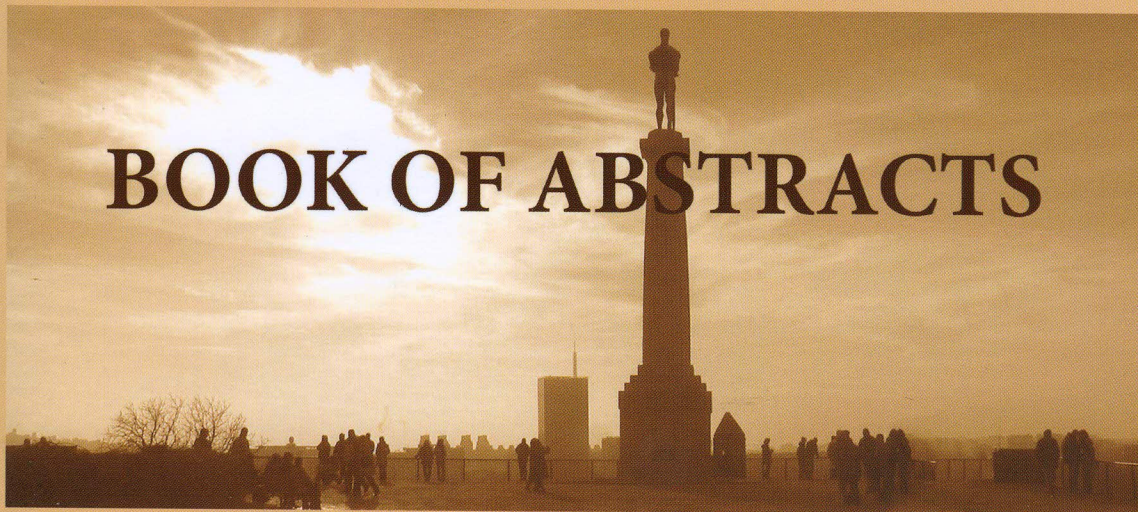


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**BOOK OF ABSTRACTS**



**ANTIOXIDANT DEFENCE RESPONSES TO TOXIC  
CYANOBACTERIAL BLOOM IN THE LIVER OF FRESHWATER  
FISH, *Perca fluviatilis* FROM THE GRUŽA RESERVOIR**

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We investigated alterations of antioxidant defence system (ADS) in the liver of freshwater fish, European perch (*Perca fluviatilis*) as response to toxic *Aphanizomenon flos-aquae* bloom in the Gruža Reservoir. Activities of total, manganese, copper zinc containing superoxide dismutase (Tot SOD, Mn SOD, CuZn SOD), catalase (CAT), glutathione peroxidase (GSH-Px), glutathione reductase (GR), phase II biotransformation enzyme glutathione S-transferase (GST), concentrations of total glutathione (GSH) and sulphhydryl (-SH) groups were measured before and during bloom period. Histopathological examinations were studied using electron microscopy. Activities of CuZn SOD, CAT and GSH-Px and concentration of -SH groups were significantly lower, while Mn SOD activity was significantly higher during bloom period. No differences were observed for Tot SOD, GR and GST activities, as well as for GSH concentration. Electron microscopy showed alterations in hepatocytes, which results in damage of cells. Our work represents the first study of its kind and suggest on influence of toxic *Aphanizomenon flos-aquae* bloom in the Gruža Reservoir on ADS and on histopathological changes in the liver of *Perca fluviatilis* indicating on necrotic and apoptotic damages of hepatocytes.