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Program  
& Abstract Book



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## P 11 Dynamic of tributyltin influence on DNA damage in haemocytes and cardiac activity of the Mediterranean mussel *Mytilus galloprovincialis*

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Adverse effects of antifouling paints containing organotin compound tributyltin (TBT) marked this agent as one of the most toxic substances released into the sea; therefore, its usage is banned. Considering the lack of TBT related data in the Boka Kotorska Bay, we decide to apply an ecotoxicological test battery of TBT influence on level of DNA damage in haemocytes and cardiac activity of the Mediterranean mussel *Mytilus galloprovincialis* L. During the 96 h treatment with 10, 100 and 1000 µg/l of TBT chloride and 50 µg/l of benzo(a)pyrene used as positive control, in static system, haemolymph samples were collected after 24, 48, 72 and 96 h from all aquaria. Results were done in duplicate and indicated on reduced cell viability compared to negative controls. The increase of DNA damage level in haemocytes obtained by comet assay and significant increase of micronucleus frequency after 72h of exposure in the first experiment and after 96 h in the second was occurred. By means of SOS/umuC assay, using special strains of *Salmonella typhimurium*, we did not detect mutagenic potency of TBT. However, dose depended decrease in cell biomass was observed. The heart rate recording was carried out by non-invasive method based on infrared sensor technology. The lowest TBT dose induced 10% increase of heart rate up on the treatment onset, while higher concentrations after the initial rise induced significant decline of cardiac activity. Heart rate baseline value was restored later during the treatment with 10 and 100 µg/l of TBT indicating on ability of mussels to maintain regular cardiac activity despite substantial amount of toxin.