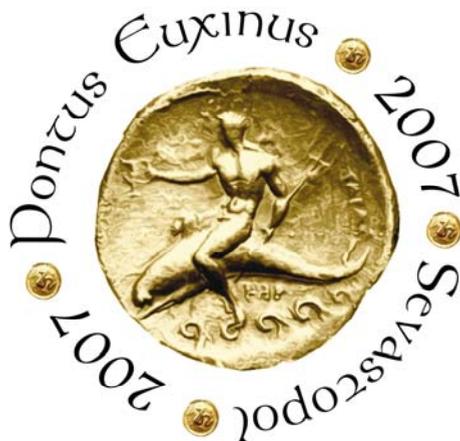


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Тезисы V Международной
научно-практической конференции молодых ученых
по проблемам водных экосистем
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µg-g-1 FW in gills). These proteins had been consisted of two major isoforms: seasonal independent MT-1 and reduced in summer MT-2. MTs accumulate above 40% of Cu but less then 5% of total Zn in tissues with few exceptions. MTs bound almost all Cd in the tissues, mostly in digestive gland, whilst a ratio Cd:(Zn+Cu) in MTs was less then 1:20. The extremely enlarged Zn level (about four times) and reduced Cu level in tissues and MTs in summer comparing to autumn was reflected. The Zn:Cu ratio in MTs was 2:1 in autumn and 11:1 in summer. Zn was also accumulated in summer in other than MTs soluble compounds. PCA analysis revealed the inversely relation of Zn level in tissue and its compounds to its content in water while all Cu parameters in tissues were correlated with its content in water. The UV-spectra as well as chromatographic analysis indicated the loss of specific features of MTs in summer in comparison to autumn. The up-regulation of Zn level in summer seems to be a primary reason for seasonal changing of MTs.

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OIL HYDROCARBONS ON THE PERIPHYTON OF THE HYDROTECHNICAL CONSTRUCTIONS

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Vast literature is devoted to co-operation of marine organisms with oil contamination including summarizing works. The particular materials about the accumulation of oil hydrocarbons by marine hydrobionts are given in them, e.g. about getting of oil into the organisms. The question about superficial contamination of marine flora and fauna practically is not sanctified. Such information is known about catastrophic overflows of oil emphasizes mostly on birds and mammals. The information about superficial contamination of other representatives of marine biota is absent. At the same time it is possible to look how marble crabs get out on off-shore stone and again get into the water, repeatedly crossing oil pellicle. Tracks of oil contamination are well visible on rocks overgrowings and hydrotechnical constructions. However quantitative information about such contamination is absent. In this connection the purpose

of the real work was a study of oil hydrocarbons on periphyton of hydrotechnical constructions of Artilleryskaya bay and adjoining area of coast, which is under the large recreational and economic loading.

Samples were taken from submarine part of concrete embankment in May–July, 2007 on 17 points by a hand scraper from grounds 10x10 cm. Selection was done on formed in a boundary layer «sea-atmosphere» overgrowths, which were represented the «brush» of water-plants-macrophytes length of which as a result of wave influence does not exceed 1–2 cm. Samples were dried on a filtration paper. The hinge-plate of 10g was taken from each sample and was extracted by CCl_4 with subsequent determination of oil hydrocarbons by the method of infra-red spectrometry on the device of SPECORD-75IR.

The maximal value of oil hydrocarbons (0,33 mg/g) was fixed at the station #7 in angular part of bay, where the place of mooring of city cutters and ferries is situated, and the flow of the thundershower sewage system goes out. On the extreme east and western banks of bay a concentration of oil hydrocarbons was 0,02–0,08 mg/g and 0,015 – 0,03 mg/g accordingly. Correlation dependence is traced between the amount of oil hydrocarbons and general amount of matters extracted by CCl_4 . The coefficient of correlation was 0,552. At the same time there is considerable oscillation of percentage of oil hydrocarbons in general mass of matters extracted by CCl_4 from 4% to 41%.

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ACCUMULATION OF HEAVY METALS IN FROGS FROM TWO WETLANDS

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Up to now, few studies have been carried out regarding heavy metal accumulation in amphibian species in natural populations and, to our knowledge such information concerning Ukrainian amphibians is lacking at all. Therefore, the aim of this study was to elucidate the seasonal and spatial fluctuations of heavy metals content in the liver of the frog *Rana ridibunda* in the urban and rural sites in the Dnister basin near Ternopil city, to examine the possibility of using it as a bioindicator species of water quality and also to examine the functional state of the organism.