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NEW RESULTS ABOUT THE DETERMINATION OF Cd, Cu, Fe, Mn, Pb AND Zn IN THE BLACK SEA ECOSYSTEM BY ICP - MS

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Abstract

The paper presents new results concerning Cd, Cu, Fe, Mn, Pb and Zn determination in marine biotope (sediment and water) and biocenosis (algae, crustaceans and fish) collected in 2005 and 2006 from the Romanian Black seacoast southern part, between Mangalia and Vama Veche. The solid samples have been subjected to dissolution mineralized with nitric acid and hydrogen peroxide in a Digesdahl device after a careful preparation (washing, drying). Metal concentration has been determined by atomic emission spectrometry with an Agilent 7500a ICP-MS apparatus. In solid samples the levels of Cd varied from 0.03 to 0.26 µg/g, Cu from 1.51 to 9.59 µg/g, Fe from 0.085 to 0.825 mg/g, Mn from 2.70 to 41.25 µg/g, Pb from 1.32 to 5.07µg/g and Zn from 2.08 to 34.31µg/g. In water, mean metal concentrations were of µg/L levels, except Fe.

Keywords: ICP-MS, metals, alga, crustaceans, fish, wet digestion

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