

## Investigation about the presence of organochlorine pollutants in mussels from the Black Sea, Bulgaria

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**Abstract.** The aim of this study was to investigate the presence of polychlorinated biphenyls (PCBs), organochlorine pesticides (HCB, DDT and its metabolites) and HCBD in mussels from Bulgarian Black Sea coast. Mussels (*Mytilus galloprovincialis*) are aquatic organisms which are immobile so that the concentration of pollutants should primarily be considered as an indication of local levels of organochlorine compounds. Samples were collected from three areas of Black Sea coast of Bulgaria in summer 2015.

The fifteen congeners of PCBs, HCB, HCBD, DDT and its metabolites DDE and DDD were performed by gas chromatography system with mass spectrometry detection. The metabolites DDE and DDD were found in all analyzed mussel samples, but PCBs were not detected in any sample. DDE concentrations were found in mussels from 1.09 to 1.63 ng/g wet weight. In mussel total DDT concentrations (2.14 ng/g ww) were found comparable to those in mussels, sampled in 2013 and 2014 (1.87 ng/g ww).

The levels of DDTs and polychlorinated biphenyls in mussels from the Black Sea were found comparable to levels measured in the same molluscs from neighbor seas - Mediterranean Sea and Adriatic Sea.

**Keywords:** mussels, polychlorinated biphenyls, organochlorine pesticides, Black Sea, Bulgaria

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