



Evaluation of Organochlorinated Pesticides Residues and PCBs in Sediments of Karavasta Lagoon, Albania

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Abstract: In this paper are presented concentrations of organochlorinated pesticides and polychlorinated biphenyls (PCB) in sediment samples of Karavasta Lagoons. Sediment sample were taken in May 2013 in different stations of lagoon. Ultrasonic extraction used for extracting organochlorinated pesticides, their residues and PCBs from sediment samples. Clean-up procedure using firstly metallic mercury followed a second clean-up procedure in an "open" florisil column was performed. Analysis was realized in HP 6890 Series II, gas chromatograph equipped with μ ECD detector. For separation of organochlorinated pesticides and PCB markers was used Rtx-5 capillary column (30m x 0.32mm x 0.25 μ m). The organochlorine pesticides as: HCHs (α -, β -, γ - and δ -isomers) and the DDT-related chemicals (o,p -DDE, p,p -DDE, p,p -DDD, p,p -DDT), Heptachlors, Aldrines and Mirex, were detected. Analyzes of PCBs was based on the determination of the seven PCB markers. The highest level of organochlorine pollutants was found to the sample taken in station which was located in the centre of the lagoon. The main origin of organochlorine pesticides could be as result of their previous uses in agricultural areas near the lagoon. The use of pesticides in recent years under the legal commercial names was not excluded. Profile PCB marker were as following: PCB 28 > PCB 138 > PCB 153. This fact confirms atmospheric origin of these compounds in the ecosystem. These levels were comparable to levels reported from previous studies.

Keywords: *Organochlorinated pesticides; PCBs; Sediment; Karavasta Lagoon; GC/ECD*

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