O 88. ORGANIC POLLUTANTS IN SURFACE WATERS OF ERSEKA REGION, ALBANIA

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ABSTRACT: In this paper are presented concentrations of organochlorine pesticides, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and BTEX – benzene, toluene, ethylbenzene and xylenes in surface water samples of Erseka region, Albania. Erseka region is situated in South-East of Albania. Water samples were taken in December 2017 in different steams that flowing from Gramozi Mountain. These steams are part of water basin for Devolli and Osumi rivers.

Liquid-liquid extraction was used for extracting organochlorine pesticides, PCBs and PAHs from water samples. Clean-up procedure was realized in an "open" florisil column for chlorinated pollutants. Analysis of pesticides and PCBs were realized in HP 6890 Series II, gas chromatograph equipped with μECD detector. For separation of organochlorinated pesticides and PCB markers was used Rtx-5 capillary column. Analysis of PAH and BTEX were realized in Varian 450 GC, gas chromatograph equipped with FID detector and VF-1ms capillary column. BTEX were analyzed using HS-SPME method.

The highest levels of organic pollutants in surface waters of Erseka region was found for organochlorine pesticides because of their previous uses in agricultural areas near these streams. Volatile PCBs were found in higher concentrations because of their atmospheric origin. PAH and BTEX were found only for 20% of water samples. Their concentration could be because of natural origin or some mechanical business that discharge their wastes directly in these steams. Found levels were lower than reported studies for other water basin areas in Albania.

Keywords: Organoclorined pesticides; PCBs; PAH; BTEX; water samples; GC/ECD/FID.