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Impact of Urban Pollution on the Benthic Diatom Communities from Gjanica and Ishmi Rivers[#]

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Abstract: Albania is reach in water resources. In Western Adriatic Coastal Lowland area, where most of the rivers run, are situated the most inhabited and industrial centers (*i.e.* Tirana, Durresi, Berati, Fieri, *etc*.). Urban wastewater and other industrial wastes are collected directly by canals in rivers and transported to the sea. The effect of urban pollution from the inhabited centers on the benthic diatom communities of Gjanica and Ishmi rivers was studied in different occasions, during years 2002-2004. About 300 diatom taxa were found; scarce species number was found in each sample, which oscillated from 8 to 10 species. The most abundant taxa were *Nitzschia palea* var. *palea*, a saprotrophic species, *Navicula accomoda*, *Gomphonema parvulum*, *Navicula cryptotenella*, *Fragilaria ulna*, etc. Based on the phytobenthos composition (percentile of diatom taxa) and their ecological values, two indexes were applied to evaluate water quality, Trophic Index of Diatoms (TI_{DIA}) and Saprobic Index (SI); TI_{DIA} was always very high, up to 3.3 in Lana, showing polytrophic state of the waters, caused by the heavy contamination with nutrients (nitrogen and phosphorous); the same can be confirmed for the saprobic index, which was high, too, from 2.8 (α-mesosaprob) (Ishmi) up to 3.4 (α-meso-polysaprob) in Lana river (July 2003); the highest saprobic values correspond to the heavy organic pollutions in the rivers.

Keywords: Phytobenthos, Trophic Index of Diatoms (TI_{DIA}), Saprobic Index (SI); water pollution, biomonitoring, Albanian Rivers.

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