

P18. BIOACUMULATION OF ARSENIC AND BORON IN WATER, SEDIMENTS AND TISSUES OF FISHES FROM EMET STREAM (TURKEY)

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In this study, the concentrations of arsenic and boron were determined in the water and the sediment, as well as in the muscle tissues of *Leuciscus cephalus*, *Alburnoides bipunctatus*, *Barbus plebejus* and *Capoeta tinca* from Emet Stream. The fish samples were caught in May 2011 and September 2012. The metal concentrations in the water samples were as follows: in Hisarcık, arsenic was 342.1-1002 $\mu\text{g l}^{-1}$, and boron was 4697-14490 $\mu\text{g l}^{-1}$; and in Etibor, arsenic was 137.1-924.5 $\mu\text{g l}^{-1}$, and boron was 2421-14900 $\mu\text{g l}^{-1}$. The metal concentrations in the sediment samples were as follows: in Hisarcık, arsenic was 920 - 925 mg kg^{-1} , and boron was 300 - 310 mg kg^{-1} ; and in Etibor, arsenic was 14.51-3317.1 mg kg^{-1} , and boron was 14.22-1014.01 mg kg^{-1} . The mean tissue concentration of arsenic was lower than the TFC and WHO limits. Boron has been identified in fish tissues at concentrations between 0.26 and 2.96 mg kg^{-1} . The bioacumulation in the muscle tissues of all fish species caught from Emet Stream did not exceed the limit values.