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ABSTRACT BOOK
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individuals. The behavioral changes of the fish were monitored at different toxicant concentrations. The data were evaluated by the use of Probit Analysis method and the 96 hour LC_{50} value of malathion on *Poecilia reticulata* found as 19.459 ppm. This value was found to be 20.91 ppm according to Trimmed–Sperman Karber method and 22.125 ppm according to Behrens–Karber method.
7.5 ppm, 15 ppm, 22.5 ppm, 30 ppm, and 37.5 ppm concentration was determined by an increase in arithmetic for experimentation. While 7.5 mg / l concentration of malathion at least death was observed at the end of the 96-hour period, 37.5 mg / l concentration of the death rate was set as 100 % at the experimentation.
The information obtained from this study, while malathion insecticide in fish acute high doses can cause death, at low doses causes behavioral disturbance. As shown in this study had the effect of toxicity of various concentrations of malathion.

Keywords: Acute toxicity, malathion, *Poecilia reticulata*, LC_{50}.

Determination of Some Metal Levels in Tissues of *Tinca tinca* L., 1758 from Mogan Lake, Ankara, Turkey

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ABSTRACT

The aim of the present study was to determine the metals concentrations (aluminium, chromium, copper, iron, manganese, lead, zinc and vanadium) and metalloid (silicon) in water, sediments and in brain, kidney, gonad, liver, muscle and gill tissues of *Tinca tinca* in Mogan Lake.
Water, sediment and fish samples were collected from Mogan Lake. The length and weight (min-max) of the fish were 225 – 275 mm and 169 –339 g. Determination of the elements in all samples was carried out by ICP-OES. As a result of the examination of metals in the water aluminium has the lowest and silicon has the highest concentration. The concentrations ranges of trace elements were found as follows: Al: 0.13 – 2.33 µg l^{-1} ; Fe: 0.59 – 2.62 µg l^{-1} ; Si: 101.04 – 466.10 µg l^{-1}. Metal concentrations in the lake water were decreased as Si > Fe > Al.
In sediment samples taken from Mogan Lake it was determined that silicon had the highest and lead had the lowest concentrations. The metal concentrations in sediment samples were as follow: Cr: 22.19 – 41.31 µg l^{-1}; Cu: 9.91 – 30.19 µg l^{-1}; Fe: 3091.58 – 4007.95 µg l^{-1}; Mn: 102.94 – 146.29 µg l^{-1}; Pb: 0.46 – 1.78 µg l^{-1}; Si: 38023.86 – 55556.53 µg l^{-1}; Zn: 11.27 - 18.01 µg l^{-1}; V: 19.25 – 26.68 µg l^{-1}. Metal concentrations in the lake sediments decreased in the sequence of Si > Fe > Mn > Cr > V > Cu > Zn > Pb. Respectively accumulation of

metals in brains, kidneys, gonads, livers, muscles and gills was observed to follow the order of Al > Zn > Cr> Cu; Zn > Al > Cr > Cu; Zn > Al > Cr > Cu; Zn > Al > Cu > Cr; Zn > Al > Cr > Cu and Zn > Al > Cu > Cr.
All tissues exception of brain the accumulated most-Zn, liver and gills of at least Cr, Cu of the accumulated at least has been found in other tissues. Zn accumulation in kidney, liver, gonads and gill tissues, according to TFC (2008) and WHO (1996) indicated higher values, these values are smaller in brain and muscle tissues. The heavy metal accumulation levels in liver, muscles and gills of the fish were seen to be within the limits stipulated by the international standards.
The correlation between elements in water, sediment, muscle and gills tissues of *T. tinca* was statistically tested with SPSS for Windows V.18 (SPSS statistical package program).

Keywords: Heavy metals, accumulation, *Tinca tinca*, Mogan Lake.

Determination of Some Metal Levels in Water and Tissues of *Alburnus orontis* (Sauvage, 1882) from Kirmir Stream of Sakarya River, Turkey

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ABSTRACT

In this study, some of water quality parameter were determined from two different stations located on the stream in June 2011. Some metals (zinc, lead, nicel, manganese, copper, chromium and cadmium) were determined in water and some tissues (liver, muscle and gill) of fish *Alburnus orontis* (Sauvage, 1882) from Kirmir Stream of Sakarya River. The heavy metals were determined by the use of Atomic Absorption Spectroscopy (AAS).
The total dissolved solid, electrical conductivity and the salinity values of the second station were found to be markedly higher than the first station. The Ni values in both stations and ammonium and the nitrite values in the second station were found to be higher than the reference values.
Al, Cu, Zn, Fe, F, Cl, Cr, Ca, Mn, SO_4, hardness ($CaCO_3$) values were found to be below and Ni, NH_4 and NO_2 above the upper limits of the national and international standards in the waters of Kirmir stream (TS 266, 2005; WHO, 1993; USEPA, 2002). Ni accumulation in water was higher values from references values (WHO, 1996; TSE 266, 2008 and YSKYY, 2012).
The metal with the highest concentration in water was Ni with 1.00 mg/L and the metal with the lowest concentration was Mn with 0.001 mg/L. The metal concentrations determined in some tissues of *Alburnus orontis* were found to be as follows: In liver Cr > Zn > Cu > Pb > Mn > Ni > Cd, in muscles Zn > Cu > Mn > Pb > Ni > Cr > Cd in and gills