Survey of heavy metals (Cu, Zn, Ni, Pb) bioaccumulation in liver, kidney, muscle and gill of *Schizocypris altidorsalis* in Chahnimeh reservoirs of Sistan

Absrtact:

The current study is an attempt to investigate the pattern of accumulation of heavy metals such Copper, Zinc, Nickel and Lead in the muscle, gills, liver and kidney *Schizocypris altidorsalis,* in Chahnimeh of Sistan. For this purpose, 40 samples in were collected randomly from the population in winter and spring (20 samples each season). In the next phase of the research, muscle, gill, liver and kidney tissues of the samples were cut out for further study. Then, using atomic absorption Konic instrument (Novaa 300) university of Zabol , the concentrations of heavy metals were measured. The samples were already prepared and treated by Nitric Acid of high concentration. The results of the study showed that concentrations of for Copper, Zinc and Nickel in muscle tissue in winter season were 43.01± 1.39, 143.08± 0.63, and 8.01± 0.53 respectively. Also these results in spring were 42.90± 1.50, 141.04± 3.02, 7.07± 1.56 and 4.32±0.22 respectively. The highest concentration of Copper in winter was found in liver, muscle, gill and kidney respectively. Also the highest concentrations of zinc were found in gill, kidney and muscle respectively. Besides, the results of this study showed that the highest concentration of lead are found in gill, kidney, muscle and liver. For Nickel, the highest concentrations were found in gill, muscle, liver and kidney. In the spring, however, different results were recorded. In this season, the highest concentration of copper was found in liver, muscle, kidney and gill tissues while this order for the heavy metal of zinc was liver, gill, kidney and muscle. The highest concentrations of Nickel were found in gill, muscle, liver and kidney tissues respectively. On top of that, the results of the current research showed that the concentrations of these metals in muscle tissues are higher than limits set by FAO and WHO standards. Too, the concentration of Nickel was lower than FDA standard.

Key words: Bioaccumulation, *Schizocypris altidorsalis*, Sistan's Chahnimeh reservoirs.

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