

Determining the concentration of heavy metals copper, zinc and iron in the muscle tissue of *Acanthopagrus cuvieri* in Bushehr port

Abdol Hossein Doulah^{1*}
Razagh Obeidi²

1. Cellular and Molecular Biology
Department, Ahvaz Branch,
Islamic Azad University, Ahvaz,
Iran

2. Young Researchers and Elite
Club, Bushehr Branch, Islamic
Azad University, Bushehr, Iran

*Corresponding author:
h_doulah@yahoo.com

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Abstract

The present research was carried out with the aim of measuring the levels of the heavy metals Cu, Zn and Fe in the muscle tissues of the *Acanthopagrus cuvieri* in Bushehr port. To this end, 30 *A. cuvieri* with an average of 840.73 ± 156.101 gr and 34.28 ± 3.089 cm were hunted in spring 2018. The samples were washed with distilled water and a portion of the pure muscle tissues was isolated. After dehydrating the tissues and discharging the water in the intertextual space, 0.5 gr of the powdered tissue sample was isolated and the acid digestion of the samples was carried out using 5 ml of concentrated nitric acid. To measure the levels of the heavy metals Cu, Zn and Fe a (Perkin Elmer 3030) atomic absorption spectrophotometer was employed. The results of measuring the concentrations of the heavy metals Cu, Zn and Fe in the muscle tissues of the *A. cuvieri* suggested that the mean and standard deviation were (6.32 ± 0.22 , 61.12 ± 0.14 and 4.86 ± 0.36) mg/kg dry weight during spring, respectively. The results of this study revealed that the Cu and Zn concentration in muscle tissues of *A. cuvieri* in study station were lower than the levels permitted within the standards of World Health Organization (WHO), Food and Agricultural Organization (FAO), National Health and Medical Research Council (Australia) (NHMRC), Ministry of Agriculture and Forestry and Fisheries UK (MAFF). But Fe concentration in muscle tissues of *Acanthopagrus cuvieri* in study station was higher than the level permitted within the standard of Food and Drug Administration (FDA). Hence, these two species will not pose severe general health risks to human consumers.

Keywords: Cu, Zn, Fe, Bushehr port, *Acanthopagrus cuvieri*.