

Heavy metals amount remained in the muscle and hepatopancreas of Chabahar Bay's Pharaoh Cuttlefish (*Sepia pharaonis*) compared to the global guidelines (WHO & FAO)

Amin Gholamhosseini¹

Nima Shiry^{2*}

Siyavash Soltanian³

Reza Salighehzadeh⁴

1,2,3,4. Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran

***Corresponding author:**

nimashiry@yahoo.com

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Abstract

The present study has been done to a determination of heavy metals chromium (Cr), lead (Pb), zinc (Zn), Cadmium (Cd), Iron (Fe), and nickle (Ni) residuals in Chabahar Bay's Pharaoh Cuttlefish (*Sepia pharaonis*) comparing to global guidelines. Therefore, 30 numbers of captured *Sepia pharaonis* by trawling from January to April 2018 have prepared from Chabahar port. Then, after the chemical digestion of the muscle and hepatopancreas samples by nitric acid and perchloric acid, the elements have been measured by atomic emission spectroscopy. Results showed that the minimum of accumulated metals was Cd (muscle), and the maximum was Fe (hepatopancreas) equal to 0.028 (± 0.004) and 7.83 (± 0.83) $\mu\text{g.g}^{-1}$ dry body weight. There was a significant difference between the concentration of Cr and Ni ($P < 0.05$). Also Cr, Pb, Zn, Cd, Fe, and Ni of the muscle were placed in the allowed standards range of FAO and WHO. Therefore, the muscle of Chabahar Bay's *Sepia pharaonis* was within the standard range of edible products in terms of the measured trace metals accumulation.

Keywords: Chabahar Bay, Pharaoh Cuttlefish (*Sepia pharaonis*), Muscle, Hepatopancreas, Heavy metals.