Nickel and cadmium concentrations in the coral family, Faviidae and surrounding sediments in the south of Qeshm Island, The Persian Gulf

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Abstract

The following research was conducted to determining the nickel (Ni) and cadmium (Cd) concentrations in skeleton of coral family (Faviidae) and sediments of dominant in Zeyton Park, Naz Islands and Shib-deraz stations, south of Qeshm Island –Persian Gulf in summer 2012. The analysis of these heavy metal levels in digested samples of skeleton and sediments was done using graphite furnace Atomic Absorbtion Spectophotometry (SHIMADZU, AA 670G) for Cd and Flame Atomic Absorption Spectophotometry (SHIMADZU, AA 670) Ni. The results indicated that there were significant differences in concentrations of Ni and Cd in skeleton of coral family (Faviidae) among Zeyton Park, Naz Islands Shib-deraz stations ($P<0.001$) and concentration of Ni and Cd in sediments of coral family (Faviidae) there are significant differences between Zeyton Park, Naz Islands and Shib-deraz stations ($P<0.05$ and $P<0.001$, respectively). There was a negative correlation between Ni concentration in Favidae coral and its surrounding sediments in Shib-deraz stations. Besides, there was statistical correlation in Cd concentration between coral family (Faviidae) in Zeyton Park and Shib-deraz stations. Coral Skeletons and sediments in the study area was not contaminated with heavy metals Ni and Cd compared to the results with universal standards. So, concerning the immense importance of coral ecosystem in the southern Qeshm Islands and the result of this research, corals can be suggested as a pollution biomonitor.

Keywords: Bioaccumulation, Heavy metals, Coral, Qeshm Islands, Persian Gulf.