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Investigation of Oyster (*Saccostrea cucullata*) as a Biomonitoring Agent of Pb, Cd, Zn and Cu in Intertidal Zones of Hormoz Island, the Persian Gulf

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Abstract

The concentrations of Zn, Cu, Pb and Cd in surface sediment, soft tissue and shell of oyster *Saccostrea cucullata* collected from three locations, in the intertidal zones of Hormoz Island of the Persian Gulf were measured. Concentrations of metals were determined by using Flame Atomic Absorption Spectrophotometer (FAAS). Results indicated that the mean levels of metals in the soft tissue and the shell were as Zn>Cu>Pb>Cd and Pb>Zn>Cu>Cd, respectively. Significant and positive correlations were found between Pb ($r = 0.97$, $P<0.05$), Cd ($r = 0.79$, $P<0.05$), Zn ($r = 0.99$, $P<0.01$) and Cu ($r = 0.77$, $P<0.05$) concentrations in the soft tissue of oyster and its concentration in the sediments. There was not a positive correlation across Pb levels in the shell of oyster and sediment. The percent Coefficient of Variation (CV %) for Pb within the shells were lower than for the soft tissues, whereas the CV% for Cu, Zn and Cd was lower in the soft tissue than in the shell. The results of this study suggest that the shell of *S. cucullata* as biomonitor for Pb and the soft tissue for Cu, Zn and Cd.

Keywords: *Saccostrea cucullata, Metals, Biomonitoring agent, Hormoz Island.*