QSCIENCE PROCEEDINGS

OPEN ACCESS

Qatar University Life Science Symposium–QULSS 2015
Global Changes: The Arabian Gulf Ecosystem

Environmental contamination in mangrove crustaceans inhabiting Qatari waters

Hassan Hassan*, Ibrahim-Al-Maslamani

*Environmental Studies Center, Qatar University, State of Qatar -Doha, P.O. Box: 2713

Corresponding author email address: almaslamani@qu.edu.qa

The increasing level of pollutants in the marine environment is a major concern in all countries, in particular where the main diet is seafood. The major goal of this project was to assess the level of pollution and their effects in three local species, namely blue crab (*Portunus pelagicus*), barnacle (*Balanus amphitrite*), and shrimp (*Palaemon khori*). Samples were collected from intertidal and subtidal zones at Al-Khor Bay.The levels of pollutants such as poly chlorinated biphenyls (PCBs), heavy metals, and methylmercury in tissues and water samples were determined by Gas Chromatography (GC) , Cold vapor atomic fluorescence spectrometer (CVAFS), and inductively coupled plasma optical emission spectrometry (ICP-OES).The results show that the concentrations of the contaminants were very low in the water (mostly below detection limits), but PCB congeners (2,2,3,5-Tetrachlorobiphenyl and 2,2,4,5,5-Pentachlorobiphenyl) in shrimp and crab tissues was at the detectable levels. Methylmercury was measured (1 ppb approximately) in all three species' tissues. The order of heavy metal concentrations in the tissues was Zn›Al›As›Mn›Cd›Mn›Ni›Cu›Mo ›V›Pb›Co for barnacles; Zn›Al›Ni›Mo›Mn›As for blue crab, and Zn›Fe›Ni›Mn›Cr›As›Cd›Pb›Co›V for shrimp. The data presented in this study reports the first ever estimated baseline of contaminants both in the marine environment (water) and in animal tissues from this particular study area of Qatar.

10.5339/qproc.2015.qulss2015.26

QSCIENCE.com
An Initiative of Qatar Foundation

Cite this article as Hassan Hassan, Ibrahim-Al-Maslamani, Environmental contamination in mangrove crustaceans inhabiting Qatari waters, Qatar University Life Science Symposium 2015, http://dx.doi.org/10.5339/qproc.2015.qulss2015.26