Heavy metals in gastropods from the intertidal zone along the Jordanian coast of the Gulf of Aqaba

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ABSTRACT

This study was carried out to investigate trace metal concentration in the gastropods *Cellana radiata*, *Nerita polita* and *Monodonta dama* from the intertidal zone of the Jordanian coast of the Gulf of Aqaba. The results obtained in the present study showed wide variation in the concentrations of the measured metals in the tissues of the different gastropod species even some that are closely related. The metal handling strategy of the gastropod species which are pending on different factors such as, feeding habits, morphology and ecology can at least partially explain the metal contents recorded.

The results showed a positive relationship between the measured metals in the three gastropods studied and size, except for Cu, Cd and Cr which showed a negative relationship. The results showed the presence of seasonal fluctuation in bioaccumulation of metals in different gastropod species. This could be attributed to several biotic factors like phytoplankton productivity and abiotic factors like temperature, pH and salinity.

Differences in the concentrations of metals have been observed between shell and soft tissues of the three species of gastropod studied, in which elements such as Cr was concentrated in shell while other metals are accumulated to higher concentrations in the soft tissues. Higher C.F was found for Mn, Cr, Pb, Zn and Fe in soft tissue of *Cellana radiata*, Cu and Ni in *Monodonta dama* and Cd only in the soft tissue of *Nerita polita*. Higher C.F was found for Cu, Cd, Ni, and Fe in shells of *Monodonta dama*, for Mn, Pb and Cr in *Cellana radiata* and Zn in *Nerita polita*.

Key words: Trace metals, Gastropods, Gulf of Aqaba, *Cellana radiata*, *Nerita polita*, and *Monodonta dama*. 