Relationships and comparative studies of heavy metals and organic PAH compounds in the soft tissues Perna viridis.

Abstract

Previous studies documented the background levels of heavy metals in the soft tissues of Perna viridis from the coastal waters of Peninsular Malaysia but the relationships and comparative studies of heavy metals and organic PAH compounds in P. viridis have not been documented in the literature. This paper focuses on the differences between the inorganic Cd, Cu, Pb and Zn and organic PAH compounds in the P. viridis collected from the coastal waters of Peninsular Malaysia. It was found that the behaviors of binding between the two compounds are different since marked different relationships were found between inorganiclipid and organic-lipid in which organic-lipid is highly related while there are weak and hardly any relationships found between inorganic-lipid since the heavy metals are known to bind to metallothioneins. Although binding behaviors are not similar, the soft tissues of P. viridis are good biomonitoring agent of PAH and Cd, Cu and Pb since marked elevation of both compounds is found at the polluted sites receiving port, industrial and urban effluents.

Keyword: Heavy metals; Mussels; PAH; Peninsular Malaysia.