

Distribution of heavy metals concentrations in the different parts of the clam *Polymesoda erosa*: The potentials as a biomonitor.

Abstract

The bivalve *Polymesoda erosa* were collected from Sepang Kecil River (Selangor), Parit Jawa (Batu Pahat) and Telok Mas (Malacca), located in the west coast of Peninsular Malaysia. The soft tissues of the clams were dissected into five parts: muscle, foot, mantle, gill and remaining soft tissues. The shells and the pooled dissected tissues were determined for heavy metal concentrations. It was found that gill accumulated the highest Cu followed by remaining soft tissues and mantle for all the three sites. Meanwhile, shell was found to accumulate the non-essential metals like Cd, Pb and Ni. For Zn, highest concentrations were found in the mantle and gill. On the other hand, there were no clear pattern was observed in the accumulation of Fe for all the six tissues. Different levels of metals in the different soft tissues of *P. erosa* indicated that the metal regulation in those tissues are different due to differences in binding sites at the metallothionein. Therefore, *P. erosa* can be a potential biomonitor of heavy metal bioavailability and contamination, as recommended by the Mussel Watch Program.

Keyword: Heavy metals; Biomonitor; *Polymesoda erosa*.