

The concentrations of heavy metals in different tissues of horseshoe crabs collected from intertidal areas of Johor, Peninsular Malaysia.

Abstract

Horseshoe crabs (*Tachypleus gigas*) were collected from the intertidal areas of Tampok, Pontian Besar and Kg. Pasir Puteh in Johore, in May 2007. They were dissected into five parts namely carapace, muscle (from foot), operculum, gills and fillet. For each site, the different tissues from the animals were pooled and triplicates of each category were determined for the concentrations of Cd, Cu, Fe, Pb and Zn. Based on the metal distribution patterns in the *T. gigas* from all the sites, four distinctive patterns were found. It showed that different tissues of *T. gigas* accumulated different levels of metals. The gills accumulated the highest concentrations of Fe, Cu, Pb and Cd while the carapace accumulated the lowest concentrations of Cd, Cu, Fe, Pb and Zn. Except for Cd, all of the metal levels in the fillet were similar. Finally, the elevated concentrations of Cd and Zn in the fillet indicated anthropogenic-induced bioavailabilities of Cd and Zn. These results are useful baseline data for future comparisons.

Keyword: Horseshoe crab (*Tachypleus gigas*); Heavy metals.