

Accumulation of trace metals in mussel *Perna viridis* transplanted from a relatively unpolluted site at Kg. Sg. Melayu to a polluted site at Kg. Pasir Puteh and to an unpolluted site at Sg Belungkor in the straits of Johore, Iran

ABSTRACT

In this study, the green-lipped mussels *Perna viridis* were transplanted from a relatively unpolluted site at Kg. Sg Melayu (KSM) to a known polluted site at Kg Pasir Puteh (KPP) and an unpolluted site at Sg. Belungkor (SB). Total soft tissues of mussels were determined for Ag, As, Be, Co, Cr, Cs, Hg, Li, Mn, Se, Sr and V by using an Inductively Coupled Plasma-mass Spectrometer. After transplantation periods (2 and 6 weeks) to KPP, concentrations of As, Co, Cr, Hg, Li, Be, V, Cs, Mn and Sr increased but the concentrations of Ag and Se decreased after transplantation of 2 and 6 weeks. This indicated that KPP is almost confirmed as having the highest bioavailabilities of the above 10 metals than KSM and SB. However, the higher levels of Ag and Se found in the transplanted mussels at KSM should be investigated in future studies. After transplantation periods (2 and 6 weeks) to SB, concentrations of Co, Cr, Hg, Be, V, Cs, Se, Mn and Sr decreased but the concentrations of Ag and Li increased after transplantation of 2 and 6 weeks. This verified that SB is suitable coastal water for depuration of Co, Cr, Hg, Be, V, Cs, Se, Mn and Sr. However, higher levels of Ag and Li at SB than KSM could be attributed to unknown pollution source in the surrounding area which should merit further studies.

Keyword: Mussels; Trace metals; Transplantation