

Accumulation of heavy metals in freshwater molluscs

Abstract

Heavy metals in the aquatic environment have to date come mainly from naturally occurring geochemical materials. However, this has been enhanced by human activity such as gold mining in the case of heavy metal pollution in Sg Sarawak Kanan. The high suspended solid loads in the river have quite efficiently removed most soluble metals from the water and trapped them in the bottom sediment. Three freshwater mollusc species were collected at the point source of the heavy metal pollutants and analysed for the heavy metal contents in their tissues and shells. Two of the mollusc species (*Brotia costula* and *Melanoides tuberculata*) are purely freshwater species while the *Clithon* sp. are the edible species which are sold in the market. Accumulation of As, Cu, Fe, Se and Zn in all the three mollusc species were determined and the level of As in the tissues of *Brotia costula* and the *Clithon* sp. was much higher than the permissible level for human consumption. The mollusc species also demonstrated different preferences for the uptake of different metals. Variations in the heavy metal contents in the shell and tissues of the same species were also observed.