

## **Distribution of heavy metals in edible bivalve *Donax faba* collected from Pasir Panjang: a health risk assessment**

### **ABSTRACT**

The mudflat bivalve *Donax faba*, locally known as Lala, were collected from the intertidal area from Pasir Panjang, Negeri Sembilan, Malaysia. The collected bivalve were separated into five different tissue parts (remainder, muscle, foot, siphon, mantle, and gill) and together with their shells, were analyzed for the content of Cd, Cu, Ni, Fe, Pb and Zn. From this study, the Cu concentrations in the soft tissues of the bivalve are in the decreasing order of gills>remainder>mantle for all the three sampling sites. For Zn, the highest concentrations of this metal were recorded in mantle and gill of the species. Non-essential metals, such as Cd, Pb, and Ni were found to be high accumulated in the shells. However, no clear pattern of Fe accumulation was observed in all the tissues in this study. For health risk assessment, all the Target Hazard Quotient (THQ) values for both Average Consumer (AC) and High Consumer (HC) for all six metals in this study were below one except for Cd for HC. Therefore, the bivalve found in Pasir Panjang is safe to be consumed as according to the THQ values ( $<1$ ), but the consumption should be in moderation as the THQ values were above one for Cd HC.

**Keyword:** Different tissues; Biomonitor; Bivalves; Heavy metals

