

## **Heavy metals in barnacles *Balanus* sp.: from biomonitoring to coastal management**

### **ABSTRACT**

This study determined the levels of Cd, Cu, Fe, Ni, and Zn in the soft tissues and shells of barnacles (*Balanus* sp.) collected from the Kuala Juru, Sebatu, Sg. Ayam and Kg. Pasir Puteh, Peninsular Malaysia, obtained in 2008. The metal concentrations ( $\mu\text{g/g}$  dry weight) in the soft tissues of *Balanus* sp. received from four sites in Peninsular Malaysia ranged from 2.93-4.17 for Cd, 20.2-92.5 for Cu, 480-1193 for Fe, 6.40-18.0 for Ni, and 224-414 for Zn. Based on the present data, the trace metal bioavailability's to the *Balanus* in all the populations, especially in a known polluted site at Kg. Pasir Puteh is low. Overall, this preliminary baseline data can be used for regular ecological monitoring for the effective management of the coastal area in Malaysia.

**Keyword:** Barnacles; Heavy metals; Coastal waters of peninsular Malaysia