

Metals in the tissues of the East Java Coast Indonesian green mussel (*Perna viridis* Linnaeus, 1758) and associated health risks

ABSTRACT

The occurrence of Hg, Cu, Cr, Cd, Pb, and Zn in green mussels (*Perna viridis* Linnaeus, 1758) collected along the East Java Coast (EJC), Indonesia, is reported in this study. Cu>Zn>Pb>Cr>Cd>Hg was the sequence of metal concentrations in green mussel whole tissues. Green mussel tissues at several locations along the EJC accumulated Cd and Pb levels that exceed the recommended level for consumer and the provisional weekly tolerable intake (PTWI). The Target Hazard Quotients (THQs) for Cd and Pb were greater than one in several places, suggesting that these metals could be harmful to consumers (particularly non-carcinogenic impacts). Cr levels in green mussels from several locations exceed the PTWI and THQ requirements. This finding suggests that eating mussels from this coastal area could be harmful to human health. Furthermore, the TR values for Cr and Cd in some sites were greater than 10–4, indicating that these metals can cause cancer in people over the course of a lifetime of exposure.