Heavy metal concentration in horseshoe crab (Carcinoscorpius rotundicauda and Tachypleus gigas) eggs from Malaysian coastline

ABSTRACT

The level of trace elements (Cu, Zn, Fe, Ni, Pb, and Cd) was measured in eggs of horseshoe crabs, Carcinoscorpius rotundicauda, and Tachypleus gigas, from Malaysia. The concentrations (εg/g wet weight) of these elements in C. rotundicauda eggs ranged from 18.84 to 65.44 for Cu, 34.65 to 104.08 for Zn, 4.497 to 75.95 for Fe, 1.88 to 11.17 for Ni, 0.52 to 3.64 for Cd, and non-detectable for Pb. The level of these elements in T. gigas eggs was from 30.54 to 120.32 for Cu, 46.34 to 88.96 for Zn, 21.88 to 88.96 for Fe, 4.71 to 7.82 for Ni, 0.02 to 4.11 for Cd, and 10.00 to 25.84 for Pb. C. rotundicauda eggs showed significantly higher amounts of trace elements except for Ni and Cd. The heavy metals analyzed were higher than the range of permissible limit for human consumption.

Keyword: Horseshoe crab eggs; Heavy metal