

**Allometry relationship of mangrove horseshoe crab, *Carcinoscorpius rotundicauda*
from the West Coast of Peninsular Malaysia**

ABSTRACT

Carcinoscorpius rotundicauda is mangrove horseshoe crab that inhabit in mudflats ecosystem. The values information on morphometric variability of *C. rotundicauda* is still limited especially along west coast of Peninsular Malaysia. A total of 148 samples of *C. rotundicauda* were collected randomly from Merlimau, Melaka and Pendas, Johor characterized by different environmental conditions in order to study the intraspecific variations using allometry relationship. Body weight for male *C. rotundicauda* was 80.02 ± 21.71 g and female was 141.17 ± 54.56 g in Merlimau while in Pendas, the mean for body weight in male was 110.78 ± 39.27 g and female was 177.05 ± 70.98 g. All morphometric parameter were converted into logarithmic value as allometric growth analysis. An isometric allometry growth ($b=3$) was recorded in the relationship between length-weight for female in Pendas and width-weight for female in Merlimau population. The length/width-length relationships were recorded as an isometric growth ($b=1$) except for width-length and length-length relationships of male in both population. Overall performance showed that increment in all body parts of female *C. rotundicauda* showed better growth than males. Follow up study on the relationship of horseshoe crab population growth are needed in developing strategies on monitoring, conservation and breeding of horseshoe crab.

Keyword: Morphometric; Allometric; *Carcinoscorpius rotundicauda*; Peninsular Malaysia