

## **Population dynamics of mantis shrimp, *Harpiosquilla harpax* in the coastal waters of Pantai remis, Perak, peninsular Malaysia**

### **ABSTRACT**

This study estimated the length-weight relationship, sex ratio and population parameters of mantis shrimp, *Harpiosquilla harpax* from the coastal waters of Pantai Remis, Perak, Malaysia between February 2012 and October 2012. Total length and weight of 804 specimens of *H. harpax* were measured and the sex ratio was 1: 0.83 (M: F). Males of *H. harpax* were dominant over the females throughout the study period. The value of relative growth coefficient ( $b$ ) for *H. harpax* was 2.698 for males and 2.884 for females. For the length-weight relationship, the species exhibited negative allometric growth for males, females and combined sexes. The  $L_{\infty}$  and  $K$  of *H. harpax* was 18.38 cm and 1.10 yr<sup>-1</sup> for males and 21.53 cm and 0.75 yr<sup>-1</sup> for females. The growth performance index ( $\phi'$ ) was calculated as 2.57 for males and 2.54 for females. Total mortality ( $Z$ ), natural mortality and fishing mortality was found to be 4.084 yr<sup>-1</sup>, 2.247 yr<sup>-1</sup> and 1.837 yr<sup>-1</sup> for males whereas 3.259 yr<sup>-1</sup>, 1.674 yr<sup>-1</sup>, 1.585 yr<sup>-1</sup> for females, respectively. The recruitment pattern of the species was continuous throughout the year for males and females. The exploitation level ( $E$ ) of *H. harpax* was estimated at 0.449 for males and 0.486 for females. It is revealed that the stock of *H. harpax* was very close to optimum level of exploitation ( $E = 0.50$ ) in the coastal waters of Pantai Remis, Perak, Malaysia.

**Keyword:** *Harpiosquilla harpax*; Condition factor; Sex ratio; Recruitment; Exploitation