

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_{∞} and K of *H. harpax* was 18.38 cm and 1.10 yr⁻¹ for males and 21.53 cm and 0.75 yr⁻¹ for females. The growth performance index (ϕ') 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⁻¹, 2.247 yr⁻¹ and 1.837 yr⁻¹ for males whereas 3.259 yr⁻¹, 1.674 yr⁻¹, 1.585 yr⁻¹ 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