Population dynamics of sergestid shrimps Acetes japonicus in the estuary of Tanjung Dawai, Kedah, Malaysia.

ABSTRACT

Population parameters of male and female A. japonicus were studied using the monthly length frequency data to evaluate the mortality rates and its exploitation level. The sex ratio (male: Female) was found at 1: 0.94. Asymptotic length ($L\infty$) was 25.20 mm and 28.88 mm for male and female, respectively. Growth co-efficient (K) for males and females was estimated at 1.80 and 1.30 year-1, respectively. Total mortality (Z) was calculated at 5.98 and 4.44 year-1 for male and female of A. japonicus respectively. Natural mortality (M) was 2.82 and 2.19 year-1 for the male and female shrimps. The fishing mortality (F) was 3.16 year-1 for male and 2.25 year-1 for female. Exploitation level (E) for male and female of A. japonicus was calculated at 0.53 and 0.51. The exploitation level was slightly over (E>0.50) the optimum level of exploitation (p = 0.50). The stock of A. japonicus was found to be slightly over exploited in Tanjung Dawai estuarine waters.

Keyword: Population dynamics; Shrimps; Acetes japonicus; Peninsular Malaysia.