

Population structure, growth, mortality and yield per recruit of segestid shrimp, *Acetes japonicus* (Decapoda: Sergestidae) from the coastal waters of Malacca, Peninsular Malaysia

ABSTRACT

Present study consists the population structure, growth, mortality and relative yield recruit of *A. japonicus* from the coastal waters of Malacca, Peninsular Malaysia. FISAT software has been used to examine the monthly data. The asymptotic length (L_a) and growth co-efficient (K) was estimated as 29.08 mm and 1.4 y^{-1} . The growth performance index (ϕ) was calculated as 3.073. The exponent (b) of the length-weight relationship was found to be 3.063 (± 0.015). The asymptotic weight was calculated as 187.72 mg. Total mortality coefficient (Z) was estimated at 5.16 yr^{-1} . The natural mortality (M) and fishing mortality (F) was calculated as 2.35 yr^{-1} and 2.81 yr^{-1} , respectively. Exploitation rate (E) of *A. japonicus* was estimated as 0.54. The recruitment pattern was continuous throughout the year with one major peak. The relative yield per recruit analysis predicted the maximum exploitation rate (E_{max}) = 0.52. The current exploitation rate E is slightly higher than predicted E_{max} . The stock of *A. japonicus* was found to be over exploited in the investigated area.

Keyword: Population dynamics, *Acetes Japonicus*, Malaysia