

On the biology and basic characteristics of the population dynamic of the dog conch, *Strombus canarium* Linnaeus, 1758 (Strombidae)

ABSTRACT

Strombus canarium Linnaeus, 1758 is among the important gastropod fishery within the western Johor Straits, Malaysia. In this study, systematic random samplings using belt transect were conducted from January to December 2005. Shell-length data were grouped into different sexes and length-classes of 2 mm intervals. Overall ratio of males to females was 1:1.73, which was not significantly deviated from the expected 1:1 ($P > 0.05$). The population structure was analyzed using the Length-based Fish Stock Assessment (LFSA) protocol in FiSAT (FAO-ICLARM Stock Assessment Tools) software package. Both males and females were highly polymodal in monthly length-frequency distributions. Sexual dimorphism was evident within the population. Specific cohort growth parameters found higher asymptotic length (L_{∞}) and growth constant (K) in females compared to the males. The mean L_{∞} was 62.90 ± 3.68 mm in males and 69.73 ± 0.80 mm in females, while the mean K was 1.10 ± 0.15 yr⁻¹ in males and 1.40 ± 0.10 yr⁻¹ in females. The higher growth rates and faster growth to marketable size, combined with all year round recruitment indicated great potential for introduction into aquaculture. However, further studies are greatly needed in assessing actual growth and other parameters of this important gastropod species.

Keyword: ELEFAN-I; VBGF growth parameters; Population ecology