

Effects of temperature on food consumption of juveniles dog conch, *Laevistrombus canarium* (Linnaeus, 1758) in laboratory condition

ABSTRACT

The dog conch, *Laevistrombus canarium* (Linnaeus, 1758) is one of the economically important marine molluscs that have high market value, particularly in the Southeast Asian region. This study investigates food consumption and assimilation by the juvenile conch at different temperature regimes (22, 26, 30 and 34°C). Live samples of the juvenile conch were collected on several occasions between December 2013 to May 2105 at Merambong shoal, Johor Straits, Malaysia. They were acclimatized for one week in stocking aquaria with well-aerated seawater at 30 PSU, 26°C and fed with commercial marine sinking pellets. Prior to experimentation, the gastric emptying levels of the samples were standardized by allowing them to feed until satiation, followed by 24 hrs starvation. All treatments were carried out in ten replicates of similar sized aquarium (20 x 15 x 15 cm) containing 4L of aerated seawater. The conch food consumption rate was significantly different ($p < 0.05$) between different temperature regimes. The food absorption efficiency was also affected by different temperature regimes ($P < 0.05$), and ranged between 50.14% to 73.76%. The food energy absorbed were then calculated, which showed significant variations between temperatures ($P < 0.05$). Based on these calculations, higher food consumption and assimilation were recorded at 26°C followed by 30, 34 and 22°C. Results from this study allow us to predict the optimal temperature regimes (26°C) for the culture of these marine sea snail *L. canarium*. Further studies are indeed, needed to provide a better insight on the effect of climate change parameters on these species.

Keyword: *Laevistrombus canarium*; Conch; Feeding; Absorption efficiency; Temperature regimes