

Variation of growth and proximate composition in *Portunus pelagicus* juveniles fed with selected feeds in recirculating aquaculture system (RAS)

ABSTRACT

Aim: The experiment was conducted to determine the suitability of using scad fish, Acetes shrimp and common squid for the direct and indirect application as diets for the juvenile rearing of the blue swimming crab *Portunus pelagicus*. **Methodology:** A total of 54 crab juveniles with an initial weight of 2.46 ± 0.94 g were randomly stocked in triplicate at 6 crabs per 60 l tank (0.26 m²) experimental units and fed twice daily with three different types of feed namely scad fish, squid tissue and frozen Acetes shrimp for a period of 31 days. **Results:** At the end of the trial, ammonia and nitrite-nitrogen compound were significantly higher in Acetes shrimp fed group. It is found that final body weight (g) of *P. pelagicus* was significantly higher when fed with squid, however no significant differences were noticed between scad fish and Acetes shrimp fed groups. The whole body proximate composition was similar in all the diet fed individuals except the level of lipid which was higher in squid compared to scad fish and Acetes shrimp. Significantly ($p < 0.05$) better food conversion ratio (FCR) was observed in juvenile crab fed with squid even though scad fish possessed the highest crude protein of 83.33%. **Interpretation:** Overall, the results suggested that squid meal could be recommended for *P. pelagicus* juvenile culture. Hence, squid meal may be incorporated in crab artificial diet as protein source to attain better survival and growth.

Keyword: Captive culture; Growth rate; Survival rate; Water quality; *Portunus pelagicus*