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**Effects of dietary phospholipids extracted from snails (*Buccinum striatissimum*) on the growth performance, stress resistance, immune response, and fatty acid composition of juvenile kuruma shrimps, *Marsupenaeus japonicus* (Bate)**Amina S Moss<sup>1</sup>, Shunsuke Koshio<sup>1</sup>, Manabu Ishikawa<sup>1</sup>, Saichiro Yokoyama<sup>1</sup>, Truong H Nhu<sup>1</sup> and Mahmoud A O Dawoud<sup>1,2</sup><sup>1</sup>Kagoshima University, Japan<sup>2</sup>Kafrelsheikh University, Egypt

To determine the effects of supplementing phospholipids (PL) derived from marine snails, *Buccinum striatissimum*, into the diets of juvenile kuruma shrimps (*Marsupenaeus japonicus*), a 40-day feeding trial was conducted. Five triplicate diets were formulated to contain varying levels of snail PL at 0%, 0.5%, 1%, 1.5%, and a negative control, where only Pollock liver oil was supplemented. Juvenile kuruma shrimps (initial body weight 1.96±0.14 g) were placed into 15-20 L capacity rectangular polyvinyl chloride tanks, with stocking density 10 shrimps per tank. The results showed that supplying 1% and 1.5% snail PL significantly improved growth in kuruma shrimps. Apparent feed efficiency ratio, specific growth rate and apparent protein efficiency ratio were significantly improved in diets that were supplemented by snail PL ( $P<0.05$ ). Shrimps fed 1.5% snail PL had a significantly higher protein content ( $P<0.05$ ) than other treatment groups. Stress resistance was also significantly higher in shrimps fed diets containing 1% and 1.5% snail PL, however no significance was found when comparing with the negative control. Furthermore, shrimps fed diets containing 0.5% and 1% snail PL had significantly higher amounts of total hemocytes count ( $P<0.05$ ) than the negative control, while shrimps fed with 1% snail PL had significantly higher viable cells than the negative control ( $P<0.05$ ). Higher levels of highly unsaturated fatty acids, especially C22:6n3, were found in shrimps fed with 1% and 1.5% of snail PL compared with other treatments ( $P<0.05$ ). These results suggest that supplementing 1-1.5% snail PL was efficient in enhancing the growth, stress resistance, protein efficiency ratio and to some extent the immune response in juvenile kuruma shrimps.

**Biography**

Amina S Moss has graduated from the College of Bahamas with a Bachelor's degree in Biology minor in Chemistry, and has obtained her Master's degree in Fisheries Sciences from Kagoshima University, Japan by researching the use of marine snails in the feeds of Kuruma shrimps. Continuing with her passion in aquaculture and finding ways to use natural Bahamian resources to feed kuruma shrimps, she hopes to find optimum ways to grow marine shrimps and lobsters with locally available ingredients, including mollusks.

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