

Benthic meiofaunal predation and composition in the tiger shrimp *Penaeus monodon* culture ponds, Malaysia

ABSTRACT

The tiger shrimp *Penaeus monodon* fabricius assumed a predator of meiofaunas (536500mm) in addition to the larger benthic macrofaunas (>1000mm) in the culture pond. The natural selection of benthic meiofaunas as a food source by shrimps was indicated throughout the study period. Twenty species of benthic meiofaunas were found in the culture ponds, which included harpacticoid copepoda, ostracoda, gastropoda, crustacean nauplii, nematoda, bivalvia, polychaeta and insecta. No significant difference (ANOVA, $p > 0.05$) was observed for the quantitative results of the benthic meiofaunas between aged and new ponds sampled. Copepoda was the dominant group throughout the culture period in both aged (19.99644.22 indivi/10cm²) and new ponds (4.03613.01 indivi/10cm²). This was followed by insecta (10.57623.50 indivi/10cm²), polychaeta (6.89615.31 indivi/10cm²) and nematoda (6.44614.31 indivi/10cm²) in aged ponds. In new ponds, nematoda (2.6162.73 indivi/10cm²) was found to be the second dominant species followed by insecta (0.5460.56 indivi/10cm²). A major trend of variation of total benthic meiofaunas was observed during the culture period leading speculations that culture shrimps preyed them as a live or dead food together with supplemental diet and detritus. In addition, soil organic matter, growth performance of shrimps and water quality data were also observed and compared.

Keyword: Meiobenthos; Shrimp pond; Aquaculture; Malaysia