

Zooplankton community structure in the tiger shrimp (*Penaeus monodon*) culture pond at Malacca, Malaysia

ABSTRACT

In aquaculture pond, zooplankton offer themselves as food to culture organism like shrimp. Biomass and productivity of zooplankton in different size ranges are important factors modifying the productivity of higher trophic-level organisms as well as production of culture. In this view point, the composition of zooplankton was investigated in shrimp culture ponds for one culture cycle in the tropics. Zooplankton abundance did not differ significantly between old and new culture ponds. The major groups of zooplankton were copepods, rotifers, sergestidae, lucifer, gastropod larvae, bivalve larvae, pelagic polychaetes, nematodes, crustacean nauplii, insects and mysidacea. Among these, copepods (51.69-53.57%) and crustacean nauplii (28.39-41.81%) were the dominant groups in all culture ponds. Zooplankton density increased by >46% at the end of the culture period in all ponds probably due to the recruitment of zooplankton through reproduction in the ponds over time. The findings of this study suggests that zooplankton composition in culture ponds appeared to be an important source of food and nutrition for shrimp post larvae, at least for earlier period (1-4th week) after the ponds are stocked, hence managing of zooplankton density prior to stocking of post larvae in the culture pond is important.

Keyword: Aquaculture pond; Composition; Malaysia; Zooplankton