The Living Fossil (Horseshoe crab)

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Table of Contents

CHAPTER -13

In-vitro study on the effect of salinity on the hatching success of Malaysian Horseshoe crab eggs

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Abstract

We studied the effect of salinity on duration to maturation and hatching success of their eggs.. Eggs of *Tachypleus gigas* were collected from the newly nests made on breeding beach of Pekan, Pahang (Lat 3° 56.915'N; Long 103°21.933' E) in Peninsular Malaysia. Triplicates of five different salinities (15, 20, 25, 30 and 35 ppt) were chosen for the experiments. A vernier caliper was used for size measurement under a stereo microscope. The morphological changes in prosomal width and length, body length, telson length, opisthosoma length and total length were recorded. Salinity range of between 25 and 35 ppt could be an optimal incubation condition. No egg hatched at salinity 15 and 20 ppt. Highest percentage of hatching was found at 30 ppt (91.11±5.57%). Hatching also occurred at 25 and 35 ppt with 65.56±1.73% and 74.4±2.31% success rate, respectively.

Key words: Nesting ground, horseshoe crab, *T.gigas*, egg hatching success, tolerable larvae.

Introduction

Among the extant four species of horseshoe crabs, *Limulus polyphemus* distribution is restricted to American coast line while other 3 species namely *Tachypleus gigas*, *T.tridentatus* and *Carcinoscorpius rotundicauda* abundance and distribution is noted in south east asian countries including Malaysia. Malaysian horseshoe crab nesting grounds were noted in both east and west