

# The Living Fossil (Horseshoe crab)

**Kamaruzzaman Yunus**

**Akbar John**

**Ahmed Jalal Khan Chowdhury**

**Zaleha Kassim**



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**Editors,**

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## CHAPTER - 8

### **Macrobenthic diversity at the Horseshoe Crab nesting ground, Balok station, Pahang, Malaysia – Part 1**

**Nasihin, S., Jalal, K.C.A., Akbar John, B., Kamaruzzaman, B.Y.**

*Institute of Oceanography and Maritime studies (INOCEM), Kulliyah of Science,  
International Islamic University Malaysia, Jalan Sultan Ahmad Shah,  
Bandar Indera Mahkota, 25200, Kuantan Pahang, Malaysia*

#### **Abstract**

A complete year data on the diversity and distribution of major macrobenthic community along the horseshoe crab nesting ground in Balok station was studied. Here we present the monthly and seasonal variation in the macrobenthic community along the balok station during full moon days. Monthly variation in the diversity of macrobenthos at Balok station during full moon days showed that Highest diversity during June 2010 (Shannon  $H' = 0.673$ ; Simpson  $1/D = 4.554$ ) followed by Sep-10 ( $H' = 0.663$ ;  $1/D = 4.431$ ) while the lowest diversity was recorded during Mar-10 ( $H' = 0.545$ ;  $1/D = 2.916$ ). In general, there was a significant variation in the macrobenthic diversity was observed between monsoon and non-monsoon period ( $p < 0.05$ ). Margaleff and Mackintosh richness indexes showed that the species richness was higher during Feb-2011 (Margaleff  $d = 1.748$ ; McIntosh  $D = 1.067$ ) followed by Dec-10 ( $d = 1.691$ ;  $D = 1.063$ ) and Nov-10 ( $d = 1.655$ ;  $D = 1.06$ ). The macrobenthic richness was lower during May-10 ( $d = 1.28$ ;  $D = 1.027$ ). As observed in diversity of Macrobenthos, richness was also higher during monsoon period compared to non monsoon time. Berger-Parker Dominance ( $1/d$ ) index showed that species dominance was higher during June-10 ( $1/d = 3.795$ ) followed by Sep-10 ( $1/d = 3.757$ ) and it was lower during Mar-10 ( $1/d = 2.109$ ). There was no significant variation in the evenness was observed during sampling period which showed the homogeneous distribution of species round the year. Shannon diversity index value ( $H' = < 1.1$ ) clearly showed that the macrobenthic diversity along the nesting grounds of horseshoe crabs are under greater pressure.

**Key words:** Horseshoe crab, Macrobenthos, Nesting ground, Balok station, Diversity Indices.