

Genetic diversity of horseshoe crab (*Tachypleus gigas*) in Malaysia revealed using microsatellite markers.

ABSTRACT

The genetic structure of horseshoe crab (*Tachypleus gigas*) populations were examined using 18 microsatellite markers. Samples were collected from 2 stations of east coast of Peninsular Malaysia and one station from East Malaysia. All the observed allelic frequency showed no significant variation between sampling stations ($p>0.05$). Mean allelic richness (A_r) was greater in Sarawak population (4.83) followed by Pahang (4.24) and Terengganu (3.57) samples with the overall mean allelic richness of 4.21. Mean inbreeding coefficient (FIS) value was higher in Sarawak population (0.37) followed by Terengganu (0.31) and Pahang population (0.17). The genetic differentiation (F_{ST} value) and genetic distance between geographically closer populations was smaller compared to geographically isolated populations. Due to the dwindling population size of horseshoe crabs in Malaysian coast line, present data provides new information in assisting proper management and conservation of this living fossil.

Keyword: Horseshoe crab; Fishery management; Microsatellite markers; *Tachypleus gigas*; Population genetic.