Macrobenthic community at nesting grounds of horseshoe crabs (*Tachypleus gigas* and *Carcinoscorpius rotundicauda*) at Pahang coast, Malaysia.

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

Institute of Oceanography and Maritime Studies, Kulliyyah of Science,

International Islamic University Malaysia, Bandar Indera Mahkota,

25200 Kuantan, Pahang, Malaysia.

Presenter : Akbar John

ID: LSP-35

INTRODUCTION

1. **Macrobenthos** consists of the organisms that live at the bottom of the water column and are visible to the naked eye (usually >0.5mm in size)
2. About 80% of the benthic organisms are Epifauna that are living on or are attached to the surface of rocky areas or firm sediments play an important role in ecosystem processes such as nutrient cycling, pollutant metabolism, dispersion and burial, and in secondary production
3. Macro invertebrate species offers a spectrum of responses to environmental stresses and a broad range of responses to different pollutants
4. The food preferences of horseshoe crabs are well studied from the wild environment while the similar studies are still scanty along their nesting grounds

Major groups of Macrobenthos

RESULTS

Table 1: Macrobenthic diversity along the sampling stations at full and New moon days

	Balok		Pekan	
Diversity Indices	**Full moon**	**New moon**	**Full moon**	**New moon**
Shannon H' Log Base 10.	**0.998**	**1.03**	**1.019**	**1.026**
Shannon J'	**0.925**	**0.954**	**0.944**	**0.951**
Simpsons Diversity (D)	**0.111**	**0.101**	**0.105**	**0.104**
Simpsons Diversity (1/D)	**9.009**	**9.901**	**9.524**	**9.615**
Margaleff M Base 10.	**2.756**	**2.881**	**2.992**	**3.066**
Mackintosh Diversity (D)	**1.01**	**1.012**	**1.015**	**1.016**
Berger-Parker Dominance (d)	**0.136**	**0.139**	**0.155**	**0.157**
Berger-Parker Dominance (1/d)	**7.33**	**7.169**	**6.47**	**6.384**

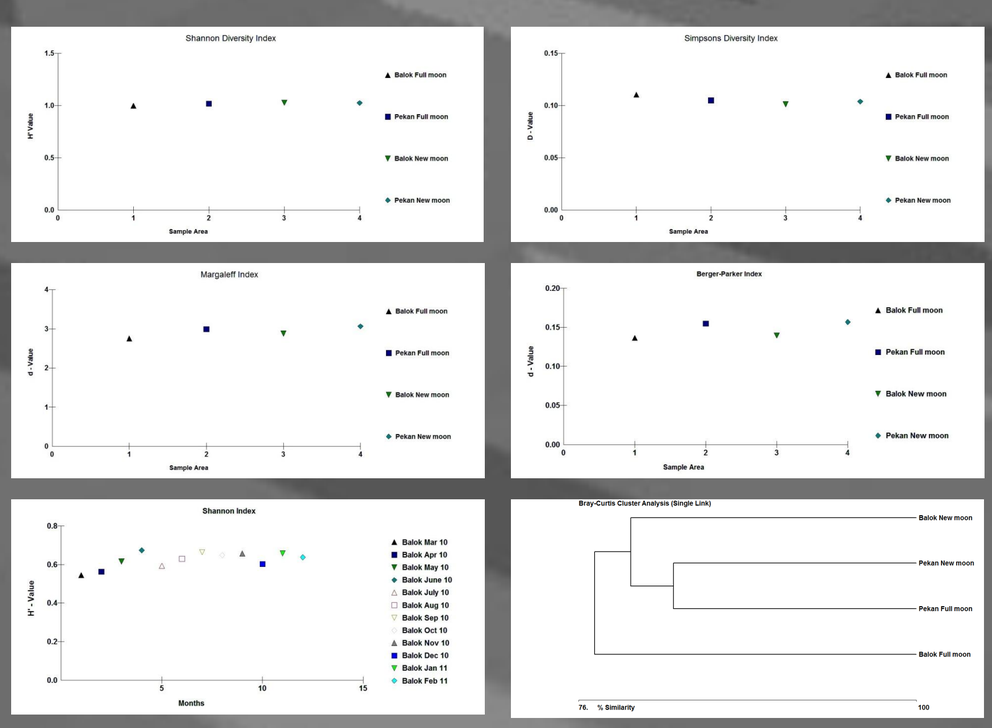
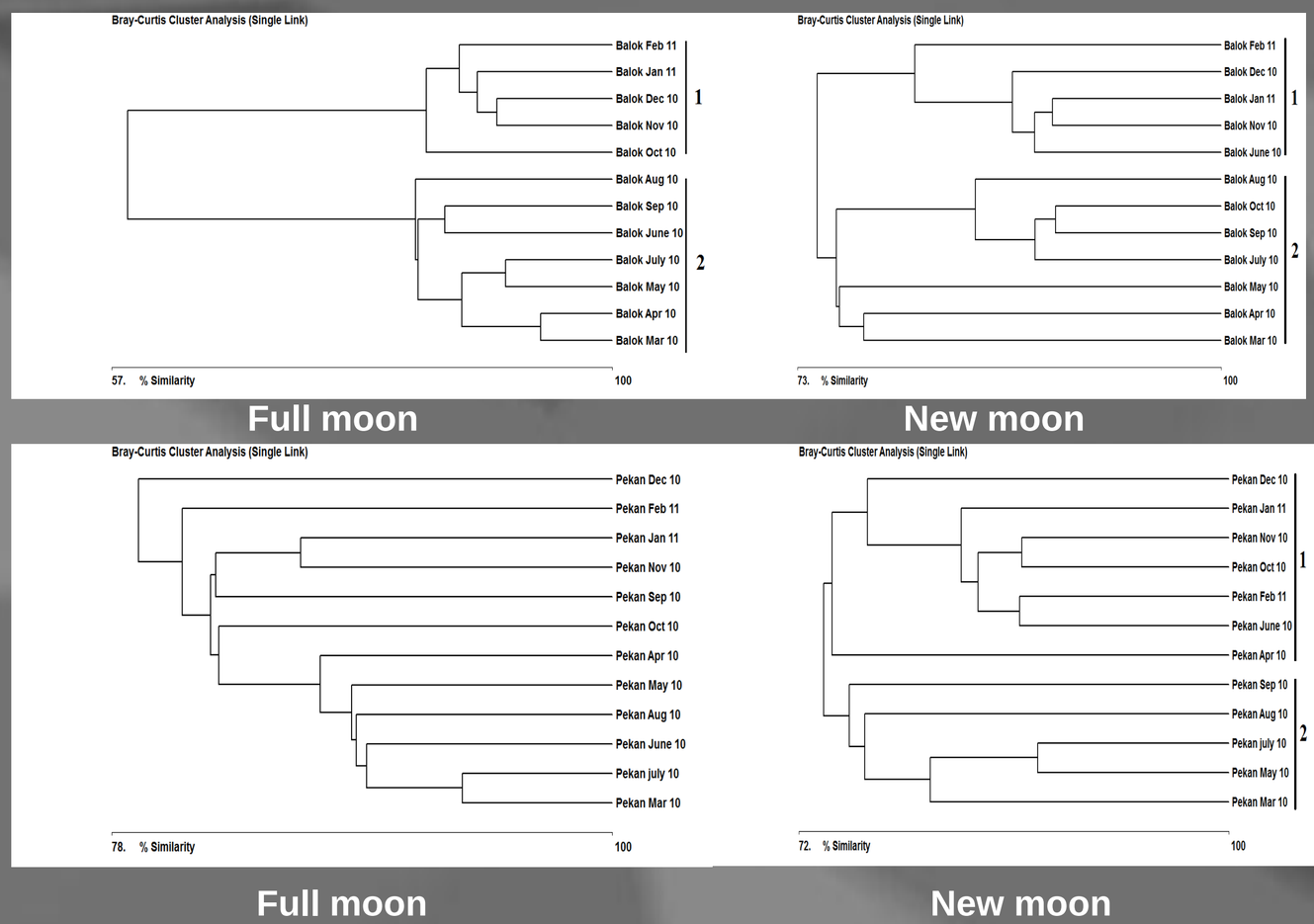


Fig 1: Graphical representation of different diversity indices

Table 2: percentage of species similarity between sampling area

	Balok Full moon	Pekan Full moon	Balok New moon	Pekan New moon
Balok Full moon	*	**65.3457**	**77.1345**	**56.3017**
Pekan Full moon	*	*	**79.7036**	**82.7338**
Balok New moon	*	*	*	**73.9983**
Pekan New moon	*	*	*	*



Discussion

1. The influence of lunar cycle on the diversity of macrobenthic assemblages at 2 sampling stations showed that diversity was higher during new moon (NM) days at Balok station (H' = 1.03; Simpson 1/D = 9.901) followed by Pekan station (H'= 1.026; Simpson 1/D = 9.615). Lowest diversity was observed during full moon (FM) days at Balok (H' = 1.019; Simpson 1/D = 9.524) followed by Pekan (H' = 0.998; Simpson 1/D = 9.009) station.
2. There was no much fluctuation in diversity of macrobenthos observed during monsoon and Non-monsoonal periods in both the sampling sites.
3. Shannon diversity value (≤ 1) proved the degradation of habitat structure in both Balok and Pekan.