BIODIVERSITY OF CORAL REEF FISH IN PULAU PINANG, PULAU PERHENTIAN, TERENGGANU

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BIODIVERSITY OF CORAL REEF FISH IN PULAU PINANG, PULAU REDANG, TERENGGANU.

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ABSTRAK

Kajian awal terhadap ikan terumbu batu karang di kawasan Pulau Pinang, Pulau Redang telah dijalankan dengan memilih 6 kawasan kajian bagi mewakili keseluruhan Pulau Pinang, Pulau Redang. Tujuan kajian ini adalah untuk melihat kepelbagaian spesies di sekitar Pulau Pinang, Pulau Redang dan beberapa factor yang menentukan taburan. Penekanan diberikan kepada kawasan yang mengadap angin monsoon timur laut (St.4 dan St.5) dan kawasan yang terlindung daripada angin monsun timur laut (St1 dan St.2). Sebanyak 43 spesies,11 famili dan 12,458 ekor ikan telah diperhatikan semasa kajian tersebut. Species ikan yang hidup secara berkumpulan seperti *Abudefduf vaigeinsis*, *Apogon fragilis*, *Thalasoma lunare*, *Chomis analis*, *Neopomacentrus violascens*, *Scarus ghobban* dan *Neoglyphidodon melas* merupakan spesies-spesies utama di kawasan-kawasan kajian. Bagi kategori batu karang pula sebanyak 6 kategori batu karang iaitu "coral branching"(CB) 17.3%, "Coral tabulate" (CT) 9.3% , "Rubble coral" (RB) 13.0% , "Dead coral" (DC) 12.35% and "Others" (OT) 7.52% dan "sand" = 6.86%. Sebanyak 785 ekor pada Stesen 4 dan 1006 ekor di Stesen 5 manakala litupan karang pula hanyalah 30-40% sahaja berbanding dengan kawasan yang terlindung (Stesen 1 dan 2) yang mempunyai 70-80% litupan karang pada keluasan transect 250 m^2. Stesen 6 mempunyai kepelbagaian spesies ikan dan karang hidup yang tinggi iaitu 38 spesies ikan (2,795 ekor) dan 67.0% liputan karang. Kawasan ini adalah satu-satunya mempunyai coral lembut dari jenis "sea anemone", kawasan ini mempunyai arus di permukaan dan dasar kerana ianya merupakan

kawasan laluan arus, pasang-surut dan laluan bot atau feri antara pulau Redang dan Pulau Pinang. Daripada Index Shahnon pula menunjukkan stesen 2 dan 6 mempunyai kepelbagian yang tinggi iaitu masing-masing pada nilai 0.157 dan 0.146. Hubungan antara Index Shahnon dengan taburan ikan boleh ditunjukkan melalui persamaan $Y = 6E\text{-}05x + 0.0086$ dimana $R^2 = 0.9479$ Perbandingan antara spesies ikan, saiz ikan dan categories karang telah diuji melalui statistik dan hasilnya adalah "significant" ($p>0.05$) terutamanya pada famili Pomacentridae dan Labridae dimana hampir 70% ikan dari famili Pomacentridae ditemui di kawasan karang hidup dan lebih daripada 60% daripada famili Labridae ditemui di kawasan karang mati/"rubble coral" dan kebanyakan ikan bersaiz besar (18 cm-32cm) adalah dijumpai dikawasan "rubble coral" dan karang mati.

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ABSTRACT

A preliminary study on coral reef fishes surrounding Pulau Pinang, Pulau Redang Marine Park have been conducted by selecting six stations to be the representative of the areas. The aim of the study is to determine the biodiversity of coral reef fishes at Pulau Pinang, Pulau Redang and the factors the that enhance their distribution. The emphasis of these study is to determine the effect of the locations due to the North East Monsoon at St.4 and St.5 and protected areas at Station 1 and Station 2. A total of 43 species, 11 families and 12,458 fishes were observed during the census. The schooling fish species, such as, *Abudefduf vaigeinsis*, *Apogon fragilis*, *Thalasoma lunare*, *Chomis analis*, *Neopomacentrus violascens*, *Scarus ghobban* dan *Neoglyphidodon melas* were found dominant at the study areas. The coral reef were categories in to six categories where the Acropora branching (ACB)dominating the area by 33.67% followed by Coral branching (CB) 17.3%, Coral tabulate (CT) 9.3% , Rubble coral (RB) 13.0% , Dead coral (DC) 12.35% and Others (OT) 7.52% and "sand" = 6.86%. A total count of 785 fishes at station 4 and 1,006 fishes at station 5 were found with the coral cover only 30 to 40 % at the same respective stations while the protected areas (station 1 and 2) have a coral cover ranging from 70 to 80% under the transect area of 250 m^2. The highest biodiversity of fish species and life coral were observed at station 6 with 38 species of fish (2,795 fishes) and 67% of coral cover. From our observation, only this station have a soft coral (sea anemone). From the Shahnon Index, Station 2 and 6 shown the highest biodiversity index with 0.157 and 0.14, representatively.

Correlation between Shahnon Index and fish distribution are as follow, Y = 6E-05x + 0.0086, which R^2 = 0.9479. The statistical analysis shown that there is a significant different ($p>0.05$) between fish species, fish sizes and categories of coral especially the family of Pomacentridae and Labridae of which 70% of fishes from family Pomacentridae family was observed at the life coral areas and 60% fishes of Labridae was observed at rubble coral or dead coral and mostly the sizes of fish ranging from 18cm to 32cm were found associated to living the dead coral or rubble coral.