

FACULTY OF MARINE STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU

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**A STUDY ON DENSITY AND DIVERSITY OF MEIOBENTHOS AT SEAGRASS
BED OF SUNGAI PULAI ESTUARY, JOHOR**

By

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**Research Report submitted in partial fulfillment of
The requirements for the degree of
Bachelor of Science (Marine Biology)**

**Department of Marine Science
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JABATAN SAINS MARIN
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PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

A study on density and diversity of meiobenthos at seagrass bed of Sungai Pulau estuary, Johor oleh Farah Diyana Binti Mohd Fathi, No. Matrik UK10708 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Biologi Marin), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS AND SYMBOLS

μm	mikrometer
$^{\circ}\text{C}$	Degree Celcius
ml	milliliter
Ind / cm^2	Individual per centimeter square
Ppt	Part per thousand
PRIMER	Plymouth Routines in Multivariate Ecological Research
ANOSIM	Analysis of Similarity
MDS	Non-metric Multi-Dimensional Scaling
DO	Dissolved oxygen

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ABSTRACT

The purpose of this study was to determine the density and diversity of meiobenthic community in seagrass beds of Sungai Pulai estuary, Johor which harbours the largest intertidal seagrass bed in Malaysia. This study also investigated the relationship of environmental factors with the density and diversity distribution of meiobenthos within the seagrass beds at each station selected. In this study, handcore was used to collect the sediment samples during the low tide. The taxa found were Nematoda, Harpacticoida Copepod, Calanoida Copepoda, Cyclopoida Copepoda, Ostrocooda, Polychaeta, Oligochaeta, Isopoda, Amphipoda, Gastropoda, Bivalvia, Cumacea and Tanaidacea. Nematode was the most abundant found in all stations. Tanjung Adang (S2) was found to have the highest mean density of total meiobenthos (40 to 223 individuals 10 cm^{-2}) followed by Merambong (S3) (40 to 129 individuals 10 cm^{-2}) and Sungai Duku (S1) was found to have the lowest mean total density of meiobenthos (14 to 45 individuals 10 cm^{-2}). In the study of the diversity, Tanjung Adang (S2) also has the highest diversity index (H') ranged from 1.227 to 2.041. The environmental factors and few disturbances were the significant contributor to the distribution of meiobenthos between the stations. Statistical analysis showed a significant different in the meiobenthic assemblages in terms of density, diversity, richness and evenness of meiobenthos between the three stations that can be correlated with the different of environmental factors resulting to the different of meiobenthic community.