

**MACROBENTHOS DISTRIBUTION AND POSSIBLE ALIEN SPECIES
AT TELUK KALONG COASTAL WATER TERENGGANU**

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**MACROBENTHOS DISTRIBUTION AND POSSIBLE ALIEN SPECIES AT
TELUK KALONG COASTAL WATER, TERENGGANU**

By

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**Research Report submitted in partial fulfillment of
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DEPARTMENT OF MARINE SCIENCE
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**DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:

Macrobenthos distribution and possible alien species

at Teluk Kalang, Kemaman

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LIST OF ABBREVIATIONS

Ind/m ²	Individual / square meter
SD	Standard deviation
%	Percentage

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ABSTRACT

A study on the macrobenthos distribution and diversity was conducted at Teluk Kalung coastal water. A total number of 15 stations had been plotted in offshore area of Teluk Kalung. The macrobenthos samples were collected by using Smith McIntyre grab. Macrobenthos then were been preserved in 10 % formalin and been brought to laboratory for further analysis. Highest total of macrobenthos density was at Station 7 (1155.87 ± 854.2 ind/ m^2). Station 13 with (90.68 ± 100.17 ind/ m^2) had the lowest value for total density of macrobenthos. The dominant phylum included phylum Annelida, Arthropoda, and Mollusca. Class Polychaeta under Phylum Annelida showed high density at all station except station 15 and 5. Phylum Nematode had the lowest density. At about 287 different organisms collected and 66 were been identified until species level. The diversity index (H') showed range between 0.98 ± 1.19 to 1.68 ± 1.78 and evenness index (J') between 0.23 ± 0.28 to 0.39 ± 0.42 respectively. The Bray-Curtis similarity indicates that there was 4 group of macrobenthos at similarity at 70%. The group shared the similar pattern of distribution. Geographical distribution was used as one of the criteria to determine the nativeness of a species. From 66 species level identified, only 11 species was possible to be known as non-native.

TABURAN MAKROBENTOS DIPERAIRAN TELUK KALUNG

ABSTRAK

Satu kajian ke atas taburan dan kepelbagaian makrobentos telah dijalankan di kawasan pantai Teluk Kalung. Sebanyak 15 stesen telah diplotkan di kawasan luar pesisir pantai Teluk Kalung. Sampel makrobentos telah dikumpulkan dengan menggunakan Smith McIntyre grab. Makrobentos kemudian telah awet dalam 10% formalin dan telah dibawa ke makmal untuk analisis selanjutnya. Jumlah tertinggi ketumpatan makrobentos adalah di Stesen 7 ($1155,87 \pm 854,2$ ind / m²). Station 13 dengan ($90,68 \pm 100,17$ ind/m²) mempunyai nilai terendah jumlah ketumpatan makrobentos. Filum dominan termasuk filum Annelida, Arthropoda, dan Mollusca. Kelas Polychaeta bawah Filum Annelida menunjukkan kepadatan tinggi di semua stesen kecuali di stesen 15 dan 5. Nematod filum mempunyai ketumpatan yang rendah. Kira-kira 287 organisma yang berlainan dikumpulkan dan 66 telah dikenal pasti sehingga ke peringkat spesies. Indeks kepelbagaian (H') menunjukkan julat antara $0,98 \pm 1,19$ - $1,68 \pm 1,78$ dan indeks kesamaan (J') di antara $0,23 \pm 0,28$ - $0,39 \pm 0,42$ masing-masing. Persamaan Bray-Curtis menunjukkan bahawa terdapat 4 kumpulan besar makrobentos pada persamaan pada 70%. Kumpulan yang berada dalam kumpulan besar yang sama mempunyai corak taburan yang sama. Taburan geografi telah digunakan sebagai salah satu kriteria untuk menentukan nativeness spesies. Daripada 66 spesies yang dikenal pasti, hanya 11 spesies adalah berkemungkinan untuk dilabel sebagai pendatang.