

BACTERIACOMMUNITIES ASSOCIATED WITH HEALTHY
AND INFECTED FUNGIA CORALS IN PASIR AKAR,
REDANG ISLAND, TERENGGANU

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**BACTERIA COMMUNITIES ASSOCIATED WITH HEALTHY
AND INFECTED FUNGIA CORALS IN PASIR AKAR,
REDANG ISLAND, TERENGGANU**

By

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**JABATAN SAINS MARIN
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

Bacteria Communities Associated with Healthy and Infected Fungia Corals in Pasir Akar, Redang Island, Terengganu oleh Chong Huay Meeng, No.Matrik UK11207 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains (Biologi Marin), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

°C	-	degree Celsius
g	-	gram
ml	-	milliliter
ppt	-	part per thousand
%	-	percent

ABSTRACT

It has been suggested that bacteria were associated with coral diseases since 1970s. This study was to isolate and identify the bacteria associated with fungia corals in Pasir Akar, Redang Island, Terengganu. Bacteria samples were collected from three healthy and an infected fungia corals at ten meter depth. Infected coral were taken based on the discoloration characteristic of the coral. Bacteria samples were brought back to the laboratory in Universiti Malaysia Terengganu for Gram staining, morphological characterization, biochemical tests and identification. The identification of the bacteria was made based on the Bergey's Manual[®] of Determinative Bacteriology. Nine out of the 24 bacteria samples cultured were Gram-negative bacteria and 15 samples were Gram-positive bacteria. The bacteria communities were different between the healthy fungia corals and the infected fungia corals. Based on identification, bacteria isolated from healthy corals were classified into 3 categories: Proteobacteria, Bacilli and unknown. Suggested identifications of the bacteria isolated from infected coral were *Deinobacter* sp., *Deinococcus* sp., *Micrococcus* sp. and *Staphylococcus* sp.

Komuniti Bakteria Yang Berasosiasi Dengan Coral Fungia Sihat dan Dijangkiti Dari Pasir Akar, Pulau Redang, Terengganu

ABSTRAK

Bakteria telah dicadangkan mempunyai kaitan dengan penyakit karang sejak tahun 1970an. Kajian ini adalah untuk memencilkan dan mengenal pasti bakteria yang berasosiasi dengan karang fungia di Pasir Akar, Pulau Redang, Terengganu. Sampel bakteria diambil dari tiga karang fungia yang sihat dan satu karang yang dijangkiti di kedalaman sepuluh meter dalam. Karang fungia yang dijangkiti diambil berdasarkan perubahan warnanya. Sampel bakteria dibawa balik ke makmal di Universiti Malaysia Terengganu untuk ujian pewarnaan Gram, sifat morfologi, ujian biokimia dan pengenalpastian. Pengenalpastian bakteria dibuat berdasarkan 'Bergey's Manual[®] of Determinative Bacteriology'. Sembilan daripada 24 sampel bakteria yang dipencilkan adalah bakteria Gram-negatif dan 15 sampel adalah bakteria Gram-positif. Komuniti bakteria yang berasosiasi dengan karang fungia yang sihat adalah berbeza dengan karang fungia yang dijangkiti. Bakteria yang dipencilkan daripada karang fungia yang sihat boleh dikelaskan kepada tiga kategori: Proteobacteria, Bacilli dan tidak diketahui. Pengenalpastian bakteria yang dipencilkan dari karang yang dijangkiti dicadangkan sebagai *Deinobacter* sp., *Deinococcus* sp., *Micrococcus* sp. and *Staphylococcus* sp.