

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED
WITH *REIZOPOHORA APICULATA* IN
SETUWETLAND

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**ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH
RHIZOPHORA APICULATA IN SETIU WETLAND**

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PENGAKUAN DAN PENGESAHAN LAPORAN PITA I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **Isolation And Identification Of Fungi Associated With Rhizophora Apiculata In Setiu Wetland** oleh **Premasangery A/P Kathivaloo**, No. Matrik: **UK12777** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah **Sarjana Muda Sains (Sains Biologi)**, Fakulti Sains dan Teknologi, UMT.

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DECLARATION

I hereby declare that this thesis entitled **Isolation And Identification Of Fungi Associated With Rhizophora Apiculata In Setiu Wetland** is the result of my own research except as cited in the references.

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ABSTRACT

Marine fungi can become potential rich sources of secondary metabolites with biological activities. This study was carried out to isolate and identify the fungi associated with *Rhizophora apiculata* from Setiu Wetland. Three part of *R. apiculata* such as leaves, roots and stems were collected and isolated and the fungi obtained were identified. Two main techniques have been used for isolation namely direct plating technique and damp incubation technique. Identification was done based on the morphology of the fungi observed under microscope. As a result, a total of 55 fungi have been isolated with 33 species and 22 species from direct plating technique and damp incubation technique, respectively. This includes 10 ascomycota, 19 deuteromycetes, ten zygomycota and one basidiomycota. The most common fungi were *Pestalotiopsis* sp. from direct plating technique with the frequency occurrence is 30% and about 33.33% from damp incubation technique. On the other hand, there was about 77.78% of frequency occurrence of *Aspergillus* sp. from damp incubation technique. One marine fungus, *Chaetefaudia* sp. was able to be identified from damp incubation technique, while the others were terrestrial fungi. However, there were about 15 species unable to be identified. These fungal isolates can be manipulated further to explore their potentials in producing bioactive compounds.

PEMENCILAN DAN IDENTIFIKASI KULAT YANG BERASOSIASI DENGAN POKOK *RHIZOPHORA APICULATA* DI SETIU

ABSTRAK

Kulat marin berpotensi menjadi sumber yang kaya dengan metabolit sekunder yang mempunyai aktivitas biologi. Kajian ini dijalankan untuk memencil dan mengenalpasti kulat yang berasosiasi dengan *Rhizophora apiculata* di Setiu Wetland. Tiga bahagian daripada pokok *R. apiculata* iaitu daun, akar dan batang telah diambil untuk tujuan pemencilan dan kulat yang diperolehi diidentifikasi. Dua teknik utama iaitu “direct plating technique” dan “damp incubation technique” telah digunakan untuk mengkultur bahagian-bahagian pokok yang diambil. Identifikasi kulat dibuat berdasarkan morfologinya yang diperhatikan di bawah mikroskop. Keputusannya, sebanyak 55 species kulat telah berjaya diperolehi iaitu 33 species dan 22 species masing-masing daripada “direct plating technique” dan “damp incubation technique”. Ini termasuk 10 species ascomycota, 19 deuteromycota, sepuluh zygomycota dan satu basidiomycota. *Pestalotiopsis* sp. merupakan kulat yang paling banyak diperolehi dari “direct plating technique” dengan peratus kekerapan sebanyak 30% dan dari “damp incubation technique” sebanyak 33.33%. Selain itu, peratus kekerapan kulat species *Aspergillus* juga adalah yang paling banyak iaitu sebanyak 77.78% yang diperolehi dari “damp incubation technique”. Satu jenis kulat marin, *Chaetefaudia* sp. juga telah diidentifikasi dari “damp incubation technique” manakala yang lain adalah kulat daratan. Walau bagaimanapun, sebanyak 15 kulat yang dipencilkan tidak dapat dikenalpasti. Isolat-isolat kulat ini boleh dimanipulasi selanjutnya untuk meneroka potensi mereka dalam penghasilan sebatian bioaktif.