

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED
WITH *ATTICENNIA ALBA* IN SETIU WETLANDS

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ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH
AVICENNIA ALBA IN SETIU WETLANDS

By
Nur Faizah Binti Mustapha Kamil

A thesis submitted in partial fulfilment of the
requirements for the award of degree of
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DEPARTMENT OF BIOLOGICAL SCIENCES
FACULTY OF SCIENCE AND TECHNOLOGY
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I
DAN II
VERIFICATION AND APPROVAL FORM

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *AVICENNIA ALBA* IN SETIU WETLANDS** oleh **NUR FAIZAH BINTI MUSTAPHA KAMIL**, no. matrik: **UK11508** telah disemak dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh **Ijazah Sarjana Muda Sains (Sains Biologi)**, Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that this thesis entitled ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *AVICENNIA ALBA* IN SETIU WETLANDS is the result of my own research except as cited in the references.

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ABSTRACT

Mangrove was proven to be one of the sources of compounds possessing physiological activities. Thus, the chances in finding novel active compounds may widen by investigating the secondary metabolites of fungi associated with mangrove *Avicennia alba* in Setiu Wetlands, Terengganu. Fungi were isolated from different fragments of *A.alba* tree: aerial twigs, intertidal twigs, aerial leaves, intertidal leaves, leaves decay and roots. A total of 41 fungi were isolated where 11 of them were isolated by using damp incubation technique and the rest were isolated by using direct plating technique. There were 20 Ascomycetes, seven Deuteromycetes and one Zygomycetes identified. The highest number of identified fungi was belong to aerial twig substrates (12 species) and the lowest belong to leaves decay substrate (3 species). Out of 41 isolated fungi, only eight species were identified as marine fungi. These isolated fungi are useful for further investigation in finding potential bioactive compounds.

PEMENCILAN DAN PENGENALPASTIAN FUNGI YANG BERASOSIASI DENGAN *AVICENNIA ALBA* DI TANAH BECAH SETIU

ABSTRAK

Pokok bakau telah dibuktikan sebagai salah satu sumber sebatian yang mempunyai aktiviti fisiologi. Justeru, melalui kajian tentang metabolit sekunder fungi yang berasosiasi dengan pokok bakau *A. alba*, peluang untuk menemui sebatian aktif yang baru mungkin meningkat. Fungi telah dipencilkan daripada fragmen-fragmen pokok *A. alba*: ranting bahagian atas, ranting bahagian bawah, daun bahagian atas, daun bahagian bawah, daun mereput dan juga akar. Sejumlah 41 fungi telah dipencilkan dimana sebelas daripadanya dipencilkan melalui 'damp incubation technique', manakala fungi yang selebihnya dipencilkan melalui 'direct plating technique'. Sebanyak 20 Ascomycota, tujuh Deuteromycota dan satu Zygomycota telah dikenalpasti. Bilangan tertinggi fungi yang telah dikenalpasti adalah daripada dahan bahagian atas (12 spesis) dan paling rendah dicatatkan daripada substrat daun mereput (3 spesis). Daripada 41 fungi yang dikenalpasti, terdapat hanya lapan spesis fungi marin. Fungi marin yang telah dipencilkan ini amat berguna untuk kajian masa hadapan dalam mencari sebatian bioaktif yang berpotensi.