

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED
WITH *ACROSTICHUM CURTUM* MANGROVE
IN UNIVERSITI MALAYSIA TERENGGANU

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ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH
ACROSTICHUM AUREUM MANGROVE IN UNIVERSITI
MALAYSIA TERENGGANU

By

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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II
RESEARCH REPORT VERIFICATION**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *ACROSTICHUM AUREUM* MANGROVE IN UNIVERSITI MALAYSIA TERENGGANU oleh FONG PIT LI, no. matrik: UK9498 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, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

cm	-	centimeter
N	-	North
%	-	percent
PDA	-	Potato Dextrose Agar
SWA	-	Sea Water Agar
S	-	South

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ABSTRACT

Bioactive compounds in mangroves may come from the plants or from microbes associated with the plants. Therefore, in this study, possible fungi associated with *Acrostichum aureum* were isolated and identified. The sampling site of the mangrove was in zone 1 in Universiti Malaysia Terengganu (UMT). Two isolation techniques were used, the direct plating technique and damp incubation technique. In direct plating technique, a total of eight species of fungi have been successfully isolated from the leaves, branches, and roots of the *Acrostichum aureum*, where seven Ascomycota and one Zygomycota have been identified. The Ascomycota are *Nigrospora sphaerica*, *Curvularia lunata*, *Microsporium cookei*, *Aureobasidium kiliense*, *Trichoderma viride*, *Aspergillus terreus*, and *Phialophora parastica*, while the Zygomycota is *Absidia corymbifera*. The highest number of fungal isolates was obtained from root samples compared to leaves and branches. Out of these, four species are marine fungi while another four species are terrestrial fungi. In addition, there were three types of suspected marine fungi isolated from damp incubation technique, but they could not be identified yet. These isolates can be used further in the investigation of possible bioactive compounds produced by the mangrove-associated fungi.

**PEMENCILAN DAN IDENTIFIKASI KULAT BERASOSIASI DENGAN
POKOK PAKAU *ACROSTICHUM AUREUM* DI SEKITAR
UNIVERSITI MALAYSIA TERENGGANU**

ABSTRAK

Sebatian bioaktif pada pokok paya bakau mungkin berasal dari pokok itu sendiri ataupun dari mikroorganisma yang berasosiasi dengan pokok tersebut. Maka, dalam kajian ini kulat yang berasosiasi dengan *Acrostichum aureum* telah dipencil dan dikenalpasti. Tempat bagi persampelan adalah di Zon I, Universiti Malaysia Terengganu (UMT). Dua jenis teknik pemencilan yang telah digunakan iaitu teknik pengkulturan terus dan teknik pengeraman lembab. Dalam teknik pengkulturan terus, lapan spesis kulat telah berjaya dipencilkan daripada semua bahagian daun, dahan, dan akar *Acrostichum aureum* dimana tujuh Ascomycota dan satu Zygomycota telah dikenalpasti. Spesis Ascomycota ialah *Nigrospora sphaerica*, *Curvularia lunata*, *Microsporum cookei*, *Aureobasidium kiliense*, *Trichoderma viride*, *Aspergillus terreus*, dan *Phialophora parastica*, sementara satu spesis Zygomycota ialah *Absidia corymbifera*. Akar menunjukkan bilangan kulat paling banyak dipencilkan berbanding bahagian daun dan dahan. Empat spesis kulat marin dan empat spesis kulat daratan telah didapati daripada teknik pengkulturan terus. Sebagai tambahan, dalam teknik pengeraman lembab tiga jenis kulat yang dipercayai adalah kulat marin, telah dapat dipencilkan tetapi belum dapat dikenalpasti. Kulat yang telah dipencilkan ini boleh digunakan dalam kajian seterusnya ke atas sebatian bioaktif yang mungkin dihasilkan oleh kulat yang berasosiasi dengan pokok paya pakau.