

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED
WITH *Commersonia bartramia* III UNIVERSITI
MALAYSIA TERENGGANU, TERENGGANU

JAMALUDIN BIN JERAE © JURIT

FAKULTI SAINS DAN TEKNOLOGI
UNIVERSITI MALAYSIA TERENGGANU
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ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH
Lumnitzera racemosa IN UNIVERSITI MALAYSIA TERENGGANU,
TERENGGANU.

By

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RESEARCH REPORT VERIFICATION

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *Lumnitzera racemosa* IN UNIVERSITI MALAYSIA TERENGGANU, TERENGGANU oleh JAMALLUDIN BIN JERAE @ JURIT, no. matrik: UK10741 telah diperiksa dan semua pembedaan 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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LIST OF ABBREVIATIONS

g	-	gram
m	-	meter
ml	-	milliliter
mm	-	millimeter
PDA	-	Potato Dextrose Agar
PDB	-	Potato Dextrose Broth
SWA	-	Sea Water Agar

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ABSTRACT

Mangroves have been used for a long time ago as traditional medicine, however it is not known whether the bioactive compounds are from the plant itself or microorganisms associated with the plant. In this study, fungi associated with *Lumnitzera racemosa* were isolated and investigated. The sampling site of the mangrove is in the zone 1, UMT. In order to isolate the fungi, fragments of leaves, branches and roots were cultured using two different techniques, Direct Plating and Damp Incubation Technique. For identification, Slide Culture Technique was used. There are five different species obtained from Direct Plating Technique and 11 different species obtained from Damp Incubation Technique. There are 10 species of fungi belonging to ascomycete, three from deuteromycete, two from zygomycete and only one from basidiomycete. From the total number of 16 fungal species, four were identified as marine fungi and 12 were terrestrial fungi. Antibacterial test has also been carried out using *Pestalotiopsis* sp. extract, however, it did not exhibit any antibacterial activity. Other fungal isolates can be used further to investigate the potential bioactive compounds that can be produced by the fungi.

PEMENCILAN DAN IDENTIFIKASI FUNGI YANG BERASOSIASI DENGAN
LUMNITZERA RACEMOSA DI UMT, TERENGGANU

ABSTRAK

Pokok bakau telah lama digunakan sebagai ubat tradisional oleh masyarakat. Namun begitu, masih tidak dikenalpasti sama ada kandungan bahan bioaktif adalah dari pokok itu sendiri atau daripada mikroorganisma yang berinteraksi dengan pokok tersebut. Dalam kajian ini, fungi yang berasosiasi dengan *Lumnitzera racemosa* dipencil dan dikenalpasti. Tapak kajian dijalankan di Zon 1, UMT. Bagi memencilkan fungi, fragmen daun, ranting dan akar dikulturkan menggunakan dua jenis teknik iaitu teknik 'Direct Plating' dan 'Damp Incubation'. Untuk identifikasi fungi, teknik 'Slide Culture' digunakan. Berdasarkan kajian, lima spesis yang berlainan telah diperoleh daripada teknik 'Direct Plating' dan 11 spesis daripada teknik 'Damp Incubation'. Terdapat 10 ascomycete, tiga deuteromycete, dua zygomycete dan satu basidiomycete. Daripada kesemua 16 spesis fungi ini, empat fungi dikenalpasti sebagai fungi marin, sementara 12 lagi adalah fungi daratan. Ujian antibakteria juga telah dijalankan menggunakan ekstrak *Pestalotiopsis* sp., walaubagaimana pun, ia tidak menunjukkan sebarang tindakbalas antibakteria. Pencilan fungi ini boleh digunakan dalam kajian seterusnya untuk mengkaji kemungkinan penghasilan sebatian bioaktif oleh fungi-fungi tersebut.