ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH [illegible] IN UNIVERSITI MALAYSIA TERENGGANU, TERENGGANU

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ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *Nypa fruticans* 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 *Nypa fruticans* in Universiti Malaysia Terengganu, Terengganu, oleh Aznoorlina Binti Zainuddin, no. matrik: UK10385 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

$	-	Dollar
%	-	Percent
‘	-	Minutes
°	-	Degree
°C	-	Degree Celsius
cm	-	Centimeter
E	-	East
ft.	-	Feet
g	-	Gram
ha	-	Hectare
in.	-	Inch
Km^2	-	Kilometer squad
m	-	Meter
ml	-	Milliliter
mm	-	Millimeter
N	-	North
PDA	-	Potato Dextrose Agar
S	-	South
St.	-	State
SWA	-	Sea Water Agar
US	-	United State
µ	-	Micrometer

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ABSTRACT

Mangrove plants have a great potential in the production of bioactive compounds that can be used for medicinal purposes. However, it is not certain whether the bioactive compounds are produced by mangrove plant itself or by associated microbes. In order to determine this, fungi associated with *Nypa fruticans* were isolated. The sampling of fragments of leaves, fronds and barks of *N. fruticans* was conducted in Zone 1, Mangrove Forests of UMT, Terengganu. In this study, two techniques were used: Direct Plating Technique and Damp Incubation Technique. In both techniques the fragments were incubated on Sea Water Agar (SWA) and Potato Dextrose Agar (PDA). More fungi were detected on PDA, indicating that PDA stimulates the growth of fungi. The fungi isolated were subcultured in slide culture technique to identify the fungi. Identification of fungi was based on their morphology and by observation under microscope. A total of 40 individual species of fungi were isolated from both techniques which are 29 from Direct Plating Technique and 11 from Damp Incubation Technique. The fungi isolated include 10 Ascomycetes, 18 Deuteromycetes, one Basidiomycete and 11 unidentified isolates. Out of 29 identified fungi, 28 species belong to terrestrial fungi and one belongs to marine fungi. These fungal isolates can be used further in the investigation of possible bioactive compound(s) produced by these fungi.

PEMENCILAN DAN PENGECAMAN FUNGI YANG BERASOSIASI DENGAN *Nypa fruticans* DI UNIVERSITI MALAYSIA TERENGGANU, TERENGGANU

ABSTRAK

Tumbuhan paya bakau berpotensi menghasilkan sebatian bioaktif yang berguna untuk tujuan perubatan. Walaubagaimana pun, masih tidak dapat dibuktikan samada sebatian bioaktif itu dihasilkan dari tumbuhan paya itu sendiri atau dari mikrob yang berasosiasi dengan tumbuhan itu. Untuk menentukannya, fungi yang berasosiasi dengan *Nypa fruticans* telah dipencilkan. Persampelan fragmen daun, pelepah daun dan kulit kayu *N. fruticans* ini dijalankan di Zon 1, Hutan Paya Bakau UMT, Terengganu. Dalam kajian ini, dua teknik yang berbeza telah dijalankan iaitu teknik 'direct plating' dan teknik 'damp incubation', kedua-duanya menggunakan agar air laut (SWA) dan agar kanji ubi kentang (PDA). Lebih banyak fungi dikesan pada PDA, menunjukkan PDA merangsang pertumbuhan fungi. Fungi yang dipencilkan kemudian disubkulturkan dalam teknik 'slide culture' bagi pengecaman fungi yang ditemui. Pengecaman dijalankan berasaskan morfologi fungi itu dan melalui pemerhatian di bawah mikroskop. Sejumlah 40 individu fungi telah dipencilkan dari kedua-dua teknik dimana 29 fungi dipencilkan dari teknik 'direct cultur' dan 11 dari teknik 'damp incubation'. Fungi yang dipencilkan terdiri daripada 10 Ascomycetes, 18 Deuteromycetes, satu Basidiomycetes dan 11 tidak dapat dicam. Daripada 29 fungi yang dikenalpasti, 28 spesies adalah fungi daratan dan satu adalah fungi marin. Pencilan fungi ini boleh digunakan seterusnya dalam kajian penghasilan sebatian bioaktif yang mungkin dihasilkan oleh fungi-fungi ini.