ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *SONNERATIA CASEOLARIS* IN SETIU WETLAND

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FAKULTI SAINS DAN TEKNOLOGI
UNIVERSITI MALAYSIA TERENGGANU

2008

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH *SONNERATIA CASEOLARIS* IN SETIU WETLAND

By
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Research report submitted in partial fulfillment of
the requirements for the degree of
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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 *Sonneratia caseolaris* in Setiu Wetland** oleh **Nithiyaa a/p Perumal**, No. Matrik: **UK11235** 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 *Sonneratia caseolaris* in Setiu Wetland** is the result of my own research except as cited in the references.

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g/l	-	Gram per liter
PDA	-	Potato Dextrose Agar
UMT	-	University Malaysia Terengganu
%	-	Percentage
°C	-	Degree Celsius
sq km	-	Square Kilometer
m	-	Meter
cm	-	Centimeter

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ABSTRACT

Mangrove is a very dynamic and highly productive ecosystem, well known for its marine fungi that produce useful bioactive compounds. In this study, the fungi associated with *Sonneratia caseolaris* from Kampung Mangkuk, Setiu, were isolated. In order to isolate the fungi, fragments of leaves, twigs, roots and pneumatophores were cultured using two techniques, direct plating and damp incubation technique. As for the identification process, slides preparation was done and fungi were identified based on their morphology using an imaging microscope. In direct plating technique, one Ascomycete and nine Deuteromycetes were isolated. On the other hand, in damp incubation technique, one Ascomycete, eight Deuteromycetes and one Zygomycetes were isolated. Throughout both the techniques, all fungi isolated were terrestrial fungi. From this study, it is learnt that the fungi favors the stems of *S. caseolaris*. A molecular technique can be used for an accurate identification of the fungi isolated. These isolates can be used further to exploit their potential bioactive compounds.

PEMENCILAN DAN IDENTIFIKASI FUNGI YANG BERASOSIASI DENGAN *SONNERATIA CASEOLARIS* DI SETIU, TERENGGANU.

ABSTRAK

Pokok Paya bakau merupakan suatu ekosistem yang dinamik serta sangat produktif, dikenali dengan kulat marin yang berpotensi menghasilkan pelbagai sebatian bioaktif. Dalam kajian ini, kulat yang berasosiasi dengan *Sonneratia caseolaris* di Kampung Mangkuk, Setiu telah dipencilkan. Bagi memencilkan kulat, bahagian daun, batang dan akar telah dikulturkan menggunakan dua teknik, iaitu, "direct plating" dan "damp incubation". Untuk process identifikasi, kaedah persediaan slaid digunakan dan kulat tersebut dikenal pasti berdasarkan ciri-ciri morfologinya dengan menggunakan mikroskop. Daripada teknik "direct plating", satu Ascomycete dan sembilan Deuteromycetes diperolehi. Manakala daripada "damp incubation", satu Ascomycete, lapan Deuteromycetes and satu Zygomycota diperolehi. Melalui kedua-dua teknik ini, kesemua kulat yang dipencilkan adalah kulat daratan. Daripada kajian ini, didapati kulat lebih menggemari bahagian batang pokok *S. caseolaris.* Untuk proses identifikasi yang lebih tepat, teknik molekular boleh digunakan. Isolat-isolat kulat ini boleh digunakan selanjutnya untuk dieksploitasikan sebatian bioaktif yang berpotensi.