

ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED
WITH *ACROSTICHUM AUREUM* IN
SETIN WETLAND

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2008

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Isolation and identification of fungi associated with Acrotichum aureum in Setiu Wetland. / Latifah Mohamed Rashid.

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ISOLATION AND IDENTIFICATION OF FUNGI ASSOCIATED WITH
ACROSTICHUM AUREUM IN SETIU WETLAND

By
Latifah Binti Mohamed Rashid

A thesis submitted in partial fulfillment of
the requirements for the award of the degree of
Bachelor of Science (Biological Sciences)

DEPARTMENT OF BIOLOGICAL SCIENCES
FACULTY OF SCIENCE AND TECHNOLOGY
UNIVERSITY MALAYSIA TERENGGANU
2008

This project should be cited as:

Latifah, M.R. 2008. Isolation and identification of fungi associated with *Acrostichum aureum* in Setiu Wetlands. Undergraduate thesis, Bachelor of Science (Biological Sciences), Faculty of Science and Technology, University Malaysia Terengganu. 51pp.

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**JABATAN SAINS BIOLOGI
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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 ACROSTICHUM AUREUM IN SETIU WETLAND** oleh **LATIFAH BINTI MOHAMED RASHID**, no.matrik: **UK12482** 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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DECLARATION

I hereby declare that this thesis entitle **Isolation and Identification of Fungi Associated with *Acrostichum aureum* in Setiu Wetland** is the result of my own research except as cited in the references.

Signature : 

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Matric No : UK12482

Date : 13 MAY 2008

ACKNOWLEDGEMENTS

In the name of Allah.

Special thanks and appreciation to my supervisor, Dr. Mariam Bt Taib, for her patience, constructive criticisms, guidance, advice, and for the help given. Final year project coordinator, Dr. Noraznawati Bt Ismail, thank you very much. An appreciation to Miss Jamilah Bt Mohd Salim @ Halim; the Science Officer, Miss Norazlina Bt Abdul Aziz; master student, Miss Noor Afiza Bt Badaluddin and also all laboratory assistants.

To my family and Biological Sciences students especially my group members, thanks a lot for the support.

Thank you.

ABSTRACT

Fungi associated with mangroves in Malaysia are under investigation and may contain bioactive compounds. This study was carried out to isolate and identify fungi associated with *Acrostichum aureum*, a mangrove fern in Setiu Wetlands. Fungi were isolated from leaves, stems, and roots of *Acrostichum aureum* using direct plating method and damp incubation method. For the results, 27 fungi have been identified including eight Ascomycetes, six Zygomycetes and four Deuteromycetes. Five species of fungi isolated were marine, thirteen were terrestrial while nine fungi were unknown species with no Basidiomycetes isolated. Among the species identified are *Pestalotiopsis* sp., *Haloguignardia tumefaciens*, *Turgidosculum complicatulum*, *Fusarium* sp., *Penicillium* sp., *Torula herbarum*, *Aspergillus* sp., *Rhizophus* sp., *Acremonium* sp., *Cladosporium algarum* and *Dictyosporium pelagicum*. *Rhizophus* sp. and *Pestalotiopsis* sp. are the most common fungi isolated in this study. Several possible reasons for this are given and the differences in fungal numbers are discussed. These fungal isolates can be used further in the investigation of potential bioactive compounds produced by fungi.

PEMENCILAN DAN IDENTIFIKASI KULAT YANG BERASOSIASI DENGAN *ACROSTICHUM AUREUM* DI TANAH BENCAH SETIU

ABSTRAK

Kulat yang berasosiasi dengan pokok bakau masih lagi dalam penyelidikan dan mengandungi sebatian bioaktif. Kajian ini dilakukan adalah untuk memencil dan mengenalpasti kulat yang berasosiasi dengan *Acrostichum aureum*, sejenis paku pakis bakau di Tanah Bencah Setiu. Kulat dipencil daripada bahagian daun, batang dan akar melalui kaedah 'direct plating' dan 'damp incubation'. Keputusannya, 27 kulat telah dipencil dan dikenalpasti termasuk lapan Askomikota, enam daripada Zigomikota, dan empat daripadanya Deuteromikota. Lima spesies kulat yang dipencil terdiri daripada spesies marin, 13 adalah spesies daratan manakala sembilan jenis kulat tidak dapat dikenalpasti manakala tiada kulat daripada Basidiomikota dipencil. Di antara kulat yang telah dikenalpasti ialah *Pestalotiopsis* sp, *Haloguignardia tumefaciens*, *Turgidosculum complicatulum*, *Fusarium* sp., *Penicillium* sp., *Torula herbarum*, *Aspergillus* sp., *Rhizophus* sp., *Acremonium* sp., *Cladosporium algarum*, and *Dictyosporium pelagicum*. *Rhizophus* sp. dan *Pestalotiopsis* sp. merupakan kulat yang paling biasa dijumpai dalam kajian ini. Beberapa sebab dan kemungkinan dinyatakan dan perbezaan jumlah kulat yang diperolehi dibincangkan. Pencilan kulat boleh digunakan dalam kajian seterusnya dalam penghasilan sebatian bioaktif oleh kulat-kulat tersebut.