

THE DIVERSITY OF AMMOCLOUS FUNGI FROM *ANTHURUS
FUTICATUS* IN BUKIT BUKONG, TERENGGANU

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THE DIVERSITY OF MANGLICOLOUS
FUNGI FROM *NYPA FRUTICANS*
IN PULAU DUYONG,
TERENGGANU

By
Ahmad Zaimi Bin Mohd Zawawi

A thesis submitted in partial fulfillment of
the requirements for the award of the degree of
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DEPARTMENT OF BIOLOGICAL SCIENCES
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk **THE DIVERSITY OF MANGLI COLOUS FUNGI FROM *NYPA FRUTICANS* IN PULAU DUYONG, TERENGGANU** oleh **AHMAD ZAIMI BIN MOHD ZAWAWI**, no. Matrik: **UK11951** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah **Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti)**, Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that this thesis entitled **The Diversity of Manglicolous Fungi from *Nypa fruticans* in Pulau Duyong, Terengganu** is the result of my own research except as cited in the references.

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LIST OF ABBREVIATIONS

cm	-	centimeter
E	-	East
g	-	gram
l	-	liter
MEA	-	Malt Extract Agar
mm	-	millimeter
N	-	North
PDA	-	Potato Dextrose Agar
SDA	-	Saboraud Dextrose Agar
°	-	degree
°C	-	degree Celcius
min	-	minute
%	-	percent

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ABSTRACT

Several studies have been carried out on the diversity of fungi on *Nypa fruticans* from mangrove habitats in Malaysia especially at the West-Coast but fewer studies at the East-Coast of Malaysia. Therefore, the diversity of fungi associated with *N. fruticans* in Pulau Duyong, Terengganu has been investigated. A total of 38 fungal species were successfully isolated by using direct culture technique with 26 of them were identified which include 18 Ascomycetes, four Basidiomycetes, three Deuteromycetes, and only one Zygomycete. Distributions of fungi on palm structures including fresh parts and litter parts of trunks, rachides and leaves were examined. The results showed that most of the fungi occurred on fresh parts and litter parts of *Nypa* palm's rachides with 24 species, followed by fresh parts and litter parts of leaves and trunks with 17 species and 16 species, respectively. Site 1 shows the highest number of fungi species occurred with 22 species, followed by Site 2 with 20 species and Site 3 with 11 species. Factors contributing to low diversity of fungi recorded in Site 3 compared to the other sites were discussed. The diversity of fungi on various palm parts was also discussed. Shannon-Weiner Diversity Index shows that Site 1 is the most diverse compared to Site 2 and Site 3 while Kruskal-Wallis Test proved that the fungal abundance are not selective to certain substrate but scattered randomly. Fungi that were successfully isolated can be used further in the investigation of possible bioactive compounds produced by these organisms.

KEPELBAGAIAN KULAT MANGAL DARIPADA *NYPA FRUTICANS* DI PULAU DUYONG, TERENGGANU

ABSTRAK

Beberapa kajian mengenai kepelbagaian kulat pada pokok *Nypa fruticans* di Malaysia telah dijalankan terutama di bahagian Pantai Barat tetapi kurang kajian dijalankan di bahagian Pantai Timur Malaysia. Oleh sebab itu, kepelbagaian spesis kulat yang berasosiasi dengan *N. fruticans* di Pulau Duyong, Terengganu telah dikaji. Sejumlah 38 spesis kulat telah berjaya dipencilkan dengan menggunakan kaedah kultur terus di mana 26 spesis berjaya dikenalpasti termasuklah 18 Ascomycetes, empat Basidiomycetes, tiga Deuteromycetes dan hanya satu Zygomycete. Taburan kulat pada struktur pokok palma termasuklah kedua-dua bahagian segar dan reput untuk batang, pelepah dan daun telah diselidiki. Keputusan menunjukkan bahawa sebahagian besar kulat muncul pada bahagian pelepah nipah segar dan reput dengan 24 spesis, diikuti dengan bahagian daun dan batang segar dan reput dengan 17 spesis dan 16 spesis setiap satu. Tapak 1 menunjukkan jumlah kulat yang paling banyak muncul dengan 22 spesis, diikuti dengan Tapak 2 dengan 20 spesis dan Tapak 3 dengan 11 spesis. Faktor yang menyumbang kepada kurangnya kepelbagaian kulat pada Tapak 3 dibandingkan dengan 2 Tapak yang lain telah dibincangkan. Kepelbagaian kulat pada pelbagai bahagian palma turut dibincangkan. Index Kepelbagaian Shannon–Weiner menunjukkan Tapak 1 adalah yang paling tinggi kepelbagaian kulatnya dibandingkan dengan Tapak 2 dan Tapak 3 manakala Ujian Kruskal–Wallis membuktikan taburan kulat tidak ditentukan oleh jenis substrat tetapi bertabur secara rawak. Kulat yang telah berjaya dipencilkan ini akan dapat digunakan dalam kajian seterusnya untuk mendapatkan sebatian bioaktif yang berguna.