

ANALYSIS OF THE MEMBERS OF FAMILY
OF ANGELOPUS SPP. (MILNEBOROUGHIA) IN
SANDFLAT AND COASTAL AREAS OF
TERENGGANU COAST, MALAYSIA

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Identification of the members of family dictyotaceae
(phaeophyceae) in Mersing Johor and selected areas of
Terengganu coast, Malaysia / Latiffah Najih Hassan.



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**IDENTIFICATION OF THE MEMBERS OF FAMILY DICTYOTACEAE
(Phaeophyceae) IN MERSING, JOHOR AND SELECTED AREAS OF
TERENGGANU COASTS, MALAYSIA**

**By
Latiffah Najiha Bt. Hassan**

**Research Report submitted in partial fulfillment of
The requirements for the degree of
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**JABATAN SAINS SAMUDERA
FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

Identification of Members of Family Dityotaceae (Phaeophyceae) in Mersing, Johor and Selected Areas of Terengganu Coasts, Malaysia oleh Latiffah Najiha Bt. Hassan

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LIST OF ABBREVIATIONS

<u>SYMBOL</u>	<u>MEANING</u>
°	Degree
cm	Centimeter
Fig	Figure
µm	Micrometer
Mm	Millimeter
No.	Number
Ord	Order
Sp	Species

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ABSTRACT

This study was part of East Coast Peninsular Malaysia Expedition I. The sampling was done at six stations in Mersing Coast Johor and 12 stations along the coastline of Terengganu. Seventeen taxa were recorded including *Padina* with three species (*Padina australis*, *P. boryana* and *P. gymnospora*), *Dictyota* represented by ten species (*Dictyota cervicornis*, *D. mertensii*, *D. crispata*, *D. bartayresiana*, *D. patens*, *D. ciliolata*, *D. friabilis*, *D. ceylanica*, *D. dichotoma* complex and *D. dichotoma* var *intricata*) while *Lobophora* and *Dictyopteris* were represented by two species (*Lobophora variegata*, *L. nigrescens*, *Dictyopteris repens* and *D. jamaicensis*) respectively. *Padina australis* was the dominant species and *Dictyota friabilis* was a minor species with only two individuals collected in the study areas. Previous samples were also examined especially from the west and east coast of peninsular Malaysia and also in Sabah to determine and to compare their distribution. Unique specimens were found at Kemasik, Terengganu and at Chalet D'Rimba and Teluk Iskandar Coast in Mersing where three specimens of *Padina* exhibited abnormal cell division result in arrangement of cell layers that has never been recorded in any species. But this species was grouped in *Padina gymnospora* because it had two cell layers in apical part and more than two cell layers in whole thallus similar with *P. gymnospora*. *Lobophora nigrescens*, *Dictyopteris repens* and *Dictyopteris jamaicensis*, *Dictyota ceylanica*, *Dictyota crispata* and *Dictyota dichotoma* var. *intricata* are new records for Malaysia, while *Dictyota ciliolata* is a new record in West Malaysia and *Dictyota cervicornis* is a new record in East of Malaysia. Identification to species was done by the observation of external and internal structure of the plant. External

observation included examination of external the morphology of the thallus and internal observation was done using cross-section and longitudinal-section to examine the cell layer characteristics and the form of spore.

ABSTRAK

Kajian ini adalah merupakan sebahagian daripada Ekspedisi Pantai Timur Malaysia I dan ianya telah ditaja oleh Makmal Biodiversiti, Institut Oseanografi (INOS). Lokasi penyampelan dijalankan di enam buah stesen di sepanjang Pantai Mersing, Johor dan di 12 stesen di dikawasan terpilih sepanjang pantai di Terengganu. Sebanyak 17 taksa telah direkod dalam kajian ini yang merangkumi *Padina* sebanyak tiga taksa (*Padina australis*, *P. boryana* dan *P. gymnospora*), *Dictyota* diwakili dengan 10 taksa (*Dictyota cervicornis*, *D. mertensii*, *D. crispata*, *D. bartayresiana*, *D. patens*, *D. ciliolata*, *D. friabilis*, *D. ceylanica*, *D. dichotoma* complex and *D. dichotoma* var *intricata*) sementara *Lobophora* dan *Dictyopteris* masing-masing diwakili dengan dua taksa (*Lobophora variegata*, *L. nigrescens*, *Dictyopteris repens* dan *D. jamaicensis*). Dalam kajian ini didapati *Padina australis* mendominasi jumlah keseluruhan sampel yang didapati manakala *Dictyota friabilis* pula diklasifikasikan sebagai spesis paling sedikit didapati dalam jumlah keseluruhan dengan pengumpulan sebanyak dua individu sahaja. Kajian juga dijalankan terhadap sampel-sampel yang lepas terutama sampel-sampel di Timur dan Barat Semenanjung Malaysia serta Sabah untuk menentukan dan membuat perbandingan tentang taburan geografi spesis-spesis dalam sampel ekspedisi dengan sampel-sampel yang lepas. Terdapat tiga spesimen *Padina* yang pelik dijumpai di Kemasik dalam sampel ekspedisi dan di Pantai Chalet D'Limba dan Teluk Iskandar dari sampel-sampel yang lepas dimana ia mempunyai pembahagian sel yang tidak normal yang menyebabkan susunan selnya tidak pernah direkod oleh mana-mana spesis *Padina* yang ada. Tetapi, spesimen ini diletakkan dibawah *Padina gymnospora* kerana ia

mempunyai dua lapisan sel di bahagian apikal dan lebih dari dua sel di keseluruhan bahagian talusnya dimana ia menyerupai *Padina gymnospora*. *Lobophora nigrescens*, *Dictyopteris repens* and *Dictyopteris jamaicensis*, *Dictyota ceylanica* , *Dictyota crispata* and *Dictyota dichotoma* var. *intricata* mencipta rekod terbaru di Malaysia, sementara *Dictyota ciliolata* adalah rekod baru di bahagian Barat Malaysia and *Dictyota cervicornis* baru direkodkan di bahagian Timur Malaysia. Pengenalpastian genus hingga ke tahap spesis dilakukan dengan menjalankan pemerhatian luaran dan dalaman ciri-ciri tumbuhan tersebut. Pemerhatian luaran dijalankan dengan memerhati kepada ciri-ciri penting morfologi talus tersebut dan pemeriksaan dalaman dijalankan dengan memeriksa susunan lapisan sel serta ciri-ciri struktur pembiakannya melalui kaedah 'cross section' dan 'longitudinal section'.