

IDENTIFICATION OF SEAWEED SPECIES IN SELECTED  
AREAS IN THE WEST AND EAST COAST OF SABAH  
AND THEIR LOCAL USE

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IDENTIFICATION OF SEAWEED SPECIES IN SELECTED AREAS IN THE  
WEST AND EAST COASTS OF SABAH AND THEIR LOCAL USE

By

Beatrice Gilik

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**PENGAKUAN DAN PENGESAHAN LAPORAN  
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

**Identification of Seaweed Species in Selected Areas in the West and East Coasts of Sabah and Their Local Use**

oleh **Beatrice Gilik** No.Matrik: **UK 6219** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperolehi **Ijazah Sarjana Muda Sains - Biologi Marin** Fakulti Sains Dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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**-Beatrice @ Bee\_8-**

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## LIST OF ABBREVIATIONS

<b>Symbol</b>		<b>Meaning</b>
%	-	Percent
‰	-	Salinity
°C	-	Degree centigrade
Cont'	-	Continue
DEPT.	-	Department
°E	-	Degree of East
°N	-	Degree of North
cm	-	Centimeter
e.g.	-	Example
g.	-	Gram
km	-	Kilometer
km <sup>2</sup>	-	Kilometer square
m	-	Meter
No.	-	Number
P.	-	Pulau
PT.	-	Pantai
SG.	-	Sungai
sp.	-	Species
SKD	-	Kudat
SSK	-	Sandakan
SSP	-	Semporna
STW	-	Tawau
CP	-	Chlorophyta
PP	-	Pheophyceae
RP	-	Rhodophyta
S	-	Station
(h)	-	Herbarium specimen
(w)	-	Wet specimen



## ABSTRAK

### **TAJUK: PENGENALPASTIAN SPESIES RUMPAI LAUT YANG TERDAPAT DI BEBERAPA KAWASAN TERPILIH PERAIRAN PANTAI BARAT DAN PANTAI TIMUR SABAH SERTA KEGUNAAN TEMPATANNYA**

Kajian ini dijalankan di beberapa kawasan terpilih di perairan Pantai Barat dan Pantai Timur Sabah di mana ia bertujuan untuk mengenalpasti dan merekodkan spesies rumpai laut serta mengetahui kegunaan tempatan spesies rumpai laut yang ditemui di kawasan tersebut. Rumpai laut daripada 11 stesen memperolehi keputusan sebanyak 58 taksa: 20 spesies yang ditemui adalah dari Divisi Chlorophyta merangkumi 3 order, 6 famili dan 9 genera; 15 spesies dari Divisi Heterokontophyta merangkumi 3 order, 4 famili dan 8 genera dan 30 spesies dikenalpasti adalah dari Divisi Rhodophyta merangkumi 6 order, 12 famili dan 17 genera. Jumlah spesies tertinggi (39 spesies) telah dikenalpasti pada 6 stesen di Semporna iaitu di Pulau Salakan (3 stesen), Pulau Omadal, Pulau Bumbum dan jeti Jabatan Perikanan Semporna. Satu (1) spesies telah ditemui di Sungai Balung, Tawau, 27 spesies di Pulau Nunuyan Darat dan Pulau Nunuyan Laut, Sandakan and 37 spesies ditemui di Pulau Bangi dan Pantai Bak-bak, Kudat. Penerangan setiap spesies telah dibuat di dalam kajian ini dan sebanyak 18 spesies hanya dikenalpasti sehingga genus kerana spesies tersebut sukar untuk dikenalpasti. Pengenalpastian adalah berdasarkan kepada karakter morfologi setiap sampel. Enam spesies rumpai laut diketahui digunakan oleh penduduk sekitar kawasan kajian sebagai makanan dan minuman (ulam-ulaman, salad dan manisan) iaitu *Caulerpa lentillifera* (latuk), *C. peltata* (pegaga

laut), *Solieria robusta* (Gamu-gamu), *Gracilaria heterocrada?* (Gulaman) and *Kappaphycus sp* (Agar-agar). Daripada kajian ini 2 spesies rumput laut iaitu *Eucheuma* dan *Kappaphycus* telah ditanam secara komersial oleh penduduk tempatan di Semporna dan Kudat untuk memenuhi permintaan sumber carrageenan kepada industri pemprosesan makanan.

## ABSTRACT

This study were done in selected areas of the East and West coasts of Sabah with the main objectives of identifying and recording the seaweed species and also to know the local use of the species. The seaweed species in 11 stations selected belonged to 58 taxa; 30 species from Division Chlorophyta with 3 orders, 6 families and 9 genera, 13 species under Division Heterokontophyta with 3 orders, 4 families and 7 genera and 25 species from Division Rhodophyta with 6 orders, 12 families and 17 genera. The most species (39 species) were identified in 6 stations of Semporna namely Pulau Salakan (3 stations), Pulau Omadal, Pulau Bumbum and Semporna Fisheries Department Jetty. One (1) species were found in Sungai Balung, Tawau, 27 species in Pulau Nunuyan Darat and Pulau Nunuyan Laut, Sandakan and 37 species were found in Pulau Bangi and Pantai Bak-bak, Kudat. Description of each species collected is provided however 18 species were identified to genus level only because of their variability. Identification is based on the morphological characteristics of samples. Six species are used by the local people as food ('ulam-ulaman', salad and drinks) namely *Caulerpa lentillifera* (latuk), *C. peltata* (pegaga laut), *Solieria robusta* (Gamu-gamu), *Gracilaria heterocrada?* (Gulaman) and *Kappaphycus sp* (Agar-agar). From this study, two species namely *Eucheuma* and *Kappaphycus* were cultured by local people in Semporna and Kudat to fulfill the demand of carrageenan in the food industry.