

## Seaweeds Collected from Bolinao, Pangasinan, Philippines

Gavino C. TRONO, Jr.<sup>1</sup> and Masao OHNO<sup>2</sup>

<sup>1</sup>Marine Science Institute, University of the Philippines, Diliman, Quezon City 1101, Philippines

<sup>2</sup>Utsunomiya Marine Biological Institute, Utsunomiya-cho, Tosa, Kochi 781-11, Japan

**Abstract :** This paper is a taxonomic report of 23 species of Chlorophyceae, 22 Phaeophyceae and 53 Rhodophyceae collected from several sites along the coast of Bolinao, Pangasinan in the island of Luzon, Philippines. All specimens are deposited in the phycological herbarium of the Marine Science Institute, College of Science, University of the Philippines at Quezon City.

Key words : Seaweed Flora, Bolinao, Luzon, Philippines

### Introduction

The Scientific Survey of Marine Algae and their Resources in the Philippine Islands was conducted by Japanese and Filipino phycologists from 1986 to 1990. The survey in 1990 was made at various sites along the coast of the island of Luzon. Major collections were made at several sites in Bolinao, Pangasinan from January 13 to 17 1990 where the Marine Science Institute Laboratory is located. All collections are deposited in the Phycological Herbarium of the Institute, University of the Philippines at Quezon City.

The materials were collected from 10 collecting stations (Fig. 1). Stations 1 to 3 were located on the well-developed reef at the northern portion of Santiago Island, Stations 4, 5 and 6 were located at the northern outer portion of the reef of Cangaluyan Island; Station 7 was a reef flat near the mouth of Balingasay River (not shown in Fig. 1), Station 8 was located at near shore portion of the reef at Long Beach, Station 9 was a reef at Trinchera Point and Station 10 was a portion of the reef fronting Bo. Ducoy at the western portion of Santiago Island. Except for Station 8 which is quite protected all other stations are exposed to moderate to strong water movement due to waves and currents. All stations are partly exposed during low tides.

CLASS CHLOROPHYCEAE (Silva et al. 1987)

Number of Orders : 5  
Number of Families : 10  
Number of Genera : 14  
Number of Species : 23

Order ULVALES

Family ULVACEAE

Genus *Enteromorpha* Link

*Enteromorpha flexuosa* (Wulfen) J. Agardh  
T18729, Santiago Is., 15 Jan 1990.

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\* This work was supported by the overseas research project with the grant from the Ministry of Education, Science and Culture, Japan : No. 01041067 (1989) and No. 02041064, 1990.

## Order CLADOPHORALES Family ANADYOMENACEAE

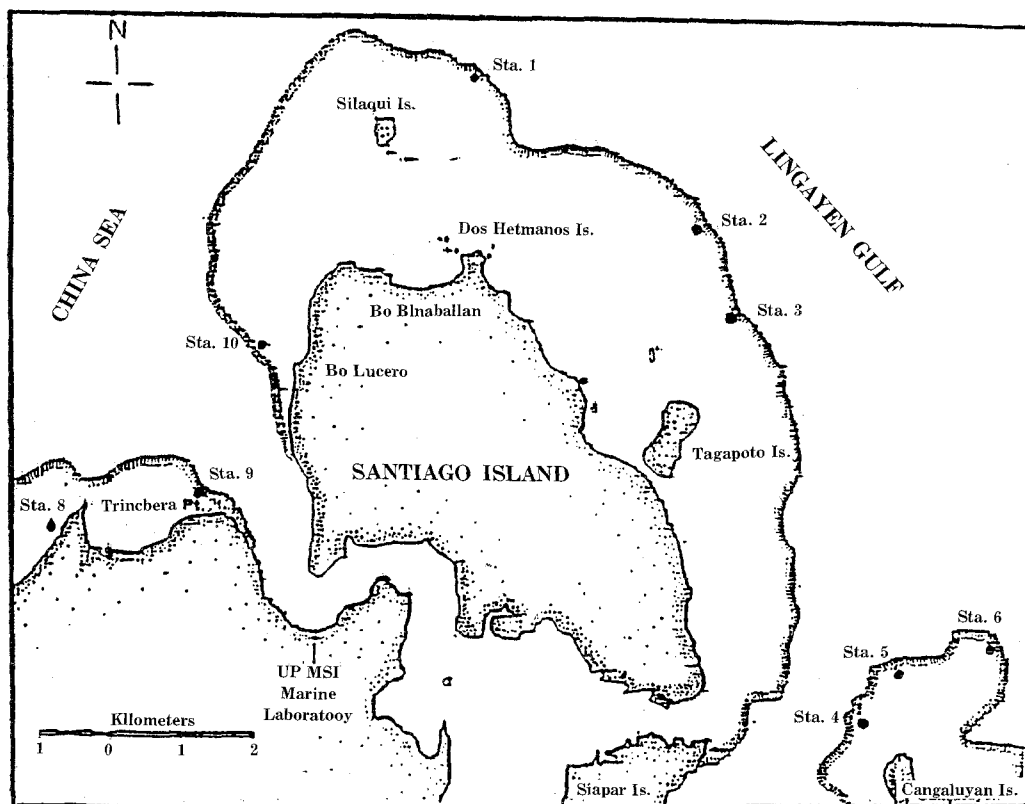


Fig. 1. Map of Bolinao, Pangasinan, showing the location of collecting stations (Station 7 not included).

Genus *Anadyomene* Lamouroux*Anadyomene esepitata* Gilbert

T18643, Cangaluyan Is.; T18644, Santiago Is., 15 Jan 1990; T18645, Long Beach, 17 Jan 1990.

*Anadyomene plicata* C. Agardh

T18648, Long Beach, 17 Jan 1990.

## Family CLADOPHORACEAE

Genus *Chaetomorpha* Kutzing*Chaetomorpha crassa* (C. Agardh) with *Gracilaria* sp.

T18703, Balingasay, 15 Jan 1990; T18701 Cangaluyan Is., 14 Jan 1990; T18702, T18700, Santiago Is., 13 Jan 1990, 15 Jan 1990; T18704, Trinchera, 15 Jan 1990.

## Order SIPHONOCLADALES

## Family SIPHONOCLADACEAE

Genus **Boergesenia** J. Feldmann*Boergesenia forbesii* (Harvey) Feldmann

T18656, Balingasay, 15 Jan 1990 ; T18650, T18653, T18654, T18658 Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18659, Long Beach, 17 Jan 1990; T18651, T18652, T18655, Santiago Is., 13 Jan 1990, 15 Jan 1990; T18657, Trinchera, 15 Jan 1990.

Genus **Boodlea** Murray and De Toni*Boodlea composita* (Harvey) Brand

T18665, Balingasay, 15 Jan 1990; T18661, T18662, T18663, T18667, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18668, Long Beach, 17 Jan 1990; T18664, Santiago Is., 15 Jan 1990; T18666, Trinchera, 15 Jan 1990.

Genus **Cladophoropsis** Borgesen*Cladophoropsis* sp.

T18710.1, Cangaluyan Is. 4 Jan 1990

## Family Valonia C.Agardh

Genus **Dictyosphaeria** Decaisne ex Endlicher*Dictyosphaeria cavernosa* (Forsskal) Borgesen

T18721, Balingasay, 15 Jan 1990; T18717, T18719, T18720, T18723, Cangaluyan Is., 4 Jan 1990, 17 Jan 1990; T18718, Santiago Is., 13 Jan 1990 ; T18722, Trinchera, 15 Jan 1990.

Genus **Valonia** C.Agardh*Valonia aegagropila* C.Agardh

T18767, Long Beach, 17 Jan 1990 ; T18768, Santiago Is., 13 Jan 1990.

## Order BRYOPSIDALES Family BRYOPSIDACEAE

Genus **Bryopsis** Lamouroux*Bryopsis pennata* Lamouroux

T18671, Cangaluyan Is., 14 Jan 1990.

## Family CAULERPACEAE

Genus **Caulerpa** Lamouroux*Caulerpa cupressoides* (Vahl) C.Agardh

T18672, T18673, Cangaluyan Is., 14 Jan 1990 ; T18674, Balingasay, 15 Jan 1990.

*Caulerpa racemosa* (Forsskal) J. Agardh

T18686, Balingasay, 15 Jan 1990; T18679, T18682, T18683, T18684, Cangaluyan Is., 14 Jan 1990 ; T18680, T18681, T18685, Santiago Is., 13 Jan 1990, 15 Jan 1990.

*Caulerpa serrulata* (Forsskal) J. Agardh

T18691, Balingasay, 15 Jan 1990 ; T18689, Cangaluyan Is., 14 Jan 1990 ; T18690, Santiago Is., 15 Jan 1990 ; T18692, Trinchera, 15 Jan 1990.

*Caulerpa sertularioides* (S.G. Gmelin) Howe

T18696, Cangaluyan Is., 14 Jan 1990.

*Caulerpa taxifolia* (Vahl) C. Agardh

T18698, Cangaluyan Is., 14 Jan 1990.

## Family HALIMEDACEAE

Genus **Halimeda** Lamouroux*Halimeda discoidea* Decaisne

T18731, Cangaluyan Is., 14 Jan 1990.

*Halimeda macroloba* Decaisne

T18732, T18733, Santiago Is., 13 Jan 1990; T18734, Balingasay, 15 Jan 1990.

*Halimeda opuntia* (Linnaeus) Lamouroux

T18738, T18739, Cangaluyan Is., 14 Jan 1990 ; T18741, Long Beach, 17 Jan 1990 ; T18737, Santiago Is., 13 Jan 1990; T18740, Trinchera, 15 Jan 1990.

*Halimeda tuna* (Ellis and Solander) Lamouroux

T18750 T18753, T18749, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18746, T18747, T18748, T18751, Santiago Is., 13 Jan 1990, 15 Jan 1990; T18752, Trinchera, 15 Jan 1990.

## Family UDOTACEAE

Genus **Chlorodesmis** Harvey and Bailey*Chlorodesmis fastigiata* (C. Agardh) Ducker

T18705, Santiago Is., 13 Jan 1990; T18706, Cangaluyan Is., 14 Jan 1990; T18707, Santiago Is., 15 Jan 1990. T18708, Balingasay, 15 Jan 1990.

Genus **Udotea** Lamouroux*Udotea indica* A. Gepp and E. S. Gepp

T18759, Santiago Is., 15 Jan 1990.

*Udotea orientalis* A. Gepp & E. S. Gepp

T18761, Santiago Is., 15 Jan 1990.

## Order DASYCLADALES

## Family DASYCLADACEAE

Genus **Neomeris** Lamouroux*Neomeris vanbosseae* Howe

T18757, Long Beach, 17 Jan 1990 ; T18758, Balingasay 15 Jan 1990

## CLASS PHAEOPHYCEAE (Silva et al. 1987)

Number of orders : 3  
Number of Families : 4  
Number of Genera : 10  
Number of Species : 22

## Order DICTYOTALES

## Family DICTYOTACEAE

Genus **Dictyopteris** Lamouroux*Dictyopteris jamaicensis* W.R. Taylor

T18521, Santiago Is., 13 Jan 1990.

Genus **Dictyota** Lamouroux*Dictyota cervicornis* Kutzing

T18528, Balingasay, 15 Jan 1990 ; T18527, T18526, Cangaluyan Is., 14 Jan 1990 ; T18529, Long Beach, 17 Jan 1990 ; T18524, T18525, Santiago Is., 13 Jan 1990.

*Dictyota dichotoma* (Hudson) Lamouroux

T18531, T18532, Cangaluyan Is., 14 Jan 1990 ; T18533, Long Beach, 17 Jan 1990.

*Dictyota divaricata* Lamouroux

T18539, Balingasay, 15 Jan 1990; T18534, T18536 T18537, T18541, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18542, Long Beach, 17 Jan 1990; T18535, T18538, Santiago Is. 13 Jan 1990, 15 Jan 1990; T18540, Trinchera, 15 Jan 1990.

*Dictyota mertensii* (Martius) Kutzing

T18546, Cangaluyan Is., 14 Jan 1990; T18547, Long Beach, 17 Jan 1990.

*Dictyota* sp.

T18548, Long Beach, 17 Jan 1990; T18549, Balingasay, 15 Jan 1990 ; T18550, Trinchera, 15 Jan 1990.

Genus **Lobophora** J.Agardh*Lobophora variegata* (Lamouroux) Womersley

T18570, T18571, Cangaluyan Is., 17 Jan 1990.

Genus **Padina** Adanson

*Padina australis* Hauck

T18574, Balingasay, 15 Jan 1990 ; T18573, Cangaluyan Is., 14 Jan 1990; T18575, Long Beach, 17 Jan 1990; T18572, Santiago Is., 13 Jan 1990.

*Padina japonica* Yamada T18582, Balingasay, 15 Jan 1990; T18580, Cangaluyan Is., 14 Jan 1990; T18583, Long Beach, 17 Jan 1990; T18579, T18581, Santiago Is., 13 Jan 1990, 15 Jan 1990.

*Padina minor* Yamada

T18589, Balingasay, 15 Jan 1990; T18588, Cangaluyan Is., 14 Jan 1990; T18586, T18587, Santiago Is., 13 Jan 1990.

*Padina* sp.

T18595, Santiago Is., 15 Jan 1990.

Genus **Stypopodium** (Kutzing) J. Agardh

*Stypopodium lobatum*

T18630, Cangaluyan Is., 14 Jan 1990.

Order SCYTOSIPHONALES

Family SCYTOSIPHONACEAE

Genus **Colpomenia** (Endlicher) Derbes and Solier

*Colpomenia sinuosa* (Mertens et Roth) Derbes and Solier

T18517, Balingasay, 15 Jan 1990 ; T18512, T18515, T18516, Cangaluyan Is., 14 Jan 1990; T18518, Long Beach, 17 Jan 1990 ; T18513, T18514 Santiago Is., 13 Jan 1990.

Genus **Hydroclathrus** Bory

*Hydroclathrus clathratus* (C. Agardh) Howe

T18569, Balingasay, 15 Jan 1990; T18566, T18568, Santiago Is., 13 Jan 1990.

Order FUCALES

Family CYSTOSEIRACEAE

Genus *Hormophysa* Kutzing

*Hormophysa cuneiformis* (J.F. Gmelin) P.C. Silva

T18558, Balingasay, 15 Jan 1990; T18557, T18556, Cangaluyan Is., 14 Jan 1990; T18560, Long Beach, 17 Jan 1990 ; T18553, T18554, T18555, Santiago Is., 13 Jan 1990 ; T18559, Trinchera, 15 Jan 1990.

## Family SARGASSACEAE

Genus **Sargassum** C.Agardh*Sargassum crassifolium* J.D.Agardh

T18603, Balingasay, 15 Jan 1990 ; T18601, Cangaluyan Is., 14 Jan 1990 ; T18605, Long Beach, 17 Jan 1990 ; T18598, T18599, T18600, T18602, Santiago Is., 13 Jan 1990 ; T18604, Trinchera, 15 Jan 1990.

*Sargassum oligocystum* Montagne

T18613, Balingasay, 15 Jan 1990 ; T18612, Cangaluyan Is., 14 Jan 1990 ; T18614, Long Beach, 17 Jan 1990 ; T18609, T18610, T18611, Santiago Is., 13 Jan 1990.

*Sargassum polycystum* C.Agardh

T18616, Balingasay, 15 Jan 1990.

*Sargassum* sp.

T18623, Balingasay, 15 Jan 1990; T18623, Cangaluyan Is., 14 Jan 1990; T18621, Santiago Is., 13 Jan 1990; T18624, Trinchera, 15 Jan 1990.

Genus **Turbinaria** Lamouroux*Turbinaria conoides* (J.Agardh) Kützing

T18631, T18632, Santiago Is., 13 Jan 1990; T18633, Cangaluyan Is., 14 Jan 1990; T18634, Balingasay, 15 Jan 1990.

*Turbinaria ornata* (Turner) J.Agardh

T18635, T18636, Cangaluyan Is., 14 Jan 1990.

*Turbinaria* sp.

T18639, Cangaluyan Is., 14 Jan 1990.

## CLASS RHODOPHYCEAE (Silva et al. 1987)

Number of Orders : 8  
Number of Families : 19  
Number of Genera : 32  
Number of Species : 53

## Subclass FLORIDEOPHYCIDAE

## Order NEMALIALES

## Family HELMINTHOCLADIACEAE

Genus **Liagora** Lamouroux*Liagora ceranoides* Lamouroux

T16931, T16932, Santiago Is., 13 Jan 1990; T16933, T16934 Cangaluyan Is., 14 Jan 1990; T18935, Long Beach : 17 Jan 1990.

*Liagora farinosa* Lamouroux

T18938, Balingasay, 15 Jan 1990 ; T18937, Cangaluyan Is., 14 Jan 1990 ; T18939, Long Beach, 17 Jan 1990 ; T18936, Santiago Is., 13 Jan 1990.

*Liagora* sp.

T18341, Santiago Is., 13 Jan 1990; T18942, Balingasay, 15 Jan 1990.

Order BONNEMAISONIALES

Family BONNEMAISONIACEAE

Genus. **Asparagopsis** Montagne

*Asparagopsis taxiformis* (Delile)

Trevisan T18807, Cangaluyan Is., 14 Jan 1990.

Genus **Falkenbergia**

*Falkenbergia hillebrandii* (Born.) Falkenb.

T18830, Santiago Is., 13 Jan 1990.

Family GALAXAURACEAE

Genus **Actinotrichia** Decaisne

*Actinotrichia fragilis* (Forsskal) Borgesen

T18782, T18781, T18784 Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18785, Long Beach, 17 Jan 1990 ; T18780, Santiago Is., 13 Jan 1990; T18783, Trinchera, 15 Jan 1990.

Genus **Galaxaura** Lamouroux

*Galaxaura fasciculata* Kjellmann

T18834, Balingasay, 15 Jan 1990 ; T18835, Cangaluyan Is., 17 Jan 1990 ; T18832, Long Beach, 17 Jan 1990 ; T18833, Santiago Is., 13 Jan 1990.

*Galaxaura oblongata* (Ellis and Solander) Lamouroux

T18838, T18845, T18841, T18842, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18846, Long Beach, 17 Jan 1990; T18843, T18840, T18839, Santiago Is., 13 Jan 1990, 15 Jan 90; T18844, Trinchera, 15 Jan 1990.

*Galaxaura subverticillata* Kjellman.

T18855, Long Beach, 17 Jan 1990.

*Galaxaura* sp.

T18851, T18852, Santiago Is., 13 Jan 1990, 15 Jan 1990; T18853, Long Beach, 17 Jan 1990.



Genus **Scinaia** Bivona-Bernardi

*Scinaia hormoides* Setchell

T18972, T18973, Cangaluyan Is., 14 Jan 1990 ; T18974, Long Beach, 17 Jan 1990.

## Order GELIDIALES

## Family GELIDIACEAE

Genus **Gelidiella** Feldmann and Hamel

*Gelidiella acerosa* (Forsskal) Feldmann and Hamel

T18860, Balingasay, 15 Jan 1990 ; T18859, T18856, Cangaluyan Is., 14 Jan 1990; T18861, Long Beach, 17 Jan 1990 ; T18858, T18857, Santiago Is., 13 Jan 1990. *Gelidiella* sp. T18868, Cangaluyan Is., 14 Jan 1990.

## Order CRYPTONEMIALES

## Family PEYSSONNELIACEAE

Genus **Peyssonnelia** Decaisne

*Peyssonnelia* sp.

T18957, Long Beach, 17 Jan 1990.

## Family CRYPTONEMIACEAE

Genus **Halymenia** C.Agardh

*Halymenia dilatata* Zanardini

T18897, Cangaluyan Is., 14 Jan 1990.

*Halymenia durvillaei* Bory de Saint-Vincent

T18902, T18908, T18904, T18903, Cangaluyan Is., 14 Jan 1990; T18906, Long Beach, 17 Jan 1990; T18905, Santiago Is., 15 Jan 1990.

## Order CORALLINALES

## Family CORALLINACEAE

Genus **Amphiroa** Lamouroux

*Amphiroa foliacea* Lamouroux

T18794, T18795, T18797, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990; T18790, Long Beach; T18796, T18793, T18792, T18791, Santiago Is., 13 Jan 1990, 15 Jan 1990.

*Amphiroa fragilissima* (Linnaeus ) Lamouroux

T18802, Balingasay, 15 Jan 1990; T18804, Cangaluyan Is., 17 Jan 1990; T18799, T18801,

T18800, Santiago Is., 13 Jan 1990, 15 Jan 1990; T18803, Trinchera, 15 Jan 1990.

Genus **Jania** Lamouroux

*Jania capillacea* Harvey

T18920, Cangaluyan Is., 14 Jan 1990; T18921, Balingasay, 15 Jan 1990.

Genus **Mastophora** Decaisne

*Mastophora rosea* (C. Agardh) Setchell

T18949, Balingasay, 15 Jan 1990; T18947, T18946, T18951, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990 ; T18952, Long Beach, 17 Jan 1990 ; T18945, T18948, T18944, Santiago Is., 13 Jan 1990, 15 Jan 1990 ; T18950, Trinchera, 15 Jan 1990.

Order GIGARTINALES

Family RHIZOPHYLLIDACEAE

Genus **Portieria** Zanardini

*Portieria hornemannii* (Lyngbye) P.C. Silva

T18966, Balingasay, 15 Jan 1990; T18964, T18962, T18958, T18963, Cangaluyan Is., 14 Jan 1990; T18967, Long Beach, 17 Jan 1990; T18959, T18961, T18960, T18965, Santiago Is., 13 Jan 1990, 15 Jan 1990.

Family POLYIDACEAE

Genus **Rhodopeltis** Harvey

*Rhodopeltis borealis* (Yamada)

T18969, Cangaluyan Is., 14 Jan 1990.

Family NEMASTOMATACEAE

Genus **Titanophora** (J. Agardh) J. Feldmann.

*Titanophora weberae* Borgesen

T18978, Balingasay, 15 Jan 1990 ; T18977, T18976, Cangaluyan Is., 14 Jan 1990; T18979, Long Beach, 17 Jan 1990.

Family GRACILARIACEAE

Genus **Gracilaria** Greville

*Gracilaria coronopifolia* J. Agardh

T18874, Balingasay, 15 Jan 1990 ; T18869, T18872, Cangaluyan Is., 14 Jan 1990; T18871, T18870, T18873, Santiago Is., 13 Jan 1990, 15 Jan 1990.

*Gracilaria eucheumoides* Harvey

T18879, Santiago Is., 13 Jan 1990 ; T18880, Cangaluyan Is., 14 Jan 1990.

*Gracilaria salicornia* (C.Agardh) Dawson

T18884, T18885, Cangaluyan Is., 14 Jan 1990.

*Gracilaria* sp.

T18890, T18891, Cangaluyan Is., 14 Jan 1990, 17 Jan 1990.

## Family SOLIERIACEAE

Genus **Eucheuma** J. Agardh*Eucheuma arnoldii* Weber-van Bosse

T18817, T18818, Santiago Is., 13 Jan 1990; T18820, T18819, Cangaluyan Is., 14 Jan 1990.

*Eucheuma striatum* Schmitz

T18827, Santiago Is., 13 Jan 1990 ; T18829, Cangaluyan Is., 14 Jan 1990.

*Eucheuma* sp.

T18824, Cangaluyan, 14 Jan 1990; T18825, Balingasay, 15 Jan 1990.

## Family HYPNEACEAE

Genus **Hypnea** Lamouroux*Hypnea cervicornis* J. Agardh

T18910, Long Beach.

*Hypnea pannosa* J. Agardh

T18911, Cangaluyan Is., 14 Jan. 1990; T18912, Santiago Is., 15 Jan 1990.

## Family CUBICULOSPORACEAE

Genus **Cubiculosporum***Cubiculosporum koroncarpis* Kraft

T18814, Santiago Is., 13 Jan 1990.

## Order RHODYMENIALES

## Family RHODYMENIACEAE

Genus **Chrymenia***Chrymenia* sp.

T18812, Cangaluyan Is., 14 Jan 1990.

## Order CERAMIALES

## Family DELESSERIACEAE

Genus **Zellera** Martens*Zellera tawallina* Martens

T18641, Cangaluyan Is., 14 Jan 1990.

## Family RHODOMELACEAE

Genus **Acanthopora** Lamouroux*Acanthopora spiciiera* (Vahl) Borgesen

T18773, Balingasay, 15 Jan 1990; T18771, T18772, Cangaluyan Is., 14 Jan 1990; T18770, Santiago Is., 13 Jan 1990.

Genus **Amansia** Lamouroux*Amansia glomerata* C. Agardh

T18787, Cangaluyan Is., 14 Jan 1990.

Genus **Laurencia** Lamouroux*Laurencia cartilaginea* Yamada

T18922, T18923, T18924, Cangaluyan Is., 14 Jan 1990.

*Launrencia* sp.

T18928, Cangaluyan Is., 14 Jan 1990 ; T18929, Santiago Is., 13 Ja : 1990.

(Received 27 January, 1992 ; Accepted 5 February, 1992)